ICOMOS

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Evaluations of Nominations of Cultural and Mixed Properties to the World Heritage List

ICOMOS Report for the World Heritage Committee
36th ordinary session, Saint Petersburg, June - July 2012

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United Nations
Educational, Scientific and
Cultural Organization

World Heritage Convention

UNESCO
World Heritage Convention
World Heritage Committee

2012

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ICOMOS report for the World Heritage Committee
36th ordinary session, Saint Petersburg, June - July 2012

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World Heritage List Nominations 2012

I Introduction

ICOMOS Analysis of nominations

In 2012, ICOMOS was called on to evaluate 52 nominations.

They consisted of:

22 new nominations
2 referred back nominations
7 deferred nomination
1 nomination submitted for processing on an emergency basis
20 minor modifications/creations of buffer zone

The *geographical spread* is as follows:

Europe and North America
Total: 24 nominations, 21 countries
13 new nominations
7 minor modifications/creations of buffer zone
4 deferred
(21 cultural properties, 3 mixed properties)

Latin America and the Caribbean
Total: 3 nominations, 3 countries
2 deferred
1 minor modification/creation of buffer zone
(2 cultural properties, 1 mixed property)

Arab States
Total: 5 nominations, 5 countries
2 new nominations
1 referred back
1 nomination submitted for processing on an emergency basis
1 minor modification/creation of buffer zone
(5 cultural properties)

Africa
Total: 2 nominations, 2 countries
1 new nomination
1 referred back
(2 cultural properties)

Asia-Pacific
Total: 18 nominations, 7 countries
6 new nominations
1 deferred
11 minor modifications/creations of buffer zone
(15 cultural properties, 3 mixed properties)

General remarks

1. Quality and complexity of nomination dossiers

Generally speaking, ICOMOS notes that nominations are increasingly complex, sometimes to the detriment of the dossiers' clarity and coherence.

Certain nominations would benefit if more time were taken in preparing the nomination, for example to complete the legal protection process, finalise a management plan or undertake additional research.

ICOMOS hopes that the publication of the *Resource Manual for the Preparation of Nominations,* of which an electronic version is now available on its website, and on the World Heritage Centre website, will help the State Parties to improve the quality of nomination dossiers.

In most cases, the weakest parts of the nomination dossiers are the comparative analysis, integrity and/or monitoring.

When evaluating the comparative analysis included in nomination dossiers, ICOMOS examines the methodology used by the State Party and the relevance of the examples given by using the following parameters. Comparisons should be drawn with properties expressing the same values as the nominated property and within a defined geo-cultural area. Therefore the values need to be clearly defined and the geo-cultural framework should be determined according to these values. Comparisons should be drawn with similar properties already inscribed on the World Heritage List and with other examples at national and international level within the defined geo-cultural area.

On the basis of the above, ICOMOS indicates whether or not the comparative analysis is complete and whether or not the analysis justifies consideration of the property for the World Heritage List.

If the nomination is considered incomplete or insufficient according to the parameters indicated above, ICOMOS requests additional information from the State Party, checks relevant ICOMOS thematic studies, and the wealth of information available about properties already evaluated and/or inscribed on the World Heritage List, and on the Tentative Lists, and

consults the ICOMOS network of experts to improve its understanding of the nomination.

ICOMOS wishes to point out that its role is to evaluate the properties and not the nominations (i.e. the dossiers). Similarly, it evaluates the protection, conservation and management of the property **at the time of the nomination** and not at some unspecified time in the future after the adoption of the laws and management plans. It is the duty of ICOMOS to indicate to the Committee whether or not adequate protection and management are in place prior to inscription.

2. ICOMOS evaluations

The objective of ICOMOS is the conservation and long-term protection and presentation of the cultural heritage, whether or not it is of outstanding universal value. In formulating its recommendations, ICOMOS therefore aims to be as helpful as possible to State Parties, whatever the final recommendation proposed.

ICOMOS is well aware that it cannot please everyone. Despite being under considerable pressure, not only from State Parties, it must remain objective, rigorous and scientific, and its first duty remains the conservation of properties.

3. Strengthening of dialogue with State Parties

The requests for additional information were sent out prior to the carrying out of the evaluation process.

The ICOMOS World Heritage Panel meeting was held at the end of November 2011, so that the letters requesting additional information could be sent out in December, leaving the State Parties time to reply.

The replies provided by the State Parties have in many cases confirmed or assisted the adoption of the final recommendations made by ICOMOS.

4. “Referred back” nominations – “Deferred” nominations

At the request of the World Heritage Committee, ICOMOS and IUCN presented at the 34th session in Brasilia an information document concerning the processes, points of reference and time constraints arising from decisions to refer back or defer the examination of a nomination.

ICOMOS wishes to once again express its concerns about the difficulties raised when a “deferred” recommendation is changed into a “referred back” recommendation, which does not allow the advisory bodies to carry out an appropriate evaluation of nominations which are in many cases entirely new.

In its recommendations, ICOMOS clearly distinguishes between nominations which are recommended to be *referred back* and those which are *deferred.* For referred back nominations, outstanding universal value has been demonstrated to the satisfaction of ICOMOS; supplementary information must be supplied to satisfy other requirements of *Operational Guidelines*, but no further technical evaluation mission will be required. For deferred nominations, the very nature of the information requested (a more thorough study, major reconsideration of boundaries, a request for a substantial revision, or serious gaps as regards management and conservation issues) means that a new mission and consideration by the full ICOMOS World Heritage Panel are necessary to evaluate the nomination again, and to ensure that it has the consideration needed to advance the nomination further.

5. "Minor" modifications to boundaries

The number of such requests has greatly increased (20 requests in 2012). They originate either from monitoring, the retrospective inventory or periodic reporting.

The examination of these requests involves a considerable workload for ICOMOS in terms of examining the initial nomination, progress reports on conservation and earlier decisions of the World Heritage Committee, research, consultations and analysis. This year several requests for minor modifications were made by State Parties in respect of a report on the state of conservation or a retrospective inventory. To ensure that they are examined in the most favourable conditions, ICOMOS encourages State Parties to submit a separate request complying with the procedures set out in the *Operational Guidelines for the Implementation of the World Heritage Convention* and within the prescribed deadlines, i.e. 1st February at the latest.

ICOMOS also notes that all modifications to the boundaries of a property and its buffer zone are proposed as "minor" modifications, even when they constitute in fact substantial modifications to the property, or even in some cases an extension of the property. According to the *Operational Guidelines*, proposals for major modifications, whether extensions or reductions, constitute a new nomination (paragraph 165). ICOMOS recommends to the Committee that this provision should be consistently and rigorously applied.

6. Serial nominations and extensions

ICOMOS wishes to point out that the *Operational Guidelines* of November 2011 (paragraph 137) validated a change in the approach to serial properties. Serial nominations should not consist merely of a catalogue of sites, but should instead concern a collection or ensemble of sites with specific cultural, social or functional links over time, in which each site contributes substantially to the Outstanding Universal Value of the serial property as a whole.

ICOMOS wishes to encourage States Parties to give consideration to the implications of this change when preparing serial nominations.

This year, ICOMOS has examined 15 serial nominations, including 179 monuments, ensembles and sites. These nominations require a more substantial investment in terms of human and financial resources at all levels of evaluation of the properties. Because the number of serial nominations is growing, this needs to be taken into account in the budgets and contracts. Furthermore, ICOMOS notes that there are also calendar pressures arising from the task of evaluating these large and complex serial nominations and repeats its suggestion, supported by the Jade Tabet[1] review, that the World Heritage Committee give consideration to an extended timeframe for these kinds of nominations.

A specific evaluation format was set up in 2009 for the serial nominations and extensions. ICOMOS explicitly informs the Committee of the questions it asks in relation to the nature of serial nominations:

a) What is the justification for the serial approach?
b) How were the chosen sites selected? How do they each relate to the overall Outstanding Universal Value of the property?
c) Does the comparative analysis justify the selection of properties?
d) Are the separate components of the property functionally linked?
e) Is there an overall management framework for all components?

The answers to these questions have been integrated in the evaluation format under relevant sections.

7. Development projects

To address the growing need to identify development projects within World Heritage properties during the evaluation cycle, ICOMOS has included in its letters to the State Parties a specific question intended to bring to ICOMOS' attention any development projects that are planned within the nominated property or in its vicinity, to ensure that comprehensive information is received concerning these potential projects. This has been introduced to respond to growing concern felt by the World Heritage Committee about such development plans and projects. ICOMOS has once again suggested that during the nomination evaluation procedure the Committee should apply provisions similar to those stipulated in paragraph 172, inviting the States Parties to inform the Committee of "their intention to undertake or to authorize in an area protected under the *Convention* major restorations or new constructions which may affect the outstanding universal value of the property […].

ICOMOS points out that it has drawn up a document entitled "Guidance on impact assessments for cultural World Heritage sites", which was made available to the World Heritage Committee at its 34th session, and can be consulted on its website. This guidance has been translated into several languages.

8. Issue of calendar and timing

ICOMOS is working under increasing time pressure due to the growing number of complex nominations (serial properties and cultural landscapes). Furthermore, in the past, supplementary information received from States Parties was examined after the meeting of the Bureau of the World Heritage Committee, which was held in June/July, following the initial assessment process for nominations. Today this examination is carried out during the evaluation period itself, well ahead of the World Heritage Committee meeting.

9. Upstream process

ICOMOS, at the request of the World Heritage Committee, has participated in the drawing up of feasibility studies for 10 pilot projects selected in conjunction with the World Heritage Centre, and has contributed to the advancement of the projects' implementation. Furthermore, some draft nomination dossiers received by the Centre on 30 September 2011 have been reviewed by ICOMOS, which has provided comments on the dossiers.

ICOMOS is prepared to make its expertise available for the development of the upstream process in preparing and following up nomination dossiers, as far as this is possible with the resources available.

[1]Tabet J., *Review of ICOMOS' working methods and procedures for the evaluation of cultural and mixed properties nominated for inscription on the UNESCO World Heritage List*, Paris, ICOMOS, 2010.

ICOMOS procedure

The ICOMOS procedure is described in Annex 6 of the *Operational Guidelines for the Implementation of the World Heritage Convention*. It is regulated by the *Policy for the implementation of the ICOMOS World Heritage mandate* (revised in November 2007 and October 2010). This document is available on the ICOMOS web site: www.international.icomos.org.

This policy makes public the existing procedure, and sets out the fair, transparent and credible approach ICOMOS adopts in fulfilling its world heritage remit, and the way it avoids conflicts of interest.

The evaluation of nominations is coordinated by the *World Heritage Unit* of the International Secretariat of ICOMOS, in collaboration with the ICOMOS World Heritage Working Group and the ICOMOS World Heritage Panel.

The ICOMOS World Heritage Working Group consists of officers of ICOMOS, the World Heritage Unit and ICOMOS advisers. It meets three or four times a year, and is responsible for the guidance and orientation of work relating to the World Heritage.

The ICOMOS World Heritage Panel, which brings together some thirty persons, is made up of members of the ICOMOS Executive Committee and of experts who are invited each year depending on the nature of the properties nominated (rock art, 20th century heritage, industrial heritage, etc.). TICCIH and DoCoMoMo are also invited to participate in discussions in which their expertise is relevant. The Panel represents the various professional, geographic and cultural sensibilities present at the international level. It prepares the ICOMOS recommendations for each nomination on a collegial basis.

For each nominated property, ICOMOS assesses:

- Whether it bears testimony of an outstanding universal value:
  - whether it meets the criteria of the *Operational Guidelines*;
  - whether it meets the conditions of authenticity and integrity;
- Whether legal protection is adequate;
- Whether the management processes are satisfactory.

All properties are given equal attention, and ICOMOS also makes every effort to be as objective, scientific and rigorous as possible.

In order to reinforce consistency of the evaluations and recommendations, and to check which additional information requests should be sent to State Parties, ICOMOS uses a check box tool, which is included in this volume.

In October 2011, a specific session with the advisers was organised to ensure consistency of approach on all aspects throughout all evaluations.

An external review of the principles, methods and procedures used by ICOMOS in evaluating nominations was carried out in 2009. The final report and the ICOMOS response were made available to the World Heritage Committee at its 34th session.

1. Preparatory work

The preparatory work is done in several stages:

a. Initial study of dossiers: This first stage of the work consists of the creation of an inventory of the nomination dossier documents, a study of them to identify the various issues relating to the property and the choice of the various experts who will be called on to study the dossier (ICOMOS advisers, experts for mission, experts for consultations). A compilation of all relevant comparative material (Tentative Lists, properties already on the World Heritage List, nomination dossiers, “filling the gaps” ICOMOS study, etc.) is prepared in order to assist the work of the advisers on the specific item of comparative analysis.

b. Consultations: Experts are consulted to express their opinion about the comparative analysis and the *outstanding universal value* of the nominated properties with reference to the ten criteria set out in the *Operational Guidelines for the Implementation of the World Heritage Convention* (January 2008), § 77.

For this purpose, ICOMOS calls on the following:

- ICOMOS International Scientific Committees;
- Individual ICOMOS members with special expertise, identified after consultation with International and National Committees;

- Non-ICOMOS members with specific expertise, identified after consultation within the ICOMOS networks.

For the nominations to be considered by the World Heritage Committee at its 36th session, around a hundred experts were consulted.

c. Technical evaluation missions: As a rule, ICOMOS calls on a person from the region in which the nominated property is located. The objective of the missions is to study the authenticity, integrity, factors affecting the property, protection, conservation and management (*Operational Guidelines*, § 78).

Experts are sent a copy of the nomination (or all relevant parts of it, when the dossier is particularly extensive), a note with key questions based on a preliminary examination of the dossiers, documentation on the Convention and detailed guidelines for evaluation missions.

All experts have a duty of confidentiality. Their opinion about the nomination does not necessarily reflect that of the organisation; it is the ICOMOS World Heritage Panel which, after acquainting itself with all the information, analyses it and determines the organisation's position.

Missions are sent to all the nominated properties except in the case of nominations referred back for which the *Operational Guidelines* do not stipulate that a mission is necessary. (Note: The principle is that properties are referred back because additional information is necessary, and not because thorough or substantial modifications are needed; the deadlines set in the *Operational Guidelines* mean moreover that it is not possible to organise missions, desk reviews or consideration by the full ICOMOS World Heritage Panel for properties referred back).

29 experts representing 20 countries took part in field missions as part of the evaluation of the 29 nominated properties, which in turn represented 27 countries.

Technical evaluation missions were carried out jointly with IUCN for four mixed property nominations.

This year ICOMOS and IUCN took part in a conference call held during the ICOMOS panel meeting, just before the IUCN panel. ICOMOS and IUCN have also exchanged information about draft recommendations concerning mixed property nominations.

ICOMOS received comments from the IUCN concerning three cultural landscape nominations. These comments have been included in the evaluations and taken into account by ICOMOS in its recommendations.

2. Evaluations and recommendations

a. ICOMOS World Heritage Panel: Draft evaluations (in either English or French) were prepared on the basis of the information contained in the nomination dossiers, mission reports, consultations and research. They were examined by the ICOMOS World Heritage Panel at a meeting in Paris from 20 to 23 November 2011. The Panel defined the recommendations and identified the additional information requests to be sent to the State Parties.

b. Additional information request: Additional information requests for some of the nominated properties were sent to the State Parties by 31 January 2012, in accordance with the normal procedure. All documents received by 28 February 2012 were examined by the World Heritage Working Group at its meeting on 13 and 14 March 2012.

c. Finalisation of the evaluation volume and its presentation to the World Heritage Committee: Following these meetings, revised evaluations have been prepared in both working languages, printed and dispatched to the UNESCO World Heritage Centre for distribution to members of the World Heritage Committee at its 36th session in June 2012.

Nominated properties and ICOMOS recommendations will be presented to the World Heritage Committee by ICOMOS advisers in PowerPoint form.

As an advisory body, ICOMOS makes a recommendation based on an objective, rigorous and scientific analysis. However, decisions are the responsibility of the World Heritage Committee. The process relies on the Committee members and their knowledge of the nominations and the evaluations published by the advisory organisations.

3. Dialogue with State Parties

ICOMOS makes every effort to maintain dialogue with the State Parties throughout the nomination evaluation process, i.e. following receipt of the nominations, during and after the technical evaluation mission, and following the meeting of the ICOMOS World Heritage Panel. The information requested relates to precise details or clarifications, but does not invite a complete reformulation of the nomination dossier.

4. Referred back nominations and requests for minor modifications

On 1st February preceding the World Heritage Committee meeting, ICOMOS also receives supplementary information on nominations referred back during previous sessions of the Committee. As indicated above, ICOMOS does not organise technical evaluation missions for the evaluation of this supplementary information. It was examined by the World Heritage Working Group, which this year met on 13 and 14 March 2012.

ICOMOS also examines requests for "minor" modifications to boundaries or creation of buffer zones, and for changes of criteria or name for some properties already inscribed on the World Heritage List. 20 requests were submitted by the State Parties concerned before 1st February this year. At the request of the World Heritage Centre, all requests have been examined and included in the following document: WHC-12/36.COM/INF.8B1.Add.

5. Conclusion

All the evaluated cultural properties are remarkable and deserving of protection and conservation. In reaching its recommendations to the World Heritage Committee, ICOMOS relies on the *Operational Guidelines* and the direction of the World Heritage Committee.

The opinion of ICOMOS is both independent and institutional. The opinion of one of its members is not binding on the organisation, and the evaluation texts are each the work of between 40-50 persons for each nomination, with several stages of in-depth peer review. ICOMOS represents cultural heritage experts throughout the five regions and is working to protect the entire cultural heritage of the world.

ICOMOS takes a professional view of the dossiers reviewed, and when appropriate makes recommendations for all the properties for which nominations have been submitted to it, independently of the outstanding regional or universal scope of their values.

Paris, April 2012

ICOMOS

Check tool recommendations

Comparative analysis	Integrity	Authenticity	Criteria	Selection justified (series)	Boundaries	Protection property	Protection buffer zone	Conservation	Management	Threats addressed	Mission required	Conclusion
√	√	√	√	√	√	√	√	≈	≈	≈	No	Inscription
√	√	√	√	√	≈	X	X	≈	≈	≈	No	Referral
√	√	√	√	√	X	X	X	X	X	X	Yes	Deferral
O	√	√	O	√							Yes	Deferral
O	O	O	O	O							Yes	Deferral
X	X	X	X	X							-	No inscription

√	OK - Good
≈	Adequate - Can be improved
O	Not demonstrated at this stage
X	Not OK - Not adequate

The grid does not give all possible combinations, but only the lowest benchmarks below which a nomination moves to another category.

This tool is to be used jointly with the table summarizing the ICOMOS recommendations.

Cultural and Mixed Properties
Alphabetical Index of the evaluations (by State Party)

State Party	ID number	Name of the property	Page
Bahrain	C 1364rev	Pearling, testimony of an island economy	Add
Belgium	C 1344rev	The Major Mining Sites of Wallonia	324
Brazil	C 1100rev	Rio de Janeiro, Carioca Landscapes between the Mountain and the Sea	378
Canada	C 1404	Landscape of Grand Pré	185
China	C 1389	Site of Xanadu	108
Côte d'Ivoire	C 1322rev	Historic town of Grand-Bassam	Add
Croatia	C 1395	Sacral Complex on the remains of the Roman Forum in Zadar	199
France	C 1360	Nord-Pas de Calais Mining Basin	209
Germany	C 1281	Schwetzingen: a Prince Elector's Summer Residence	224
Germany	C 1379	Margravial Opera House Bayreuth	234
India	C 247	Hill Forts of Rajasthan	121
Indonesia	C 1194rev	The Cultural Landscape of Bali Province: the Subak System as a Manifestation of the Tri Hita Karana Philosophy	170
Iran (Islamic Republic of)	C 1397	Masjed-e Jāme' of Isfahan	135
Iran (Islamic Republic of)	C 1398	Gonbad-e Qābus	146
Israel	N/C 1393	Sites of Human Evolution at Mount Carmel: The Nahal Me'arot/Wadi el-Mughara Caves	32
Italy	C 1390	The Vineyard Landscape of Piedmont: Langhe-Roero and Monferrato	245
Macedonia, Former Yugoslav Republic of	C 1374	Archaeo-astronomical Site - Kokino	262
Malaysia	C 1396	Archaeological Heritage of the Lenggong Valley	157
Mexico	N/C 1244rev	Banco Chinchorro Biosphere Reserve	58
Morocco	C 1401	Rabat, modern capital and historic city, a shared heritage	81
Palau	N/C 1386	Rock Islands Southern Lagoon	21
Palestine	C 1433	Birthplace of Jesus: the Church of the Nativity and the Pilgrimage Route, Bethlehem	Add
Portugal	C 1367	The Garrison Border Town of Elvas and its Fortifications	272
Qatar	C 1402	Al Zubarah Archaeological Site	98
Russian Federation	C 1378	Russian Kremlins	285
Senegal	C 1407	Bassari Country: Bassari, Fula and Bedik Cultural Landscapes	67
Slovenia / Spain	C 1313rev	Heritage of Mercury. Almadén and Idrija	339
Spain	N/C 1394	Plasencia-Monfragüe-Trujillo: Mediterranean Landscape	43
Sweden	C 1282rev	Decorated Farmhouses of Hälsingland	353
Turkey	C 1405	The Neolithic Site of Çatalhöyük	298
Ukraine	C 527ter	Kiev: Saint-Sophia Cathedral and Related Monastic Buildings, St. Cyril's and St. Andrew's Churches, Kiev Pechersk Lavra (extension)	364
United Kingdom	C 1391	The Twin Monastery of Wearmouth-Jarrow	311

Cultural and Mixed Properties
Nominations by category

New nominations (22)		
Canada	C 1404	Landscape of Grand Pré
China	C 1389	Site of Xanadu
Croatia	C 1395	Sacral Complex on the remains of the Roman Forum in Zadar
France	C 1360	Nord-Pas de Calais Mining Basin
Germany	C 1281	Schwetzingen: a Prince Elector's Summer Residence
Germany	C 1379	Margravial Opera House Bayreuth
India	C 247	Hill Forts of Rajasthan
Iran (Islamic Republic of)	C 1397	Masjed-e Jāme' of Isfahan
Iran (Islamic Republic of)	C 1398	Gonbad-e Qābus
Israel	N/C 1393	Sites of Human Evolution at Mount Carmel: The Nahal Me'arot/Wadi el-Mughara Caves
Italy	C 1390	The Vineyard Landscape of Piedmont: Langhe-Roero and Monferrato
Macedonia, Former Yugoslav Republic of	C 1374	Archaeo-astronomical Site - Kokino
Malaysia	C 1396	Archaeological Heritage of the Lenggong Valley
Morocco	C 1401	Rabat, modern capital and historic city, a shared heritage
Palau	N/C 1386	Rock Islands Southern Lagoon
Portugal	C 1367	The Garrison Border Town of Elvas and its Fortifications
Qatar	C 1402	Al Zubarah Archaeological Site
Russian Federation	C 1378	Russian Kremlins
Senegal	C 1407	Bassari Country: Bassari, Fula and Bedik Cultural Landscapes
Spain	N/C 1394	Plasencia-Monfragüe-Trujillo: Mediterranean Landscape
Turkey	C 1405	The Neolithic Site of Çatalhöyük
United Kingdom	C 1391	The Twin Monastery of Wearmouth-Jarrow

Referred back nominations (2)		
Bahrain	C 1364rev	Pearling, testimony of an island economy
Côte d'Ivoire	C 1322rev	Historic town of Grand-Bassam

Deferred nominations (7)		
Belgium	C 1344rev	The Major Mining Sites of Wallonia
Brazil	C 1100rev	Rio de Janeiro, Carioca Landscapes between the Mountain and the Sea
Indonesia	C 1194rev	The Cultural Landscape of Bali Province: the Subak System as a Manifestation of the Tri Hita Karana Philosophy
Mexico	N/C 1244rev	Banco Chinchorro Biosphere Reserve
Slovenia / Spain	C 1313rev	Heritage of Mercury. Almadén and Idrija
Sweden	C 1282rev	Decorated Farmhouses of Hälsingland
Ukraine	C 527ter	Kiev: Saint-Sophia Cathedral and Related Monastic Buildings, St. Cyril's and St. Andrew's Churches, Kiev Pechersk Lavra (extension)

Nominations submitted for processing on an emergency basis (1)		
Palestine	C 1433	Birthplace of Jesus: the Church of the Nativity and the Pilgrimage Route, Bethlehem

Cultural and Mixed Properties

Geographical spread of nominations

Africa		2 States Parties, 2 nominations
Côte d'Ivoire	C 1322rev	Historic town of Grand-Bassam
Senegal	C 1407	Bassari Country: Bassari, Fula and Bedik Cultural Landscapes

Arab States		4 States Parties, 4 nominations
Bahrain	C 1364rev	Pearling, testimony of an island economy
Morocco	C 1401	Rabat, modern capital and historic city, a shared heritage
Palestine	C 1433	Birthplace of Jesus: the Church of the Nativity and the Pilgrimage Route, Bethlehem
Qatar	C 1402	Al Zubarah Archaeological Site

Asia – Pacific		6 States Parties, 7 nominations
China	C 1389	Site of Xanadu
India	C 247	Hill Forts of Rajasthan
Indonesia	C 1194rev	The Cultural Landscape of Bali Province: the Subak System as a Manifestation of the Tri Hita Karana Philosophy
Iran (Islamic Republic of)	C 1397	Masjed-e Jāme' of Isfahan
Iran (Islamic Republic of)	C 1398	Gonbad-e Qābus
Malaysia	C 1396	Archaeological Heritage of the Lenggong Valley
Palau	N/C 1386	Rock Islands Southern Lagoon

Europe – North America		16 States Parties, 17 nominations
Belgium	C 1344rev	The Major Mining Sites of Wallonia
Canada	C 1404	Landscape of Grand Pré
Croatia	C 1395	Sacral Complex on the remains of the Roman Forum in Zadar
France	C 1360	Nord-Pas de Calais Mining Basin
Germany	C 1281	Schwetzingen: a Prince Elector's Summer Residence
Germany	C 1379	Margravial Opera House Bayreuth
Israel	N/C 1393	Sites of Human Evolution at Mount Carmel: The Nahal Me'arot/Wadi el-Mughara Caves
Italy	C 1390	The Vineyard Landscape of Piedmont: Langhe-Roero and Monferrato
Macedonia, Former Yugoslav Republic of	C 1374	Archaeo-astronomical Site - Kokino
Portugal	C 1367	The Garrison Border Town of Elvas and its Fortifications
Russian Federation	C 1378	Russian Kremlins
Slovenia / Spain	C 1313rev	Heritage of Mercury. Almadén and Idrija
Spain	N/C 1394	Plasencia-Monfragüe-Trujillo: Mediterranean Landscape
Sweden	C 1282rev	Decorated Farmhouses of Hälsingland
Turkey	C 1405	The Neolithic Site of Çatalhöyük
Ukraine	C 527ter	Kiev: Saint-Sophia Cathedral and Related Monastic Buildings, St. Cyril's and St. Andrew's Churches, Kiev Pechersk Lavra (extension)
United Kingdom	C 1391	The Twin Monastery of Wearmouth-Jarrow

Latin America and the Caribbean		2 States Parties, 2 nominations
Brazil	C 1100rev	Rio de Janeiro, Carioca Landscapes between the Mountain and the Sea
Mexico	N/C 1244rev	Banco Chinchorro Biosphere Reserve

Cultural and Mixed Properties

Numerical Index of the evaluations

ID N°		State Party	Proposed World Heritage property	Page
C 247		India	Hill Forts of Rajasthan	121
C 527	**ter**	Ukraine	Kiev: Saint-Sophia Cathedral and Related Monastic Buildings, St. Cyril's and St. Andrew's Churches, Kiev Pechersk Lavra	364
C 1100	**rev**	Brazil	Rio de Janeiro, Carioca Landscapes between the Mountain and the Sea	378
C 1194	**rev**	Indonesia	The Cultural Landscape of Bali Province: the Subak System as a Manifestation of the Tri Hita Karana Philosophy	170
N/C 1244	**rev**	Mexico	Banco Chinchorro Biosphere Reserve	58
C 1281		Germany	Schwetzingen: a Prince Elector's Summer Residence	224
C 1282	**rev**	Sweden	Decorated Farmhouses of Hälsingland	353
C 1313	**rev**	Slovenia / Spain	Heritage of Mercury. Almadén and Idrija	339
C 1322	**rev**	Côte d'Ivoire	Historic town of Grand-Bassam	Add
C 1344	**rev**	Belgium	The Major Mining Sites of Wallonia	324
C 1360		France	Nord-Pas de Calais Mining Basin	209
C 1364	**rev**	Bahrain	Pearling, testimony of an island economy	Add
C 1367		Portugal	The Garrison Border Town of Elvas and its Fortifications	272
C 1374		Macedonia, Former Yugoslav Republic of	Archaeo-astronomical Site - Kokino	262
C 1378		Russian Federation	Russian Kremlins	285
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N/C 1394		Spain	Plasencia-Monfragüe-Trujillo: Mediterranean Landscape	43
C 1395		Croatia	Sacral Complex on the remains of the Roman Forum in Zadar	199
C 1396		Malaysia	Archaeological Heritage of the Lenggong Valley	157
C 1397		Iran (Islamic Republic of)	Masjed-e Jāme' of Isfahan	135
C 1398		Iran (Islamic Republic of)	Gonbad-e Qābus	146
C 1401		Morocco	Rabat, modern capital and historic city, a shared heritage	81
C 1402		Qatar	Al Zubarah Archaeological Site	98
C 1404		Canada	Landscape of Grand Pré	185
C 1405		Turkey	The Neolithic Site of Çatalhöyük	298
C 1407		Senegal	Bassari Country: Bassari, Fula and Bedik Cultural Landscapes	67
C 1433		Palestine	Birthplace of Jesus: the Church of the Nativity and the Pilgrimage Route, Bethlehem	Add

Cultural and Mixed Properties

Technical evaluation mission experts

State Party	ID number	Name of the property	Field mission	Date
New Nominations				
Canada	C 1404	Landscape of Grand Pré	**Patricia O'Donnell (USA)**	September 2011
China	C 1389	Site of Xanadu	**Jae Heon Choi (Korea)**	August 2011
Croatia	C 1395	Sacral Complex on the remains of the Roman Forum in Zadar	**Franco Bocchieri (Italy)**	September 2011
France	C 1360	Nord-Pas de Calais Mining Basin	**Stephen Hughes (UK)**	October 2011
Germany	C 1281	Schwetzingen: a Prince Elector's Summer Residence	**David Adshead (UK)**	August 2011
Germany	C 1379	Margravial Opera House Bayreuth	**Pavel Slavko (Czech Republic)**	September 2011
India	C 247	Hill Forts of Rajasthan	**Doo Won CHO (Korea)**	August-September 2011
Iran (Islamic Republic of)	C 1397	Masjed-e Jāme' of Isfahan	**Wolfgang Koellisch (Germany)**	September 2011
Iran (Islamic Republic of)	C 1398	Gonbad-e Qābus	**Zeynep Ahunbay (Turkey)**	August-September 2011
Israel	N/C 1393	Sites of Human Evolution at Mount Carmel: The Nahal Me'arot/Wadi el-Mughara Caves	**J. Tyler Faith (USA)**	October 2011
Italy	C 1390	The Vineyard Landscape of Piedmont: Langhe-Roero and Monferrato	**Yves Luginbühl (France)**	October 2011
Macedonia, Former Yugoslav Republic of	C 1374	Archaeo-astronomical Site - Kokino	**Marko Stokin (Slovenia)**	September 2011
Malaysia	C 1396	Archaeological Heritage of the Lenggong Valley	**Susan McIntyre-Tamwoy (Australia)**	September 2011
Morocco	C 1401	Rabat, modern capital and historic city, a shared heritage	**Antonio Almagro Gorbea (Spain)**	September 2011
Palau	N/C 1386	Rock Islands Southern Lagoon	**Ian Lilley (Australia)**	September 2011
Portugal	C 1367	The Garrison Border Town of Elvas and its Fortifications	**Philippe Bragard (Belgium)**	September 2011
Qatar	C 1402	Al Zubarah Archaeological Site	**Mahmoud Hawari (UK/Palestine)**	October 2011
Russian Federation	C 1378	Russian Kremlins	**Joseph Štulc (Czech Republic)**	September-October 2011
Senegal	C 1407	Bassari Country: Bassari, Fula and Bedik Cultural Landscapes	**Lassana Cissé (Mali)**	September-October 2011

State Party	ID number	Name of the property	Field mission	Date
Spain	N/C 1394	Plasencia-Monfragüe-Trujillo: Mediterranean Landscape	**Pierre-Marie Tricaud (France)**	October 2011
Turkey	C 1405	The Neolithic Site of Çatalhöyük	**Margaret Gowen (Ireland)**	September 2011
United Kingdom	C 1391	The Twin Monastery of Wearmouth-Jarrow	**Adriano Boschetti (Switzerland)**	September 2011
Referred back nominations				
Bahrain	C 1364rev	Pearling, testimony of an island economy	**John Gribble (UK)**	October 2010
Côte d'Ivoire	C 1322rev	Historic town of Grand-Bassam	**Souayibou Varissou (Benin)**	September 2008
Deferred nominations				
Belgium	C 1344rev	The Major Mining Sites of Wallonia	**Helmuth Albrecht (Germany)**	September 2011
Brazil	C 1100rev	Rio de Janeiro, Carioca Landscapes between the Mountain and the Sea	**Saul Alcántara (Mexico)**	October 2011
Indonesia	C 1194rev	The Cultural Landscape of Bali Province: the Subak System as a Manifestation of the Tri Hita Karana Philosophy	**Augusto Villalon (Philippines)**	October 2011
Mexico	N/C 1244rev	Banco Chinchorro Biosphere Reserve	**Robert L Hohlfelder (USA)**	August 2011
Slovenia / Spain	C 1313rev	Heritage of Mercury. Almadén and Idrija	**Nikos Belavilas (Greece)**	September 2011
Sweden	C 1282rev	Decorated Farmhouses of Hälsingland	**Helena Hirviniemi (Finland)**	September 2011
Ukraine	C 527ter	Kiev: Saint-Sophia Cathedral and Related Monastic Buildings, St. Cyril's and St. Andrew's Churches, Kiev Pechersk Lavra (extension)	**Todor Krestev (Bulgaria)**	October 2011
Nominations submitted for processing on an emergency basis				
Palestine	C 1433	Birthplace of Jesus: the Church of the Nativity and the Pilgrimage Route, Bethlehem	**N/A**	N/A

III Mixed properties

A Asia – Pacific
New nominations

B Europe – North America
New nominations

C Latin America and the Caribbean
Nominations deferred by previous sessions of the World Heritage Committee

Rock Islands Southern Lagoon (Republic of Palau) No 1386

Official name as proposed by the State Party
Rock Islands Southern Lagoon

Location
Koror State
Republic of Palau

Brief description
Set in a marine lagoon protected by a barrier reef, the Rock Islands form diverse natural habitats and include evidence of former human occupation in caves and abandoned villages. Cave burials, middens and an assemblage of red-painted rock art attest to seasonal human occupation dating from 3,100 BP. Remains of permanent villages abandoned in the 17th-18th centuries testify to the consequences of population growth and climate change on subsistence in a marginal environment.

Category of property
In terms of categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, this is a *site*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (January 2008), paragraph 47, the property is nominated also as a *cultural landscape*.

[Note: The property is nominated as a mixed cultural and natural site. IUCN will assess the natural significance and ICOMOS the cultural significance.]

1 Basic data

Included in the Tentative List
6 November 2007

International Assistance from the World Heritage Fund for preparing the Nomination
2010

Date received by the World Heritage Centre
1st February 2011

Background
This is a new nomination.

Consultations
ICOMOS has consulted its International Scientific Committees on Archaeological Heritage Management and Pacific Islands and several independent experts.

Literature consulted (selection)

Jones, S., 'The Peopling of the Pacific', in *Cambridge encyclopedia of human evolution*, Cambridge ; New York, NY, Cambridge University Press, 1992.

Lilley, E. (ed.), *Early Human expansion and Innovation in the Pacific*, étude thématique de l'ICOMOS, décembre 2010.

McKnight, R.K., *Orachl's Drawings: Palauan Rock Paintings.* Saipan, Trust Territory of the Pacific Islands: Micronesian Research Working Papers, No° 1, 1964.

Morgan, W. N*., Prehistoric Architecture in Micronesia*, University of Texas Press, Austin, 1988.

Olsudong, R., 'Cultural Heritage and Communities in Palau', in *Micronesian Journal of the Humanities and Social Sciences*, Vol. 5, n° 1&2, 2006.

Osborne, D., *The archaeology of the Palau Islands. An Intensive Survey*, Bernice P. Bishop Museum, Bulletin No. 230, Bishop Museum Press. Honolulu, Hawaii, 1966.

Parmentier, R.J., *The Sacred Remains: Myth, History, and Polity in Belau*, The University of Chicago Press, Chicago, Illinois, 1987.

Smith, A., and Jones, K.L., *Cultural Landscapes of the Pacific Islands*, étude thématique de l'ICOMOS, décembre 2007.

Vienne, B., 'Masked faces from the country of the dead', in *Arts of Vanuatu*, Crawford House Publishing, Bathurst, NSW Australia ; Éditions de la Réunion des musées nationaux, 1996.

Technical Evaluation Mission
A joint ICOMOS/IUCN technical evaluation mission visited the property from 8 to 19 September 2010.

Additional information requested and received from the State Party
A letter was sent to the State party on 9 September 2011 requesting clarification on the comparative analysis, boundaries, inventory, legal protection, active conservation and management. A response was received from the State Party on 25 October 2011 and the information has been incorporated into relevant sections below. A second letter was sent to the State Party on 12 December 2011 requesting information on legal protection, property boundary, name of the nominated property and management plan. A response was received on 28 February 2012 and the information has been incorporated into the relevant sections below.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The nominated property is a marine landscape of reef enclosed lagoon and numerous large and small limestone islands located immediately to the south of Palau's main volcanic island Babeldaob, within the waters of Koror State. The nominated area is 85,900 ha. Palau is part of

the Western Caroline Islands about 600km east of the Philippines and about the same distance north of Irian Jaya. The nominated property includes archaeological remains and rock art sites in two island clusters – Ulong and Ngemelis – and three islands – Ngeruktabel, Ngeanges, and Chomedokl.

Ulong

This is a cluster of six raised coralline reef islands located in the central part of the nominated property area. Ulong Island is the largest and is considered to contain the most significant set of cultural remains in the Rock Islands with evidence of occupation from 3,100 BP to early European contact in the 18th century, together with a rock art gallery. Evidence of the earliest human settlement was located in the south-west of the island, recording Paluan material culture including human use of the marine ecosystem from 3,000 to 500 BP. The remains of Ulong Village comprise a stonework village system dating from 950-550 BP with a dispersed pattern similar to other Rock Island village sites. Finds of stone tools and ceramics manufactured on the volcanic islands testify to a close relationship between Palau's volcanic and rock islands. The village was abandoned c.1600 AD. Remains of the camp established by the survivors from the shipwreck in 1783 AD of the British East India Company packet, the *Antelope* in a protected cove on the south side of the island support oral accounts of the encounter. The weapons and help of the British-Chinese crew enabled the political entity of Koror to achieve superiority over Melekeok to the north and Peleliu to the south, establishing the key position in Palau that it holds today. A large rock overhang on the island's north-west coast holds a dense and concentration of red ochre rock art thought to date from 3,000-2,000 BP. According to tradition this and smaller assemblages in five other Rock Islands are attributed to the culture hero Orachel.

Ngemelis

This is a cluster of eight low-lying rock islands at the south-western edge of the nominated property area. Archaeological remains have been recorded on Ngis, Belual a Kelat, Dmasech and Uchularois, of which only the last two have been investigated in detail. It is considered likely that remains will be found on the other islands – Desomel, Lilblau, Cheleu and Bailechesengel. Remnants of midden deposits linked by a stonework causeway, and a stonework village identified as 'Beluu Ngemelis', the central village of the region have been archaeologically documented on Dmasech, including the apparent remains of a *bai* (men's house), a unique find on the Rock Islands so far. The occupation of the village area has been dated to 1530-1770 AD. Stone platforms and features including a canoe dock on Uchularois may represent the home village of Uchermelis, chief of the Ngemelis cluster. Separate areas of cultural deposits in caves and rock shelters in the centre of the island have been dated to 1250-1450 AD and 650-1000 AD. The cave complex is significant as the only site where the cultural remains have been studied in sufficient detail to allow tracking of human impact on the marine ecosystem through time, providing evidence of over-harvesting of reef resources during the stonework village phase of Dmasech-Uchularois. Examination of sensitive microbiological, isotopic and molecular indicators of rainfall in palaeocores from Spooky Lake on Mecherchar show that this over-harvesting coincided with a decrease in rainfall in Palau from 1450-1650 due to the southward movement of the inter-tropical convergence zone. Together these factors are identified as the cause for abandonment of the villages.

Ngeruktabel Island

Cultural sites identified on this, the largest rock island of the Southern Lagoon include the remains of several stonework villages, Yapese stone money quarries, rock art, and a complex of World War II structures and remains. Not all the island has been archaeologically surveyed and there are many sites not yet recorded. Oral history records at least five occupied villages prior to European contact: Metukeruikull, Mariar, Ngermiich, Ngeremdiu and Ngeruktabel. The populations are said to have moved out due to warfare and or lack of food. Stonework village remains have been identified and archaeologically investigated at Mariar on the south-east side of the island dating from 1530-1730 AD on the southern hilltop's platform, while a midden deposit on Big Mariar beach has been dated to 990-1100 AD. At Ngeremdiu the stonework village system connects two beaches across the southern-most tip of the island. It includes remnants of a defensive wall and a stone well; also stone walls and terraces and an unfinished piece of Yapese stone money. A WWII Japanese defensive complex covers the ridge face overlooking the beach, which has disturbed some of the features of the village site.

Ngeanges Island

This island is located around 1,000 m south of Ngeruktabel Island. Limestone outcrops dominate the north and south ends of the island. Stonework village features on the southern outcrop have been investigated and recorded, and include remains of what is reputed to be the chief Aderdei's house. There is a possible Yapese stone money quarry and several Japanese defensive positions mingled with the Paluan stonework. Stonework features and midden deposits on the beach have been affected by WWII shelling.

Chomedokl Island

Located off the south-west of Ngeruktabel Island, Chomedokl is the site of a large cave used for burials from 200 BC to 900 AD. Caves and hollows are common in the Rock Islands and many have been used in prehistoric times for human burials. At least ten burial caves have been archaeologically documented, including the one on Chomedokl. The south end of the chamber contains areas of rock fall and skeletal remains including a complete human skull cemented into the flowstone. Burial goods found in the cave include ceramics, stone adzes and shell items.

History and development

Human activity is evidenced in the Rock Islands from 3,100 BP on Ulong Island. At that time the sea level was declining after being 1.5-1.8 m higher than today. Occupation was short term and consistent with the presence of mobile camps that skimmed pristine stocks of marine food from accessible locations. In response to ICOMOS' request for clarification regarding human occupation of the islands, the State Party explained that research indicates that separate migrations were responsible for the occupation of Western Micronesia and Palau from that of the Mariana Islands and Yap. The archaeological evidence suggests that colonisation of Palau originated from Island South-east Asia/northern New Guinea. Caves and shelters were used for human burials from 2,000 BP, with smaller caves being used for individual interment and larger caves for multiple burials. These are considered to have been cemeteries for groups who occupied the volcanic islands (Babeldaob, Koror) and had rights to the Rock Islands. Territorial rights were marked by highly visible rock art in exposed locations, while other rock art is concealed in limestone caves. Additional information supplied by the State Party indicates that the red painted rock art in Palau appears to be the work of people of a different origin than the Chamorro of the Marianas, which is executed in white or black pigment and characterised by linear human/animal figures. The red rock art at Ulong is geometric, abstract with few anthropomorphic shapes.

Continued use of the Rock Island marine food resources is indicated, but there is no evidence for permanent settlement until around 1200 AD, when the first stonework villages were established. These were contemporary with villages established in the volcanic islands coinciding with abandonment of the terraced earthwork sites there c1200 AD. It appears that a number of factors including drought, increased population, competition for resources and associated warfare on the volcanic islands drove some of the original inhabitants of the terraced systems in Palau to settle permanently in their Rock Islands territories. The Rock Islands villages were built in defensive locations with high stone walls, some with an internal foot ledge allowing defenders to hurl projectiles at attackers, across beaches that provided canoe access. Large stone platforms indicating chiefly residences or the abode of priests were located on high limestone outcrops and ridges. Burials were in sand plains although some cave burial may have continued. Giant swamp taro was grown in swampy ground between limestone bedrock and the coastal plain in damp sink holes, while tree crops such as coconut were grown on sandy beaches. Village deposits include primarily marine shells used for domestic artefacts and stone tools and pottery fragments from large, flanged-rim bowls made in the volcanic islands, indicating an ongoing relationship with the volcanic islands. The subsistence economy relied on shellfish and finfish. The total Rock Island population is estimated to have reached between 4,000 and 6,000 during the period 1200-1650 AD. During the course of this occupation the size of several subsistence shell fish decreased as a result of over-harvesting. Overpopulation and resource depletion resulted in the abandonment of the rock islands over the next two centuries as social groups relocated to Babeldaob, Peleliu and Angaur. Origin stories trace the migration of individuals, families and entire villages from the Rock Islands to contemporary villages on Babeldaob, Oreor and Ngerekebesang. The immigrants brought village names, chiefly titles and community deities from their original village sites. During this period there was considerable interaction with Yapese voyagers who came to the Rock islands to quarry calcite deposits to make stone money discs. The shipwreck of the *Antelope* on Palau's western barrier reef in 1783 and subsequent help given by the survivors to the paramount chief of Koror enabled the chief to overcome his enemies on Babeldaob and Peleliu. Palau came under successive colonial administrations: Spain 1885-1889, Germany 1889-1914, Japan 1914-1945, and United States 1945-1994.

During WWII (1939-45) Japanese forces garrisoned troops, stored military supplies, established naval positions and moored naval and supply ships around Palau, resulting in substantial impacts on the landscape. In the Rock Islands there are remains such as shrapnel fragments, abandoned equipment, unexploded ordnance, gun emplacements, troop shelters, sunken ships and planes. Earth and stone defensive features were built in Palauan stonework villages and numerous caves and rock shelters were cleared of prehistoric remains.

The first systematic surveys and excavation of prehistoric sites were carried out in 1953-4 and 1968-9 by Douglas Osborne. Since then stonework village sites have been investigated by Takayama (1979), and staff and students from Southern Illinois University (1989, 1992), and human burials and cultural deposits on Ulong and Chelechol Islands have been investigated by Fitzpatrick (2003), Clark (2005) and Liston (2005). Recent research in the Rock Islands (2006, 2007) has focused on the role of climate change and overharvesting of marine resources on the abandonment of stonework settlements; the Yapese stone money quarries and associated cultural contact between Yap and Palau (2003); first contact between Palau and the West at the *Antelope* survivors' camp (2007, 2010), and prehistoric human remains on Chomedokl Island (2008).

Palau's first formally protected area, the Ngerukewid Islands Wildlife Preserve was legislated in 1956. Following Independence in 1994, tourism development became a major economic focus for Palau.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The nominated property is compared in the nomination dossier with the World Heritage listed (2003: criteria (ii), (iii), (iv), (v)) Mapungubwe Cultural Landscape in South Africa, a relict landscape from which reduced agricultural capacity caused by recurrent droughts during the Little Ice Age in the 14th century forced the population to migrate

into neighbouring regions. While the impact of climate change had a similar impact, this is a savannah landscape, not comparable in terms of use and resources with the Rock Islands landscape. In terms of human impact on the marine ecosystem, the Rock Islands are compared in the nomination with the World Heritage Listed (1986, 2004, 2005: criteria (iii), (v), (vii), (ix), (x)) St Kilda archipelago in the north of Scotland and shown to have a longer sequence of human adaptation – 3,000 years versus 2,000 at St Kilda. The negative effect on the biota is compared with that at the World Heritage Listed (1995: criteria (i), (iii), (v)) Rapa Nui (Easter Island) National Park, Chile, where over-exploitation of marine resources has also been documented. However the evidence at the Rock Islands is considered exceptional, being in the form of fish and shellfish remains preserved in limestone sediments which chart human use of marine resources over 3,000 years.

The remnant stonework village sites in the Rock Islands are compared in the nomination dossier with those on the Paluan volcanic islands, in particular with Irai village on Babeldaob, and found to exhibit distinctive differences. Whereas the settlement on the volcanic islands centre around the *bai* or men's house and associated houses of high-ranking chiefs, from where paths and causeways radiate out to stone landing docks, garden areas and other dwellings, the Rock Island villages are strung out along limestone ridges or sand plains, protected by defensive stone walls along the seaward side. The Rock Islands villages depended on marine resources for their survival, and potable water is scarce, whereas the volcanic islands villages are sustained by taro gardens and other agriculture as much as fishing. The volcanic island villages are part of a regional settlement system in which there is a distinct hierarchy of socio-political power and authority. The Rock Islands villages are less formal, smaller in scale; there are relatively few bathing areas, wells, burial areas, stone uprights, canoe docks, or foundations of large community structures such as *bai*.

ICOMOS considers that these comparisons show that the Rock Islands cultural property stands out as a demonstration of human adaptation to climate change in a subsistence environment. The islands and their marine environment were used periodically over a long period of time from 3,100 BP onwards for marine harvesting by people whose rock art was different from that in the Marianas and who are purported to have arrived from Palau's volcanic islands. The people who settled in the Rock Islands permanently from the 11th-12th century had been forced out of the volcanic islands by overpopulation and consequent warfare. The layout and fortification of their villages in the Rock Islands differ from those in the volcanic islands and demonstrates awareness of possible future conflict. A few centuries later the descendants of these permanent settlers in the Rock Islands had to abandon their villages and move back to the volcanic islands because of a combination of resource depletion and lack of fresh water due to climate change. The archaeological data are comprehensive and very thorough and investigations range from descriptive and documentary to scientific studies of subsistence and paleoclimatology.

ICOMOS notes that the Rock Islands' villages could also be compared with villages associated with the Nowon and Votwos of Ureparapara on Vanuatu's Tentative List. Nowon are the stone platform facades of former men's meeting houses and Votwos are ceremonial earthen platforms. Together these formed the ceremonial complexes associated with village settlements that stretched across the island before European settlement. However the published accounts of Ureparapara give insufficient description of any village remains to enable comparison. The sketch of village social organisation given in Vienne (fig. 286) for a village in the Banks Islands (which, like Ureparapara is part of Vanuatu's Northern Islands group), shows a circular arrangement of dwelling houses bounded by an enclosure of some kind. This seems very different from the Rock Islands villages' elongated layout.

In terms of the centrality of the Rock Islands cultural property to national identity, the State Party recounts oral histories documenting the migration of place names and chiefly titles from the Rock Islands to the volcanic islands. The State Party notes that comparable properties that have associated symbolic, cultural, historical and religious values include World Heritage Listed Tongariro National Park, New Zealand (1990, 1993: (vi), (vii), (viii)); Papahānaumokuākea, United States of America (2010: (iii), (vi), (viii), (ix), (x)), Rapa Nui National Park, Chile (1995: (i), (iii), (v)); Kakadu National Park, Australia (1981,1987, 1992: (i), (vi), (vii), (ix), (x)), and Chief Roi Mata's Domain, Vanuatu (2008: (iii), (v), (vi)).

ICOMOS considers that of these examples the most directly comparable is Papahānaumokuākea, where a seascape is associated with sacred sites. However according to the nomination dossier the cultural values associated with the seascape at the Rock Islands are related less to symbolic and religious values and more to traditional rights of marine harvesting and village settlement. Other relict cultural landscapes described in the ICOMOS Thematic Study, *Cultural Landscapes of the Pacific Islands* (2007) may have spawned similar origin stories through the migration of their peoples. The scientific work needed to investigate other sites in this respect is yet to be done. The archaeology of the Rock Islands and its relationships to oral history has a uniqueness which makes drawing a direct comparison with inscribed sites very difficult. The Outstanding Universal Value of Papahānaumokuākea and the other World Heritage listed properties do not diminish the exceptional qualities of the Rock Islands.

ICOMOS notes that the comparative analysis has been undertaken with properties bearing similar values to those of the Rock Islands Southern Lagoon, inscribed or not on the World Heritage List and at national, regional and international level.

ICOMOS notes that this nomination accords with the World Heritage Committee's strategy in relation to achieving a balanced and credible World Heritage List through filling gaps in the Pacific region.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value
The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Cultural deposits in caves and an assemblage of red-painted rock art unrivalled in Micronesia attest to seasonal human occupation dating from 3,100 BP.
- Contemporary Palauans originated from ancestral Rock Island settlements and identify with the aesthetic and cultural values of the Rock Islands Southern Lagoon.
- The abandonment of Rock Island villages in the 17th and 18th centuries AD is an exceptional illustration of the intersection and consequences of climate change, population growth, and subsistence behaviour on a society living in a marginal environment.

ICOMOS considers that this justification is appropriate because the archaeological remains and landscape of the stonework villages represent a unique adaptation of the Rock Islands Southern Lagoon (RISL) for human occupation over many centuries and relates to living myths and legends regarding the origins of the people who now inhabit the volcanic islands of the Republic of Palau.

Integrity and authenticity

Integrity

The stonework village sites and subsurface deposits in the Rock Islands are substantially intact, preserving a significant archive of cultural and scientific information that details the delicate relationship between people and the climate-ecosystem in a marginal environment. Conditions on the limestone islands have maintained a range of sites not found elsewhere in the archipelago, including human burial sites, rock art, stone money quarries, European contact site, and cultural deposits dating back 3,000 years.

ICOMOS finds that the nominated property boundary contains complete representation of the features and processes that convey the value of the property. These elements do not suffer inordinately from development or neglect and are in good condition. The sites have been largely isolated from human interference since pre-European occupation ceased. Even beach level sites are difficult to access if the jungle has not been cleared for some time. Most visitors stay close to the water's edge.

Authenticity

ICOMOS considers that the authenticity of the Rock Islands' settlements and cultural deposits is clear. The results of natural and human impacts on the remains have not been such as to destroy the form and materials of village settlements, burial caves and their setting beyond that necessary to convey the cultural value of the property. Excavated deposits have been recorded and reburied, and the reports of these campaigns have been lodged with the Koror State Government. The fact that the major Ulong rock art has been partly destroyed by graffiti indicates an urgent need for protective action. The surrounding seascape continues to affirm the importance of the property's setting as a marine resource.

ICOMOS finds that the modern Palauan beliefs and practices associated with the Rock Islands are strong and authentic contemporary expressions of a living cultural tradition.

ICOMOS considers that the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (iii) and (v), and natural criteria (vii), (ix) and (x).

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that contemporary Palauans originated from ancestral Rock Island settlements and identify with the aesthetic and cultural values of the Rock Islands Southern Lagoon. Continuing knowledge of the lagoon ecosystem is fundamentally related to the current capture and collection of life-sustaining marine foods. Rock Island archaeological sites and culturally significant places are recorded in Palau's oral history, legends, myths, dances, proverbs, and in the traditional place names of the land and seascape. Cave burials and rock art indicate past cultural behaviour.

ICOMOS considers that the Rock Islands cave deposits, burials, rock art, stonework village remains and middens bear exceptional testimony to past Palauan settlement and marine resource harvesting traditions.

ICOMOS considers that this criterion has been demonstrated.

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that the abandonment of Rock Island villages in the 17th

and 18th centuries AD is an exceptional illustration of the intersection and consequences of climate change, population growth, and subsistence behaviour on a society living in a marginal environment.

ICOMOS considers that the combination of research into the human impact on the marine ecosystem over time with the study of the stonework villages and cultural deposits has provided adequate evidence (data) to justify this conclusion.

ICOMOS considers that the justification could be better expressed as: The remains of human settlement and evidence of marine harvesting activity in the Rock Islands Southern Lagoon are an outstanding demonstration of human adaption and subsistence behaviour in response to population growth and climate change in a marginal marine environment.

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the nominated property meets criteria (iii) and (v) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes
Attributes carrying the Outstanding Universal Value of the property are:

- Stonework village sites and vegetation that demonstrate the Rock Islands' inhabitants' way of life;
- Cultural deposits that demonstrate the inhabitants' reliance on marine resources and the effect of climate change and over-harvesting on those resources;
- Cave deposits, human burials and red-painted rock art that attest to seasonal human occupation dating from 3,100 BP;
- Oral traditions and origin stories relating to the Rock Islands.

4 Factors affecting the property

Development pressures

As a zoned Conservation Area within Koror State the property is largely undeveloped. There is a dolphin education and research facility on the northeast side of Ngeruktabel Island and small communications cells powered by solar panels have been installed on high points. There are no permanent inhabitants within the property. Development pressure relates primarily to tourism.

Tourism pressures

In recent years Palau's tourist numbers have grown from around 20,000 to 80,000 annually. About 80% of these visit the Rock Islands, where diving and snorkelling are the major attraction, with the Rock Islands being ranked in the top three destinations worldwide. Tour operators take groups to some WWII sites but until now have not visited archaeological sites. Small visitor facilities such as picnic structures and composing toilets have been installed on some Rock Islands to support visitors. Palau is trying to diversify tourist attractions and activity to spread tourist pressure to other islands so that the Rock Islands Southern Lagoon does not suffer degradation from tourist-related facilities. Burial caves and rock art sites near the beach are at risk from foot traffic, fossicking and graffiti.

Palauan visitation for picnics and celebrations and short stays during fishing and diving expeditions have the potential to damage sand plain/beach areas holding stonework village remains through the construction of informal camp structures and amenities.

ICOMOS considers that a tourism management strategy is needed as part of the Management Plan in order to deal with issues such as access and waste collection.

Environmental pressures

Long term effects due to subsidence of the archipelago and sea level rise due to global warming will impact on the cultural sites close to the sea. Tree growth and collapse will impact in the short term on stonework village sites. The activities of land crabs and megapodes impact negatively on archaeological deposits. Sewage pollution may become an issue in the northern part of the property closer to Koror Island, the population and commerce centre. The system is currently a non-treated ponding system. Koror State has implemented strict controls on discharges.

Natural disasters

The main risks from natural disasters are tropical storms, tsunami and forest fires. High winds and substantial rainfall accompanied by wave surges have the potential to damage cultural sites through sand plain removal and tree fall. Palau is outside the typhoon belt and since the 1980s has not suffered tsunami damage. In relation to preparedness, the Palau National Tsunami Capacity Assessment which evaluates the capacity of Palau to receive, communicate and effectively respond to tsunami warnings is currently under review.

Impact of climate change

Any rise in sea level or increase in storm activity due to climate change will impact on cultural sites near to the sea.

ICOMOS considers that the main threats to the property in the long term are tourism and climate change.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundary of the property includes a vast area of rock islands, lagoon and marine lakes within an outer barrier reef such as to adequately protect those elements bearing the values of the property. The State Party considers that no buffer zone is necessary because the property boundary generally abuts open ocean or designated conservation areas. The only part of the property boundary where lack of a buffer zone might be problematic is the north-eastern boundary adjoining waters surrounding the urban area of Koror, Palau's economic centre and former capital. However discharge from landfills and sewage is strictly controlled whether or not there is a buffer zone.

In response to ICOMOS' request of 12 December 2011 regarding the exclusion from the property of Ngerechong Island to the south-east, the State Party has advised that the property boundary has now been adjusted at the south-east to include Ngerechong Island. Maps confirming this are included with the additional information provided on the 28 February 2012.

ICOMOS considers that the boundary of the nominated property is adequate. The lack of a buffer zone is considered acceptable due to the strict controls over adjacent areas where not open ocean.

Ownership

Historically the property belonged to the clans of Koror, held in stewardship and guarded for the good of all by the Chiefs of Koror State. Subsequent court cases have determined that the Koror State Public Lands Authority holds title to public lands above and below the high water mark. At the time of nomination, none of the islands of the nominated property have been awarded to any individual lineage or clan, so that none of the islands are being developed for private interest.

Protection

Legal Protection

Cultural sites deemed to be culturally, historically or archaeologically significant are protected under Title 19 'Cultural Resources' by the Historical and Cultural Preservation Act of the Republic of Palau. According to the nomination dossier there are currently 36 stonework villages and other archaeological sites located in the Rock Islands Southern Lagoon listed on the Palau National Register. However in response to ICOMOS' request for clarification, the State Party advised that currently seven cultural properties within the nominated property are listed in Palau's National Register of Historic Places: Rois village on Ngemelis, Rois Cave on Uchularois in the Ngemelis group, Ulong village, the Ulong pictographs, Mariar village, Metukeruikull village, and the Japanese Era road to the Ngeremdiu lighthouse, and that these are also protected under Koror State Public Law No. K8-183-2007.

Underwater archaeological and historical remains are also protected under Title 19 as the 'Palau Lagoon Monument'. The natural environment is protected under the Environmental Quality Protection Act, Title 24.

National government control over historical and cultural property on national public land (including that leased to others) is exercised through Section 134 of Title 19. Under this section, each state retains ownership and control over historical sites and tangible cultural property located on state-owned land or under state-controlled waters. In case of the development of a property, Title 19, Subchapter IV Sections 151-157 require a cultural heritage impact assessment and appropriate mitigation, and impose penalties for violations of these provisions. This sort of work is done under a Historic Clearance Permit administered by the Palau Historic Preservation Office (Bureau of Arts and Culture). Any activities that require land earthmoving, alteration, or demolition must apply for a Historic Clearance Permit to ensure that cultural properties are not adversely affected.

The Rock Islands Southern Lagoon was declared a Conservation Zone in 1999 under Koror State legislation (Law No. K6-100B-99). Koror State Public Law No. K9-222-2010 prohibits any permanent construction or development in the Rock Islands (other than tourist-related facilities). The Koror State Rangers are the primary enforcers of laws and regulations protecting the flora, fauna and environment of the property.

In response to ICOMOS's request regarding a timetable for the inclusion of all the designated sites in the nominated property in the Palau National Register, the State Party has advised that this is part of the action programme of the new Management Plan, and will follow on from completion and approval of the Management Plan. The latter is expected by June 2012, and at this point will include a timetable for registration of the remaining sites by 2014. The State Party has explained that this time period is due to the fact that the lead management authority needs to build their capacity to properly manage all village and rock art sites within the nominated property.

Traditional Protection

Traditional cultural controls (customary law) include marine tenure and *bul*. The latter is a temporary restriction or moratorium on certain activities and is implemented when called for by village chiefs at times of natural or human threat.

Effectiveness of protection measures

ICOMOS finds that the individually identified cultural sites, as well as others yet to be recorded and listed are protected in practice through a combination of national, state and customary laws. Almost all sites are protected currently by isolation and the lack of non-local knowledge.

The Koror State Rangers, effectively State police, maintain a constant and highly mobile presence in the nominated property.

In response to ICOMOS' request for clarification of how sites that are not yet registered are protected, the State Party explained that under State legislation no development can take place anywhere within the nominated property without an earth moving permit, application for which triggers an investigation by the Bureau of Arts and Culture (BAC) archaeologists.

ICOMOS considers that the legal protection is not yet fully adequate because while some of the sites carrying attributes of Outstanding Universal Value are included in the National Register, not all the designated sites within the nominated property are yet included.

ICOMOS considers that the legal protection in place is not yet adequate and thus overall the protective measures for the property are not adequate.

Conservation

Inventories, recording, research

Many prehistoric sites in the RISL have yet to be documented. There is no database apart from the National Register of sites and not all identified sites in the nominated property are yet on the Register. A complete inventory of cultural sites is a priority for the Rock Islands. However a number of sites have been excavated and archaeological reports of these have been published as identified in the Bibliography of the nomination dossier. In response to ICOMOS' request for clarification the State Party provided a list of 44 cultural sites (including rock art sites) in the Rock Islands Southern Lagoon that have been identified in the published literature. It was explained that the Bureau of Arts and Culture (BAC) archaeological survey has yet to include the Rock Islands because it has been concentrating on the large volcanic island of Babeldaob due to the imminent threat of development there.

ICOMOS considers that establishment of a database of all identified cultural sites, including those known from oral history, should be a high priority.

Present state of conservation

A survey of cultural sites in the nominated property in 2010 showed that the overall preservation of prehistoric sites was generally less on the sand plains, where coastal erosion and human activity had been greatest, and better at sites and features in limestone terrain out of reach of the sea and less visited.

Dmasech and Uchularois
On Dmasech Island stone features on the eastern beach flat are poorly preserved compared to stone features on the ridgeline except the large features at Beluu Ngemelis. Several megapode mounds contain disturbed archaeological remains of pottery and food shell on the sand plain east of the limestone ridge. Several stone features and midden remains on the beach flat of Uchularois Island were removed during the construction of the tourist/visitor structure in the 1970s and 1980s. This contained showers, cooking areas, dormitory and cistern and is to be removed.

Ngeruktabel
Terraces and stone platforms on the south slopes and ridge tops appeared to have been disturbed by the extensive Japanese WWII defensive positions covering the ridge overlooking the beach. Japanese activity also modified parts of prehistoric sites by using ancient stonework to construct defences. Megapode mounds have disturbed prehistoric deposits on the sand plain as have land crabs in moist back beach areas. The preservation of stone structures on both Mariar beach flats is poor compared to the structural remains located on limestone slopes and ridges. The defensive stone wall on Big Mariar beach has been impacted by tree growth and decay which has collapsed sections of the wall and reduced its height. Stones from the defensive wall have been taken by recent visitors to make cooking hearths. On Little Mariar beach, the landward defensive wall had completely disappeared in 2010 as had most of the accompanying recorded stone platforms and other features. The second defensive wall on the beach berm in front of the steeply shelving beach has almost completely disappeared due to wave erosion and tree damage. A cooking area in the temporary wooden camp structure recorded in 2010 appears to be made from stones collected from nearby prehistoric features.

There is a visitor structure and composting toilet together with signage relating to the refurbished well on Oimaderuul Beach at Ngeremdiu on Ngeruktabel Island.

Ulong
The prehistoric sites on Ulong Island are generally well preserved. The main feature of the stonework village, the defensive stone wall, has substantially intact sections in the north and just south of the first entrance. Much of the cultural deposit on the beach flat remains intact due to the distance from the sea and the location of the visitor area some 200m north of the stonework village site. However, humic acids have eroded shellfish remains from the surface and upper levels of the site. Nearby megapode mounds contain archaeological pottery and food shell from the village site. The major rock art site on Ulong Island is partly destroyed by graffiti. Incised or painted directly onto the prehistoric red-painted art, the graffiti consists mainly of the names and dates of visitors. Rock art in a cave on Ulong Island has been partially covered by a moist mat of Algae.

Visitor facilities have been provided on the beach flat of Ulong Island, comprising a pavilion with seating and fireplace and a toilet block, together with signage carrying information about the stonework village, and memorial tablets to British-Paluan relations near the *Antelope* camp site.

Ngeanges

Archaeological features on Ngeanges Island have been disturbed by recent human activities including a poorly preserved visitor's shelter and long drop toilet and piles of rubbish and used building materials. They have also been affected by WWII bombing/shelling. A possible Yapese stone money quarry and stonework features on the southern limestone outcrop appear to be mixed with Japanese defensive positions. Several bomb fragments were found in excavation units and a large bomb crater was recorded on the beach flat. Dense midden deposits around the base of Ngeanges' limestone outcrops are partially disturbed by land crab activity. Shallow, wide rubbish pits excavated into the beach sediments have displaced prehistoric remains.

Active Conservation measures

There is no conservation plan for the archaeological sites, caves, rock art, stone money quarries and village sites in the Rock Islands. Active conservation and maintenance of Palau's cultural heritage sites are undertaken by the national government through the Palau National Register, whose office funds small-scale 'site rehabilitation and maintenance' projects. No project has been undertaken under this programme in the RISL to date. In response to ICOMOS' request for information on this the State Party pointed out that the strict environmental regulations in the current Management Plan have resulted in complete closure of areas of the RISL to both Palauans and visitors, consequently ensuring the preservation of the cultural sites. It is proposed to address the management of cultural properties in more detail in the revised Management Plan.

ICOMOS considers that conservation actions covering research, consolidation, and any necessary physical protection of the sites (such as barriers to prevent access to rock art) should be included in the Management Plan in the form of a conservation programme.

Maintenance

Most of the limited amount of conservation and maintenance undertaken in the Rock Islands is by the Boy Scout movement, which is formally linked to the Koror State Department of State and Cultural Affairs through the Cultural and Youth Affairs Division.

Effectiveness of conservation measures

Should the nomination succeed, there will need to be a significant effort to make at least parts of some sites more accessible to visitors in ways that maintain public safety while not endangering the sites. Elevated boardwalks might be most appropriate, though difficult and expensive to install and maintain, but even simple jungle trails would need constant attention. Whatever option was chosen, such an effort would necessarily require a substantial increase in active conservation and maintenance, at least in the newly-accessible areas.

ICOMOS notes that a key requirement for effective monitoring, conservation and maintenance is a database of identified cultural sites.

ICOMOS considers that a conservation programme should be incorporated into the Management Plan.

ICOMOS considers that a database of identified cultural sites is needed as a high priority and attention is needed to conservation and maintenance of the identified cultural sites in the nominated property in the form of a conservation programme. Particular attention is required to physical protection of the Ulong rock art.

Management

Management structures and processes, including traditional management processes

The RISL was historically managed by traditional controls involving marine tenure. The latter no longer exists in the RISL but some decrees still restrict harvesting of marine resources in and around the property. Over the years increased tourism and harvesting activity have necessitated additional laws together with enforcement programmes. The Koror State Department of Conservation and Law Enforcement (KSDCLE) was created in 1994, leading to State regulations on general resource use, recreational activities and the designation of protected areas within the RISL. This Department works with locally based agencies and organisations on management and research activities within the property. Day-to-day management is the responsibility of an employee of Koror State. The Rock Islands Use Act was legislated in 1997 to regulate tourist activity in the islands. The laws and regulations are enforced by the Koror State Rangers.

Cultural sites included on the Palau National Register of Historic Places are controlled by the Palau Historic Preservation Office, Bureau of Arts and Culture, Ministry of Community and Cultural Affairs.

Policy framework: management plans and arrangements, including visitor management and presentation

The comprehensive Rock Islands Southern Lagoon Area Management Plan 2004-2008 was adopted by the Koror State Legislature and Governor in 2005. According to the nomination dossier it was developed in full consultation with stakeholders at every level over a two-year period and is currently under review to be in effect 2011-2015.

The proposed revised Management Plan has two objectives:

1. To nurture and sustain Palauan culture by preserving and maintaining the landscapes, artefacts and oral traditions associated with the stonework village sites in the RISL;

2. To strengthen and enhance the cultural aspect of Koror State's RISL visitor experience.

The Management Plan proposes special attention to cultural heritage interpretation and presentation. Examples of proposed actions that would be included are set out in the nomination dossier for Ulong Island and Dmasech-Uchularois Island. These cover access, visitor facilities, training of tour guides and interpretive signage. Currently there is minimal signage and few trails. According to the nomination dossier, tour guides are generally inadequately trained in cultural heritage. Tours to the RISL are run from Koror town, which has accommodation ranging from luxury to budget hotels and motels. Camping is permitted in certain areas in the RISL, but permits are required. Most tourists visit for day trips, but some take overnight kayaking and camping tours, or stay on vessels anchored at designated sites within the RISL.

In response to ICOMOS's request regarding a timetable for including actions in the Management Plan for all nominated cultural sites, the State Party has advised that this will form part of the new Management Plan which is expected to be completed and approved by June 2012. The agreed goal at this point is that *"by 2016 village sites that are in critical need of care or rehabilitation are expected to have been identified and mapped with a plan for their rehabilitation developed"*.

Risk preparedness

ICOMOS considers that a risk preparedness strategy is required.

Involvement of the local communities

There is little or no evidence of direct consultation with traditional owners during the process of preparation of the nomination dossier.

ICOMOS considers that the Palauan communities who still visit sites within the property should be involved in the protection and management of the property.

Resources, including staffing levels, expertise and training

An annual budget from the Koror State Government is allocated to the Koror State Department of Conservation and Law Enforcement. In 2010 this was US$900,000 to pay for staff and implement the following programmes:

- Compliance Programme - a capacity and training programme for Koror State Rangers;
- Rock Islands Facelift Programme - a programme focused on maintaining the tourist areas within the RISL, which trains at-risk youth to maintain tourist areas (Beach Boys Programme), includes construction and maintenance of visitor amenities, and the marine lakes monitoring programme;
- Marine Tour Guide Certificate Training Programme - a capacity building programme designed to develop a standard for tour guides in the marine recreation industry.

Additional funds are provided for special projects and financial and technical assistance is provided from various regional and international organisations.

ICOMOS notes that it is not clear whether any of this applies to cultural elements of the property.

52 staff are employed by the Department of Conservation and Law Enforcement in the RISL, none of whom are qualified in cultural heritage management or associated fields. However they collaborate with experts from other agencies including the Bureau of Arts and Culture and the Belau National Museum. The Palau Historic Preservation Office, Bureau of Arts and Culture is responsible for preserving and protecting Palau's cultural properties and collects data and oral histories as part of a state-by-state inventory. They also issue permits for research and respond to requests from developers whose activities could potentially impact protected properties. The Belau National Museum promotes interest in culture and the arts by undertaking marketing, effective research, documentation, collection and presentation of culture, artefacts, natural history and the development of activities. The Museum is the repository for all field notes, artefacts, maps and other materials recovered through archaeological and ethnographic study in Palau.

Effectiveness of current management

As noted above under Conservation and Maintenance, attention is needed to the conservation and maintenance of the cultural sites in the nominated property.

ICOMOS considers that special attention is needed for the conservation and maintenance of the cultural sites within the property in the form of a conservation programme. ICOMOS considers that the management system should be extended to include involvement of relevant communities in the protection and management of the property. Furthermore, ICOMOS recommends that the Management Plan should include the actions proposed for all the cultural sites and a risk preparedness strategy, and the Management Plan should be implemented.

6 Monitoring

Monitoring is conducted through the Koror State Ranger programme. A list of 5 key indicators for cultural sites is included in the nomination dossier. The state of the rock art is not separately listed but comes under '%sites with documented visitor damage'. There is no indicator for the oral traditions. A list of publications covering research studies and monitoring activities within the property relates entirely to natural sites and wildlife and does not include a baseline study of the state of the rock art; the archaeological sites or the oral traditions. The sole basis for future monitoring of the archaeological sites is the

2010 Survey of Stone Features included as Appendix B to the nomination dossier.

ICOMOS considers that the basis for assessment against the key indicators is presently inadequate and requires supplementing with a baseline survey of the rock art and a record of the oral histories and cultural traditions.

ICOMOS considers that the basis for monitoring the cultural values of the property is currently inadequate.

7 Conclusions

ICOMOS considers that the nominated property meets criteria (iii) and (v) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated. The main threats to the property in the long term are tourism and climate change. The boundary of the nominated property to the south-east as adjusted in accordance with the State Party's advice of 28 February 2012 to include Ngerechong Island is adequate. The lack of a buffer zone is considered acceptable.

The legal protection in place is not fully adequate as not all the designated sites within the nominated property are yet included in the National Register.

The State Party advised in its response of 28 February 2012 that consideration of the name of the property to reflect the cultural values will be part of the new Management Plan which is expected to be completed and approved by June 2012. At this point the agreed goal for 2015 is to *"consider a revision of the name of the RISL, to reflect cultural values, and a name that is Palauan"*.

ICOMOS considers that a database of identified cultural sites within the property including archaeological sites, caves, rock art, stone money quarries and villages is needed as a high priority and attention is needed to conservation and maintenance of the identified cultural sites in particular attention is needed for the physical protection of the Ulong rock art.

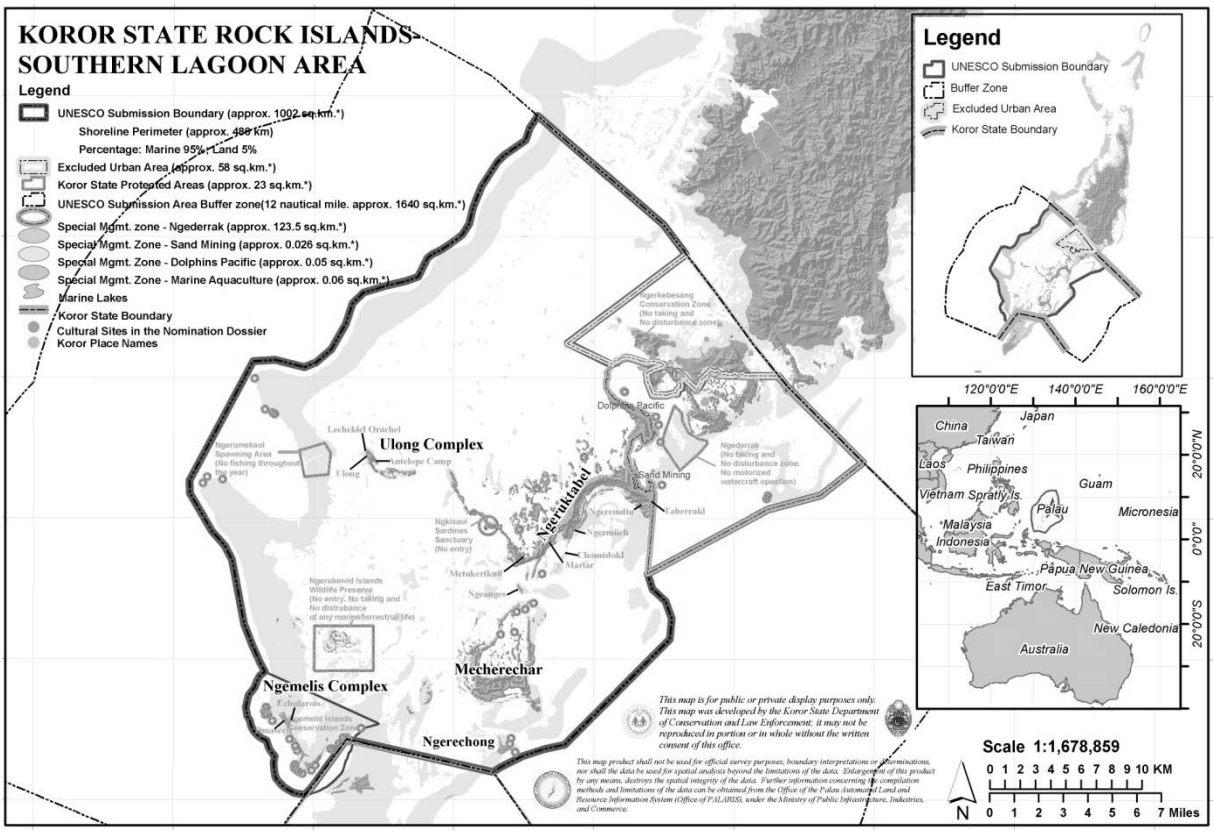
A conservation programme needs to be incorporated into the Management Plan. The management system should be extended to include involvement of relevant communities in the protection and management of the property. The Management Plan should include the actions proposed for the cultural sites, a tourism management strategy and a risk preparedness strategy, and the Management Plan should be implemented. ICOMOS considers that the basis for assessment against the key indicators is presently inadequate and requires supplementing with a baseline survey of the rock art and a record of the oral histories and traditions.

Recommendations with respect to inscription

ICOMOS recommends that the nomination of Rock Islands Southern Lagoon, Republic of Palau, be **referred back** to the State Party in order to allow it to:

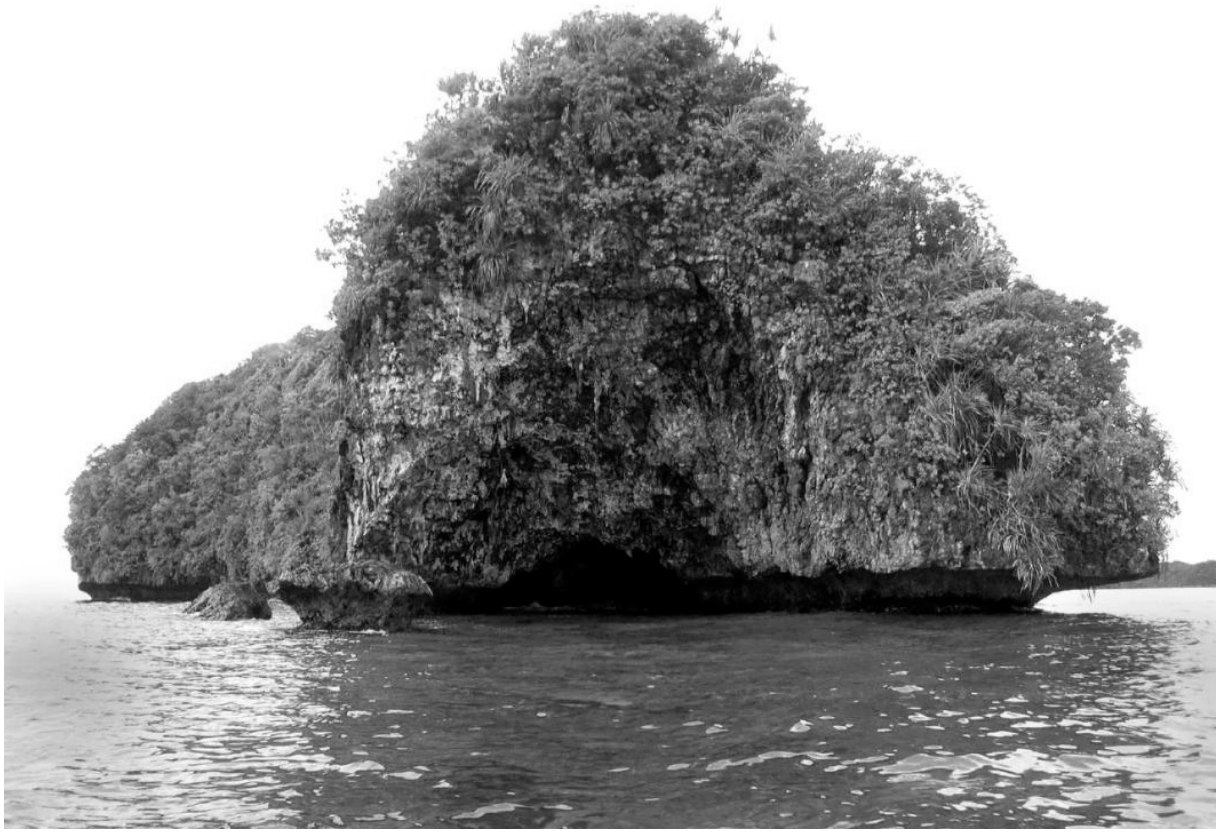
- Include all the designated sites within the property on Palau's National Register of historic places;
- Develop a database of identified cultural sites within the property, including archaeological sites, caves, burials, rock art, stone money quarries and villages;
- Complete and approve the new Management Plan, with the involvement of relevant communities, to include:
    - a conservation programme for the cultural sites covering access, monitoring, maintenance, research, consolidation, and any necessary physical protection, and provide a timetable for the implementation of this programme;
    - a tourism management strategy;
    - a risk preparedness strategy;
    - extension of the key monitoring indicators to include a baseline survey of the rock art, and oral histories.

ICOMOS also recommends that the State Party give further consideration to changing the name of the property to reflect its cultural value.



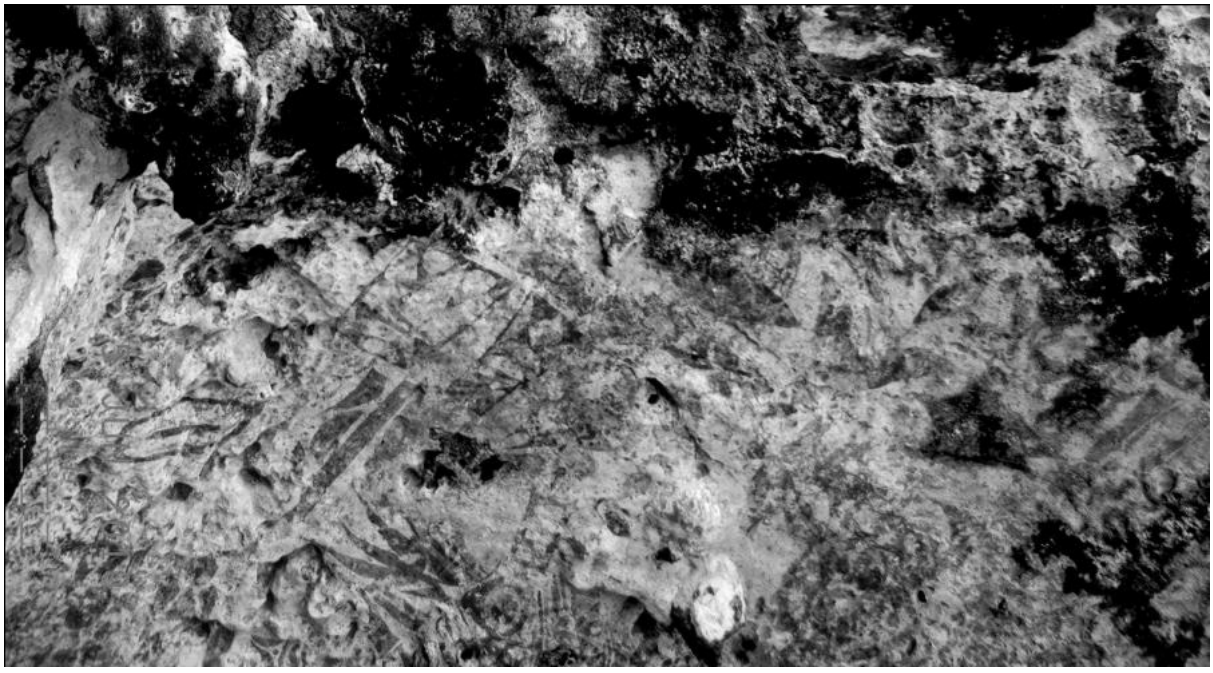
Map showing the revised boundaries of the nominated property

Aerial view of the Rock Islands



Chomedokl Island burial cave

Dmasech Island village at Ngemelis Complex, stone *bai* platform



Red ochre rock art, north side of Ulong

III Mixed properties

A Asia – Pacific
New nominations

B Europe – North America
New nominations

C Latin America and the Caribbean
Nominations deferred by previous sessions of the World Heritage Committee

Mount Carmel Caves (Israel) No 1393

Official name as proposed by the State Party
Sites of Human Evolution at Mount Carmel: The Nahal Me'arot/Wadi el-Mughara Caves

Location
Regional Council Hof-HaCarmel
Northern Israel
State of Israel

Brief description
Located in the steep-sided Nahal Me'arot/Wadi el-Mughara valley on the western side of the landmark Mount Carmel range, Tabun, Jamal, el-Wad and Skhul caves contain cultural deposits representing the past half a million years of human evolution. The site is part of one of the best preserved fossilised reefs of the Mediterranean region and is recognised as providing a definitive chronological framework at a key period of human development. Archaeological evidence covers the appearance of modern humans, deliberate burials, early manifestations of stone architecture and the transition from hunter-gathering to agriculture.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

[Note: The property is nominated as a mixed cultural and natural site. IUCN will assess the natural significances while ICOMOS assesses the cultural significances.]

1 Basic data

Included in the Tentative List
30 June 2000

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
27 January 2011

Background
This is a new nomination.

Consultations
ICOMOS has consulted its International Scientific Committee on Archaeological Heritage Management and several independent experts.

Literature consulted (selection)

Bar-Yosef, O., and Callander, J., 'The woman from Tabun: Garrod's doubts in historical perspective', in *Journal of Human Evolution 37*:879-885, 1999.

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Jelinek, A., 'The Tabun Cave and Paleolithic man in the Levant', in *Science* 216:1369-1375, 1982.

Kaufman, D., 'Mind the gap: questions of continuity in the evolution of anatomically modern humans as seen from the Levant', in *Archeology, Ethnology and Anthropology of Eurasia* 4: 53-61.

Sanz, N., and Keenan, P. (eds), *Human Evolution: Adaptations, Dispersals and Social Development (HEADS), World Heritage Thematic Programme*, World Heritage Paper 29, Paris, UNESCO, 2011.

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Weinstein-Evron, M., et al, 'After 70 Years: New Excavations at the el-Wad Terrace, Mount Carmel, Israel', in *Journal of the Israel Prehistoric Society* 37:37-134, 2007.

Wolpoff, M.H., *Paleoanthropology*, Knopf, distributed by Random House, New York, c.1980.

Zaidner, Y., et al, 'The Acheulo-Yabrudian of Jamal Cave', in *Journal of the Israel Prehistoric Society* 35:93-115, 2005.

Technical Evaluation Mission
A joint ICOMOS/IUCN technical evaluation mission visited the property from 2 to 6 October 2011.

Additional information requested and received from the State Party
A letter was sent to the State Party on 9 September 2011 requesting clarification on the proposed future serial nomination of additional sites; access to and physical protection of Skhul Cave; the involvement of the Israel Antiquities Authority in management of the property, and the involvement of stakeholders. A response to these queries was received on 12 October 2011 and is included in the relevant sections below. The response also requested that the transliteration from the Hebrew of 'Ma'arot' in the name of the property be corrected to 'Me'arot'.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The nominated property includes four cave sites (Tabun, Jamal, el-Wad including the terrace excavations, and Skhul) in the natural rudist reef of Mount Carmel. The steep-sided valley of the Nahal Me'arot/ Wadi el-Mughara

opening to the coastal plain on the west side of the Carmel range provides the visual setting of a prehistoric habitat. The nominated property covers an area of 54ha within a buffer zone of 370ha. The valley is one of many caused by rainy season watercourses running down the western side of the Mount Carmel range to the coastal plain. The caves are situated on a cliff at the north-western face of the valley's southern bank, at the point where Nahal Me'arot opens westward towards the Mediterranean. During the 1920s-30s when the caves were first excavated and became known worldwide as prehistoric sites, the valley was known as Wadi el-Mughara (literally Valley of the Caves in Arabic). Nahal Me'arot has the same meaning in Hebrew. The nominated property and most of the buffer zone are incorporated within the Nahal Me'arot Nature Reserve. It is arranged today as an open-air display of prehistoric life, with various interpretive features at Tabun, Jamal and el-Wad.

Tabun Cave

The westernmost cave, nearest to the entrance to the property is Tabun, a large cave opening to the north, where Dorothy Garrod uncovered the complete skeleton of a Neandertal woman ('The Woman from Tabun') dated to c.60,000-50,000 BP, during the first excavations at the site in 1929-34. The cave has also yielded Lower and Middle Palaeolithic finds, representing the late Acheulian and Acheulo-Yabrudian cultural entities c.500,000-250,000 BP and a full sequence of the Mousterian c.250,000-45,000 BP.

Jamal Cave

The next cave along to the east is Jamal, a single chamber with an arched entrance clearly visible from the mouth of the valley. Stone structures located outside the cave when it was first investigated by C. Lambert in 1928 were subsequently removed. Excavations during the 1990s yielded artefacts attributed to the Acheulo-Yabrudian cultural entities c.400,000-250,000 BP.

El-Wad Cave

The next cave along to the north-east is the largest, deepest and most visible of the four caves, its name meaning 'Cave of the Stream'. The well-formed arched entrance was once flanked by openings, one of which was enlarged possibly during the medieval period. A medieval limestone wall blocked the opening when it was investigated by Lambert in 1928, and the cave featured stalactites and stalagmites. The wall was removed during Garrod's later excavations. The large entrance chamber leads into five further chambers along a line extending c.80 metres into the cliff. Excavations in the cave and its adjoining terrace have yielded finds over a long sequence from the Middle Palaeolithic to the Neolithic (c.60,000-6,000 BP). These include the first established sequence for the Upper Palaeolithic and the remains of a Natufian hamlet dated to c.15,000-11,500 BP; the latter includes stone-built house remains and a cemetery area containing a large group of skeletons and skeletal fragments numbering more than 100 individuals, some of which were elaborately ornamented. The excavations on the terrace also yielded ground stone features, art and decorative items, lithics and faunal remains. Together these finds indicate a transition from plant gathering and animal hunting to plant and animal domestication and husbandry, preceding the first farming societies.

Skhul Cave

Skhul Cave ('Cave of the Kids') is located further up the valley around a curve, approximately 100 metres east of the other caves. It is more like a rock shelter than a cave, being only a few metres deep. Quarry blasting in 1928 partly destroyed the face but did not affect the cave itself or its terrace. Excavations by Garrod in 1929, and McCown in 1931-2 yielded Middle Palaeolithic finds attributed to the Late Mousterian culture (c.150,000-45,000 BP), including eleven skeletons of Early Anatomically Modern Humans (EAMH), dated to c.80,000-120,000 BP. One of the two earliest burial sites discovered to date, this site demonstrates evidence of ritual burial, including grave offerings. The nominated property is the only place known in the world to date where both Neandertal and EAMH remains are found in a single Mousterian cultural complex. Both fossil human types are key specimens in the debate concerning the demise of Neandertals and the origin of *Homo sapiens*.

History and development

The evidence from the excavated sites in the Mount Carmel range indicates that humans first occupied the area around 500,000 years ago. It is proposed in the nomination dossier that the prehistoric settlements of Mount Carmel, scattered along its ridges, ravines and coastal plain can be related to the changing shore line of the past 500,000 years, not unlike the Carmel reef itself – a continental shelf built over the millennia by a group of marine bivalves known as rudists that attests to far earlier regional and global climatic changes and fluctuating sea levels. While the majority of sites identified and surveyed throughout Mount Carmel have not yet been excavated, the sites which have been researched may at this point be considered as part of a proposed future national serial nomination. These include Kebara, Misliya, Sefunim, Nahal Oren and Raqefet caves on Mount Carmel and the submerged site of Atlit Yam near the town of Atlit.

Research and archaeological exploration in the Nahal Me'arot/ Wadi el-Mughara area began during the British Mandate period following World War I. The Department of Antiquities was already aware of the potential archaeological value of the area due to the visibility of the caves and finds of flints and flakes on the slopes, when the British Mandate government planned to quarry the valley cliffs for stone with which to construct a new deep-water harbour at Haifa. Trial excavations at el-Wad Cave in 1928 yielded flint and bone implements, querns, beads, stone structures and human remains. The find of a bone sickle haft, carved in the shape of a young animal was identified as the first example of Stone Age art to be discovered in the Near East. Seven excavation seasons were then carried out from 1929 to 1934 by the British

School of Archaeology in Jerusalem and the American School of Prehistoric Research, led by Dorothy Garrod and T. McCown. These investigated el-Wad Cave, Tabun Cave and Skhul Cave. Following the declaration of the State of Israel, and after the 1967 war, excavations were carried out by a number of universities including Michigan, Arizona, Tel Aviv, Haifa and the Hebrew University of Jerusalem. Excavations of the Natufian site by the University of Haifa continue at el-Wad Terrace.

Following the declaration of the caves and their surroundings as a National Nature Reserve in 1971, a protection and development plan was prepared and implemented under the supervision of the Israel Nature Reserves Authority.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

Within the immediate region the State Party discussed the significance of the prehistoric sites of the Carmel range including Kebara, Misliya, Sefunim, Nahal Oren and Raqefet caves. The Tabun Cave within the nominated property and the Kebara Cave together represent the southern extremity of the Neandertal occupation dating to 60,000-50,000 BP, and Skhul Cave within the nominated property together with Qafzeh Cave near Nazareth, some 30km east of Mount Carmel represent the northernmost known remains of EAMH, dating to c.80,000-120,000 BP. While the Natufian and Neolithic are attested at el-Wad cave and terrace within the nominated property and Nahal Oren cave, the Lower Palaeolithic is attested only at Tabun and Jamal caves within the property. It was concluded that the cluster of caves at Nahal Me'arot/Wadi Mughara represent an unparalleled long cultural sequence and display an exceptionally rich array of prehistoric findings revealed in 90 years of scientifically sound archaeological research.

The State Party notes that a close examination of the World Heritage List and Tentative Lists reveals that 17 of the sites are related to human evolution (7 on the World Heritage List, 10 on the Tentative Lists). The State Party further notes that when comparing the sites, the following criteria should be considered:

- Interdisciplinarity in producing the nomination dossier and in the evaluation;
- Scientific recognition and ongoing process of research at the site;
- Eligibility depends more on the possibilities to highlight the discoveries and disseminate knowledge than on spectacular, aesthetic or monumental remains;
- Comprehensive research and interpretation of the palaeo-ecological context;
- Facilities for the interpretation of the Outstanding Universal Value of the site;
- Clear and close involvement of local communities.

The nomination dossier then goes on to compare the sites using these criteria in terms of the five values which characterise the nominated property:

(1) Continuous and long sequence of human evolution and adaptation: comparison with 17 sites (Tables 3.05, 3.06, 3.07) found the nominated property to be significant in its display of more than 500,000 years of human evolution, highlighting accelerating technological developments and significant changes in life-ways within an exceptionally long and diverse cultural sequence.
(2) Importance to the history and development of science: compared with 9 sites (Table 3.08) the nominated property was found to be significant as one of the earliest sites in the southern Levant excavated and studied in a systematic way such as to prompt numerous research initiatives in different fields. The site holds potential for future interdisciplinary research that will contribute to global prehistory and knowledge of human evolution.
(3) The presence of Neandertals and EAMH in a limited geographical setting and single cultural complex: comparison with 9 sites (three in Israel) (Table 3.09) shows that the possibility of coexistence of Neandertals with EAMH in Europe is based primarily on archaeology and not on fossil hominid remains, and that the remains in the comparable cases indicate later Modern Humans, first appearing c.30,000 BP, who eventually succeeded the Neandertals.
(4) Middle Palaeolithic burial grounds (earliest burial known to date): compared with 9 sites (including the same three in Israel) (Table 3.10) Skhul Cave was found to be significant along with Qafzeh Cave as representing the largest and earliest occurrence of intentional burial of the dead.
(5) Extensive and repetitive occupations attributed to the Natufian culture of the Epipalaeolithic period, signifying the gradual transitions from Palaeolithic to Neolithic: comparison with 5 other sites in Israel, one in Jordan and one in Syria (Table 3.11) shows that el-Wad stands out as an exceptional example of a Natufian base-camp with rich assemblages of material culture expressing the transition from a hunter-gatherer way of life to sedentary communities just prior to the transition to agriculture.

In summary it is concluded that the nominated property represents one of the longest sequences of the biological and cultural evolution of early modern humans at a key period in human history, and demonstrates the passage from mobile to sedentary lifestyles. Definitive research at the sites over a long period of time, and their state of conservation make the nominated property an exceptional archive for information regarding the natural setting and development of early humans in South-west Asia.

As mentioned above, the State Party views this nomination as the first property of a potential serial national nomination of Human Evolution sites at Mount Carmel, as defined in paragraphs 137-140 of the *Operational Guidelines*. It is intended to consider the other sites for serial nomination when frameworks for adequate protection and management can be established. In its response to ICOMOS' request for clarification on when

this might occur, the State Party advised that as sites are still being researched, it is not yet ready to select any for serial nomination.

ICOMOS notes that The Mount Carmel caves were identified in the 1997 ICOMOS comparative study by Chris Stringer and Clive Gamble *Potential Fossil Hominid Sites for Inscription on the World Heritage List* as one of six fossil hominid properties worldwide most strongly recommended for inscription. Two of these (Sterkfontein Valley in South Africa and Atapuerca in Spain) have since been inscribed.

ICOMOS notes that the nominated property is considered as the type cultural section for the last 500,000 years of human history against which other sites throughout the Levant are compared and contrasted.

ICOMOS notes that the comparative analysis has been undertaken with properties bearing similar values to those of the Nahal Me'arot/Wadi el-Mughara Caves, inscribed or not on the World Heritage List and at national, regional and international level.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Continuous and long sequence of human evolution and adaptation;
- Covers a key period of human history;
- Overlap of Neandertal range with that of Early Anatomically Modern Humans, evidenced by fossil hominid remains;
- Importance to the research and knowledge of human evolution;
- One of the earliest intentional human burials known to date.

ICOMOS considers that this justification is appropriate. The complex of caves has long been recognised as containing the flagship sites of prehistoric archaeology worldwide. Skhul and Tabun caves are featured in every summary of human evolution for their human remains and artefacts bearing on the origin of the fully modern humans and the fate of the Neandertals. El Wad cave is recognised worldwide for its evidence of the early stages of food production and sedentism. Jamal has yielded exceptional evidence of the material culture of the Middle Palaeolithic period including wooden and stone household utensils and leather processing.

Integrity and authenticity

Integrity

The State Party states that the property, comprising the four caves located in close proximity to each other all within a c.200 metre stretch along the south bank of the wadi together with the surrounding area form a complete prehistoric habitat, as viewed by the succession of communities which occupied them. The immediate topographic setting is clearly defined by the geographical confines of the valley and still conveys that visual habitat.

ICOMOS considers that all elements necessary to express the values of the property are included within the nominated boundary.

The nominated property is of adequate size to ensure complete representation of the caves and the visual habitat defined as the caves, the terrace in which the caves are found and the area that can be viewed from the caves. The caves are intact, in good condition and do not suffer from neglect, except in the case of Skhul Cave, which has been partly defaced with graffiti. The visual habitat is intact except below Skhul Cave where Eucalyptus trees are growing along the riverbed around a water pumping station.

Authenticity

The State Party states that documented research and investigation of the site going back to 1928 testify to the authenticity of the prehistoric remains. These were relatively undisturbed, having been protected by the subsequent accumulation of layers during later occupations. The caves ceased use as dwellings in the early 20th century. The form of the caves and their environs remain largely intact apart from the roof collapse of Tabun Cave which created a 'chimney' opening. The medieval wall blocking the entrance to el-Wad cave was removed during Garrod's excavations, and two stone structures outside the Jamal cave were removed following Lambert's investigation. Creation of the surrounding Nature Reserve in 1971 has ensured protection of the setting. An electric power line crosses the valley from north-west to east, supported on poles, mostly located along the northern bank of the river bed. The site is connected to the national power grid through this power line.

ICOMOS considers that the nomination is based on truthful and credible sources. The archaeological knowledge generated at the Nahal Me'arot/Wadi el-Mughara site has established the caves and their region the Levant as crucial to understanding human, biological, behavioural and cultural origins. The caves, terraces and excavated structures, together with excavated artefacts and human remains, truthfully and credibly express the value of the property. The authenticity of the habitat is impacted by the Eucalyptus trees and water pumping station at Skhul Cave.

ICOMOS considers that the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (iii), (v) and natural criterion (viii). ICOMOS and IUCN had an exchange of views on the use of criterion (viii).

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the site of the Nahal Me'arot/ Wadi el-Mughara Caves displays one of the longest prehistoric cultural sequences in the world. From the Acheulian complex, at least 500,000 years BP, through the Mousterian culture of 250,000-45,000 years BP, and up to the Natufian culture of 15,000-11,500 years BP and beyond, it testifies to at least half a million years of human evolution. As such, it has become a key site of the chrono-stratigraphic framework for human evolution in general, and the prehistory of the Levant in particular. Research at Nahal Me'arot/ Wadi el-Mughara Caves has been ongoing since 1928, and continues to promote multidisciplinary scientific dialogue. The potential for further excavation and archaeological research at the site is to date far from exhausted.

ICOMOS considers that this justification is appropriate.

ICOMOS considers that this criterion has been justified.

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that The Nahal Me'arot/ Wadi el-Mughara Caves are a central site of the Natufian culture in its Mediterranean core zone. This significant regional culture of the late Epipalaeolithic period presents the transition from Palaeolithic to Neolithic ways of life, from nomadic to complex, sedentary communities, bearing testimony to the last hunter-gatherer society and the various adaptations it underwent on the threshold of agriculture.

ICOMOS considers that this justification is appropriate.

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the nominated property meets criteria (iii) and (v) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes
The attributes carrying the Outstanding Universal Value of the property are:

- The four caves, terraces, unexcavated deposits and excavated artefacts and skeletal material testifying to the long sequence of occupation at the site;
- The Nahal Me'arot/ Wadi el-Mughara landscape providing the prehistoric setting of the caves;
- El-Wad Terrace excavations, remains of stone houses and pits comprising evidence of the Natufian hamlet.

4 Factors affecting the property

Development pressures

According to the nomination dossier there are no development or construction programmes that can affect the site at present. The property is not subject to mining, logging or grazing. The property is uninhabited. It has been protected as a nature reserve since 1971; neighbouring areas including part of the buffer zone are designated agricultural lands or open forested nature reserves by their statutory classifications. At the southern edge of the buffer zone there is an active commercial nursery which is accessed by the road leading to the site and has its own parking area. Otherwise the buffer zone is also uninhabited. Approximately 15 farmers access the agricultural fields within the buffer zone to cultivate their crops there.

ICOMOS considers that development pressures are extremely unlikely to affect the property or threaten its cultural values. Greenhouses are the only structures allowed in Buffer Zone B which is zoned solely for agricultural purposes. Existing local, district and national planning authorities provide a strong safeguard against future development.

Tourism pressures

According to the nomination dossier, annual visitor numbers to the Nature Reserve peaked at 100,000 in 1989-90 and then dropped considerably to 35,046 in 2002. Since then numbers have risen gradually to 45,816 in 2010. The fluctuation is attributed to changes in recreational habits and the budgets for school curricular visits. Entrance to the site is fenced and visitors must pay an entrance fee. The carrying capacity of the Nature Reserve has been assessed at 800 people per day, but this is reached only on select peak days during autumn and spring holidays. Staffs direct visitors to different areas of the Reserve on those days to avoid overcrowding. The caves area within the Nature Reserve is itself fenced and the entrance is monitored by park staff. Vandalism has not been a problem at the site.

ICOMOS notes that elevated tourist pressure is unlikely to pose a direct threat to the archaeological deposits within the caves, since there are designated walkways (at el-Wad) and areas are barred off at Tabun and Jamal caves,

preventing people from disturbing the archaeological deposits. There is potential for vandalism at Skhul cave, which is outside the fence which controls access to Tabun, Jamal and el-Wad caves and is not on the tourist circuit. It is separately accessed via a path through the Nature Reserve. The cave is not well presented and has suffered some graffiti.

Environmental pressures

The State Party states that no harsh environmental conditions threaten the property or buffer zone. The site is not subject to pollution. El-wad cave is subject to fruit bat invasions and humidity.

Natural disasters

The State Party states that the site is not threatened by floods or earthquakes. However forest fires have occurred nearby in the Mount Carmel National Park. Fire protection equipment at the property includes 4 wheel fire reels, fire extinguishers, two fire hydrants and a portable fire hose cart. Water is available from the water pumping station on site. Vegetation along paths and in parking areas is cleared and trimmed as part of the regular work plan. Park personnel are trained in fire protection regulations and assisted by personnel from other nature reserves in the area when necessary. The nearest fire department is 30 minutes away near the cities of Hadera and Haifa. A small fire station is located in the Mount Carmel Park. All are available on call.

ICOMOS considers that fires would not threaten the caves or archaeological deposits within them. However they could destroy the site laboratory/museum/library and any artefacts and documents within them which comprise attributes of the Outstanding Universal Value of the site.

Impact of climate change

ICOMOS considers that fires are occurring more frequently in the Mediterranean region than previously.

ICOMOS considers that the main threats to the property are forest fires.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundary of the property defines the natural basin of the prehistoric habitat of the caves site. It encloses the valley and its slopes above and opposite the caves, running along the north and south ridges and narrowing down to the river bed to cross the valley east of Skhul Cave. The buffer zone is in two parts. Zone A follows the outline of the Nature Reserve as defined in National Outline Plan No. 8 for National Parks, Nature Reserves and Landscape Reserves, which in 1981 redefined and slightly enlarged the boundaries of the 1971 nature reserve. Zone B is a 500 metre wide strip of agricultural land along the western boundary, which is leased to the adjacent settlements: Kibbutz Ein Carmel to the north and Moshav Geva Carmel to the south.

ICOMOS notes that there is no fence marking the property boundary but considers that none is needed because the existing maps and the concept of the visual habitat means there is no ambiguity in the boundaries of the nominated area.

ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate.

Ownership

The property and buffer zone are owned by the State of Israel.

Protection

Legal Protection

The caves and their surroundings were declared a National Nature Reserve in 1971. The property is primarily protected legally by the National Parks, Nature Reserves, National Sites and Memorial Sites Law 1998, administered by the Israel Nature and Parks Authority (INPA). The powers vested in the INPA are also enshrined in the Wildlife Protection Act (1955), the Planning and Building Law (1965) and the Antiquities Law (1989). The Israel Antiquities Authority (IAA) issues excavation permits annually, pending a submission of a summary report of the previous year's excavation season. No activity is allowed on site without permits from the IAA and the INPA, and no further development or physical interventions are allowed within the Nature Reserve.

Effectiveness of protection measures

ICOMOS notes that the property is protected at the highest national level possible in Israel and that legal protections are enforced.

ICOMOS considers that the legal protection for the property is adequate.

Conservation

Inventories, recording, research

The archaeological sites at the property have been excavated during long periods over the past 90 years. The University of Haifa continues to excavate at el-Wad terrace. In 1967 a prefabricated field laboratory of 175 sq m was installed near the river bed below el-Wad Terrace for the preliminary study and storage of finds, and storage of equipment. The hominid remains and artefacts uncovered are on display and in storage at museums and academic institutions around the world as listed in the nomination dossier. Numerous published reports of the excavations are available in journals and books as listed in the bibliography.

ICOMOS considers that these records provide a baseline for monitoring any future changes to the site.

Present state of conservation

Extensive interpretative signage and information panels are provided at the site. The tour begins with the most ancient and general (regional geology of 200-50 million years BP, the Palaeo-Tethys Ocean and the Rudist reef), progresses onwards to the formation of the caves (a few million years BP) and culminates in the prehistoric cultures at this site (500,000 years BP and onwards).

Tabun Cave
Excavations here ceased in 2002. Most of the inner cave is still filled with sediment and awaits further research. A roof was constructed above the collapsed roof opening in 1989 to protect the cave from the weather. The cliff face above the cave opening was structurally supported during Jelink's excavations at the cave (1967-71). The cave itself can be viewed only from the observation terrace along the visitors' trail. Brecciated layers at the opening of the cave are protected by this terrace, as is the area outside the cave, under the footpath.

ICOMOS notes that the exposed section is in excellent condition as the cave roof has protected it from erosion. The cave still has substantial archaeological potential to contribute new insights into human history.

Jamal Cave
Excavations took place between 1992 and 1994. A local stratigraphic section was exposed and the cave appears to offer only limited deposits for further investigation. As with the Tabun Cave, the interior of the cave and the reconstructed scene of Middle Palaeolithic period life within it can be viewed from outside the cave, beyond metal railings which prevent public access.

ICOMOS considers this cave is in excellent condition.

El-Wad Cave
Geo-physical surveys show that the inner chambers (iii to vi) still contain at least 3 metres of deposits above the bedrock. The public can access this cave via a wide, paved path designed as a floating concrete plate supported on spacers to minimise contact with the remaining deposit layers. The excrement of occasional fruit bat occupation of the cave has caused some decay to the path. Metal netting has been installed at the entrance in an attempt to reduce the bat population. An audio-visual presentation was installed here in 1989, the electrics of which are housed in a small stone-clad building near the cave. Only a small area at the northern end of the large terrace which extends down the slope in front of el-Wad and Jamal caves has been excavated. This area is the subject of ongoing research and is protected by a surrounding fence and portable greenhouse cover. Finds are stored in the onsite laboratory for preliminary analysis before being transferred to the Zinman Institute of Archaeology, University of Haifa, where the skeletal remains are consolidated and preserved.

ICOMOS notes that the excavations on el-Wad terrace exposed several Natufian rock-cut basins. Reference to photographs taken shortly after the excavations indicate that there has been some erosion and dissolution of the basins since exposed. ICOMOS recommends that consideration could be given to some form of protection, such as a protective cover.

Skhul Cave
This cave, which is essentially a rock shelter rather than a cave, is not visible from the entrance to the wadi and is not on the visitors' circuit. It can be accessed separately via the walking trail in the Nature Reserve. It has not been investigated since excavated by Garrod and McCown in 1934. Apart from isolated breccia patches on the cave walls, there appears to be no capacity for further investigation as bedrock has been reached in the cave and terrace. There is some graffiti on the wall of the cave. There is a grove of Eucalyptus trees in the wadi bed below the cave, surrounding a concrete water pumping station.

ICOMOS considers that the graffiti on the wall of the cave does not pose a major threat to the cultural values of the cave but is unsightly. In its response to ICOMOS' query on the physical protection of Skhul Cave, the State Party states that the cave is not a management problem because it is a shallow cave with an exposed rock terrace and no remaining archaeological deposits. The lack of visibility from the entrance to the site and lack of interpretative installation means that the cave is of interest only to visitors with a scientific interest. However ICOMOS considers that the graffiti should be cleaned off. It indicates potential for vandalism, which suggests the need for enhanced protection/presentation of the cave.

ICOMOS also considers that removal of the Eucalyptus trees growing in the wadi bed below Skhul Cave is desirable because they are an alien species not part of the natural visual landscape, together with the downsizing or removal of the water pumping station.

Active Conservation measures

The caves, terraces and their environs are checked by Park staff at the start of every work day before the site is opened to the public. In particular the structurally stabilised cliff area above Tabun Cave is monitored daily for fallen rock. Humidity levels in el-Wad cave are monitored daily.

ICOMOS notes that changes in humidity do not pose a major threat to archaeological deposits.

Maintenance

Vegetation at Tabun cave and el-Wad terrace is routinely monitored to ensure that exposed sections remain visible

and to limit root damage to the archaeological deposits. Shrubs are first sprayed with herbicide and then cut away.

Effectiveness of conservation measures

ICOMOS considers that the active conservation measures are appropriate to preserving the integrity and authenticity of the property.

ICOMOS considers that the conservation measures are adequate but should be supplemented in relation to Skhul Cave and its adjacent visual habitat, and the Natufian rock-cut basins on el-Wad terrace.

Management

Management structures and processes, including traditional management processes

The site has been managed by the Israel Nature and Parks Authority (INPA) since 1971. During preparation of the World Heritage nomination of the property, a Steering Committee of stakeholders was established, including representatives of INPA, the Antiquities Authority, Haifa University, the Kibbutzim and Moshavim, the Society for the Protection of Nature in Israel, the Society for the Preservation of Israel Heritage Sites, the Carmel Tourism Association, and is chaired by the Head of the Hof-HaCarmel Regional Council (HHRC). This will become the governing body at the regional level following inscription and will ensure coordination between on site activities management by INPA and the policies of the World Heritage Forum at the national level. The Forum was set up by INPA, which has responsibility for 8 World Heritage sites in Israel, to discuss issues pertaining to these sites, as well as sites on the Tentative List and new nominations under preparation. It meets twice a year and is attended by site managers and members of the National Commission for UNESCO.

An agreement between the Antiquities Authority and the INPA was signed in 2005 which outlines the effective protocol necessary to facilitate cooperation, conservation and management of Antiquities in Israel's Nature Reserves and National Parks. A copy of this (in English) was provided as part of the State Party's response to ICOMOS' query on this.

Buffer Zone A is managed by INPA subject to the regulations of the Israel Antiquities Authority for preserving archaeological sites. Buffer Zone B is managed by the relevant members of the Steering Committee: INPA, HHRC, and representatives of the kibbutz and moshav.

Policy framework: management plans and arrangements, including visitor management and presentation

A Site Conservation and Management Programme describing all management procedures for the site was prepared in 2003 and currently serves as the foundation for the day to day management of the site.

The Nature Reserve encompassing the nominated property serves the public as a green lung for multiple recreational activities, including trails for hiking and biking. A recreation and picnic area is located on the banks of the Nahal Me'arot river bed east of the entrance to the Nature Reserve. The caves are an additional attraction and since 1989 visitors' facilities and interpretation have been improved. Visitor facilities currently include stairways and ramped paths between the caves, and interpretative features at and in the caves. The immediate area around the cluster of Tabun Cave, Jamal Cave and el-Wad Cave is fenced with an entrance gate and adjoining shelter. An area of land immediately to the west of the Nature Reserve accommodates car parking, a round office building for the Nature Reserve staff, an adjoining round visitor centre with cashier point and souvenir shop, and public toilets. Also near the office and car park, a third round building houses a library, which also functions as a conference centre accommodating 50 people. All buildings on the site are single-storied and measure a total of approximately 450 sq m.

The previous Local Urban Building Plan HC-185 which covered provision of some of these buildings is now being replaced with a new plan that will consolidate the existing situation. In addition, it is now proposed to designate 0.5ha of land near the entrance to the site for a new museum of prehistory and adjacent research centre. There is also a need to improve the junction of the access road to the site with the main Route 4 by providing a turning lane. The access road itself will also be widened. The current parking area at the site accommodates 85 cars and 5 buses. This will be expanded if necessary. A plan to install high voltage power lines along Route 4 is the subject of negotiations to ensure that this is located on the west side of the road, outside the buffer zone.

It is planned to upgrade the existing access trail to the caves with resting points and a new viewing deck at el-Wad Cave. An upgraded all-site-encompassing Interpretation and Maintenance Plan is proposed.

Specific details related to the interpretation and presentation of the site are provided in the nomination dossier.

ICOMOS considers that in general the existing signage, interpretive displays, infrastructure, and site tours are excellent. It is noteworthy that the stratigraphic section exposed during previous excavations at Tabun Cave is extremely impressive and unusual relative to most archaeological sites. Not only is it impressive for its size (23 meters) and temporal span (almost 500,000 years), but it provides visitors with an unparalleled opportunity to visually grasp the concepts of stratigraphy and cultural change through time.

However ICOMOS considers that given its location outside the fenced area that encloses the tourist circuit, Skhul Cave – which contributes substantially to the property's Outstanding Universal Value – is not well integrated with the other caves at the property. Aside from

a small sign briefly describing the archaeological findings, there are not additional interpretive measures. The fossils known from Skhul Cave are of major importance to archaeology and palaeoanthropology, yet this is not made clear at the site.

ICOMOS considers that any proposal for new buildings at the property such as the proposed new museum of prehistory and adjacent research centre should be referred to the World Heritage Committee for review in accordance with paragraph 172 of the *Operational Guidelines for the Implementation of the World Heritage Convention*.

Risk preparedness

The current fire prevention and protection provisions are likely to be upgraded following the widespread forest fire in 2010. It is noted in the nomination dossier that the caves and unexcavated remains are unlikely to be affected by fire. However any artefacts and documents kept in buildings on site would be at risk.

The unstable cliff face above the entrance to Tabun Cave is periodically surveyed so as to anticipate the possibility of a large-scale rock slide.

Involvement of the local communities

Representatives of the nearby Kibbutzim and Moshavim settlements are included on the Steering Committee. In response to ICOMOS' query re this, the State Party pointed out that the ICOMOS mission met with stakeholders as co-ordinated by the regional council, including kibbutz and moshav members, school teachers, local guides, university researchers and NGOs.

ICOMOS considers that it was clear that the local community had been actively involved in the nomination and fully supported it.

Resources, including staffing levels, expertise and training

Funding for the management of the site including staff salaries and maintenance comes from the INPA annual budget. Contributions are also provided from local and regional government offices. Individual project funding is provided via special INPA allocations, including a special budget for guided tours. Admission fees contribute 70%-80% of the site's expenditure.

Personnel include a site manager, a ranger/warden, one part-time custodian/maintenance worker, and a cashier who is also the site administrator. Seasonal employees are hired as necessary. All staff receive periodic training within INPA. Guides are employed by the Carmel Education Guiding Centre and are often Haifa University students majoring in history, geography, tourism, archaeology and biology. All must be licensed guides or certified by the Ministry of Education. The excavations at el-Wad terrace are directed by the Zinman Institute of Archaeology at the University of Haifa. Guides are periodically updated about the research.

Effectiveness of current management

ICOMOS considers that the current management of the nominated property is adequate except in relation to Skhul Cave as discussed above.

In conclusion, ICOMOS considers that the current management of the nominated property is adequate. ICOMOS recommends that special attention is needed for the physical protection and presentation of Skhul Cave and its adjacent visual habitat. The management system should be extended to ensure adequate fire protection.

6 Monitoring

An annual Maintenance Work Plan is prepared by the site manager and approved by the INPA Carmel and Coast Regional Office. This specifies a number of key activities including periodic survey of the cliff face; clearing of vegetation, trimming shrubs along pathways and in the parking areas, checking the protective roof over the exposed layers of the el-Wad excavations, checking humidity in el-Wad cave, which is an active carstic cave with water dripping and forming stalagmites, and checking the fruit bat colony.

ICOMOS considers that the monitoring arrangements are adequate.

7 Conclusions

ICOMOS considers that the nominated property meets criteria (iii) and (v) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Recommendations with respect to inscription

ICOMOS recommends that Sites of Human Evolution at Mount Carmel: The Nahal Me'arot/Wadi el-Mughara Caves, State of Israel, be inscribed on the World Heritage List on the basis of **cultural criteria (iii) and (v).**

Recommended Statement of Outstanding Universal Value

Brief synthesis

The four Mount Carmel caves (Tabun, Jamal, el-Wad and Skhul) and their terraces are clustered adjacent to each other along the south side of the Nahal Me'arot/Wadi el-Mughara valley. The steep-sided valley opening to the coastal plain on the west side of the Carmel range provides the visual setting of a prehistoric habitat.

Located in one of the best preserved fossilised reefs of the Mediterranean region, the site contains cultural deposits representing half a million years of human evolution from the Lower Palaeolithic to the present. It is recognised as providing a definitive chronological framework at a key period of human development.

Archaeological evidence covers the appearance of modern humans, deliberate burials, early manifestations of stone architecture and the transition from hunter-gathering to agriculture. The attributes carrying Outstanding Universal Value include the four caves, terraces, unexcavated deposits and excavated artefacts and skeletal material; the Nahal Me'arot/ Wadi el-Mughara landscape providing the prehistoric setting of the caves; el-Wad Terrace excavations, and remains of stone houses and pits comprising evidence of the Natufian hamlet.

Criterion (iii): The site of the Nahal Me'arot/ Wadi el-Mughara Caves displays one of the longest prehistoric cultural sequences in the world. From the Acheulian complex, at least 500,000 years BP, through the Mousterian culture of 250,000-45,000 years BP, and up to the Natufian culture of 15,000-11,500 years BP and beyond, it testifies to at least half a million years of human evolution. As such, it has become a key site of the chrono-stratigraphic framework for human evolution in general, and the prehistory of the Levant in particular. Research at Nahal Me'arot/ Wadi el-Mughara Caves has been ongoing since 1928, and continues to promote multidisciplinary scientific dialogue. The potential for further excavation and archaeological research at the site is to date far from exhausted.

Criterion (v): The Nahal Me'arot/ Wadi el-Mughara Caves are a central site of the Natufian culture in its Mediterranean core zone. This significant regional culture of the late Epi-Palaeolithic period presents the transition from Palaeolithic to Neolithic ways of life, from nomadic to complex, sedentary communities, bearing testimony to the last hunter-gatherer society and the various adaptations it underwent on the threshold of agriculture.

Integrity

The Nahal Me'arot/Wadi el-Mughara site includes all elements necessary to express the values of the property, comprising the caves and the visual habitat. The caves are intact, in good condition and do not suffer from neglect, except in the case of Skhul Cave, which has been partly defaced with graffiti. The visual habitat defined as the caves, the terrace in which the caves are found and the area that can be viewed from the caves is intact except below Skhul Cave, where Eucalyptus trees are growing along the riverbed around the water pumping station.

Authenticity

Archaeological research over 90 years has established the authenticity of the Nahal Me'arot/Wadi el-Mughara site as a crucial record of human, biological, behavioural and cultural origins. The caves, terraces and excavated structures, together with excavated artefacts and human remains, truthfully and credibly express the values of the property. The authenticity of the habitat is impacted by the alien Eucalyptus trees and water pumping station.

Management and protection requirements

Legal protection is provided at the highest national level possible in Israel. The caves and their surroundings were declared a National Nature Reserve in 1971. The property is protected by the National Parks, Nature Reserves, National Sites and Memorial Sites Law 1998, administered by the Israel Nature and Parks Authority (INPA) and the Antiquities Law (1978) and the Antiquities Authorities Law (1989). Research activities or excavations within the nominated property require permits from both the INPA and the Israel Antiquities Authority (IAA). INPA and IAA share responsibility for the management of the archaeological resources that sustain the Outstanding Universal Value of the property. An agreement between the Antiquities Authority and the INPA (2005) outlines the effective protocol necessary to facilitate cooperation, conservation and management of Antiquities in Israel's Nature Reserves and National Parks.

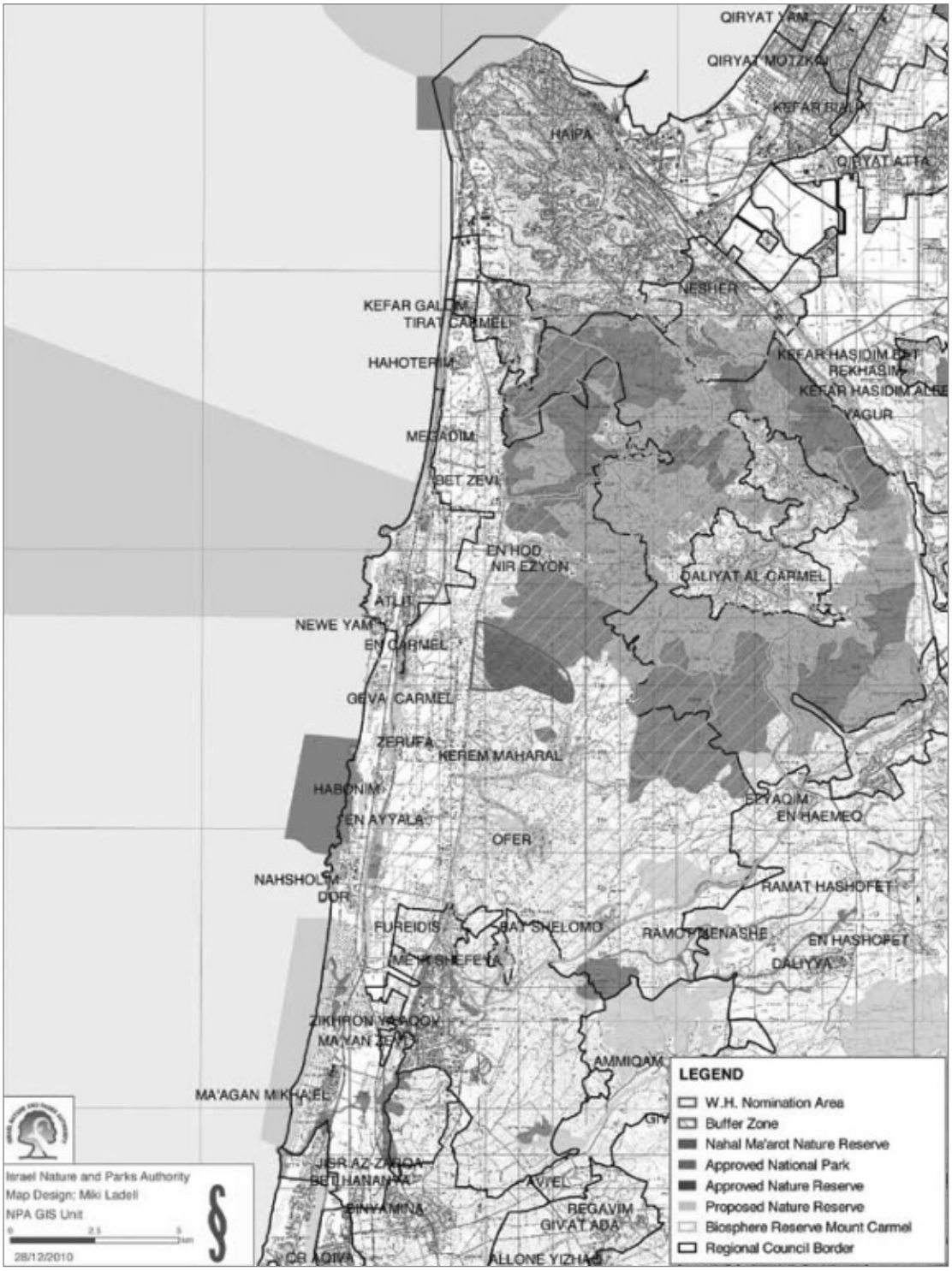
A steering committee of stakeholders was established to oversee the nomination and will serve as a governing body that integrates local, regional, and national management of the site. The steering committee includes representatives of the INPA, the IAA, archaeologists from Haifa University, the Carmel Drainage Authority, Kibbutz Ein HaCarmel and Moshav Geva Carmel (who lease the agricultural land designated as Buffer Zone B), the Society for the Protection of Nature in Israel, the Society for the Preservation of Israel Heritage Sites, the Carmelim Tourism Organization, and the Hof HaCarmel Regional Council. A Site Conservation and Management Programme describing all management procedures for the site was prepared in 2003 and currently serves as the foundation for the day to day management of the site.

ICOMOS recommends that the State Party give consideration to the following:

- removing the invasive *Eucalyptus* trees growing along the valley floor below Skhul Cave;
- downsizing, conceal or remove the water pumping station located near Skhul Cave;
- cleaning off the graffiti observed on the wall of Skhul Cave;
- including Skhul Cave on the main tourist circuit and improve the presentation of the cave in order to enhance its protection, better integrate the cave with the others, and ensure that its significance is made clear;
- evaluating possible erosion of the rock-cut basins on el-Wad Terrace and if need be, consider including a

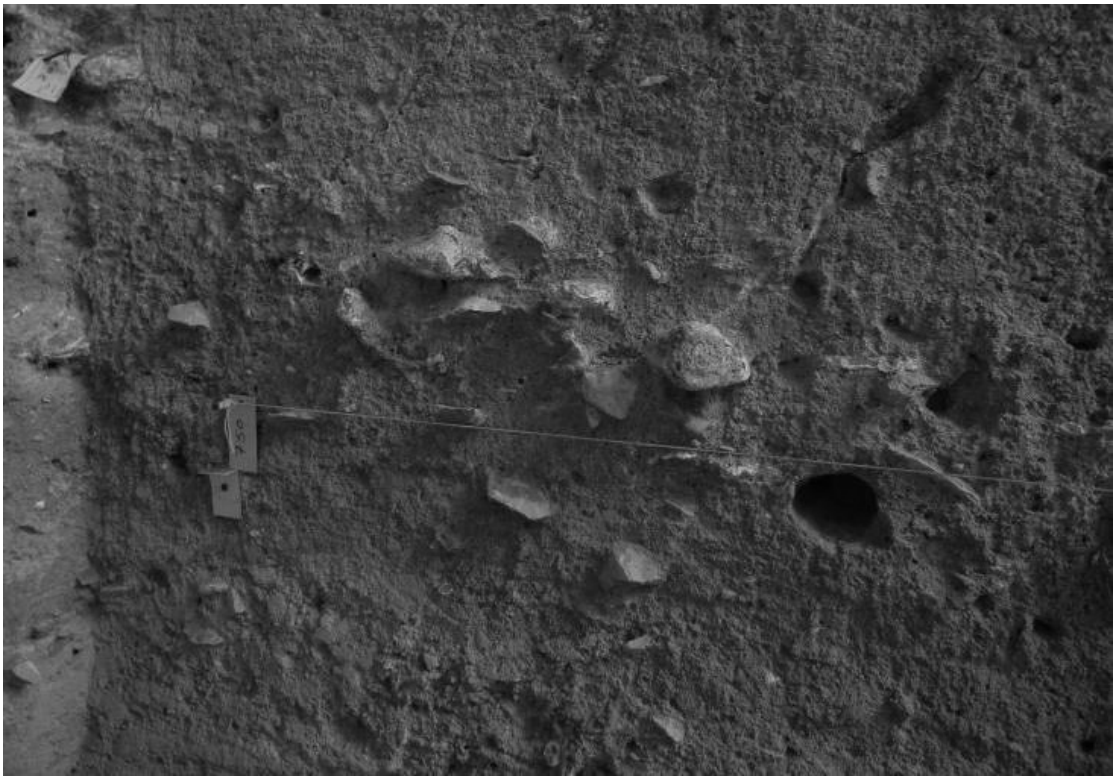
protective cover of the basins to limit erosion due to rainfall and exposure;

- referring any proposal for new buildings at the property such as the proposed new museum of prehistory and adjacent research centre to the World Heritage Committee for review in accordance with paragraph 172 of the *Operational Guidelines for the Implementation of the World Heritage Convention*.



Map showing the boundaries of the nominated property

General view of the site



In situ artifacts in excavation walls of Tabun Cave

Jamal Cave

Skhul Cave

Plasencia-Monfragüe-Trujillo (Spain) No 1394

Official name as proposed by the State Party
Plasencia-Monfragüe-Trujillo: Mediterranean Landscape

Location
Extremadura Region
Cáceres Province
Spain

Brief description
Located in the historic frontier region of Extremadura, the agro-sylvo-pastoral landscape of Plasencia-Monfragüe-Trujillo (117,973ha) was shaped over centuries by movements of pastoral transhumance. An historic network of cattle tracks and the *dehesas*, pastures interspersed with holm and cork oaks, are vivid expressions of sustainable exploitation of natural resources and the harmonious relationship of people with the environment. The cultural landscape includes the Monfragüe Biosphere Reserve and is framed to the north and south by the historic centres of Plasencia and Trujillo.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage convention, this is a serial nomination of 5 component parts, consisting of three *sites* and two *groups of buildings*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (January 2008), paragraph 47, the property is also nominated as a *cultural landscape*.

[Note: The property is nominated as a mixed cultural and natural site. IUCN will assess the natural significances while ICOMOS assesses the cultural significances.]

1 Basic data

Included in the Tentative List
3 February 2009

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
27 January 2011

Background
This is a new nomination.

Consultations
ICOMOS has consulted its International Scientific Committees on Cultural Landscapes and on Historic Towns and Villages as well as several independent experts.

Literature consulted (selection)

Campos, P., Rodríguez, Y., Caparrós, A., Towards the *dehesa* total income accounting: theory and operative Monfragüe study cases, in *Investigacion Agraria. Sistemas y Recursos Forestales*, 1, p. 43-62, 2001.

Díaz, M., Campos, P., and Pulido, F.J., The Spanish Dehesas: A Diversity in Land-Use and Wildlife, in: Pain, D.J., and Pienkowski, M.W. (eds.), *Farming and Birds in Europe. The Common Agricultural Policy and its Implications for Bird Conservation*, London, p. 178-209, 1997.

Lerin, F. (ed.), *Pastoralisme méditerranéen: patrimoine culturel et paysager et développement durable*, Montpellier: CIHEAM-IAMM/AVECC/UNESCO, 224 p., 2010.

Pérez Soba, M., San Miguel, A., Elena-Roselló, R., Complexity in the Simplicity: The Spanish *dehesas*, in Pedroli, B., Van Doorn, A., De Blust, G., Paracchini, M.L., Wascher, D. & Bunce, F. (eds.), *Europe's living landscapes. Essays on exploring our identity in the countryside*, p. 369-384, 2007.

Plieninger, T, Constructed or degraded? Origin and development of the Spanish Dehesa Landscape, with a case study on two municipalities, in *Die Erde, special issue: Mediterranean Landscapes*, 138, p. 25-46, 2007.

Plieninger, T, Compatibility of livestock grazing with stand regeneration in Mediterranean holm oak parklands, in *Journal for Nature Conservation*, 15, p. 1-9, 2007.

Technical Evaluation Mission
A joint ICOMOS/IUCN technical evaluation mission visited the property from 17 to 21 October 2011.

Additional information requested and received from the State Party
None

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
Situated on the ancient Palaeozoic formations of the Hercynian Massif, the cultural landscape of Plasencia-Monfragüe-Trujillo illustrates the distinguishing elements of Extremaduran landscapes. Besides the vast *dehesas*, pastures with agro-forest activities dominated by cork and holm oaks, the landscape is characterized by rocks and rocky outcrops, in particular on the mountain peaks, rivers and bodies of water in the valleys, as well as forest and scrubland on steeper territories. These various elements are connected by a network of cattle tracks which facilitated continuous transhumant migrations since at least the 13th century.

The cattle tracks traversing the property form a small part of a much larger network of Iberian cattle tracks and in particular constitute a section of the Cañada Real de la Plata, one of the nine cattle tracks that crossed Spain from north to south and one of six main tracks passing through Extremadura. The nominated section of 96.6km length, covering 538ha of the property, is a connection of winter pastures with the larger network of cattle tracks, but also the historic centres of Plasencia to the north and Trujillo to the south. Between the two historic cities, the tracks cross the Monfragüe National Park, an area of geomorphologic interest with spectacular landscapes and rich fauna, and the Monfragüe Biosphere Reserve which was designated by the Men and the Biosphere (MAB) Programme of UNESCO in 2003.

The two historic city centres included in the property, Plasencia and Trujillo, functioned as bridgeheads in the unattractive border region, which suffered from low land fertility and regular conflicts. To attract settlers, the cities were granted special privileges, including large areas of *dehesas* and livestock herds. This allowed the population to gain sustenance on the basis of a triple economy consisting of pastoralism, forestry, and agriculture. The characteristic landscape of the *dehesas* today, is hence a semi-natural landscape which was shaped by its inhabitants who, after eliminating the original woody vegetation, converted the forest and scrubland into productive land for stock farming, agriculture and exploitation of holm oaks.

The property is proposed as a serial nomination of three sites, two of which (the cattle tracks and the Monfragüe National Park and Biosphere Reserve) overlap in territory, as well as two groups of buildings. The overall size of the 5 component parts is 117,973 hectares, with two buffer zones restricted to the historic complexes of 8,856 hectares. Despite their current geographical separation, the property is conceptualized as being interconnected by the cattle tracks which almost penetrate into the cities' historic complexes.

The property consists of:

Three sites:
- "Monte Valcorchero" Protected Landscape
- Monfragüe National Park and Biosphere Reserve
- Cattle Tracks

Two groups of buildings:
- Plasencia Historical Complex
- Trujillo Historical Complex

These are considered separately:

"Monte Valcorchero" Protected Landscape

The protected landscape of Monte Valcorchero is the northernmost of the properties, a *dehesa* and forest landscape used for cork extraction and cattle raising. Located on granite substratum, several rocky *berrocal* outcroppings tower above larger areas of woodland, predominantly cork oak, which took root in the cracks of fractured granite rocks.

Bordering the city of Plasencia, Monte Valcorchero is the most easily accessible of the *dehesas,* and is presented as a serial component of 1,184 hectares, without a buffer zone. Its rugged and uneven relief prevented traditional agricultural practices. Although the conditions were also far from ideal for the cork oak, over the centuries an ample surface area became covered by the productive trees and this site has become a rich source of cork exploitation. In national protection mechanisms, the landscape was also recognized for its scenic qualities created by the contrast between *dehesas*, woodlands and granite rock formations.

Monfragüe National Park and Biosphere Reserve

The Monfragüe National Park forms the core of a larger biosphere reserve which was designated by the UNESCO MAB programme for its harmonious human relationship with the environment throughout history. The boundaries of this component of the property coincide exactly with the UNESCO designated biosphere reserve.

This, by far the largest site of this nomination, with 116,160 hectares without its buffer zone, combines various landscape features and creates the setting of the transhumant migration routes. Distinctive landscape features include Mediterranean forest and scrubland, rocks and rocky outcrops, streams and water reservoirs as well as the very distinctive *dehesas*.

Forests, which mostly appear on the shady northern slopes, are mainly cork oak along with some holm oaks on the southern slopes of Monfragüe Mountain. Rocky outcroppings on this site are mostly quartzite, the most prominent manifestations of which are referred to as *portillas*. These *portilla* features sustain specialized plant communities and are bird-nesting places, and as such will be covered in the evaluation of natural attributes by IUCN. They are of little relevance to human activity due to the unproductiveness of the land.

Rivers and bodies of water have traditionally been of strategic importance, both as geographical separaters which channel the livestock movements and territorial divisions with consequences for governance, but also as watering places for livestock. Rivers were further utilized for mills and fishing and the few existing bridges had strategic importance not only for the cattle tracks but also for the trade routes and military expeditions. However, most of the water reservoirs existing today are products of dam construction and valley flooding in the second half of the 20th century. In some cases the reservoirs interrupted the historical routes of the cattle tracks, which now bypass the artificial reservoirs on alternative routings.

The predominant landscape elements in Monfragüe are the *dehesas*, which here feature mostly holm oaks with only a few cork oaks. Generated and maintained through grazing over many centuries, this distinctive agro-forest system is to be found on the flattest areas of Monfragüe

reserve. *Dehesas* are open areas used by livestock, with regular single trees ("hollow forests") which provide additional sustenance for livestock in the form of acorns and small branches, shadow for the herbaceous grasses and agro products, and maintain humidity and improve the pastures through their contribution to the soil. In addition, their produce of cork or firewood supplied extra income.

Nowadays the Monfragüe *dehesas* are used for livestock grazing all year round. Merino sheep, beef cattle and Iberian pigs are most often seen, the pigs specifically in the Montanera region, where they consume the acorns. Crop rotation under the holm oak foliage includes oats, barley, alfalfa, clover, lupine and occasionally maize. A high proportion of the *dehesas* is still traditionally managed and its aesthetic landscape features are attracting increased interest as a tourism destination.

The Monfragüe site includes a total of 14 settlements, five of which are local population centres: Casas de Miravete, Serradilla, Serrejón, Torrejón el Rubio, and Villareal de San Carlos. The appearance of these settlements is of vernacular character; 1-2 storey buildings and central plazas dominated by churches.

Cattle Tracks

The collection of cattle tracks presented in this nomination connects the cities of Plasencia and Trujillo through the Monfragüe Biosphere Reserve. It combines cattle tracks of different widths linked to the Cañada Real de la Plata, so-called "cañadas" (75m wide) and "cordeles" (37.5m wide) with an overall length of 96.6km and surface coverage of 538 hectares. Described as the coordinating elements of the landscape, the tracks indicate a selection of transhumance routes between the *dehesa* grasslands of Cáceres and the mountain passes of the Sierra de Gredos mountain range.

Nine specific sections of the cattle tracks are listed by name and together form the connecting route between Plasencia and Trujillo. These nine tracks are:

1. Cañada Real del Puerto de Miravete
2. Cordel de Aldea del Obispo
3. Cordel del Puente de la Lavadera
4. Cañada de la Puente Mocha
5. Cañada Real del Puente de la Barquilla
6. Cañada Real Trujillana
7. Cordel Suplente de la Cañada Real Trujillana
8. Cordel del Valle
9. Cañada Real de San Polo

The (1) Canada Real del Puerto de Miravete, in total 53km long and leading from Santa Cruz to Puerto de Miravete, is represented by a section 3.2 km in length starting from Trujillo and ending at the intersection with (2) Cordel de Aldea del Obispo. The latter is a 14.3km track which is entirely located within the nominated site and leads from Trujillo to Aldea del Obispo.

A 1.2km section of (3) Cordel del Puente de la Lavadera included in this nomination connects the Alberguerías *dehesas* to the Lavadera Bridge, where it joins the (4) Cañada de la Puente Mocha, which continues in a 3.3km stretch towards the (5) Cañada Real del Puente de la Barquilla. This track is only 3.7km long and located completely within the nominated site. It includes a crossing over the Almonte River, after which it merges with the (6) Cañada Real Trujillana.

The (6) Cañada Real Trujillana and its supplementary (7) Cordel Suplente de la Cañada Real Trujillana are the historically most significant tracks of the network. The 37.3km of the (6) Cañada Real and the 19km of its supplementary Cordel (7) are completely located within the Monfragüe Biosphere Reserve. Beginning from the Almonte River, the Cañada Real (6) ascends along the river banks and passes through 5km of *dehesas* until it branches into its supplementary Cordel (7). This bypasses the Alcántara reservoir that interrupts the original routing of the Cañada. Passing through some attractive scenery which includes fighting bull *dehesas*, the Cordel (7) crosses the Old Bridge and the Sierra de las Corchuelas mountain range, and passes across shady slopes until it reunites with the Cañada Real (6) at the Tajo River. This leads across the Cardenal Bridge to Villareal de San Carlos, a small settlement in the municipal area of Serradilla. On its final 9.5km stretch the Cañada Real enters the municipal area of Malpartida de Plasencia and ends at the Monfragüe railway village, linking up to the (8) Cordel del Valle cattle track.

The (8) Cordel del Valle extends 58km to Puerto Castilla, but only 5.3km of it, which leads to the urban centre of Malpartida de Plasencia, is included in the nominated property. The remaining 9.4km to Plasencia is provided by the (9) Cañada Real de San Polo, which continues its 20km route to Cabezabellosa, and passes the Bridge of San Lázaro, which crosses the Jerte River towards the historic complex of Plasencia.

The network of cattle tracks is part of the physical evidence of centuries of transhumant migration through which humans managed to control the movement of livestock from the Northern plateaus (summer) to the drier peneplains (winter). Following the Council of the Mesta (1273), which regulated the transits of migrating livestock, they became an important basis for the wool trade and other seasonal cattle movements and can be seen as the material support of cultural transhumance.

Plasencia Historical Complex

Located in the valley of the Jerte River, which meanders along the city's eastern and southern edges, Plasencia occupies an historically important location at the crossroads of several trade routes. The serial site component comprises the historic centre of 26.5 hectares and is surrounded by a buffer zone of 512 hectares. Medieval city walls, which surround the historic complex, are built in solid ashlar and are well-maintained. Six gates channel seven converging streets in a radial layout into

the historic epicentre, Plaza Major. This plaza was not only the centre of religious activities of the city, with it's Episcopal See, but also a market place for agricultural products and livestock. The multicultural environment of the medieval city is documented in the remains of Jewish and Muslim heritage, and the palaces of the nobility show some distinctive architectural features, such as the corner balcony of the Palace of the Marquis Santa Cruz de Paniagua, a type of balcony that would later become a prototype for Latin American colonial architecture.

Fortified with 68 towers, 20 of which remain, the massive walled enclosure bears witness to the anticipated threat from the nearby frontiers of the Muslim empire. Equally the Alcazar in the north-east corner of the fortified city is marked by eight towers and a keep, which can still be visited.

Trujillo Historical Complex

Trujillo is a city built on top of its own quarry, a batholith 400m high, which provided the granite for the city's construction. The historic city contributes to the serial property with an area of 64 hectares and a buffer zone of 223 hectares. It developed in three significant stages; the old city, the city of historic modernity (16^{th}-18^{th} century) and the contemporary city (19^{th}-20^{th} century). The latter is excluded from the nominated property. In the old medieval city, high walls surround fortified tall houses along narrow and irregular streets. In contrast, the extra-muros Renaissance part consists of palaces and houses along wider roads radiating from the main plaza, which was also the location of the livestock market before the Christian reconquest. Many palaces are decorated with distinctive elements, such as the corner balconies, which externalize the privileged status of the nobility.

Access to the city was granted through seven gates, four of which are preserved. A feature worth mentioning is the sophisticated water storage system of the so-called "Villa", in the medieval part of the town. Installed during the Islamic occupation and later expanded, this system of cisterns, water reservoirs (cut 14m deep into the granite rock) and ponds not only provided sufficient water for the inhabitants but was also used to water nearby gardens and agriculture via underground channels.

History and development

Evidence of the first human occupation in the property, Plasencia-Monfragüe-Trujillo: Mediterranean Landscape, dates back to the Early Palaeolithic and the Middle Palaeolithic (700,000BC to 35,000BC). These habitats were located close to the Tajo River and archaeological excavations revealed stone tools corresponding to the late Acheulean and possibly the Mousterian period. Late Palaeolithic and Neolithic artistic expressions can be found in the Monfragüe caves and illustrate semi-naturalistic human and animal motifs.

During the Bronze Age (1700-750BC) settlements shifted to locations with commanding views, where evidence of advances in metalworking, including in precious metals, hand mills, and ceramics with brush decoration have been found. The first written sources, dating back to the Second Iron Age (4^{th} – 1^{st} cent. BC), provides a clue to the peoples who had settled in the property, namely Lusitanians/Vettones in the northern part, Celts in the south-west and Turduli-Turdetani in the south-east. Settlements of the period became hill forts which remained under later Roman control of the area.

Romanization was divided into three periods: (1) military occupation with creation of the road network (2^{nd} to 1^{st} cent. BC), (2) military control which included taxation and trade between population centres (25BC – 2^{nd} cent. AD), and (3) establishment of farming and livestock, which gave stronger importance to the rural areas (3^{rd} -4^{th} cent. AD). The city of Trujillo, by then called Turgalium, became important under Roman rule as a stop on the main road from Merida to Zaragoza.

The Early Middle Ages were dominated by the Muslim - Christian conquests and reconquests of the region, with the hostile borderline located across Monfragüe Biosphere Reserve for many decades. The Visigoths had settled the region in the 5^{th} century but left few traces behind apart from a small basilica in Trujillo, which dates back to the 7^{th} century. The Muslim era began in 713 AD, when Merida surrendered and the region fell under the rule of the Umayyads, and lasted until 1245 AD, when the Christians conquered Montemolin, the last Muslim stronghold in the region. Roman trade routes, in particular the Ruta de la Plata (silver route) remained important; however, the strategic Roman Alconétar Bridge was destroyed, which channelled movement towards the strictly controlled Alcántara Bridge.

Trujillo became a significant population centre under Muslim rule, now known as Turyila. The walls of its castle (Alcazar) were based on Syrian Umayyad models and Turyila became an important regional market. Plasencia seems to have been a small settlement, which was conquered by the Christian counter offensive in 1180 AD and subsequently strengthened as a defensive bridgehead. The city was officially founded on the remains of the destroyed settlement by the Castilian Monarch in 1186 and was granted a first municipal charter in 1189. However, it fell again into Muslim hands and was recaptured for a second time by Alfonso VIII in 1197 AD. It was then that the fortified city walls were erected and completed at the turn of the century. Trujillo remained under Almohad reign until its final conquest under Fernando III in 1232.

Following the end of the Muslim presence on the property, the city of Plasencia played a key role in repopulating the area. Its inhabitants, as well as those of Trujillo, were granted several privileges, among them lordship and settlement for the knights, who had taken part in the military campaigns. Urban oligarchies established their independence, in particular in Trujillo, which became a free town linked directly to the crown. To attract further settlers into the region of infertile land that had been fought over for centuries, land and livestock were granted

to the cities. A crucial event in the formation of the agro-forest-pastoral activities, which still characterize the nominated property today, was the establishment of the Honorary Council of the Mesta in 1273. The Mesta Council, an association of migratory herders, issued precise regulations for transhumant routes and practices, which set out the rights and obligations of all drovers. Under the Castilian Monarch Alfonso X, three specific transhumance routes were defined in Ordinances: the Cañada Leonesa, the Cañada Segoviana and the Cañada Manchega. The Cañada Real Trujillana included in the nominated property is a section of the route of the Cañada Segoviana, which already had strategic importance for north-south transhumance through Extremadura in the 13th century.

The Mediterranean Renaissance brought a climate of socio-economic and urban development to the two cities, which also led to an increase in transhumant migration in the region. Richly decorated palaces constructed by the nobility bear witness to this prosperity and both cities expanded far beyond their historic walled complexes. Plagues at the end of the 16th century and the aftermath of the Portuguese Restoration War (1640-1668) brought a sudden end to the prosperous times. The rapid population decline, hand in hand with an economic crisis, left the cities half-empty and prone to decay and lacking in resources.

Despite the attempts of an 18th century Bourbon reformist project, the region did not recover from the late 16th century crisis and had made little progress when, in the 19th century, a new outbreak of high mortality and the War of Independence left the Plasencia-Monfragüe-Trujillo landscape in the hands of bandits. Transhumance became a dangerous activity with great risk for livestock and personal safety. Plasencia was practically a dead town at the beginning of the 19th century, dependent on meagre agricultural production. Only in the late 19th century did it expand again when railway workers settled here for the construction of the bypassing Madrid-Cáceres-Portugal railway. Yet, after completion of the tracks, the population declined again.

Trujillo largely maintained its 16th century urban landscape, following property confiscations which benefitted a new merchant class. Pastures and *dehesas* were now controlled by a resident agrarian oligarchy and maintained by day labourers and wage earners, who inhabited the outlying neighbourhoods. The vocation of livestock breeding was kept alive and the two annual livestock fairs, which were among the best visited in the Kingdom, provided Trujillo with a more secure economic base than Plasencia.

The most significant impact of the 20th century on the Mediterranean Landscape of Plasencia-Monfragüe-Trujillo are the artificial water reservoirs that left several Monfragüe valleys totally flooded. Apart from the irreversible impact on flora and fauna, the flooding has also significantly interrupted some of the historic cattle tracks and new supplementary routings around the reservoirs have developed since the 1960s.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The nomination dossier proposes five serial site components, which comprise the two historic cities, Plasencia and Trujillo, two protected landscapes, Monte Valcorchero and Monfragüe National Park and Biosphere Reserve, as well as a cattle track connection between the two cities, which combines sections of 9 individually-named cattle tracks. Following the nomination dossier, the rationale for presenting Plasencia-Montfragüe-Trujillo as a diverse combination of serial components is the intention to illustrate the full scale of interrelations between the transhumant and agro-pastoral activities and the cities and historic feudal and religious structures sustained by these activities.

The comparative analysis presented focuses on cultural landscapes within the Iberian peninsula, regardless of whether these illustrate characteristics of transhumance or include urban features. Compared are, for example, Las Medulas, Spain, 1997, (i), (ii), (iii), and (iv), Palmeral of Elche, Spain, 2000, (ii) and (v), Aranjuez Cultural Landscape, Spain, 2001, (ii) and (iv), Sintra Cultural Landscape, Portugal, 1995, (ii), (iv), and (v), and the Alto Douro wine region, Portugal, 2001, (iii), (iv), (v). A second section of the comparative analysis considers agro-silvo-pastoral landscapes, for example the Laponian Area, Sweden, 1996, (iii), (v), (vii), (viii), and (ix), and the Hortobágy National Park - the *Puszta*, Hungary, 1999, (iv) and (v).

While the State Party acknowledged the limited relevance of some of the compared sites, it is argued that the uniqueness of the Plasencia-Monfragüe-Trujillo complex, which derives from the collection of individual elements, makes it incomparable to any other property. Yet, this argument cannot justify the comparative selection of the contributing components. One useful comparison, which has been identified, is the Tentative List entry, Transhumance: The Royal Shepherd's Track, Italy, (ii), (iii), and (x), a network of transhumance tracks, which link wide areas in the southern part of Italy through the regions of Abruzzo, Molise, Campania and Puglia. Unfortunately, the nomination dossier does not indicate how the proposed property differs from the Italian Transhumance tracks and what unique features the Plasencia-Monfragüe-Trujillo Mediterranean Landscape has to offer. ICOMOS considers that further comparative examples that could have been used are the Causses and the Cévennes, Mediterranean agro-pastoral Cultural Landscape, France, 2011, (iii) and (v), or the Tentative List site Mesta Livestock Trails, Spain, 2007, (v) and (vi). Considering the latter, it is not clear whether the current nomination of Plasencia-Monfragüe-Trujillo in Extremadura region replaces the planned nomination of the Mesta Livestock Trails in Castile and

León, or if a very similar nomination from Spain is still to be expected.

Two recently-held expert meetings on Mediterranean agro-pastoral cultural landscapes in Meyrueis, Lozère, France (20-22 September 2007), and in Tirana, Albania (12-14 November 2009), have in principle identified the World Heritage potential of transhumant agro-pastoralist landscapes in the central areas of the Iberian peninsula, in particular in view of the exceptionally well-preserved network of cattle tracks established between the 13th and 19th centuries. However, ICOMOS considers that what is completely lacking in the nomination dossier is a comparison of a range of cattle track networks and pastures that were established by the Mesta Council, and a justification of why the cattle tracks presented are considered the most exceptional or best preserved. ICOMOS considers that other well-preserved cattle tracks, often even longer stretches, which are less disturbed by the introduction of artificial water reservoirs, are present in central Spain. Some of these are equally linked to significant pastures and, in particular, *dehesas.* ICOMOS considers that what needs to be established through further comparison within the Iberian Peninsula is whether or not the cattle tracks between Plasencia and Trujillo are indeed the best-preserved sample of cattle tracks in connection to *dehesas* that can be found, and why this particular stretch of 96.6 km was selected.

ICOMOS further considers that a single World Heritage property should qualify to represent the theme of agro-pastoral transhumance in the centre of the Iberian Peninsula and that the cattle-track-centred nomination of Plasencia-Monfragüe-Trujillo and the Spanish Tentative List indication of the Mesta Livestock Trails in Castile and León would be mutually exclusive if not presented as a combined proposal. Equally, the *dehesas*, which are so significant for the cultural landscape presented in the nomination dossier, require further comparison with *dehesa* landscapes in the centre of the Iberian Peninsula, in order to establish that the current nomination in fact contains the most exceptional example of this agro-sylvo-pastoral landscape.

With its evaluations of the French World Heritage nomination of The Causses and Cévennes, Mediterranean agro-pastoral Cultural Landscape, ICOMOS considered that there would be room on the World Heritage List for other properties that might be exemplars of other variations of Mediterranean pastoralism, if they reflect distinctive and outstanding cultural responses. Almost certainly one such distinctive response is to be identified in the cattle track networks of the Iberian Peninsula. However, ICOMOS does not think that the comparative analysis has presented a convincing case that Plasencia-Monfragüe-Trujillo: Mediterranean Landscape is the most exceptional example for such recognition in an Iberian context.

ICOMOS further considers that the selection of the serial components has not been justified.

With regard to the urban historic centres included in the nomination, as well as the indicated prototype character of architectural features, in particular corner balconies, a comparative analysis was not included in the nomination dossier. ICOMOS considers that while the corner balcony architecture developed in Spain was referenced in the New World, stronger evidence would need to be presented that the examples present in Plasencia and Trujillo are indeed the earliest or most exceptional of this type of architectural feature.

ICOMOS considers that the comparative analysis does not justify consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Plasencia-Monfragüe-Trujillo is representative of Spain's interior Mediterranean Landscape and has been shaped over more than eight centuries;
- It represents a network of close causal relationships between the cities and the Monfragüe Biosphere Reserve, which contains large *dehesa* estates as a result of the privatisation of the territory by the powerful lords and churchmen who governed the cities;
- Plasencia and Trujillo are two important historical complexes of recognised urban, architectural and heritage prestige, which became references for colonial architecture in Latin America;
- Trujillo's Cañada Real cattle track, and its network of associated cattle tracks, have remained physically intact since the founding of the Honoured Council of the Mesta (13th century) and continue to function as a vehicle of pastoral, transhumant migration;
- The remarkable agro-pastoral system is an example of balance between exploitation and conservation of natural resources with its integration of Holm oak woodland, livestock and agricultural activities, which is based on the local and ethnographic knowledge of the rural communities that forge, look after and exploit this landscape;

The serial nomination is justified on the grounds that the site components encompass the complex causal relationship between the feudal and ecclesiastical powers settled in the two cities, who established the land administration of the *dehesa* estates, and the cattle track network, which linked and sustained the region.

ICOMOS acknowledges in general the significance of the cattle track networks and the *dehesa* pastures in the centre of the Iberian Peninsula, as exceptional examples of transhumance in the semi-arid contexts of the Mediterranean basin and the Middle-East, a category defined in the expert meetings on agro-pastoral Mediterranean landscapes. However, ICOMOS considers that the Outstanding Universal Value of the

property in its current serial composition has not been justified. ICOMOS considers that the elements combined are too diverse and that it would be difficult to formulate a theme-based Outstanding Universal Value that is equally applicable to all components. In consequence, ICOMOS considers that the justification of the property's value has been insufficiently demonstrated for at least two of the sites presented, i.e. the cities of Plasencia and Trujillo. The value demonstration of the Monte Valcorchero Protected Landscape will depend on the relevance of its contribution to the wider regional network of the agro-pastoral activities, rather than its local importance for the city of Plasencia.

ICOMOS further considers that the key-elements of this nomination from a cultural heritage perspective are the cattle tracks and the *dehesa* pastures. Yet, these elements have been described insufficiently in their present manifestation and attributes, their historical context as well as associative activities. The two cities, on the other hand, which merely constitute the wider political and economic framework of this agro-pastoral landscape, have received too much emphasis. Although the prototype role of Trujillo's corner balconies may be of interest in a nomination focused on architectural aspects, this feature does not contribute to the agro-sylvo-pastoral landscape presented. Although there is a historic and economic relation between the cities and the transhumant activities, they remained spatially separate in that the cattle herds would remain or transit outside the city walls. ICOMOS considers that the two historic centres do not obviously contribute to the outstanding significance of the overall landscape and should be excluded from the nomination, to allow for clearer emphasis on the agro-pastoral qualities of the *dehesas* and the transhumant network of cattle tracks.

Integrity and authenticity

Integrity

The integrity of the serial property is judged in relation to the ability of the components to cover all attributes needed to express the Outstanding Universal Value suggested. With regard to the individual components, integrity is expressed in the completeness and adequacy of size of the component to represent the relevant contribution to the overall Outstanding Universal Value.

The nomination dossier presents five serial components, selected to demonstrate the close causal relationships between the transhumant agro-pastoral activities of the wider landscape and the cities that gained sustenance through these. ICOMOS considers that the livestock tracks and the pastures (at present only winter pastures) are the most important components of the nomination. The cities, although they have an historical economic relation in their contemporary architectural structure, do not provide a significant contribution to the potential Outstanding Universal Value of the landscape. However, with regard to their local value as medieval historic centres, their integrity seems justified.

The Monte Valcorchero Protected Landscape is at present proposed as an isolated serial component on the basis of an existing protected landscape, without any physical relation to the cattle tracks or the other pastures in Monfragüe Biosphere Reserve. ICOMOS considers that in this disconnection, its value as part of a transhumant network is not obvious and integrity in the sense of completeness cannot be met. To meet integrity, this serial component would need to demonstrate its value as part of a larger agro-pastoral system and be spatially connected to the wider network of livestock trails and, through them, the other pastures. Within the component, the section disconnected by the highway crossing equally does not meet integrity.

Although the Monfragüe Biosphere Reserve does not encompass all or a majority of the Spanish *dehesas*, it contains a remarkable expression of the *dehesa* landscape. While such spatial landscape features can always benefit from extension, the nominated site is of significant size to be able to convey the Outstanding Universal Value proposed. Unfortunately, the integrity of the Reserve and the *dehesa* landscape is compromised to some extent by the water reservoirs, resulting from dams all along the course of the main rivers Tajo and Tietar. Although these dams impact considerably on the natural values of the property (compare the evaluation by IUCN), the negative effect on the cultural value of the *dehesas* is mostly restricted to its impact on the historic routing of the cattle tracks, in particular the river crossings and bridges.

The cattle tracks also raise other concerns with regard to integrity, including their continuity, boundaries, and completeness.

The cattle track boundaries are at present defined along the outer limits of the trails and remain without buffer zones. ICOMOS considers that this is insufficient for their protection. The continuity of the livestock tracks is of concern in two ways.

On the one hand they are sometimes interrupted, for example by highways, railway tracks or the artificially flooded water reservoirs, the latter particularly impacting on the historic Puente del Cardenal, which ensured the crossing of the livestock over the River Tajo since the 18th century. Although this bridge is still intact, it is completely submerged for part of the year during which time the livestock needs to move along alternative routes.

Secondly, the continuity is also a concern for the present endings of the cattle tracks. The selected section combines segments of nine mostly longer tracks which each continue beyond the sections selected, often in both directions. ICOMOS considers that the selection of a number of track segments, which then connect the two partnering cities, seems arbitrary. There is no quality difference between the segments selected and those leading to other locations within or outside Monfragüe Biosphere Reserve or even beyond the city of Plasencia. This raises the question of completeness, as 96.6km of an

overall estimated network of 120,000km of cattle tracks on the Iberian Peninsula seems a rather limited selection, in which none of the major *cañada* tracks have been included in their full length.

ICOMOS considers that to completely demonstrate the agro-pastoral landscape of this region, a network of cattle tracks, which connects several pastures and vast *dehesa* landscapes would be more appropriate. Ideally this network should not only represent the networks within the winter pastures of the Monfragüe areas but also include the livestock tracks towards the summer pastures in the Northern mountainous regions. ICOMOS further considers that the length and selection of livestock tracks presented in the current nomination dossier cannot demonstrate such completeness and therefore does not meet the condition of integrity.

Authenticity

Authenticity of the serial property relates to the ability of the serial group to convey the Outstanding Universal Value as proposed. With regard to the individual site components, authenticity relates to their ability to exhibit the historic context, location and function, as well as traditional management and other components in relation to the overall Outstanding Universal Value.

Following the arguments presented by the State Party, the authenticity of the property is ensured by the continuity of Plasencia-Monfragüe-Trujillo: Mediterranean Landscape as an historical and cultural reality that connects and holds together natural, historical and artistic resources, in the form of cities, villages, vernacular architecture, intangible heritage, and its associated cattle tracks.

ICOMOS considers that the essential information sources, which convey the proposed Outstanding Universal Value of the property, are the use and function of the livestock tracks and pastures, which sustain the value and maintenance of this unique transhumant network and agro-pastoral landscape, as well as the traditions, techniques and management systems which ensure the continuity and sustainability of the agro-sylvo-pastoral system. As additional information sources, the authenticity of locations and setting as well as form and substance of the track network and the related vernacular architecture, and associated values expressed in the intangible cultural heritage of the region, could also be considered.

ICOMOS considers that in particular the authenticity of use and function, which is so essential for the understanding and maintenance of the property, is only partially met and extremely vulnerable. This major testimony to cross-Iberian transhumance is nowadays no longer used for long transhumance, but reduced, in a smaller extent, to shorter transhumance (trasterminance). The property, which is presented as valuable for its continuity of use, is therefore partly a fossil landscape, but as long as it is not yet completely disused remains part of a modified living landscape. However, the characteristics and routes of the transhumant activity differ considerably from those established by the Council of the Mesta.

With regard to the traditional agro-pastoral techniques and the management system, ICOMOS considers that most areas of the Monfragüe Biosphere Reserve are managed as agro-pastoral systems that are close to those which initially shaped them. These include the continued grazing of sheep and cattle in *dehesa* and steppe areas, holm oaks for feeding pigs with acorns, and cork oaks whose bark is regularly cut for cork exploitation. Although these activities have gradually been adapted over the centuries to retain their profitability, and with it sustainability, as a source of sustenance, they have continuously harked back to their historic core values of sustainable land use.

However, ICOMOS is concerned that some new agricultural and livestock activities introduced in the area weaken the authenticity of the property. These are in particular the large estates almost exclusively dedicated to hunting activities, which have introduced a large number of red deer into the Reserve and have compromised the authenticity with regard to the natural and cultural values, although authenticity is not evaluated for natural criteria. Equally responsible for reducing the authenticity are the water reservoirs created by the dams of the Tajo and Tietar Rivers, which interrupt the historic routes of the livestock tracks, submerge historic bridges and have flooded the former pastures in the river valleys, which affect the authenticity of location and setting in these parts.

With regard to the historic cities of Trujillo and Plasencia, authenticity as related to their value as medieval regional centres is judged in relation to the preserved historic building fabric and urban design. With the exception of some urban changes to the east of Trujillo's historic centre, the cities seem well-preserved and restoration measures have respected principles of authenticity.

In conclusion, ICOMOS considers that the conditions of integrity have not been met and that the conditions of authenticity have been met partially, but are highly vulnerable to changes to the agro-pastoral practices and livestock movements.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iv) and (v), and natural criterion (x).

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the landscape demonstrates in a unique fashion the organization of a triple economy based on agriculture, pastoralism and forestry in its partitioned characteristic of the *dehesa* landscape. The State Party further argues that the seigneurial and ecclesiastical architecture in the two cities of Plasencia and Trujillo

combine to make the most important medieval, renaissance and baroque historical complexes in Europe, including symbols of the most important architectural influences of Spanish style on the Americas.

ICOMOS considers that several different aspects have been combined under this criterion, which do not seem immediately related. ICOMOS does not consider that the significance of the cities as the most important medieval, renaissance and baroque complexes in Europe is justified and cannot see a useful connection between this approach and the agro-pastoral landscape.

The historic centre of Trujillo includes a significant collection of architectural elements, in particular corner balconies, which may represent a relevant prototype for colonial architecture in the Americas. However, this architectural detail cannot contribute to the justification of this criterion in relation to the wider agro-sylvo-pastoral landscape and, if presented, should be explored in a separate nomination context.

With regard to the *dehesas* and the livestock tracks as an example of a type of landscape, ICOMOS considers that it is not clear which significant stage(s) in history are being referred to. While the nomination dossier is focused on the *Reconquista* (8th to 15th century), there does not seem to be a strong relation between the religious and political conflicts of the *Reconquista* and the use of the agro-sylvo-pastoral landscape and livestock trails. Historically these are more closely related to the Honoured Council of the Mesta (1273-1836), which has contributed to a specific organization of a landscape and its land-use. Yet, it is unclear whether this association could be said to constitute a significant stage in human history. To justify how parts of the nominated property could be the most significant examples of a landscape reflecting the Council of the Mesta, and how this could be conceptualized in the framework of this criterion, would require an enhanced comparative analysis in an Iberian context.

ICOMOS considers that this criterion has not been justified.

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that the site encompasses one of the most important winter pasture locations for the merino sheep from the northern tableland, which were brought here through livestock movements in the natural corridor. The landscape created by this activity is the characteristic semi-natural *dehesa* landscape, an agro-sylvo-pastoral landscape still continuously used.

ICOMOS considers that this criterion cannot be justified for the urban components. As an agro-sylvo-pastoral landscape shaped through sustainable land use and transhumance over several centuries, the network of cattle tracks and the related summer and winter pastures in the centre of the Iberian Peninsula could be considered as significant examples of traditional land-use. Yet it has not been demonstrated that the nominated property constitutes a significant selection of the wider network of tracks and pastures.

ICOMOS considers that this criterion cannot be justified for all the serial components nominated and that the selection of components would need to be revised and further justified in the framework of a new nomination. ICOMOS further considers that before any new nomination is put forward, an enhanced comparative analysis, which underlines the outstanding character of the summer and winter pastures as well as cattle tracks and related attributes, should be developed in comparison with other examples in the centre of the Iberian Peninsula.

ICOMOS considers that this criterion has not been justified.

ICOMOS considers that the serial approach has not been justified and that the selection of sites is not appropriate.

In conclusion, ICOMOS does not consider that the criteria and Outstanding Universal Value have been justified.

4 Factors affecting the property

Development pressures

Development pressures on the properties come mostly from new infrastructure requirements, whether traffic, energy, or tourism related. The most significant traffic infrastructure planned at present seems to be the Eastern bypass or ring-road at Plasencia, which is planned to connect the A-66 to the North with EX-A1 to the South, in-between providing the N-110 with a Southern bypass connecting to EX-203. This bypass is planned with three bridges, one of them crossing the Jerte River, which, although outside the property, might have a considerable visual impact on the historic centre.

A second source of concern is the energy plants, which are being developed in the region. Several photovoltaic solar energy plants already exist outside the property, yet even the larger ones have a flat appearance and are sited whenever possible in flat territories so that the visual impact on the surrounding landscape is negligible. However, if the solar panels are sited on steeper terrain, as possibly planned for the La Magascona solar energy plant, which it is said is to become the largest in Europe, a negative visual impact is likely to occur. The World

Monuments Fund has recently placed Trujillo on its Watch 2012 List, as being endangered by the plans for this particular solar energy plant.

Of even greater concern are vertical wind energy generators, which do not yet exist in Extremadura but are foreseen in the near future. ICOMOS considers that it will be important to seek locations at an appropriate distance from the property in areas where there could be a visual impact. The State Party indicates plans for a project located between Plasencia and Malpartida de Plasencia, less than 5 km from the site, which would seem very close for larger structures. At present, ICOMOS has not had the opportunity to review detailed plans for any of the above-named projects.

Tourism pressures

Strong increases in visitor numbers, especially in the Monfragüe Biosphere Reserve, could become a potential threat to its natural and cultural values. Not only sports and leisure tourism but also the introduction of large-scale hunting estates and with them red deer populations pose a risk to the authenticity of the use and management of the agro-sylvo-pastoral landscape. At present rates of use, the Monfragüe National Park management plan foresees the establishment of a visitor management plan within two years.

ICOMOS considers that this visitor management plan should be based on detailed studies of the anticipated impact of visitor numbers and activities on the cattle tracks, particularly if these are used as hiking paths, and the *dehesas*, and should contain detailed and strict development regulations for any future visitor-related infrastructure within the property.

Environmental pressures

Demographic and economic shifts in the local population structures, which affect the property, shall here be considered under environmental pressures. The stock breeder population is aging and at present consists mostly of people in their 50s. The younger generation, to whom the profession would have traditionally been passed on to, has left the rural region and sought employment in nearby cities. Specific outbreaks of certain livestock diseases, such as tuberculosis, brucellosis or blue tongue, have not only caused added economic pressures but also restricted the herd movements. Costs of the administrative controls and compulsory health documents required to move herds are high and livestock movements bring added risks of contamination.

Natural disasters

Forest fires have been identified as a considerable risk to the property. Although natural spaces protection systems are in place to allow control of forest fires if they occur, the presence of large scrubland areas, which become very dry during the summer months, increases the general vulnerability of the Monfragüe site component.

A second risk of man-made disaster is potential nuclear contamination in case of an incident at the nearby Almaraz Nuclear Power Plant. Contingency plans for such incidents have been developed in the framework of the Nuclear Emergency Plan, which also covers disaster management in the surroundings of the Almaraz Nuclear Power Plant.

Impact of climate change

The nomination dossier identifies risks of potential negative impacts from climate change, in particular the potential impacts of reduced rainfall on the woodlands and pastures, which could impede the natural regeneration processes as a result of overgrazing, the principle problem that many *dehesas* are already facing.

ICOMOS considers that the main threats to the property are the planned developments of renewable energy plants, a lack of herders committed to the continuation of transhumant activities, fires and potential impacts of reduced rainfall in the context of climate change.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries of all serial components are defined on the basis of existing protected areas, including protected landscapes, biosphere reserves, historic-artistic centres and protected cattle tracks. This allowed the nomination dossier to be put forward without new legal designations, but has led to a selection of sites and boundaries which do not always seem logical in relation to the Outstanding Universal Value proposed. In addition the two landscape components (Monfragüe and Valcorchero) and the cattle tracks are presented without buffer zones.

The boundaries of the two historic centres defined by their extension within the medieval walled complex (Plasencia) or their 18th century structure in relation to outer walls and the plateau location (Trujillo) is justified in relation to their value as historic centres. The buffer zones proposed are adequate in this context. However, ICOMOS considers that it is not demonstrated if and how this medieval limit is related to the Outstanding Universal Value proposed. The boundaries of the Valcorchero protected landscape correspond to the protective decree, which designates it as woodland of public benefit. The property component is divided into two segments by highway A-66 and presented without a buffer zone. ICOMOS considers that the component located north of the highway, in its present size, cannot be seen as part of a continuing functional landscape. ICOMOS further considers that the protected landscape of Valcorchero requires an adequate buffer zone to the west, north and east.

The boundaries of the nominated serial component at Monfragüe are defined by three pre-existing protected areas having overlapping sub-zones: a Biosphere

Reserve (2003), a National Park (2007) and a Special Protection Area for birds (2009). This component is presented without a buffer zone. ICOMOS considers that although this component contains a significant sample of the characteristic landscape features of the agro-sylvo-pastoral landscape of winter pastures, it could ideally, through extended livestock trails, be connected to summer pastures.

The nomination dossier explains that the rationale of not giving this component a buffer zone is related to its large size. While ICOMOS agrees that the size provides a certain protection, this does not prevent negative visual impacts of developments along the outer boundaries. ICOMOS therefore considers that in the absence of a buffer zone, at least a visual protection zone would be required. ICOMOS considers that this could be addressed by special provisions in the municipal zoning schemes, which foresee the sensitivity of height developments that could have a negative impact on the property.

The cattle tracks comprise the 75m wide main cattle tracks (*Cañada real de la Plata*), and narrower subsidiary tracks (*Cordel suplente*) between the ends of the section chosen for nomination. ICOMOS considers that while the lateral limits of the tracks seem obvious, the longitudinal limits are neither explained nor justified. This rather short section of the national network of livestock tracks (1/1000 of the total, 1/50 of the length of *cañadas reales*) is not representative of the historic practices of transhumance, as flocks never just commuted between these places, but often went further south than Trujillo and much further north than Plasencia, up to the Cantabrian mountains. Even the present trasterminance is practiced in a wider territory, with the herds continuing beyond Plasencia to reach the Sierra de Gredos through the valley of Jerte, where the contemporary mountain summer pastures are located. ICOMOS considers that it is preferable to present all elements of the agro-sylvo-pastoral system in one property, which includes a representative section of the national *cañada* network linking both significant areas of summer and winter pastures. ICOMOS considers that the boundaries of the cattle tracks are too limited at present to represent the larger system.

The cattle tracks are proposed without buffer zones. ICOMOS considers that while the narrow width definition of the tracks is mostly justified, surrounding buffer zones are needed to protect the landscape setting of the tracks. ICOMOS considers that livestock route buffer zones could be established based on municipal land-use plans, which provide for zones of strict protection of agricultural areas, including agro-pastoral areas.

ICOMOS considers that the boundaries of the nominated property need to be extended to include longer sections of the key cattle tracks as well as summer pastures, and that additional buffer zones and visual protection zones are required for the cattle tracks and landscapes.

Ownership

The nominated property includes five site components and affects 16 municipalities. Three of these, Casas de Miravete, Serradilla and Torrejón el Rubio are located completely within the boundaries proposed. The property combines state-owned public property, public property owned by the Extremadura regional government, municipal and community public property, private property belonging to private institutions and commercial entities, and private property belonging to individuals.

Protection

Legal Protection

The nominated serial components are protected under a variety of regional, national and international frameworks related to both their cultural and natural values. The historical centres of Plasencia and Trujillo are protected under the 1985 Spanish Cultural Heritage Law as properties of cultural interest. The historical complex of Plasencia further includes 126 individual monuments listed under the Cultural Heritage Act of Extremadura (1999) and 10 individual monuments listed under the Cultural Heritage Law (1985). Likewise Trujillo contains eight monuments listed on the national and 188 monuments listed in the regional register. Monte Valcorchero is a protected landscape following Decree 82/2005, of 12 April. This is a regional designation in relation to the municipal laws.

The Monfragüe property is protected at an international level as a UNESCO Biosphere Reserve (2003), on a European level as a conservation area for birds following directive 2009/147/CE of 2009, and previously under the Birds Directive (1991). On a national level it is protected as a National Park (Royal Decree 1927/1979 of 4 April). The cattle tracks are identified, registered, and accordingly protected by Municipal Order on the basis of a Ministerial Order. Other ministerial orders have been issued, with instructions to identify certain main cattle tracks, *cañadas*, and it is the municipality's responsibility to identify and protect these. Following the presentation of the nomination dossier, all cattle tracks included have now been protected by such municipal orders.

ICOMOS considers that the *dehesas* in Monfragüe National Park are predominately protected for their natural values. ICOMOS considers it desirable to amend the protective degree of the National Park (1979) to explicitly recognize the cultural value of the landscape as an agro-sylvo-pastoral system. Monte Valcorchero should be given legal protection at a national level. ICOMOS further considers that it would be desirable if the livestock tracks were also protected at national level, but notes that no framework legislation seems to exist which could at present facilitate national designation. ICOMOS considers that alternative ways of national protection, whether by decision of a governing body or decree, should be explored.

Traditional Protection

In the Monfragüe component, the continuation of the traditional land-use and of the corresponding traditional management system can be regarded as a protection tool. This also includes the traditional continuation of the cattle track network following the provisions of the Council of the Mesta, although the responsibility has now fallen to the state authorities.

Effectiveness of protection measures

ICOMOS considers that in general the protection on both national and regional level is effective. However, one aspect presented in the nomination dossier is a source of concern. It concerns a recent attempt to convert land of the designated Valcorchero Protected Landscape to urban land, as was published by the Department of Industry, Energy and Environment, as DOE no. 157 of August, 16, 2010. If this is indeed the case, it would raise doubts on the effectiveness of the regional protection status, in particular as related to territorial planning (see management: policy framework).

In conclusion, ICOMOS considers that the legal protection in place is acceptable for the historic cities but should be strengthened at national level for Monte Valcorchero, the cattle tracks and the cultural components of Monfragüe.

Conservation

Inventories, recording, research

The different landscape units in Spain are researched and inventoried in a System of Geographical Information, Mapping and Territorial Analysis. This database is shared online between the different concerned authorities and contains a series of territorial layers such as maps for land use, vegetation, and landscape units.

The architectural heritage in the different site components was inventoried in the late 1980s and although the inventory contains informative references it has no legal status. Additional registers of cultural heritage properties designated in the autonomous regions are held by the Spanish Sub-Directorate General for the Protection of Historical Heritage and Extremadura's Department for Culture and Tourism, which is in charge of creating registers, inventories and catalogues of the region's historic and cultural heritage. Most data in these registers has been linked to a second GIS system under the coordination of the Department of Culture and Tourism.

Present state of conservation

The present state of conservation of the property is mostly satisfying, both with regard to the condition of the architectural heritage as well as the landscape units. Unfortunately details were not provided regarding the benchmarks for the seven different categories, applied to the evaluation of the state of conservation of historic buildings in Plasencia and Trujillo, but it seems that no building is at risk of loss and that urgent intervention is not required. The nomination dossier provides a tabular summary of all conservation activities since 1947.

Equally, the state of conservation of the preserved cattle tracks is adequate and almost all of them (except the Cordel del Valle and the Cañada Real de San Polo) have been firmly established on the ground by boundary markers or boundary stones and are clearly distinguishable from their surroundings. Only the open resting areas, called *descansadores*, in front of the walled cities are in poorer condition. Whilst in Plasencia the resting area was converted into a public Parque de los Cachones, in Trujillo it appears simply neglected. In both cases it is difficult to recognize the important function of the open spaces as the resting places of the herd whilst bypassing the cities, and ICOMOS considers that both improved interpretation tools and designs would benefit the two *descansadores*.

Active Conservation measures

Active conservation measures are ongoing in the different property components and are being carried out by a variety of different partners, at present without much coordination between the different agencies. The architectural conservation activities are driven by the concerned municipalities, while landscape conservation is mostly initiated in the framework of the action plan for the Monfragüe Biosphere Reserve and the management plan of the special protection area "Monfragüe and its dehesas". This plan provides guidance for use and practices, which are compatible with the conservation of habitats and landscape units.

With regard to the cattle tracks, the recovery plan for cattle tracks between Monfragüe National Park and Gredos National Park aims at increasing livestock traffic by improving the suitability of highway crossings, selective ground-clearing in some areas to facilitate livestock transit, and the repositioning of enclosures. ICOMOS considers that the active conservation activities are predominantly focused on the natural values of the property and should include systematic conservation programmes which actively support the agro-sylvo-pastoral system in all parts of the Monfragüe component and the cattle tracks.

Maintenance

A key issue in the maintenance of the *dehesas* is woodland regeneration, as most *dehesas* nowadays show trees of a similar age group between 50 and 150 years old. This regeneration usually occurs naturally without plantation through acorns falling from the old trees, but it requires controlled management as the livestock, and especially sheep and goats, are likely to damage or feed on the young tree shoots. Some estates have now become increasingly aware of the need for new trees and created regeneration areas which will not be used as pastures until the young trees have reached a certain height.

Effectiveness of conservation measures

A variety of the conservation activities implemented seem effective on a local scale. However, ICOMOS considers that an overarching coordination of conservation measures could lead to wider benefits and synergies and strengthen the effectiveness of the activities. It seems that this is already envisaged by the management consortium as part of the overall property management strategies.

ICOMOS considers that conservation activities are effective on a local level. However, ICOMOS further considers that a stronger focus on the cultural landscape qualities as well as better integration of and cooperation between different conservation activities is an important task for the overall management consortium.

Management

Management structures and processes, including traditional management processes

An overarching management framework for the property has been established as the Plasencia, Trujillo, Monfragüe National Park and Territorial Biodiversity Consortium, hereafter called the Consortium. It encompasses the concerned public administrations, like the Cáceres Provincial Council, and Plasencia and Trujillo Town Councils, as well as other academic and international cooperation entities, such as the University of Extremadura or the European Academy of Yuste. The main task previously of the Consortium was the coordination of the World Heritage nomination and now it will be the development of a management plan for the conservation and protection of the Outstanding Universal Value proposed.

Since its creation in 2009, the Consortium has acted as the sole administrative body uniting, facilitating and improving cooperation between the various public administrations involved. For this purpose it has employed a coordinator. Three governing bodies are defined in the Consortium Statutes: the "Management Board" (MB), responsible for establishing general guidelines and approving the Consortium's internal rules and budgets, the "Executive Commission" (EC), in charge of approval of contracts and the administration of the Consortium's assets and rights, and the "Management". The "Management" drafts the relevant plans with regard to the site conservation and management and establishes the budgets needed for this purpose. In the development of the management plan it will be further supported by Technical Commissions to advise on specific areas of property management.

In addition to the Consortium, the Stock Owner's Association, which is the legal descendant of the Mesta Council, is involved in the management of the Pastoral System. ICOMOS considers that the Consortium may wish to consider including the Stock Owner's Association in its activities. Also the electric companies responsible for the development and administration of the renewable energy plant should be considered as partners in the management process.

Policy framework: management plans and arrangements, including visitor management and presentation

A management plan is planned to be developed following the inscription of the property, intended for a period of 20 years. The first steps towards this goal are taken in an action plan, which gives priority to the development of landscape charters, the identification of landscape qualities and the elaboration of a landscape catalogue. ICOMOS considers that the structure presented does not contain the key-elements of a management plan and that it is not clear how the characterization phase and the formulation of the landscape quality objectives foreseen will relate to the Outstanding Universal Value proposed for the property. ICOMOS considers that the structure presented for the management plan is inadequate and should be revised.

As a result of the non-existence of a management plan, ICOMOS is concerned about the lack of information concerning the zoning and land-use regulations for parts of the property. Following the 2001 Law on Land and Territorial Planning, Territorial Planning Directives (DOT) are in the process of being defined for three of the four Integrated Associations of Municipalities and have already been finalized for one of them. As these supra-municipal plans define the basic criteria for the location of new infrastructures and future developments in the territory, they seem essential for long-term management, but they are not integrated in the protection or management mechanism presented by the State Party. This is of particular concern, as the Territorial Planning Directives are presented as the main regulatory framework of landscape conservation, in the absence of any additional specific legislative development concerning landscapes. ICOMOS considers that cooperation between the management consortium and the bodies developing the Territorial Planning Directive is essential and should be established with the highest priority.

Risk preparedness

The 2004 Law on Forest Fire Prevention and Fighting in Extremadura established instruments for prevention planning. The Extremadura Forest Fire Prevention Plan (PREIOFEX) established zones with High Fire Risk Defence Plans (ZAR), two of which fall in the nominated property: The Monfragüe ZAR Defence Plan and the Jerte y Ambroz ZAR Defence Plan, which covers the Monte Valcorchero Protected Landscape. Beyond these risk planning documents, the construction of a heliport for forestry fire fighting with an approximate cost of 0.8 million euros, and the improvement of electrical lines, with a budget of 1.2 million euros, are planned.

Involvement of the local communities

A variety of stakeholders and local communities have been involved in the preparation of the World Heritage

nomination from the earliest stages. ICOMOS considers that the nomination has received strong support from the local population and is backed with enthusiasm.

Resources, including staffing levels, expertise and training

The financial resources of the property are gathered from six different budgets, including European funds, general state budgets, the Extremadura Council, the Cáceres Provincial Council and other town councils as well as other public and private resources. These consist mostly of one-time contributions provided for specific initiatives, conservation projects, inventories or promotional activities.

The annual budget for the management of Monfragüe National Park and Biosphere Reserve amounts at present to 4,963,084 euros. This amount includes personnel expenses, some of the ongoing maintenance and conservation works as well as the continuous updating and execution of the forest fire-fighting strategy. ICOMOS considers that while the financial resources provided to the property seem ample, a specific annual budget should be made available for the maintenance and conservation of the cattle tracks.

In terms of staff resources, the management is built on existing staff capacities in the various administrative authorities concerned. The Management Consortium at present employs one Coordinator to initiate the drafting of an overall management plan. It is envisaged to enlarge the coordination office through additional staff positions, once the management plan is developed.

Effectiveness of current management

ICOMOS considers that the management system is characterized by a variety of different initiatives, which are not yet adequately coordinated by the overarching Management Consortium. ICOMOS further considers that the management of the landscape components is mainly focused on natural values, while the cultural dimension is often not sufficiently addressed. The management plan, which at present only exists as an outline, does not focus on the key management requirements of the property.

ICOMOS considers that although an overarching Management Consortium has been established, a management system for the property is not yet in place. ICOMOS recommends that the State Party develop a management plan and coordination of different management activities. A number of essential partners should be actively involved with the Management Consortium.

6 Monitoring

A number of indicators and parameters have been presented within separate thematic frameworks. ICOMOS considers that while many thematic areas and indicators appear useful, monitoring of the transhumant livestock migration and agro-sylvo-pastoral activities is notably absent, and some of the other indicators would profit from more detailed divisions. ICOMOS further considers that the tabular presentation of the monitoring framework should include information on the bodies responsible for the data collection, provision and interpretation.

ICOMOS considers that while the overall monitoring framework is acceptable, monitoring indicators for livestock migration and other agro-pastoral activities need to be included and responsible agencies be named for data collection, provision and interpretation.

7 Conclusions

The five serial components presented in the nomination of Plasencia-Monfragüe-Trujillo: Mediterranean Landscape combine a variety of elements, which seem too diverse to contribute equally to the same set of criteria and a shared Outstanding Universal Value. ICOMOS noted specific difficulties in relating the historic city centres to the Outstanding Universal Value proposed, and recommends that the different thematic contexts currently combined be separated when considering future nominations.

ICOMOS considers that the key-elements of this nomination are the cattle tracks and the wider agro-sylvo-pastoral landscape. ICOMOS considers that while recent expert meetings on Mediterranean landscapes have clearly identified the potential for a nomination of transhumant migration routes in the centre of the Iberian Peninsula, it has not been demonstrated how the limited selection of cattle tracks presented could be considered representative of the overall network. It is further questionable whether the nominated property is the most exceptionally preserved section of the Mesta Council livestock trails. In this context, ICOMOS notes that it is not clear how the nomination of Plasencia-Monfragüe-Trujillo relates to the Spanish Tentative List entry of the Mesta Livestock Trails in Castile and León. ICOMOS considers that both nominations seem similar in content and that they should be considered mutually exclusive if not presented as a combined proposal. Unfortunately, the nomination dossier submitted does not refer to the Spanish Mesta Livestock Trail Tentative List entry, not even in the comparative analysis.

ICOMOS encourages the development of a comprehensive comparative analysis of livestock tracks and pastures in the centre of the Iberian Peninsula to conceptualize a new nomination proposal for a larger network of cattle tracks, which link both winter and summer pastures. This proposal should ideally be linked to the Council of the Mesta and its historic impact on transhumant migration and the Iberian agro-pastoral landscapes over several centuries.

ICOMOS notes that the nominated property faces potential threats from a solar energy plant, which is planned near Trujillo and which is said will become the

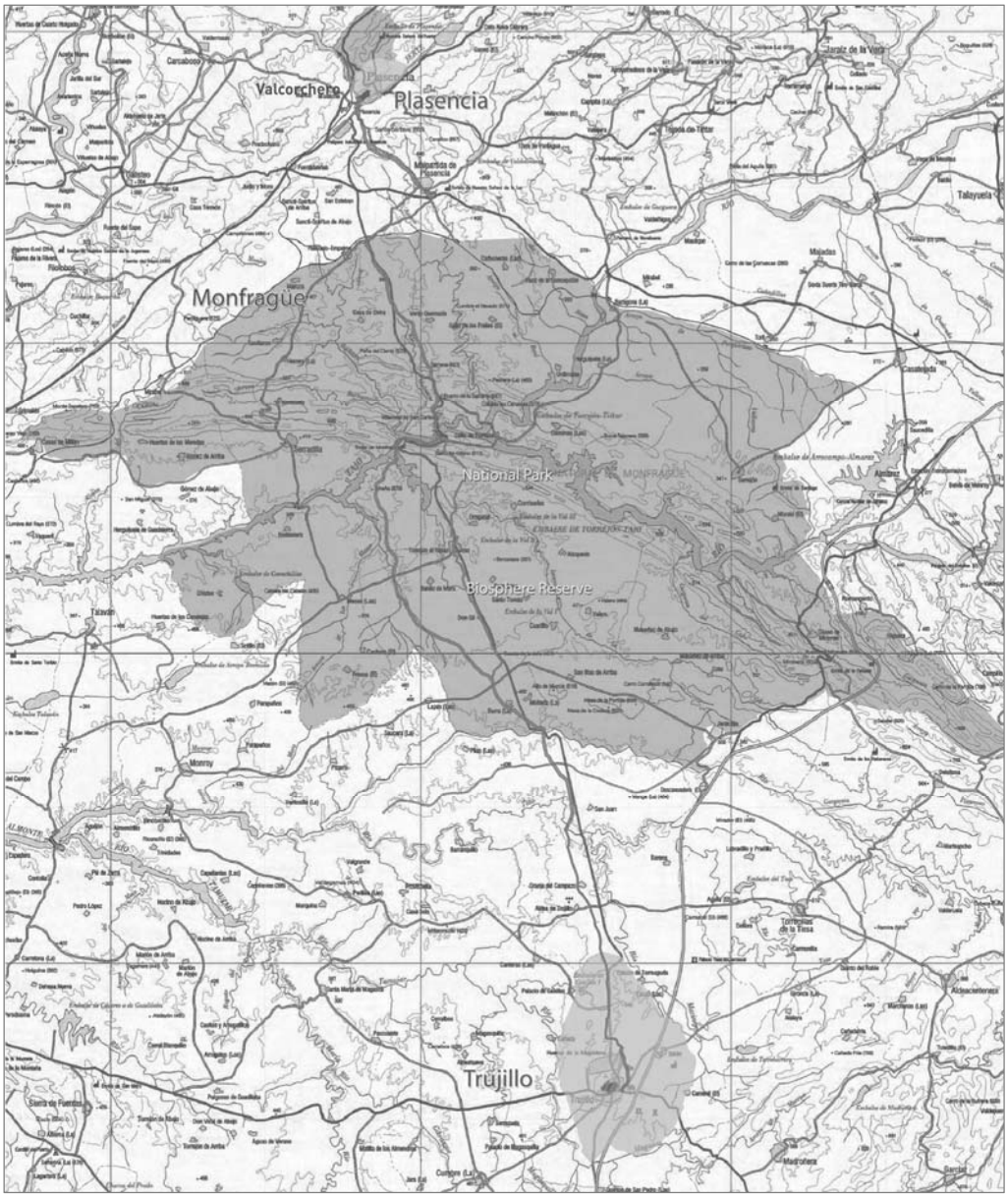
largest in Europe. ICOMOS considers that the above and other potential threats from infrastructure or tourism developments demand clearly-regulated territorial planning directives and approval procedures for developments within the property as well as the establishment of a buffer and visual protection zone, in particular for the cattle track network.

Although a Management Consortium has been established for the nominated property, management and conservation activities are not yet coordinated between the different public agencies involved. A management plan does not exist, and the structure presented for a future management plan in ICOMOS' view requires major revision. ICOMOS recommends that other stakeholders, in particular the Stock Owner's Association and the corporation responsible for the renewable energy plants are included in the Management Consortium. ICOMOS further considers that the Territorial Planning Directives currently developed by the regional Municipal Associations, are essential tools for the future property management. ICOMOS therefore recommends that the Consortium works in close partnership with the agencies responsible for land and territorial planning and links these to the development of its management plan. Finally, ICOMOS considers that a specific annual budget should be made available for the maintenance and conservation of the cattle tracks, and that indicators related to livestock migration and agro-pastoral activities be included in the monitoring system.

Recommendations with respect to inscription

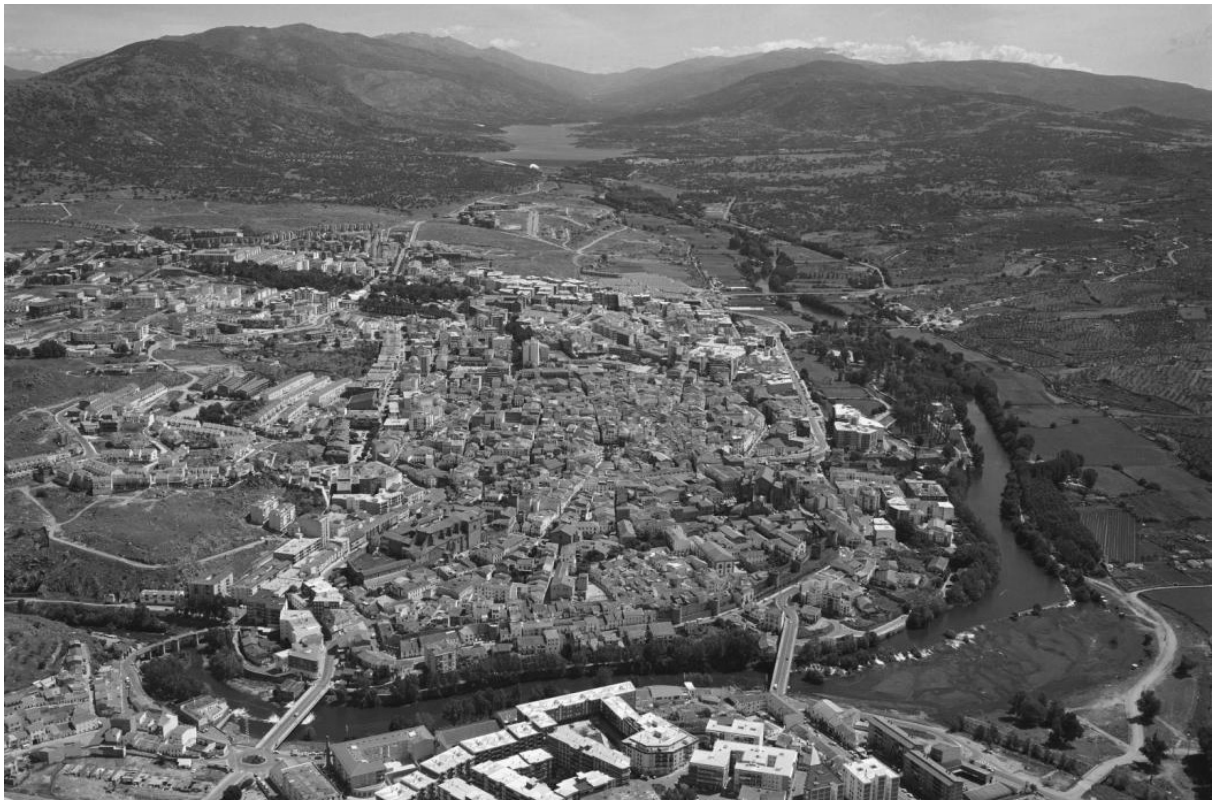
ICOMOS recommends that Plasencia-Monfragüe-Trujillo: Mediterranean Landscape, Spain, should **not be inscribed** on the World Heritage List.

ICOMOS recognizes the importance of the theme of transhumance and the related Iberian heritage to the World Heritage List and encourages the State Party to develop an ample comparative analysis of livestock trails and pastures on the Iberian Peninsula to conceptualize a new nomination proposal of a larger network of cattle tracks, linking both winter and summer pastures.



Map showing the boundaries of the nominated properties

Dehesas of the site



Plasencia - aerial view

Trujillo - general view

Montfragüe National Park

III Mixed properties

A Asia – Pacific
New nominations

B Europe – North America
New nominations

C Latin America and the Caribbean
Nominations deferred by previous sessions of the World Heritage Committee

Banco Chinchorro Biosphere Reserve (Mexico)
No 1244rev

Official name as proposed by the State Party
Banco Chinchorro Biosphere Reserve

Location
40km from Mahahual shore
Southern Coast of Quintana Roo
Mexico

Brief description
Banco Chinchorro is part of the Mesoamerican Barrier Reef System. The property is a false atoll of calcareous origin that comprises a coral reef, a reef lagoon, cays and adjacent oceanic waters as well as distinct ecosystems. Its more than 68 sites with wrecks from the 16th to the 20th centuries submerged in its waters, stranded or beached on the barrier reef, bear witness to the centuries-long interrelations between man and the sea in the region.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this property has been nominated as a *site*.

[Note: The property is nominated as a mixed cultural and natural site. IUCN will assess the natural significances, while ICOMOS assesses the cultural significances.]

1 Basic data

Included in the Tentative List
6 December 2004

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
27 January 2011

Background
This is a deferred nomination (31 COM, Christchurch, 2007).

A first nomination dossier for a natural property was examined by the World Heritage Committee at its 31st Session (Christchurch, 2007). At the time, IUCN recommended the World Heritage Committee not to inscribe the Banco Chinchorro Biosphere Reserve, Mexico, on the World Heritage List on the basis of natural criteria.

The World Heritage Committee adopted the following decision (31 COM 8B.19):

The World Heritage Committee,
1. Having examined Documents WHC-07/31.COM/8B and WHC-07/31.COM/INF.8B.2,
2. Defers the examination of the nomination of Banco Chinchorro Biosphere Reserve, Mexico, to the World Heritage List to allow the State Party to consider submitting a new nomination of the site as a mixed property taking into account the underwater cultural heritage of the site.

In response, the State Party submitted a new nomination as a mixed property which included the underwater heritage.

Consultations
ICOMOS has consulted its International Scientific Committee on Underwater Cultural Heritage.

Literature consulted (selection)

Patrimonio Cultural Subacuático: América Latina y el Caribe, Oficina Regional de Cultura para América Latina y el Caribe de la UNESCO, Havana, 2003.

Technical Evaluation Mission
A joint ICOMOS/IUCN technical evaluation mission visited the property from 22 to 29 August 2011.

Additional information requested and received from the State Party
None

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
Banco Chinchorro is an atoll reef lying 40km off the southeast coast of the Municipality of Othón P. Blanco in the Quintana Roo region of the Yucatan Peninsula, near Belize, separated from the land by the Yucatan Channel. It is part of the Mesoamerican Barrier Reef System and includes a coral reef, a reef lagoon, cays and adjacent oceanic waters.

The reef is approximately 40.2 kilometres long from north to south, and approximately 16 kilometres wide at its widest point. It covers an area of 800km². The atoll has three islands, with an aggregate land area of 6.7km²: Cayo Norte (two separate islets); Cayo Central (5.6 km²); Cayo Lobos (southernmost) (0.2 km²).

Overall the nominated property comprises 144,360ha, covering the full extension of the MAB Biosphere Reserve, further surrounded by a 237,200.42ha buffer zone.

Geologically, it is a false atoll of calcareous origin, generating a diversity of formations within and around the coral reef lagoon. A large biodiversity and scenic beauty are part of its assets.

In addition to its rich ecosystem, Banco Chinchorro is considered a graveyard for ships or their remains, where cultural and natural elements form an inseparable context.

The nominated property includes more than 68 identified sites with wrecks submerged in its waters, stranded or beached on the barrier reef. These wrecks are the bases for the development, reproduction and defence of various reef species, that form an integral part of the ecosystems and create niches that generate a large biodiversity, in a well preserved environment.

Research has been conducted since 1977 and has made possible the location and dating of these sites. The nomination dossier provides a detailed list of these sites and describes the type of wrecks that have been detected, which predominantly consist of artillery pieces, anchors and other individual elements, since the hulls and other degradable components of biological origin have decayed completely. Only at a few sites, where there are sunken vessels from the 19th-20th centuries, have the hulls or recognisable parts of them been found.

The submerged wrecks record the maritime traffic in the Caribbean and provide evidence of the history of navigation in the Americas from the 16th to the 21st centuries. This underwater heritage is representative of four historical themes and periods:
1) The period of discovery, exploration and fleets of New Spain (late 15th to early 17th centuries) attested to by sailing ships and isolated cultural remains (anchors and artillery).
2) The period of the English occupation (late 17th to the first half of the 19th centuries), attested to by sailing ships, isolated cultural remains (anchors and artillery) and other unidentified items.
3) The period of the Yucatan Territory (19th century), the evidence being sailing ships, steamers, isolated cultural remains (anchors) and other unidentified items.
4) The period of the Two World Wars and the aftermath (20th to early 21st centuries), with remnants of cargo ships, merchant vessels and tugs with diesel and electrical propulsion systems.

History and development

The first inhabitants of the territory where Chinchorro is located were the Itza, who entered the peninsula with the decline of the classical Mayan civilization (320 to 987 AD) and who dominated Bacalar and Chetumal around 950 AD. After the fall of the Confederation of Mayapan in 1194, Putun groups dominated the region. During the Post-classic period (900 - 1545 AD), in the area today corresponding to the states of Campeche, Yucatan and Quintana Roo, as well as Belize, Guatemala and Honduras, the Maya developed a complex system of maritime, river and canal navigation to support their trade with neighbouring populations. The vessels used in this era were canoes hollowed out from fire-dried cedar logs that could be as long as 30m. To orient navigation in safe waters, the Maya had 'systems of navigation aids', consisting of docks and ports but also sighting points, danger or route markers that aided navigators along the routes.

After the conquest of the continent by Spaniards, navigation changed, these routes were abandoned and they remain only as references in some European travellers' accounts.

It seems that Christopher Columbus had passed close to Chinchorro on his last voyage in 1502 but it was not until later explorations on the Yucatan Peninsula that Chinchorro came to be known better by Europeans.

Explorers had already mapped the coasts of Central America at the dawn of the 16th century and by 1517 they had travelled around the Yucatan peninsula, which was still considered an island. Chinchorro was then only framed within an undefined zone considered hazardous to navigation. It didn't appear on the first map of the Gulf of Mexico attributed to Alonso Álvarez de Pineda between 1519 and 1520. The exact location was ignored: at the time; it was only considered essential to know that the Banco was a dangerous area and to be avoided.

Explorations of the late 15th and early 16th centuries stimulated the annual circulation of vessels crossing the Atlantic in search of the riches of the American continent. Once it was established, in the late 16th century, that Yucatan was a peninsula and, subsequently, the routes for galleons and sailing ships were consolidated, there was little Spanish presence on Eastern Yucatan, since the main port located on the coast of the peninsula was Campeche in the Gulf of Mexico.

Between the 17th and 18th centuries, other European powers gained control over parts of the Caribbean Sea. It is in this period that the knowledge of these coasts and coastal waters improved. At the beginning of the 18th century, William Dampier, who knew the region very well, gives them geographical references in his sea logs, mentioning Chinchorro Bank.

The competition between the British and the Spanish to take control over the area in the 18th century sustained the development of a new generation of maps. These described some coastal areas and islands, as well as regions that were geopolitically important. Chinchorro was no longer just another point in the sea and its precise demarcation and description began. In 1706, on a map attributed to Henry Popple, it appears under the name of Quita Zuno (Quitasueño).

The appearance of Banco Chinchorro on maps was as a consequence of increased traffic in the area, and mainly, of the warnings from shipwrecks and maritime accidents. It was a point from which it was sought to sail east and

as far as possible when travelling along the sea routes that included the ports of Havana and Santiago de Cuba; Port Royal and Kingston in Jamaica, Trujillo and Puerto Cortes on the coast of Honduras; Santo Tomás de Castilla in Guatemala; the English settlements in Rotan Island, the coast of Belize and the city and fort of Bacalar on the Chetumal Bay.

It is not until 1725 that it appears on Spanish maps. Also important to note is that since 1638, the route via the Banco Chinchorro area was very important for English logwood traffic from Cabo Catoche to the Walix and Hondo Rivers, in what was then British Honduras (now Belize), with its core business in Jamaica. Chinchorro appears on this route as an important geographical feature in an area with strong commercial activities, widely travelled by the British during the nineteenth century.

Charles Darwin, in his book *The Structure and Distribution of Coral Reefs* (1842) suggested that Banco Chinchorro was a triangle reef located north of the Belize atolls. The Industrial Revolution made possible the replacement of sail propulsion with mechanical propulsion via the steam engine, thus making vessels more capable of plying through ocean currents and winds. Ships, sometimes combining steam engines with sails, roamed this coastline as close to it as possible.

When ocean currents and the lack of wind could be overcome, the old New Spain routes passing near Banco Chinchorro started to be forgotten, as ships preferred to navigate between the coast and the Bank through the Yucatan Channel, between the cays and the peninsula within the Gulf of Mexico, with Campeche, Veracruz, New Orleans and New York as major ports.

The 20th century brought a new technological innovation: the diesel engine, which replaced those propelled with steam. During the two World Wars the naval industry evolved considerably, and bigger and better ships were developed, with turbines, twin propellers, steel hulls, remote positioning systems using radio waves as radar and later on satellites. The first strategic submarines appeared during the Second World War (1939-1945). Mexico's waters were part of this global arena.

Over a long period, due to its geomorphological characteristics and its location, Chinchorro has become a cemetery of sunken ships and vessels. Apart from its natural riches, it bears witness to maritime activities in the area and provides an overview of the history of navigation in the Americas, from the 16th to the 20st centuries.

The first modern explorations of Banco Chinchorro were carried out in 1961 by the Water Sports and Explorations of Mexico (CEDAM). In 1977 they organized a joint expedition with the National Geographic Society and investigated the site of "*Cuarenta cañones*" and found seventeen further wrecks, from which they extracted several pieces with the intention of taking them to a museum in Quintana Roo.

Between 1977 and 1978, under the direction of the American archaeologist Jack Irion, CEDAM conducted further research at the wreck of "*Cuarenta cañones*" and published the results of these expeditions. The archaeologist describes that near Cayo Norte, at a depth of 8m and spread over a diameter of 40m, forty cast-iron cannons were found, along with part of a wooden hull, a ballast mound, ammunition, nails, a bronze wheel; fragments of glass bottles, pieces of jars and ceramic plates.

In 1984, the Directorship of Underwater Archaeology (DAS) conducted an inspection visit to the "*Cuarenta cañones*" site, reporting the presence of 37 cannons, 3 anchors, ballast stones and some objects and fragments of iron, lead, ceramic, glass and wood from the hull.

Since 2001 the National Commission for Protected Natural Areas (CONANP) has been visiting shipwreck sites, integrating into its management programme some guidelines for the protection and investigation of wrecks that are stranded on the barrier reef.

Around 1960, several fishermen from the mainland established temporary shacks (locally called *palafitos*) to be used during the seasons for catching lobsters and for harvesting conchs. Sixteen of these rough dwellings stand on pilings in shallow offshore waters, whilst 24 are on the shore itself. With its designation as a Biosphere Reserve in 1996, the building of additional *palafitos* was forbidden, but the existing ones were allowed to remain. After Hurricane Dean in 2007, the rebuilding of the dwellings in existence before the storm was allowed.

In 2003 Banco Chinchorro was designated as a Biosphere Reserve by MAB/UNESCO.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The comparative analysis in the nomination dossier includes properties without World Heritage designation but protected at national levels, in the USA, Canada, and Australia, where the legal framework in place allows for the future protection of 'underwater historic parks', 'marine sanctuaries' or 'shipwreck preserves'. Similar properties in Mexico have also been referenced.

The comparison also mentions properties included in the Tentative Lists of Finland (The Carvings from historic time at the island of Gaddtarmen (Hauensuoli), the Netherlands (Waddenzee West), Egypt (Alexandria, ancient remains and the new library), South Africa (The Prince Edward Islands), Canada (Red Bay), Uruguay (Island and Bay of Colonia del Sacramento).

ICOMOS observes that the comparative analysis has not been developed. Although a number of properties have been cited in the comparative analysis section of the nomination dossier, no explanation has been provided that makes clear why the nominated property may be considered outstanding compared to the selected examples.

Additionally, ICOMOS considers that the comparative analysis should have been based on certain established criteria, e.g., the high concentration of wrecks inventoried in a given space, the quality and historical span of hull vestiges and not just isolated materials, representativeness of a strong commercial activity (commercial routes, e.g. the Indo-Arabic, the Chinese, the Japanese ones, etc.).

ICOMOS further notes that the State Party hasn't considered for comparison any of the most relevant examples that should have been examined in this case – i.e., the World Heritage Sites of Bikini Atoll Nuclear Test Site (Marshall Islands, 2010, (iv), (vi)), at this point the most relevant World Heritage property for this nomination, of Papahānaumokuākea (USA, 2010, (iii), (vi), (viii), (ix), (x)), which also includes archaeological remains and underwater heritage, or San Pedro de la Roca Castle, Santiago de Cuba (Cuba, 1997, (iv), (v)), where, in the Bay which acts as the buffer zone of the property, are preserved significant archaeological remains dating back to the 1898 Hispano-American War and which has come to symbolise the end of Spanish naval power in the New World.

Further interesting comparisons could be selected amongst properties on the Tentative Lists of State Parties within the same geo-cultural region, e.g., Port Royal (Jamaica), which is an entire sunken town; or selected at a global level, e.g., Marovo-Tetepare Complex (Solomon Islands), The President Coolidge (Vanuatu), Milne Bay Seascape - Pacific Jewels (Papua New Guinea).

Within the same geo-cultural region, the State Party has omitted to compare in detail shipwreck sites associated with the global historic significance of these new continent ocean waters – for example those in the Gulf of Mexico (e.g., Veracruz, New Orleans, Florida, etc), the Caribbean Islands (e.g. Cuba, Dominican Republic, Cayman Islands, Jamaica, Bahamas) and the Caribbean coasts of Central and South America – as part of the Imperial Spanish routes from America to Europe and the arena for imperialistic wars and piracy from the 16th to the 18th centuries AD.

Finally, the comparison could have examined place-related shipwreck sites, such as the district of Malacca, the landing places of Djakarta and Brunei, the Mozambique Canal, the landing place of the Island of Oléron, or Cadiz Bay.

ICOMOS considers that the comparative analysis has not been developed and has omitted to examine all relevant examples.

ICOMOS considers that the comparative analysis does not justify consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The more than 68 identified shipwreck sites bear clear testimony to the importance and permanence of commercial maritime routes in the area for over 450 years. These routes, in turn, attest outstandingly the interrelations between man and the sea.
- The wreck sites combine historical and scientific value with biological and aesthetic ones, as the sunken remains have become the substratum for colonies of diverse reef species, therefore now forming an integral part of these ecosystems, resulting in an underwater landscape of great scenic beauty.
- Banco Chinchorro also presents values in terms of potential for academic and scenic research, formal and informal education. Its pristine condition makes it unique.

ICOMOS considers that the nomination dossier does not explain the reasons why this collection of shipwrecks is considered to be outstanding; the nomination dossier does not provide sufficient information and evidence on the areas with the highest concentration of wrecks, nor has the State Party articulated enough about the historic cartographic documentation that could illustrate the different maritime routes within the wider world's navigation systems and their association with the shipwrecks.

ICOMOS observes that a wreck, as the remains of a ship, is a movable object, and cannot be considered as a monument – and as acknowledged by the nomination dossier cannot be protected as a monument in Mexico. The wrecks provide cultural information but this is related to the ships and the places where they came from and sailed to; they are the result of maritime transport but as a group do not illuminate a particular trade or cultural traditions – unless they can be related to land-based activities, which is not the case with this nomination. Therefore the wrecks cannot be considered as a site either.

ICOMOS further observes that, except for "Bikini Atoll Nuclear Test Site" (Marshall Islands, 2010, (iv), (vi)), no other property has been inscribed on the World Heritage List with explicit reference to wrecks. In that particular case, however, the wrecks were directly associated with an action – the nuclear testing – that shaped also the physiognomy of the property.

ICOMOS considers it acceptable to include underwater archaeology at properties only in those cases where this is related to land/site-based activity – such as where sea or lake levels have risen or where it is located in harbours or areas of high naval traffic. But a general group of wrecks that cannot be said to be related to specific cultural traditions in an exceptional way, nor are evidently related to sites, does not fit, in ICOMOS' view, within the definition of cultural heritage under the terms of the 1972 Convention for the Protection of the World Cultural and Natural Heritage.

Integrity and authenticity

Integrity

The nomination dossier does not provide sufficient information on the current conditions of the submerged historical elements to allow proper assessment of their integrity as clear testimonies of the historic maritime activities in the area.

Research on the physical conditions of underwater heritage has been initiated by the State Party but its programme and initial results have not been explained in detail. The nomination dossier does not clarify the current physical conditions of each component, nor does it specify how the impacts of deterioration are monitored and which measures are in place or planned to guarantee that the integrity of the nominated property will persist over time.

ICOMOS notes that shipwrecks alone, being movable relics, cannot be the only attributes to demonstrate the Outstanding Universal Value of any property, unless they are clearly and directly associated to places, sites and routes with which the wreck combines to convey the values of the nominated property.

Additionally ICOMOS observes that the integrity issue is one of the most urgent for underwater heritage, due to the dynamic environment in which it is normally found and, in this case, the nomination dossier does not provide information about the rate of the pattern of evolution of conservation of the submerged relics.

ICOMOS recognises that the conservation issues in underwater environments cannot be dealt with in the same way as land sites, because no effective technology has been devised so far. At present, inventorying and monitoring still represent the best means of collecting data on wrecks and their decay patterns. However, the lack of instruments of conservation poses questions with regard to World Heritage Listing.

Authenticity

ICOMOS notes that the nomination dossier has omitted a statement on the authenticity of the cultural component of the property.

ICOMOS considers that information provided in the nomination dossier does shed some light on the origins and, in some instances also, of the last moments of life of the vessels to which these wrecks are associated, however, this information does not bear sufficient and credible witness to the alleged outstanding value of these vessels and of the cultural phenomena they are supposed to attest to.

ICOMOS does not consider that the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i) and (iv) (and natural criteria (viii) and (x)).

Criterion (i): represent a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that wrecks are relics bearing witness to man's ingenuity and creativity in tackling and trying to solve challenges posed by navigation in different waters (seas, oceans, rivers, lakes…). Vessels exhibit the complex processes of organization necessary in seafaring, and their wrecks shed light on economic, social, political and cultural implications for the nation or country of origin as well as for the recipients. Shipwrecks encapsulate this information as well as the failure of their missions.

Banco Chinchorro contains a wide range of wrecks covering a 400-year time-span, from the 16th to the 20th centuries.

Firstly, ICOMOS considers that the wrecks described in this nomination dossier, being the remains of sunken vessels, cannot be considered 'monuments' in the context of the 1972 Convention for the Protection of World Natural and Cultural Heritage, in that they are movable objects, therefore are outside the scope of this Convention.

Secondly, ICOMOS considers that the information provided in the nomination dossier does not demonstrate that any components of the archaeological sites - though relevant testimonies - are specifically "masterpieces" of human creative genius regarding naval engineering.

ICOMOS considers that this criterion has not been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that Banco Chinchorro contains abundant records of the progress made in shipbuilding during five centuries. These records can be related to the wide corpus of documentation on naval engineering so as to contribute to the detail of the history of shipbuilding. The

shipwreck sites at Banco Chinchorro attest to the continuity of navigation routes along the Banco. Such permanence testifies to a long-lasting tradition coupled with the strategic importance of the area for commercial navigation.

ICOMOS considers that the justification of this criterion could have benefitted from a more detailed and articulated explanation of the role played by the area through the use and reference to historic maps, cartographic analysis of the past commercial routes, as well as including observations and charts on sea currents in the area.

Additionally, the comparative analysis is insufficient to make evident that the nominated property is an outstanding or representative example bearing witness to significant stages in human history.

ICOMOS considers that this criterion has not been justified.

In conclusion, ICOMOS does not consider that the criteria and Outstanding Universal Value have been demonstrated.

4 Factors affecting the property

Development pressures

No development within the territory of Chinchorro or near to it is reported at the moment. However, the development of the large Costa Maya Tourism Development Project, carried out by a US consulting group named KOLL International, is mentioned and, if implemented, it is likely to affect Banco Chinchorro in the short to mid term.

ICOMOS considers that, at the moment, no development pressures threaten the nominated property. However, the potential impact of the Costa Maya project, mentioned in the nomination dossier, as well as the absence of measures either in place or planned to tackle the potential increase in interest in this area which might result from inscription on the World Heritage List, may have an adverse impact on the integrity of the property and undermine its values.

Tourism pressures

The number of visitors to the property is currently restricted to 150 per day, and fishermen have been trained as dive guides with the skills to prevent divers damaging the reef. But the nomination dossier does not specify if this restriction is also applied to wreck areas in any way.

Small-scale looting is a result of diving service providers coming from Cancun, Cozumel or Xcalac reef with groups for diving tours, and also promoting visits to shipwreck sites. Looting is perpetrated mainly by illegal fishers who feed an illicit small market of archaeological items. There are several references regarding the activities of “explorers” and professional treasure hunters who have been known to even blow up some sites.

ICOMOS observes that this type of market is destined to increase, with the likely growth in tourist numbers if the Costa Maya project is implemented. This may pose considerable threats to the submerged wrecks.

ICOMOS notes that up to now, no trained surveillance staff for cultural assets exists on site. However, the authorities in charge of the protection of natural and cultural properties have been able to establish a fruitful cooperation with registered fishermen to counteract illegal fishing and looting.

Due to the limited numbers of tourists at present, there are no clear restrictions in place for visits to the cultural underwater sites, however, ICOMOS considers that measures to control and regulate the amount of visitors of all kinds are necessary to prevent excessive tourism impacting on the attributes and values of the nominated property.

ICOMOS therefore recommends that permanent staff to oversee cultural heritage be established at local level so as to reinforce the monitoring and effective protection of this heritage.

Environmental pressures

The State Party reports that, thanks to its isolation, Banco Chinchorro does not suffer from direct pollution and sedimentation problems. Environmental pressures however, may come from the fluctuation of the sedimentation caused by hurricanes (e.g., Hurricane Dean).

ICOMOS notes that the absence of pollution is expected to change substantially, with the implementation of the Costa Maya Tourism Development Project.

Impact of climate change and natural disasters

Every year the region is on alert with the advent of the hurricane season. Because of these conditions, the underwater cultural heritage might be in irreversible danger.

ICOMOS considers that the main threats to the property are the probable substantial increase of tourism, looting and treasure hunting, pollution and natural disasters, whilst protective measures for the underwater cultural heritage are not fully defined and enforced.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

Geographical coordinates to the nearest second are defined by the State Party for both the nominated area and its buffer zone.

The State Party holds that the boundaries of the nominated property are clearly delineated and include all the relevant elements of the site, allowing the understanding of its values. The nominated property, due to the Biosphere Reserve designation, is protected by the General Law of Ecological Balance and Environmental Protection and other legal instruments.

The delineation of the property boundaries has been based mainly on natural values, however attributes relevant to cultural values are included within the perimeter of the nominated property.

The boundaries of the buffer zone of 237,200.42ha are clearly defined all around the property and can provide an adequate protection, although not necessarily for the cultural values.

ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate, although they have been delineated specifically to protect natural values.

Ownership

According to the Mexican Constitution the nominated property, as a marine zone, and the wrecks, as relict items, are federal properties.

Protection

Legal Protection

Federal Law on Archaeological, Artistic and Historical Monuments and Zones provides the general framework for the protection of the property.

ICOMOS notes that Banco Chinchorro is covered by formal protection via a Federal Decree issued in 1996 on the base of the General Law on Ecological Balance and Environmental Protection that established the Banco Chinchorro Biosphere Reserve.

The Federal Law on Archaeological, Artistic, and Historic Monuments and Zones allows for *ex officio* protection and express designation. Archaeological monuments – whether movable or immovable – fall under federal ownership. However, ICOMOS notes that it is not clear whether the legal framework in place for cultural heritage provides formal protection for underwater movable items, nor is it clarified whether any specific formal declaration for the shipwreck sites and components has been established.

In this regard, ICOMOS observes that the State Party has ratified the UNESCO Convention for the Protection of Underwater Cultural Heritage, therefore committing to taking charge of the preservation of this kind of heritage through all practicable means.

Effectiveness of protection measures

The National Institute of Anthropology and History (INAH) holds the responsibility for carrying out research as well as the protection, conservation and restoration activity of the cultural heritage of Mexico.

ICOMOS notes that INAH does not have a dedicated permanent staff that takes care of the cultural heritage of the nominated property.

ICOMOS considers that the legal protection in place for cultural assets appears insufficient and a specific formal declaration for the underwater sites should be envisioned. Additionally, the absence of INAH staff dedicated to the implementation of heritage protection for Banco Chinchorro does not ensure the full effectiveness of the protection measures already established with the cooperation of the fishermen, especially in view of an increase in the numbers of tourists.

Conservation

Inventories, recording, research

The Underwater Archaeology Directorate (DAS) began inspection and registration of the sites in 2006, and continued until 2009. According to the nomination dossier, there are documentary and graphic records of 68 wrecks from the 16th to the 20th centuries. Among the detected remains there are complete as well as broken up vessels stranded aground on the barrier reef. From other vessels there are only remnants of the hull or its components (propellers, shafts, boilers, pipes, rudders, ribs or small knees, amongst other things) and from the oldest we have ballast, artillery, anchors and various types of iron fittings. The nomination dossier provides evidence of these endeavours which guarantee a baseline datum for the future.

ICOMOS recommends that a complete inventory of the underwater archaeological sites and their attributes be finalised as soon as possible.

Present state of conservation

The nomination dossier reports the decay process commonly suffered by this kind of submerged property due to the effects of currents and tides, chemical and biological impacts, etc. At most sites only the heavier and inorganic objects have survived. Metal elements suffer degradation by corrosion and in many cases they are covered by calcareous incrustations, flora and fauna which, on the one hand protect them from further corrosion, on the other distort their identification. After a rapid deterioration rate during their first years of

immersion, most of these objects have developed a protective concretion layer which limits the passage of oxygen to the corroded surface slowing down the corrosion rate.

Wood is attacked by some species of molluscs and crustaceans, as well as by chemical processes. Wood is better preserved in anaerobic media, e.g. marshlands or lagoons, which is why the ideal measure to stop the action of organisms such as bacteria and fungi is considered to be the burial of objects under attack under sediment.

In certain cases, remains of the wooden hull or decks of 18th -19th century ships survive, especially where the hull was covered by a metal coating.

Active Conservation measures

The nomination dossier does not provide information on specific conservation and maintenance programmes or measures for the underwater heritage.

Maintenance

No specific maintenance activities are reported in the nomination dossier.

Effectiveness of conservation measures

ICOMOS considers that the specific conditions of underwater heritage, along with the oceanic environment in which the shipwrecks are located and with the limited technical conservation methods currently at our disposal for this particular type of heritage, make it an urgent priority to carry out a campaign of systematic documentation on these remains so as to accumulate information from the wrecks.

On the other hand, ICOMOS recommends that the State Party develop and implement measures that prevent looting and damage caused by excessive or inappropriate diving.

Skilled personnel for conservation of the property are not permanently present on site.

ICOMOS recommends that a systematic and sustainable documentation/ conservation programme for the property be prepared and implemented, and that steady and adequate funding as well as adequately trained human resources for its conservation be secured.

Management

Management structures and processes, including traditional management processes

Although there is a management structure for the Biosphere Reserve, beyond the Underwater Archaeology Directorship which works at a national level, the nomination dossier does not mention any fixed on-site management structure for the underwater cultural heritage.

Policy framework: management plans and arrangements, including visitor management and presentation

The property's Management Plan referred to in section 5E of the nomination dossier is basically focused on the natural assets. Nevertheless, it also includes some objectives concerning the cultural heritage and related actions, aimed at supporting the INAH in the protection and conservation of the components of the submerged shipwrecks, primarily through coordination and training activities.

ICOMOS notes that the Management Plan only refers to actions supporting INAH's mission but doesn't include the direct involvement of INAH in the elaboration and implementation of the Management Plan. The existing Management Plan, dating back to 2000, doesn't include amongst the responsible institutions the INAH.

ICOMOS recommends that the Management Plan being developed, which will replace the existing one, be completed and implemented as soon as possible, and that INAH be included amongst the relevant authorities in the Steering Committee for the management of the property.

Risk preparedness

The State Party focuses risk preparedness on the natural heritage.

ICOMOS notes that the nomination dossier does not mention any specific programme or measures regarding risk prevention and preparedness concerning the cultural assets.

Involvement of the local communities

Different successful projects for the involvement of the community of fishermen have been undertaken.

ICOMOS regrets that none of these projects have dealt with the underwater cultural heritage.

Resources, including staffing levels, expertise and training

The staff of eleven persons working on site, as mentioned in the nomination dossier, specialise in Natural Heritage. Beyond the recognized expertise of INAH´s Underwater Archaeology Directorship, there is no reference to local trained personnel dedicated to the property's cultural heritage.

ICOMOS regrets that no personnel trained in cultural heritage are present on site.

ICOMOS further notes that no steady or sufficient funding for conservation of the cultural assets is in place.

ICOMOS considers that the current management of cultural resources appears insufficient and recommends that the relevant cultural authorities be involved in the management of the property, the Management Plan be revised in order to include the cultural heritage component of the property, a strategy for tourism management be developed, adequate resources be secured, and ad hoc staff appointed.

6 Monitoring

No reference to indicators for monitoring or administrative arrangements for this purpose is provided by the nomination dossier.

ICOMOS notes that monitoring is developed and indicators are established but it is all exclusively limited to the natural components. It also notes that the inspections with regard to cultural values undertaken by INAH/DAS are not systematically undertaken.

In conclusion, ICOMOS considers that a systematic monitoring process must be urgently established to adequately verify the conditions of the cultural values of Chinchorro and to constantly update information on any factors affecting them.

7 Conclusions

ICOMOS considers that Banco Chinchorro Biosphere Reserve is a relevant container of underwater archaeological elements as shipwrecks and objects from the 16th to the 20th centuries.

However, ICOMOS observes that a wreck, as the remains of a ship, is a movable object, and cannot be considered as a monument in the sense the term is used in the 1972 Convention for the Protection of Natural and Cultural Heritage. The wrecks provide cultural information but this is related to the ships and the places where they came from and sailed to; they are the result of maritime transport but, as a group, do not illuminate any particular trade or cultural traditions – unless they can be related to land-based activities, which is not the case with this nomination. Therefore the wrecks cannot be considered as a site either.

ICOMOS considers that the nomination dossier does not explain the reasons why this collection of shipwrecks is considered to be outstanding; nor does it provide sufficient information and evidence on the areas with the highest concentration of wrecks. The reference to maritime routes has only been articulated in a general manner. No specific use of historic cartographic documentation has been made to demonstrate the role played by the nominated property within the wider world's navigation systems and their association with the shipwrecks contained in the nominated property.

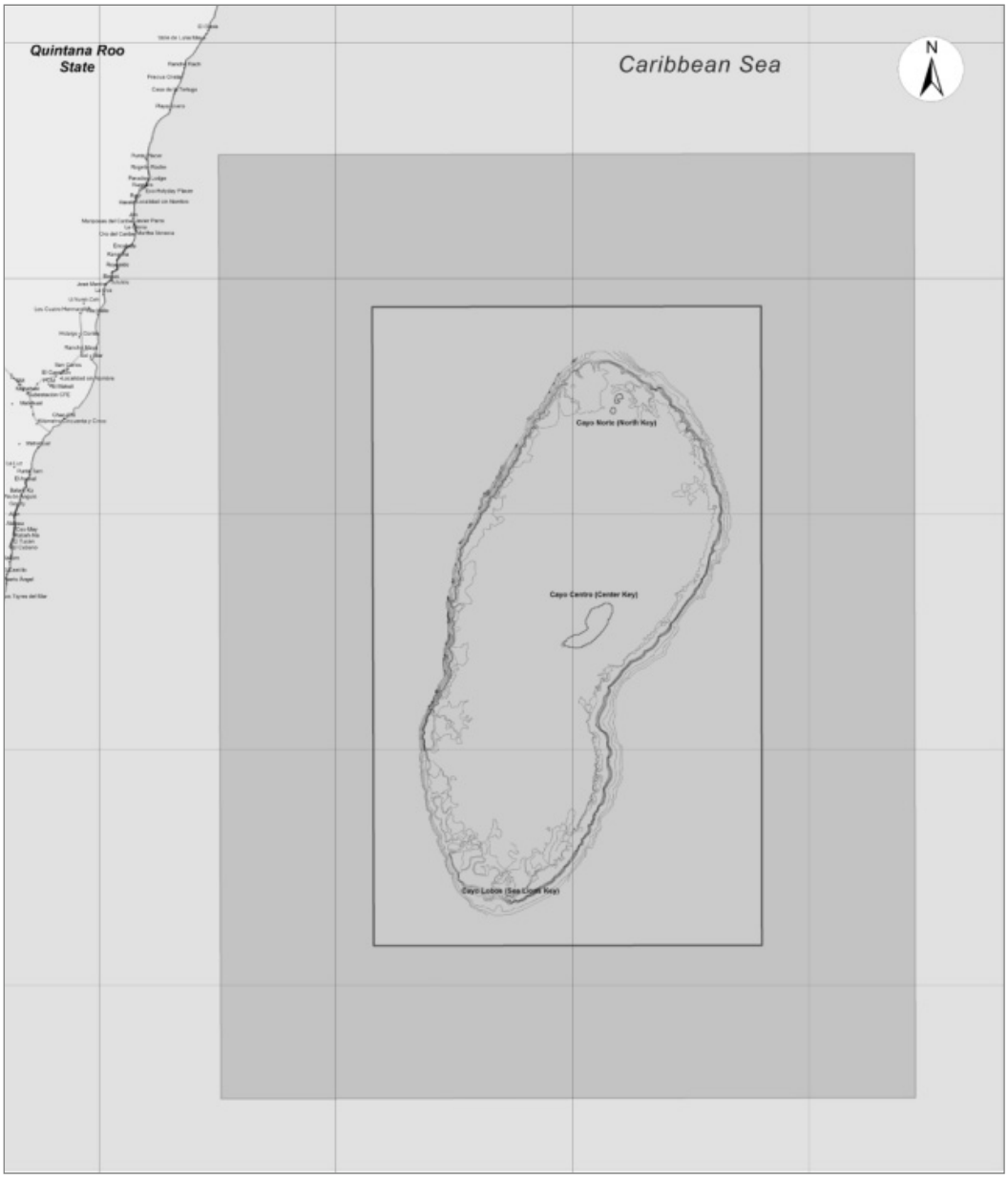
ICOMOS considers it acceptable to include underwater archaeology as a major attribute of the value of a nominated property only in those cases where this type of heritage presents immovable components or, when movable, it is related to land-based activity, actions or phenomena that have left a durable imprint also on the environment – such as where sea or lake levels have risen or where such underwater heritage is concentrated in harbours or areas of high naval traffic.

But a collection of wrecks that cannot be said to be related to specific cultural traditions in an exceptional way does not fall, in ICOMOS' view, within the definition of cultural heritage under the terms of the 1972 Convention for the Protection of the World Cultural and Natural Heritage.

Recommendations with respect to inscription

ICOMOS recommends that Banco Chinchorro Biosphere Reserve, Mexico, should **not be inscribed** on the World Heritage List.

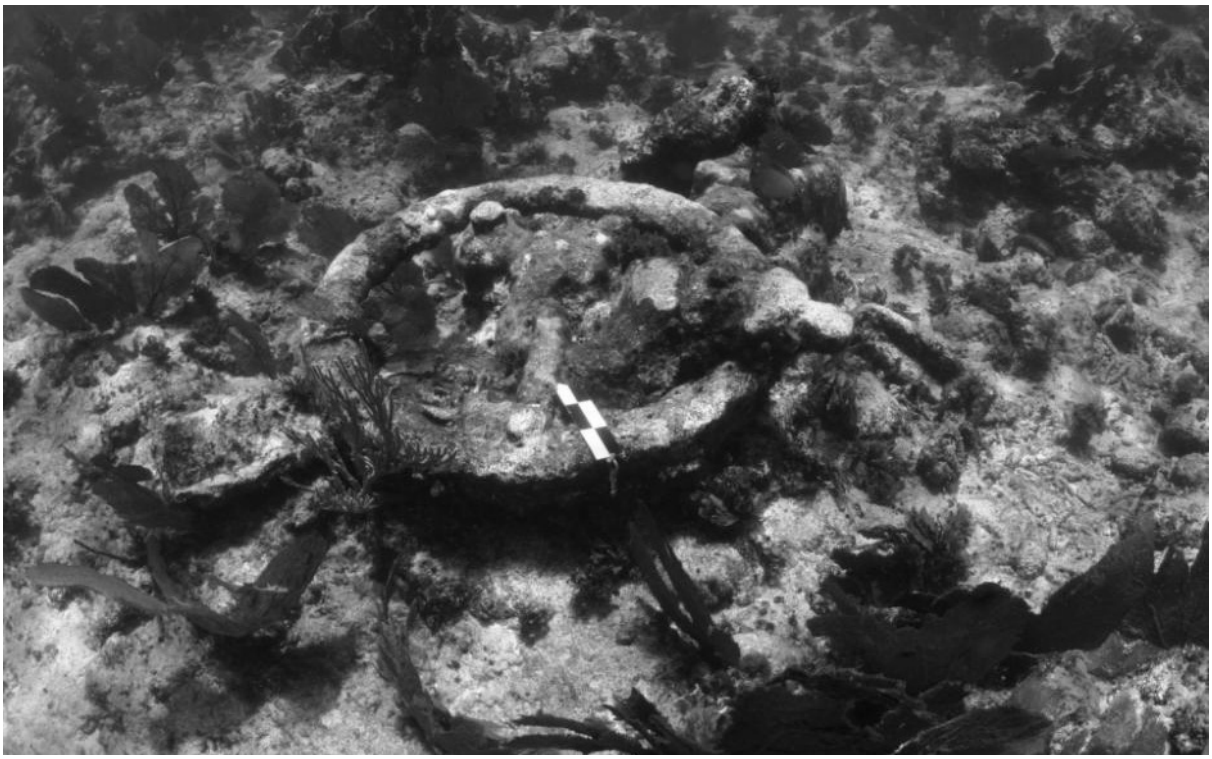
ICOMOS however appreciates the efforts made by the State Party in documenting these properties and their cultural values, and encourages the State Party to continue its endeavours in studying, documenting, protecting, conserving, enhancing and promoting amongst the general public and the local communities the values of this important underwater cultural heritage, which contributes to the shedding of light on human history and achievements.



Map showing the boundaries of the nominated property

Aerial view of the nominated property

Rafa anchor



Tres ruedas

Cassell Popa

IV Cultural properties

A Africa
New nominations

B Arab States
New nominations

C Asia – Pacific
New nominations
Nominations deferred by previous sessions of the World Heritage Committee

D Europe – North America
New nominations
Nominations deferred by previous sessions of the World Heritage Committee

E Latin America and the Caribbean
Nominations deferred by previous sessions of the World Heritage Committee

Bassari Country (Senegal) No 1407

Official name as proposed by the State Party
Bassari Country: Bassari, Fula and Bedik Cultural Landscapes

Location
Kédougou Region
Salémata and Kédougou Departments
Republic of Senegal

Brief description
The cultural landscapes of Bassari, Fula and Bedik are located in south-eastern Senegal, close to the Mali and Guinean borders, in a hilly territory, formed by the northern foothills of the Fouta Djallon Massif. In this barely accessible area, but rich in natural resources and biodiversity, the Bassari, Fula and Bedik peoples settled and developed specific cultures, symbiotic with the surrounding natural environment. The cultural expressions of these populations exhibit original traits in agro-pastoral practices, in social, ritual and spiritual practices, and represent an outstanding, original response to natural environmental constraints and anthropic pressures.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of three *sites*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (January 2008), Annex 3, this is also a *cultural landscape*.

1 Basic data

Included in the Tentative List
18 November 2005

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
27 January 2011

Background
This is a new nomination.

Consultations
ICOMOS consulted its International Scientific Committees on Earthen Architectural Heritage, Cultural Landscapes and Intangible Cultural Heritage and several independent experts.

Literature consulted (selection)

Dupré, G., *Aspects techniques et sociaux de l'agriculture en pays bassari*, in *Cahiers du Centre de recherches anthropologiques*, XI Series, 8, 1-2, 1965, pp. 75-159.

Ferry, M.P., *Pour une histoire des Bédik (Sénégal oriental)*, in *Cahiers du Centre de recherches anthropologiques*, XII Series, 2 (1-2), 1967, pp. 125-148.

Gessain, M., *Âge et classe d'âge chez les Bassari du Sénégal oriental*, in *Bulletins et mémoires de la Société d'Anthropologie de Paris*, n. 14 (1-2) (2002), 2002 (1-2).

Lestrange (de), B., *La piste Etyolo-Seguekho : document pour servir à l'histoire des Bassari*, in *Cahiers du Centre de recherches anthropologiques*, XII Series, 2 (1-2), 1967, pp. 176-181.

Mauny, R., *Contribution à la préhistoire et à la protohistoire de la région de Kédougou (Sénégal Oriental)*, in *Cahiers du Centre de recherches anthropologiques*, XI Series, 5, 1-2, 1963, pp. 113-122.

Touré, O., *Espace pastoral et dynamiques foncières au Sénégal* PRASET / PADLOS (CILSSS), Atelier régional sur le foncier pastoral, Espace pastoral et dynamiques foncières au Sénégal, 16 - 21 June 1997.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 25 September to 6 October 2011.

Additional information requested and received from the State Party
On 12 September 2011 ICOMOS sent a letter requiring additional information concerning the description of the major attributes of the nominated components, the existence of historic maps, the justification of the delimitation of the site, the results of archaeological research, the details of the justification of criterion (iii), the comparative analysis and the monitoring. The State Party responded on 20 October 2011 and this information is included under the relevant sections below.

On 12 December 2011, ICOMOS further requested the State Party to confirm that the protected status as an historic monument concerns all three components of the serial property and that the management plan is operational; to provide a timeline for the set up of the conservation and promotion services for the nominated serial property; and to put in place measures that forbid mining in the nominated property and its buffer zone. The State Party responded on 14 February 2012 and the information provided is comprised in the relevant sections of this report.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description

The cultural landscapes of Bassari, Fula and Bedik – usually known as Bassari Country – are situated in the south-eastern hilly region of Senegal formed by the extensions of the Fouta Djallon spurs which straddle the Senegal – Guinea border area.

The landscape features two distinct geographic environments: the alluvial plain and the mountains. The average altitude of the plains varies between 100 and 200m above sea level, whilst the hilly zone ranges between 350 and 500m a.s.l. Thanks to its geo-morphological features and climatic conditions, the Fouta Djallon Massif is known as the 'water tower of West Africa' as three of the major rivers of the continent, namely the head waters of the Niger, the Gambia and the Senegal, originate from there. Forests still occupy a large percentage of the region, the percentage of cultivated soil not exceeding 10%, although they are now threatened by erosion due to the need for arable land. The vegetation consists of typical species of the woody savannah, that is, Shea tree, Néré tree, Cailcedrat tree, and bamboos. Further species are palm and oil palm trees, fan palm, raffia palm trees, acacias, tamarind trees, baobabs, and silk cotton trees; herbaceous species include oat grass.

This hilly area, relatively high and sheer and dotted with several natural caves, has offered an environment particularly advantageous for the establishment of different cultural and defensive clusters. Here the Bassari, and subsequently the Bedik peoples, withdrew following invasions by other peoples, e.g. the Fula from Fouta Djallon (repeatedly from the 11th century until the 19th and early 20th centuries AD), who reduced the territory under the control of autochthonous populations and frequently forced them to migrate. Today groups of sedentarized Fula people also live in the area.

The nominated serial property comprises three different geographic areas: the Bassari – Salémata area, the Bedik – Bandafassi area and the Fula – Dindéfello area, each exhibiting specific morphological traits, which are described below in detail. The three proposed areas exhibit mixed cultural traits, having the three ethno-cultural groups distributed in all the components, although with a different density, as clarified in the letter sent by the State Party on 20 October 2011 in response to the ICOMOS letter of 12 September 2011.

Bassari – Salémata area

The Salémata zone occupies 242 km^2 south of Salémata and is surrounded by a 1,634 km^2-wide buffer zone. The hilly landscape is protected by the Ané Mountains, stretching 20 km from south west to north east. The area can be reached only via trails and barely navigable roads. Despite the importance of agriculture for the inhabitants, only 10% of the land is cultivated and a good percentage of forest survives in the area. Fields are organised in terraces and rice – paddies, with interspersed villages and hamlets. The area is also rich in archaeological sites and caves.

The name Bassari comes from the Fula, but they refer to themselves as Beliyans and to their language as *Oniyan*.

Until the last century, villages were grouped and located on rises, so as to control the plains, and consisted of round thatched huts congregated around a central space. Today dispersion and impermanence are the main traits of the Bassari settlements, the populations choosing to live close to the fields. Ancient villages are used only periodically for ritual ceremonies or festivals.

At the centre of each village was located a larger hut, called the *ambofor*, where the youths – male and female – lived together and where a number of ritual objects are conserved. Some twenty of these villages survive in the area.

Bedik – Bandafassi area

The Bandafassi area comprises 181 km2, enclosed by a 657 km^2 buffer zone. It includes low mountains and valleys forming a fossil hydrographic network. Nine Bedik villages are located on the high ground.

These villages, or *i-kon*, are formed by dense groups of huts with steep thatched roofs. Due to their central role in Bedik life, the villages have strict organisation of spaces and each is split into two distinct parts: high and low village. This division must be respected by all the inhabitants. The organisation of the huts in the village reflects the family unit which is based on the *iyanga* (concession) in which, around each head of the family, gather his wives, their brothers, and his children with their brides. The everyday Bedik life, however, takes place in dispersed temporary hamlets and groups of huts, which can be moved according to necessity, whilst the *i-kon* is reserved for the feasts and rites and cannot be abandoned. Therefore, huts built in the ritual villages have earthen walls; in contrast, huts outside of the villages are made out of bamboo.

Fula – Dindéfello area

The nominated cultural area (79 km^2) comprises a mountainous zone with a wide plateau on the top occupied by five villages and is further buffered by an additional 116 km^2 of hilly land. The nature of the soil gives rise to prominent geomorphological formations such as cliffs, waterfalls, and rock spurs covered in rich vegetation.

Cultural and social traits of the Bassari/Beliyan, Fula and Bedik

The economy of these groups has been for a long time based on subsistence farming and animal husbandry. Crop rotation and manuring continue to be practiced as well as communal sowing, weeding and harvesting. Mixed crops are cultivated in the same field and staggered harvesting is applied. Agriculture is

accompanied by the picking of wild fruit and leaves in most cases. Nobody owns the fields: those who cultivate them gain 'usufructuary' rights. Millet, corn, cassava, peanuts and fonyo are the most popular crops. Rules and traditional ritual practices are associated with cultivation, e.g. the ban on picking fruits before maturation, the use of masks to protect the harvest, the subdivision of the harvest between men and women and regulated consumption of certain products, e.g. honey, millet beer or mead.

To the Bassari/Beliyan and Bedik peoples, the time of life is articulated in different classes of age that correspond to increasing consciousness and responsibilities in the community. The Bassari envisage seven classes for both males and females, with specific trials for each group, while the Bedik have such divisions only for men. Each passage is marked by rituals, although the most important is the initiation phase, lasting an average of five years and accompanied by long and complex trials. However, this age-system has been subject to change and is losing importance in the social structure.

It is especially within the age-passage rites that dances and masks play an important role. Each mask comes out on specific occasions and animates a particular initiation spirit. They may be associated with very complex costumes but also have no material manifestation (i.e. their presence may be expressed only through sounds). Certain masks are more important than others and, in these cases, particular rules are applied, e.g. women cannot call them by their real name.

The Bassari and Bedik's metaphysical world is closely related to the natural environment, all living entities, humans, animals, plants, being part of one cosmogony. The natural environment is pervaded by supernatural forces and certain elements, e.g. monumental trees may embody the spirits of the ancestors. This is reflected in rites and habits as well as in the interpretation of diseases and illnesses.

Studies on the traditional languages of Senegal have led to the recognition and codification of the Bedik (*mënik*) and Bassari (*o-niyan*) languages in Senegal, amongst others, although thousands of Bassari *oniyan*-speaking people still also live in Guinea. Although codified officially, these languages are not taught at school. Given that the numbers of people that speak them are declining, these languages, along with others of the 'Tenda' group, are threatened with disappearance.

The Fula people are distinguished from the other two groups both for their economic base – they were mainly farmers and sheep farmers until, following migrations and prolonged contact with farmers-gatherers, today combine both livelihood styles – and religious habits, being Muslims. These differences are reflected in the structure of the settlements and their huts.

The Fula villages are dispersed in all the Bassari and Bedik territory, mainly in the plains where space for pasture is available. Each village may include various concessions, generally spread out in the plains and surrounded by enclosures, so as to confine the herds. For the Fula being Muslim, the focus of the village is always the mosque. Their huts may be rather large (up to 6m diameter) and generally have two entrances, one at the front and the second at the rear, connected to the washing space. The roofs of Fula huts extend out from the perimeter of the wall to reach the ground, thus creating an external gallery where small animals can find refuge during the rains.

History and development

Archaeological research has yielded some evidence of the human occupation of the region since the Neolithic age, in the forms of worked stones, pebble-tools, etc. As for proto-historic evidence, this consists mainly of sounding stones, and the backs of stone-seats. However, not much is known of the pre- and proto-history of the region, due to the still-limited archaeological investigations.

The current pattern of occupation of the nominated components and their buffer zones results from various factors that date back to different epochs. For its prehistory, the history of the region where the nominated property is located remains largely unknown. Apparently the Coniagui and the Bassari were settled in the region before the arrival of other populations, namely the Malinke, Sarakole, Fula, and Mandingos. Research has highlighted that the first documented population movement phenomenon dates back to the 11th – 13th centuries, when the Fula people and the Mandingos migrated towards the Fouta Djallon Massif. The first European written records date back to the 16th century, following the occupation of the western African coasts by the Portuguese who penetrated into the continent towards Mali. The Bassari/Beliyan are explicitly quoted in chronicles from the 16th - 17th centuries: ever since these centuries until the 20th century subsequent waves of migrations and invasions from other populations have affected the Bassari.

The Bedik people originated from the mixing of the Mandingos and the Bassari/Beliyan, following mandigo migrations in the 13th century. Today, the Bedik people constitute a small population, having in the past resided in a much larger area. They have also been affected by the expansion campaigns of other populations from Guinea and Mali, which forced them to find refuge in the Bandafassi region around the 13-14th centuries. The 19th century brought violent and well-remembered raids and invasions in the Bassari and Bedik-occupied areas, carried out by the Fula as part of their expansion policy, and carried out also through alliances with European colonizers.

The Fula population comes from areas nearby and presents different cultural traits, as they follow the Islamic religion and were originally farmers.

The first Fula migrations date back to the 11th century and continued until the 19th century and it has only been since the mid 20th century that the relationship between these populations has become peaceful. For these reasons, the actual settling of the Fula people in their villages was established after the 19th century wars.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

Fusion with nature, vivacity and authenticity of cultural expressions, sacredness and places of resistance, have all been selected as reference criteria to carry out the comparative analysis. This has been developed by taking into consideration properties at the national, regional and international levels.

According to the State Party, the nominated serial property conveys, through particular attributes, both tangible and intangible, the relationships that the populations have with nature, which are distinct from those found in both the same geo-cultural region, e.g. in the territory occupied by Pygmy people, or at the international level, e.g. in Amazonian areas managed by indigenous communities.

Landscape and settlement arrangements, traditional architecture as well as intangible cultural manifestations, e.g. languages, festivals, rites, dances and associated items form a whole cultural system whose originality, vitality and rootedness in the populations is remarkable and comparable to those of isolated cultural landscapes such as the World Heritage Site Sukur Cultural Landscape (Nigeria, 1999, (iii), (v), (vi)) or the cultural landscape of the Mandara Mountains, in which can be found particular stone structures – the Diy-Gid-Biy of Mont Mandara –, included on the Tentative List of Cameroon.

The sacredness of the nominated cultural landscape finds expression in several places which are associated with spirits, legends, fetishes and stories that regulate the relationship of man with nature. In this regard, the nominated property may be compared with other properties already listed on the World Heritage List, e.g. the Matobo Hills (Zimbabwe, 2003, (iii), (v), (vi)), the Sacred Mijikenda Kaya Forests (Kenya, 2008, (iii), (v), (vi)), the Osun-Osogbo Sacred Grove (Nigeria, 2005, (ii), (iii), (vi)) as well as other sites, e.g. the Cliff of Bandiagara (Land of the Dogons) (Mali, 1989, (v) and (vii)). The nominated property does not suffer, as the other sites do, from strong external influences, thus allowing the continuity of traditional beliefs and habits.

The property also represents a place of resistance against forcible changes in cultural identity and enslavement. However, unlike other areas which were colonised by refugee populations, e.g. in Benin (Dassa and Savè Mountains), Togo, Nigeria, Mali, Cameroon (Tinguelin Plateau, Mandara Mountains), Sudan (Nuba Plateau), Ghana (Tongo Hills), the Bassari Country has retained its cultural background and today makes manifest in its territorial organisation the various contributions of the different populations that have settled there throughout the centuries. Additionally, the nominated property retains a remarkable continuity and vitality in respect to those areas selected for comparison to other places, where much of the occupation evidence has disappeared.

ICOMOS considers that the comparative analysis could have been more detailed and systematic in examining similarities and specificities of the nominated property in respect to those selected for comparison, with regard to both the physical outcomes and the intangible legacy of the interaction between men and nature and among different cultural groups. Additionally, the comparative analysis could have profited by the examination of the World Heritage property of Koutammakou, the Land of the Batammariba (Togo, 2004, (v), (vi)) or the Vernacular architecture and cultural landscape of Gberedou-Hamana, listed on the Tentative List of Guinea, considering the proximity of these countries and the values exhibited by both properties. Additionally, the nomination dossier could have addressed more specifically the comparison with Pygmy areas, by examining two properties currently included on the Tentative Lists of their respective countries - The Forest and the residential encampments related to AKA Pygmy (Central African Republic) and the Pygmy ecosystem and cultural landscape of the Minkébé Massif (Gabon).

Finally, the comparative analysis has not addressed specifically the rationale for the selection of the three areas. However, the nomination dossier clarifies in other paragraphs the reasons for the selection of these three components as the geo-cultural areas of the Bassari, Fula and Bedik peoples who, in this sub-region, have established a peculiar form of interaction and peaceful coexistence.

Notwithstanding these weaknesses, ICOMOS considers that the comparative analysis has contributed to shed light on the values and peculiarities of the nominated serial property.

ICOMOS considers that the comparative analysis, despite certain weaknesses, justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The Bassari Country is a multicultural landscape extremely well preserved, housing original and still lively autochthonous cultures.
- The Bassari Country exhibits features and traces of a still living culture of ‘peaceful resistance’ in the impregnable character of the landscape and in the archaeological vestiges of the caves used as refuges.

- A subtle adaptation of humans to the environment based on a respectful approach to the environment.
- A social system based on age classes which shapes the role of each individual in the communities and charges with progressive responsibilities the members of the groups, taking into consideration their personal attitudes, from an early age.

ICOMOS considers that the justification is appropriate and the nominated serial property conveys the sense of a cultural habitat that bears witness to the cultures of the Bassari/Beliyan, Bedik, and Fula populations and to the interaction between these groups. The landscape and the associated cultural expressions, in their vitality, form an exceptional testimony to the specific interaction that these people have established with the natural environment and their neighbours, so as to make wise use of the limited resources of the area.

The nominated property comprises three geographic areas in the south-eastern hills of Senegal where three different ethnic groups with peculiar social and political structures have settled. The serial approach is grounded on the historic, cultural and social links (mutual cooperation, intermarriages etc) among the three groups.

ICOMOS sent a letter to the State Party on 12 September 2011 requesting clarification concerning the rationale for the selection of the components. The State Party responded on 20 October 2011 explaining that the three components have been chosen on the basis of the representativeness of these three areas, in terms namely of their high degree of integrity and authenticity in respect of their surroundings and their ability to represent the interaction between the Bassari/Beliyan, Fula and Bedik and the environment and among themselves. Additionally it was also clarified that it was not possible to identify within the territory of this region of Senegal a cultural area specific to the Coniagui and the Dialonké.

ICOMOS considers that the serial approach is justified as it attests to a peculiar social and cultural interplay amongst three different ethnic groups who have found themselves sharing the same land and have reached a peaceful cohabitation following long periods of conflict and recurring violence.

ICOMOS takes note of the eventuality envisioned by the State Party to cooperate with the State Party of Guinea in order to extend the property, in case it is inscribed, to include further areas across the Senegal-Guinean border, where today are based other minority ethnic groups that played a part in the occupation and migration dynamics of the area, if these areas can demonstrate a significant contribution to the Outstanding Universal Value of the current nomination.

Integrity and authenticity

Integrity

The State Party considers that the nominated components of the serial property have been selected on the basis of their remarkable integrity, which is expressed in the landscape and settlement arrangements, in the careful practices for utilising natural resources, and in the rich and vital cultural expressions of the various groups.

The nominated property comprises the hilly landscape where the Bassari/Beliyan, Fula and Bedik ethnic groups have settled along with their agro-pastoral territory and the places associated with their history and their religious beliefs.

In its letter sent on 12 September 2011, ICOMOS requested the State Party to better clarify the rationale for selecting the nominated components and delimiting their boundaries, and the reasons why areas associated with the Dialonké and the Coniagui have not been considered for inclusion.

The State Party responded on 20 October 2011 and explained that the three nominated components were selected and delimited on the grounds of the intention to nominate the areas of occupation of the Bassari, Fula and Bedik that are most representative of the traditional lifestyle of these populations. The State Party further explained that for reasons of territorial coherence and management, the State Party could not include, at the moment, areas associated with the Coniagui and the Dialonké. In fact, the first are concentrated in Guinea, whilst the second are based in a stretch of land located across the Tambacouda-Kédougou road axis, which, because of its importance and recent upgrading, attracts development pressures in the neighbouring areas.

ICOMOS considers that the three components of the nominated property include all elements necessary to make manifest its proposed Outstanding Universal Value. Their individual and comprehensive sizes are also convenient to represent adequately the cultural features and processes conveying the Outstanding Universal Value of the property.

Each nominated component has been selected according to its cultural-geographic relevance and its individual integrity, attested to by the high landscape quality of each component and by the continual occupation of the area by the Bassari/Beliyan, Fula and Bedik peoples. Each nominated area contributes to make evident and reinforce the value of the whole system and the profound cultural connections between humans and nature.

Authenticity

The State Party considers that the cultural landscapes of Bassari/Beliyan, Fula and Bedik have, on the whole, retained a very high degree of authenticity, particularly in

the cultural continuity of the three groups that occupy the nominated area and buffer zone, in the deeply rooted links between these populations and their living environment, that produce a respectful attitude towards the natural resources so as to allow their regeneration, the high quality of the traditional architecture, the retention of traditional building techniques and materials as well as of crafts.

ICOMOS considers that the nominated property satisfies the conditions of authenticity and that the attributes of the property convey in a credible manner the cultural values of the property. In particular, the results of archaeological and anthropological research testify to the early occupation of the area by the Bassari/Beliyan and then by the Bedik, as well as the successive invasions of the Fula, and confirm the function played by this cultural landscape in the survival of these peoples and the active role played by the rituals and other cultural expressions of the three ethnic groups.

ICOMOS observes that the preservation of the landscapes and their settlement pattern, along with the traditional architecture, the sacred forests, the sanctuaries etc bear credible witness to the whole socio-economic-cultural system and its associated management practices, based on beliefs, rites, sacred practices and rules, and an educational system, that are peculiar to the nominated property.

In conclusion, ICOMOS considers that the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (iii), (v) and (vi).

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the cultural landscape of the Bassari/Beliyan, Fula and Bedik peoples represents an exceptional testimony to a cultural tradition threatened with disappearance and based on the wise and careful use of the limited natural resources, achieved through a complex system of agricultural practices, cooperative work, beliefs, sacred rules, and rites related to life phases (birth, initiation stages, death), subsistence activities (sowing and harvesting time) and fertility. Bassari specific cultural traits have been adopted and hybridized by subsequent groups, thus ensuring a balanced coexistence among the different ethnic groups.

ICOMOS considers that the cultural expressions and manifestations of the Bassari, Fula and Bedik peoples demonstrate the complex interactions between environmental factors, social rules, beliefs and the sacred dimension to produce peculiar and remarkably preserved cultural traditions which also find expression in the physical layout and meaning of the landscape. These traditions manifest rich mutual borrowings among the various populations and persist in a lively dynamic of transmission. In this regard, it is worth also noting that the traditional languages of Bassari/Beliyan – *Oniyan* – and of the Bedik – *Mënik* –, although still preserved, are nowadays spoken only by a small number of individuals, and UNESCO has listed *Oniyan* as a vulnerable language whilst *Mënik* is included amongst endangered tongues in the UNESCO Atlas of the World's languages in danger.

ICOMOS therefore encourages the State Party to undertake measures that support the revitalisation of these languages so as to retain the vehicle of the cultural system and cosmogony of these ethnic groups.

ICOMOS considers that this criterion has been justified.

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that the nominated components bear witness to a human traditional settlement that revolves around the respectful and wise utilisation of the limited natural resources so as to ensure their regeneration and the long term survival of the populations settled in the area.

All elements of the cultural expressions of these groups, i.e. the age classes, the sacred prohibitions concerning the consumption of certain products, and the festivals, concur to create a respectful attitude towards the environment.

ICOMOS considers that the nominated property bears witness to a specific use of the land, particularly in the commuting practices and local nomadism between the ancient villages and the temporary, working villages imposed by traditional agricultural systems and by the scarce resources, and therefore represents an outstanding example of human interaction with a vulnerable environment.

ICOMOS however believes that the reference to initiation rites, festivals and the education system more appropriately concerns the discussion of criteria (iii) and (vi).

ICOMOS considers that this criterion has been justified.

Criterion (vi): be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance.);

This criterion is justified by the State Party on the grounds that the natural environment constitutes for the populations of this area a reference for the development of a way of life that allowed them to survive in the region despite the pressures of external populations and, at the same time, respectful of nature. The notion that humans form only one constituent of a complex landscape gives rise to a number of practices, rules, and rites that regulate the interaction between men and nature and, through a progressive initiation organised in steps based on age groups, the members of these groups are prepared so as to deal with their environment and take responsibility within the community.

ICOMOS considers that the nominated property has been physically shaped by practices stemming from a peculiar conception of the world which gives to the natural environment and its resources a central role, charged with sacred meanings and inhabited by spiritual entities, which, altogether, contribute to building a holistic system in which natural components, manmade land arrangements, settlements, and intangible manifestations mutually reflect the 'being in the world' of the Bassari/Beliyan, Fula and Bedik peoples.

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the serial approach is justified and ICOMOS considers that the selection of sites is appropriate.

ICOMOS considers that the nominated property meets criteria (iii), (v) and (vi) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes

- The archaeological heritage attesting to the early occupation of the area since the Neolithic era and those which trace the continuity among the first occupiers and the Bassari/Beliyan;
- The archaeological heritage attesting to the ancient establishment of the Bassari/Beliyan and the Bedik in this region;
- Archaeological evidence is complemented by the results of cross research in ethnology, toponymy;
- The landscape arrangement pattern, the distribution of cultivated fields and pasture areas within the environment, subject to regulated harvesting practices;
- The settlement organisation and structure, with the peculiarities marking each ethnic group;
- The architectural forms, characterised by specific building materials and techniques, according to the function of the buildings, that exploit natural local resources;
- The places of worship, often associated with natural elements (trees, caves, forests etc) but also with manmade objects (ancient villages, megaliths etc);
- The intangible manifestations of the cultures of the Bassari, Fula and Bedik peoples, and namely:
  - The traditional farming practices;
  - The age-class-based educational system, with its initiation rites and trial periods, closely related to the knowledge and the experience of the natural forces as they manifest themselves in the landscape;
  - The oral transmission of traditional and secret knowledge;
  - The masks and associated rituals and costumes;
  - The traditional languages.

4 Factors affecting the property

Development pressures

The State Party reports that mining represents one among the major factors affecting south–east Senegal, although none of the nominated components of the serial property includes mines. Only one, now abandoned, falls within the boundaries of the buffer zone.

Whilst the contact with mainstream religions has not modified the lifestyle and traditional concepts of the world of the Bassari and the Bedik peoples, signs of contact with external groups and 'modernity' may be found in the adoption of 'western' clothes.

ICOMOS expresses its concerns with regard to possible mining exploitation within the nominated property and its buffer zone, considering the richness in ores of Senegal and of this specific area. Mining potential creates a significant pressure that is difficult to counteract and control, considering the huge economic interests that it moves. ICOMOS raised this issue in its letter dated 12 December 2011.

On 14 February 2012, the State Party responded that existing legal provisions prevent construction and any other easements without prior authorisation of the competent administrative authority. Additionally, the State Party has expressly included a clause in the Decree 27.1.2012 n. 000717 stating that no authorisation for the exploitation of natural resources, for construction or spatial planning may be issued, within the limits of the safeguarded sectors, without the advice of the Committee for Management of the Bassari Country.

In this regard, ICOMOS observes that this provision does not clarify whether the 'safeguarded sectors' also include the buffer zone or just the nominated components. Additionally, ICOMOS observes that the phrasing of the Decree does not make clear whether it is compulsory to follow the Committee's advice.

ICOMOS further recalls paragraph 172 of the *Operational Guidelines*.

ICOMOS further considers that the implementation of development programmes, necessary to sustain the

populations, requires special attention to avoid possible destructive actions. The building of infrastructure (roads, schools, health centres, electricity and phone pylons) needs to be planned in a participatory framework that includes all stakeholders and relevant subjects in the establishment of the management plan. Furthermore, any project should be communicated to the Department responsible for the protection of protected cultural sites, in compliance with the laws that govern the protection of registered monuments.

ICOMOS finally observes that external influences and contacts with 'modern lifestyle' have already produced signs of an initial weakening of the age-based educational system.

Tourism pressures

According to the State Party, tourism is still too small an industry to represent a threat at the moment, although two major tourism-related concerns need to be addressed rapidly. The first is in regard to the illicit traffic of ethnographic objects that are sold for small sums to collectors or tourists, which causes the loss of important items that could enrich national public collections and contain an important informative potential. The second major threat concerns the alteration of the landscape and of the architectural styles and methods, due to the need for accommodation and tourism facilities. The State Party has considered the possibility of creating an interpretation village to prevent these modifications along with a binding landscape charter to regulate new architectural work.

ICOMOS believes that, in addition to the concerns expressed by the State Party, tourism may impact adversely on the traditional lifestyle and social organisation especially of the Bassari and Bedik populations.

ICOMOS however welcomes the strategy envisioned by the State Party and suggests that the guidelines be implemented as soon as possible and coupled with incentives.

Environmental pressures

According to the State Party, pressures on the natural environment are caused by the high demand of certain resources at national and international level, such as protected wood species.

Fire is also a considerable threat to the environment. Aside from controlled fires that are part of the agricultural practices, other, spontaneous ones frequently devastate the savannah and threaten the species living therein. The State Party recognises the need to address these issues through specific management measures, e.g., preventive fires or fire-barriers should be envisioned in sensitive areas.

The State Party, however, observes also that the environment poses constraints on the populations e.g., in the scarcity of water, in the difficulty of accessing the area, especially in certain seasons, and the limited resources. All this makes it difficult to make a living that is only based on endogenous resources. This forces the Bassari into seasonal migrations to towns so as to supplement their economic base with salaried work. The phenomenon is increasing, although still periodical.

ICOMOS considers that poaching and logging represents a further prominent threat to the natural resources of the area, as well as the uncontrolled harvesting of palm wine using methods that cause the death of the trees and threaten the survival of this species.

In this regard, ICOMOS recommends that strict measures be put in place to effectively counteract fire, arson, poaching and careless palm wine harvesting.

ICOMOS further considers that the scarcity of water represents an environmental constraint that becomes a pressure on the local communities. Therefore, ICOMOS recommends that a solution be found in the medium term for the water supply of the villages, especially those located on the Bandafassi and Ethiolo Plateaux, so as to improve the quality of life of the communities and of women, who are daily obliged to undertake long walks to supply water to the villages.

Natural disasters

The State Party has not addressed this issue in the nomination dossier. ICOMOS notes that, with respect to the environment and the climate of the area, the most likely disasters are fire and floods.

Impact of climate change

The State Party has not addressed in the nomination dossier the effects of climate change on the nominated property.

However, ICOMOS observes that research and scenario projections of the impact of climate change in Senegal foresee a temperature increase and a decrease in rainfall. In northern Senegal reduction in fertility of the soil and desertification phenomena have already been identified as possibly associated with climate change. A lowered fertility of the land may induce permanent population migrations. On the other hand, on the coast, the temperature increase registered in the last decades has already caused the sea level to rise and the retreat of the coastline, with disruptive consequences on local communities. Research has also explored the relationship between temperature increase and growing vulnerability of forests.

ICOMOS considers that the main threats to the property are mining exploitation, the uncontrolled development of infrastructures, the weakening of traditional lifestyles, culture and land management, and permanent population migration. With regard to the measures in place to prevent mining exploitation, ICOMOS requests the State Party to confirm that the 'safeguarded sectors' mentioned in the letter of 14 February 2012 include both

the nominated property and the buffer zone and that the advice of the Committee for Management of the Bassari Country is suspensive.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries of the three nominated components and their respective buffer zones coincide with natural (mountain ranges, rivers, waterstreams etc), man-made (roads, trails, etc) and administrative (state borders) limits.

With regard to the clear identification of the boundaries of the property components, ICOMOS observes that the cartographic documentation provided by the State Party is not uniform and in certain instances it poses problems of readability and consistency.

In the Bassari – Salémata area live some 8,856 people, in the Bedik – Bandafassi component reside 3,177 people, whilst in the Fula – Dindéfello area 2,226 people are settled. The residents in the buffer zones altogether amount to 9,569 individuals.

ICOMOS recommends that the State Party provide a complete cartography at the appropriate scale (at least 1:50.000) identifying and mapping heritage components and manifestations of the nominated property, with particular regard to those related to the attributes of its Outstanding Universal Value, as a basis for conservation activities and monitoring.

ICOMOS considers that the rationale for the selection of the component parts of the nominated property and for delimiting their boundaries and buffer zones is on the whole understandable and adequate to represent the values of the property. The buffer zone is sufficiently extended to provide an effective additional layer of protection, considering the cultural processes and pressures in the area.

In conclusion, ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate.

Ownership

The land comprised in the nominated property is in a common domain, and can be used by each member of the communities.

Protection

Legal Protection

The State Party reports that the nominated property is formally protected by the Decree n. 05.2006* 002711/MCPHC/DPC (letter prot. n. 008836, dated 12.9.2007), which establishes the protection of the following areas as monuments of history:

- Tata de Bademba in the Tenda region;
- Falls of Dindéfelo, natural site;
- Site of Iwol, Bandafassi, on the mountain “Place of silence”;
- Assirik Mountains in the National Park of Niokolo Koba;
- Bassari Country.

ICOMOS observes that the protection decree does not specify whether the Bassari Country mentioned in it also comprises the Bandafassi and Dindéfello areas and that no specific maps with the boundaries of the protected areas have been provided by the State Party, therefore it is not possible to understand whether all nominated components are covered by a formal layer of protection.

Because of this ambiguity, ICOMOS sent a letter on 12 December 2011 to the State Party requiring it to confirm that all the component parts of the series are covered by a formal layer of protection and not just the Bassari Country component.

The State Party replied on 14 February 2012 informing that all the component parts of the serial nomination are formally protected by the decree 29.4.2011 N. 004510, a copy of which was also provided.

ICOMOS welcomes this information although further notes that the documentation transmitted does not include a map delimiting the exact perimeter of the protected landscapes according to the national legislation. In this regard, ICOMOS considers it advisable that a map showing the boundaries of the areas included under the protection of the Ministerial decree N. 004510 be provided.

Traditional Protection

According to the State Party, the protection of the cultural and natural values of this vast territory is guaranteed by the populations living in the area and its traditional social structures, which have maintained their stability along the centuries and have enabled the conservation of this area so far.

The State Party recognises that inscription on the World Heritage List might bring additional exposure to this area and a subsequent increase in tourism, which would require the establishment of measures that would help the traditional inhabitants to face the impact of external influences and avoid changes in lifestyle.

ICOMOS confirms the importance and effectiveness of the traditional local methods of protection and management, consisting of the combination of subsistence agricultural practices and animal husbandry, combined with the ‘cultivation’ of natural resources, all sustained by traditional, social and ritual practices and beliefs, e.g. the rotation of crops, seasonal fires, prohibitions in the use of

natural resources, the age-class -based education system with its initiation rites and trial period in the natural environment, and the sacredness of nature.

ICOMOS agrees that the increase of tourism and related activities (infrastructure, tourism facilities, changes in the economic base etc) represents a probable threat to the preservation of both the physical and cultural environment and requires a strengthening of the protection measures and a strategy to sustain the traditional economic activities, and social and ritual practices, so as to reinforce the resilience of local communities; this strategy should have the active involvement of national and local authorities, local populations, as well as tour operators and economic stakeholders.

Effectiveness of protection measures

According to the State Party the traditional measures for the protection and management of the property have enabled its conservation until today.

These are complemented by the action of the Directorate for the Cultural Heritage (DCP), the national institution in charge of the protection of cultural heritage, which supports local initiatives of conservation and enhancement of the cultural expressions of the country. In this area, the DCP supports the project for the development of the communitarian village of Bandafassi.

The Region of Kédougou and the Departments of Salémata and Kédougou have undergone a recent reform (2008) that has given more power to the Region and better control on the development of the area, through, for example, the institution of new rural communities, among which are Ethiolo, Dar Salam, and Ninéfésha in the nominated area.

Further institutions and related services have been decentralised, e.g., the Regional Service for Local Development, the Regional Inspectorate of Waters and Forests, the Service for the Environment, the Department Service for Rural Development, the Regional Service for Community Development, the Antenna of the Crafts Chamber. The Local Communities have been strengthened and, beyond the promotion of economic, social, and cultural development have received further responsibilities in the following areas: environment and natural resource management, health and social care, education, sports and youth, culture, territorial management, urban planning and habitat. The Rural Communities (Ethiolo, Dar Salam, Dindéfello) aggregate villages from the same area; they have financial autonomy and their competences concern education, health, environment and territorial planning.

Several NGOs also contribute to the protection and management of the nominated property, among which the following are noteworthy: the Association of Ethnic Minorities (AME), which sensitises the local population to their own cultural legacy and coordinates festivals; the Association for the Development of Bassari Country (ADPBS), which aims to reinforce the solidarity among the members of the community, participates in the civic education of the populations and contributes to the economic revitalisation of the population.

Amongst international organisations, the UNESCO Regional Bureau in Dakar represents an important institutional resource for the African Region and certainly for Senegal.

In conclusion, ICOMOS considers that the legal protection in place is adequate. However ICOMOS advises that a map showing the boundaries of the areas included under the protection of the Ministerial decree N. 004510 should be provided. ICOMOS further considers that the combination of institutional and traditional protective measures for the property is adequate but underlines the need for a reinforcement of these measures within a comprehensive strategy, integrated into the management plan, so as to face the threats to the property discussed in previous sections. A strong coordination of all projects, activities and actions undertaken in the area by several distinct bodies is needed to ensure their effectiveness. Specific measures to prevent the weakening of traditional protection and illicit traffic of cultural goods should also be rapidly envisioned and implemented.

Conservation

Inventories, recording, research

The site has been studied extensively in the past decades and this has resulted in a plethora of publications. The State Party mentions especially anthropological, ethnological and archaeological research, as well as studies carried out by architects and scholars from other fields. The State Party, however, underlines the importance of continuing and deepening this research to improve the knowledge of these populations and explore fully the rich archaeological potential of the area.

ICOMOS agrees with the State Party that systematic archaeological research will allow clarification of the history of the occupation of the area, since pre-historic and proto-historic times.

Although recognising the difficulty of undertaking these studies, ICOMOS considers that the documentation of traditional knowledge and associated places would be advisable, so as to understand better how they have been maintained up until now, and how to sustain their conservation. ICOMOS therefore recommends that information concerning this type of heritage also be incorporated into the inventories and mapping of the heritage components and manifestations.

Present state of conservation

The State Party holds that the nominated property has been preserved in a very good state of conservation, unlike other areas of Senegal, where external influences

have contaminated, if not disrupted, the traditional way of life. Here the vivacity of the cultures attests to the preservation of the local traditions, even in the last four decades, when change has affected many other places that, until the 1970s, remained intact. The landscape, the architecture, the sacred sites, the traditions and the intangible heritage, e.g., rituals, festivals, initiation ceremonies, medicine etc have been actively maintained.

ICOMOS confirms that the property and its tangible and intangible attributes are in a good state of conservation; however, they are prone to different threats, namely depopulation, exogenous development, excessive natural resource exploitation, and tourism. The latter especially may affect the intangible heritage and signs of 'touristification' of certain original traditions may already be detected.

ICOMOS recommends a special vigilance towards certain threats that do not seem to have been addressed by specific measures, namely:

- the weakening of the traditional management;
- the illicit traffic of cultural heritage items, the impact of which could be reduced by developing cultural banks, as in Mali;
- mining exploitation;
- poaching and logging.

Active Conservation measures

According to the State Party, the traditional management and protection measures have allowed the conservation of the nominated components of the property. These measures have been accompanied and reinforced by actions undertaken both by national and local government and by several NGOs operating in the area. The NGOs operate with two different strategies: both consider the area and their inhabitants in a comprehensive manner through sensitization, education, revenue-generating activities and implementing sectorial measures, e.g., undertaking conservation and management actions for natural and cultural resources, establishing community reserves, sustaining the organisation of festivals, implementing the creation of the interpretation village in Bandafassi, to counteract poverty through culture-based income-generating activities and jobs. A national programme for fighting against poverty, sustaining and developing the economy and endogenous development has been initiated. It is known under the acronym MDG-F and focuses on the promotion of traditional handicrafts and cultural industries.

ICOMOS supports this variegated and holistic approach to ensuring the conservation of this cultural landscape in the long term.

However, ICOMOS again stresses the importance of coordinating all activities, projects and programmes within the framework of a management plan.

Maintenance

The maintenance of the nominated property and of its components is guaranteed by a number of traditional practices, including the traditional periodic maintenance of the architecture, the rotation of crops, and the regulated withdrawal of natural resources to ensure their renewal. This activity is organised by authorities selected within the community according to principles of social organisation specific to cultural groups residing in the area.

Effectiveness of conservation measures

ICOMOS recognises the effectiveness of traditional measures of conservation, sustained also by a variety of actions implemented by a number of bodies: public administrations, institutions, local associations, NGOs and international organisations related to the UN.

ICOMOS notes that many projects and activities have been undertaken by different bodies and recommends the development of a strategy for conservation which is integrated into the Management Plan and coordinates all the different projects, so as to fully exploit their potential.

ICOMOS further considers that the conservation of the attributes of the nominated property should be sustained through an improved and deepened knowledge, based on a thorough inventory of all cultural heritage components and manifestations.

ICOMOS sent a letter on 12 December 2011 to the State Party requesting the setting up of a timetable for the development of a conservation and promotion service for the property.

The State party responded on 14 February 2012 informing that the conservation and promotion service has been established in Bandafassi where the building of an interpretation centre is planned and that the project for this interpretation village is expected to commence in March 2012.

In conclusion, ICOMOS considers that the conservation of the nominated property is on the whole adequate, although a number of threats could affect in the medium to long-term the values of the nominated property. ICOMOS recognizes the range of actions, projects and programmes both in the field of conservation and development activated by several bodies but it nevertheless recommends that the State Party develop a strategy for conservation based on all the different projects and to integrate this strategy in the management plan.

Management

Management structures and processes,
including traditional management processes

The State Party underlines the central role of the local communities in the conservation of the nominated

property. However, in conformity with the decree that establishes formal protection of the nominated property (Decree n. 05.2006* 002711/MCPHC/DPC), the conservation and monitoring of the nominated property are a responsibility of the Ministry of Culture and of Protected Historic Heritage which can ask for the cooperation of the local and municipal authorities to carry out this task. According to the legislation in force, any modification to protected properties is subject to the authorisation of the Ministry of Culture.

Additionally, several institutions, local administrations, communities and organisations cooperate in the conservation and the management of the nominated property and have developed a number of projects, programmes and actions in different sectors as well as transversal strategies, as mentioned in the Conservation section.

In its letter sent on 12 December 2011, ICOMOS requested the State Party to provide a time plan for the implementation of the management structure.

The State Party responded on 14 February 2012 informing that a Decree has been issued on 27 January 2012 n. 000717 that establishes the Committee for the Management and the Safeguard of the Bassari Country and defines its composition and its function. The service will be established in Bandafassi, where the "interpretation village" is planned to be developed and completed by September 2012.

Additionally ICOMOS notes that in article 2 of the Decree the Management Committee for the Saloum Delta is mentioned. This appears to be a factual error that, however, needs to be amended by the State Party.

ICOMOS also recommends that the role of each party and its respective tasks within the management framework be formalised through a Memorandum of Understanding.

Policy framework: management plans and arrangements, including visitor management and presentation

The document entitled Management Plan 2011-2015 presents the framework of the Plan, its underlying vision, the main objectives and action lines and the 2011-2015 Action Plan. The strategic goals include: the preservation and promotion of the originality of the local cultures (actions comprise: preserve the quality of architecture and the richness of landscapes; preserve the richness and diversity of cultural expressions; promote the cultural heritage); the preservation of natural heritage (actions include: preserve the fauna and flora; encourage ecotourism); improvement of the quality of life (actions comprise: reinforce the local production supply chain; promote responsible tourism); inclusion of local populations in the management and the development of the territory (actions include: set up an operational management structure).

The Management Plan complements other existing specific plans, namely:

- The local plans for the development of the concerned communities;
- The Project MDG–F Culture and Development "Promote the cultural industries and Initiatives in Senegal (Bassari Country and Saloum Delta);
- The Action Plan of the association for the development of Bassari Country;
- The national programme of local development devoted to the realisation of socio-economic infrastructures and the implementation of capacity building programmes;
- The five-year programme of Wula Nafaa, a structure of USAID, which intervenes in the management of natural resources;
- The different action plans of decentralised national structures, e.g. the development plans of the Regional Agency for Development (ARD).

In its letter of 12 December 2011, ICOMOS asked the State Party for confirmation that the management plan is being implemented.

The State Party informed on 14 February 2012 that the Safeguard and Management Committee for the nominated property has been formally established on 27 January 2012 by the decree n. 000717. The Committee that is responsible for the implementation of the management plan of the property was formally established and was expected to begin its work within a few weeks. Information was also provided about a workshop of a technical committee that was held in Kédougou between 17 and 21 January 2012.

ICOMOS notes that the letter from the State Party does not clarify whether the management plan has been enforced and implemented. Additionally, it is not clear whether the technical committee mentioned in the Annex 2 to the letter sent by the State Party on 14 February 2012 coincides with the Management Committee or is a different body.

Risk preparedness

This point has not been addressed specifically by the State Party. However, at least, fire prevention measures have been envisaged.

Involvement of the local communities

Communities are well engaged in the conservation and management of the property, as the vitality of traditional management practices within the nominated property confirms.

According to the State Party the Management Plan has been developed with the full participation of the local and national administrations as well as local communities.

With the aim of ensuring a good involvement of local communities and preserving the traditional management system, ICOMOS recommends that the role of traditional authorities in the management process be recognised in the new management system that will be set up.

Additionally, ICOMOS recommends that the actions of traditional conservation implemented by local communities, which have allowed the survival of the nominated property so far, be sustained and facilitated.

ICOMOS finally recommends that the Management Plan be enforced and implemented as soon as possible.

Resources, including staffing levels, expertise and training

The State Party considers that the primary guardians of the nominated property are the populations that live within it. Besides these, national and local institutions and administrations as well as NGOs and international organisations represent resources in terms of expertise and financial engagement through their projects.

While recognising the centrality of the local communities for the long term conservation and management of the nominated property, ICOMOS considers that the establishment of a permanent staff, members of which could be identified within the local communities and supported by the decentralised regional organisations and the Department for Cultural Heritage, should be envisioned to sustain conservation and monitoring activities carried out according to traditional management practices.

Equally, ICOMOS notes that it would be useful that a chart describing the projects, their funding amount and provenance, and their timeline be developed as a strategic tool for management, priority-setting and monitoring purposes.

Effectiveness of current management

The State party has explained that the management of the nominated property takes place through a continuous process of negotiation and participation that sees the involvement of the local communities and national and local institutions.

ICOMOS recognises the effectiveness of the management as it has been conducted so far.

However, ICOMOS considers that a number of measures should be put in place, which would strengthen the effectiveness of the management in the long term.

In particular, ICOMOS observes that, to achieve the full effectiveness of the management strategy, all relevant parties, and in particular traditional authorities, be involved in the management process and the Management Plan should become the coordination instrument of all these measures and of the planning documents. Existing measures should be related to the planned actions in the Action Plan prepared by the State Party and included in the Management Plan document. In this way objectives and associated actions, be they implemented, planned or envisioned, may be framed and prioritized and their implementation monitored.

Secondly, considering the conspicuous role played by the Regional Agency for Development (ARD), ICOMOS notes that effective value-based management could only be effectively achieved if the Ministry of Culture and the ARD cooperate closely at the planning stage of large projects.

Furthermore, ICOMOS suggests that the Project MDG-F be continued and managed through a decentralised structure, under the responsibility of the Ministry of Culture, based in the nominated property so as to ensure a full participatory process.

In conclusion, ICOMOS considers that special attention is needed to establish a synergy among all relevant parties, particularly between the local and traditional authorities. ICOMOS considers that the management system and structure for the property are adequate. However ICOMOS recommends that the role of each party and body and their respective tasks within the management framework be formalised through a Memorandum of Understanding. ICOMOS further recommends that close cooperation be established between the Ministry of Culture and the Regional Development Agency. Furthermore, ICOMOS recommends that the management plan be enforced and implemented as soon as possible.

6 Monitoring

The State Party has identified a number of indicators that would allow monitoring of the state of conservation of the major attributes of the nominated property, namely the natural environment, traditional know-how and the intangible heritage.

However, the State Party underlines that the local communities have been able to preserve for centuries the values of the property through traditional procedures and practices.

The State Party further notes that an excessively formalised form of monitoring would possibly negatively affect the traditional management methods by making the local communities feel divested of their authority.

ICOMOS considers that the indicators indentified by the State Party appear adequate, although they should be integrated with indicators concerning the built environment, the humanised landscape and development.

ICOMOS further believes that, whilst attention should be given to the involvement of the local communities in monitoring, there is a need to integrate the local-based

monitoring with tools for data management that may require specific technical expertise.

ICOMOS then notes that it would be advisable that the sources of information, the bodies responsible for data gathering and storage, be identified and reported.

ICOMOS recommends that a detailed inventory of the attributes of the property be elaborated to create a baseline for the monitoring exercise and that the monitoring exercise be implemented as soon as possible.

In conclusion, ICOMOS considers that the monitoring system for the nominated property is on the whole adequate. Nevertheless ICOMOS recommends that this system be strengthened by the identification of the bodies responsible for the data management and the sources of information for the indicators, and that the monitoring exercise is implemented without delay.

7 Conclusions

Thanks to its geomorphology, vegetation, landscape layout and physical features as well as the intangible cultural expressions of the populations residing therein, closely associated with the manifestations of the natural environment, the Bassari Country represents outstandingly the original interaction between human groups and the natural environment and among populations of different ethnic, cultural and religious backgrounds.

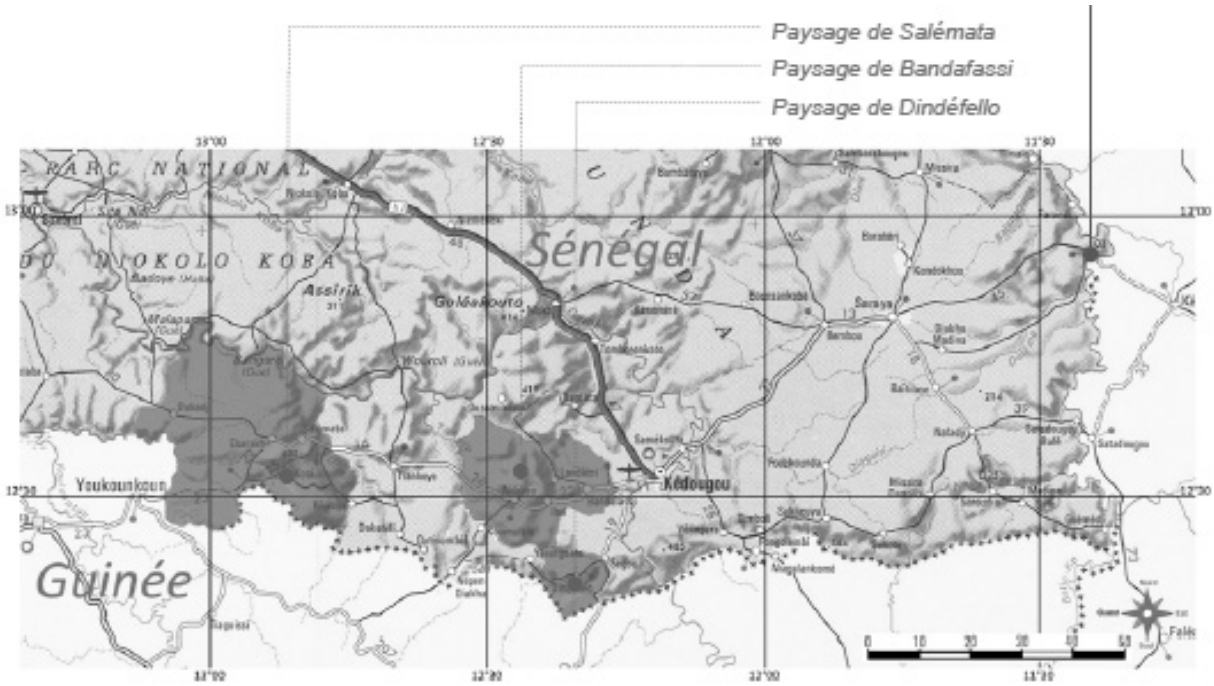
However, a number of issues need to be addressed by the State Party to ensure that the protection, conservation and appropriate management of the property compatible with its values, be adequate and effective in the medium and long term.

Recommendations with respect to inscription
ICOMOS recommends that the nomination of Bassari Country: Bassari, Fula and Bedik Cultural Landscapes, Republic of Senegal, be **referred back** to the State Party in order to allow it to:

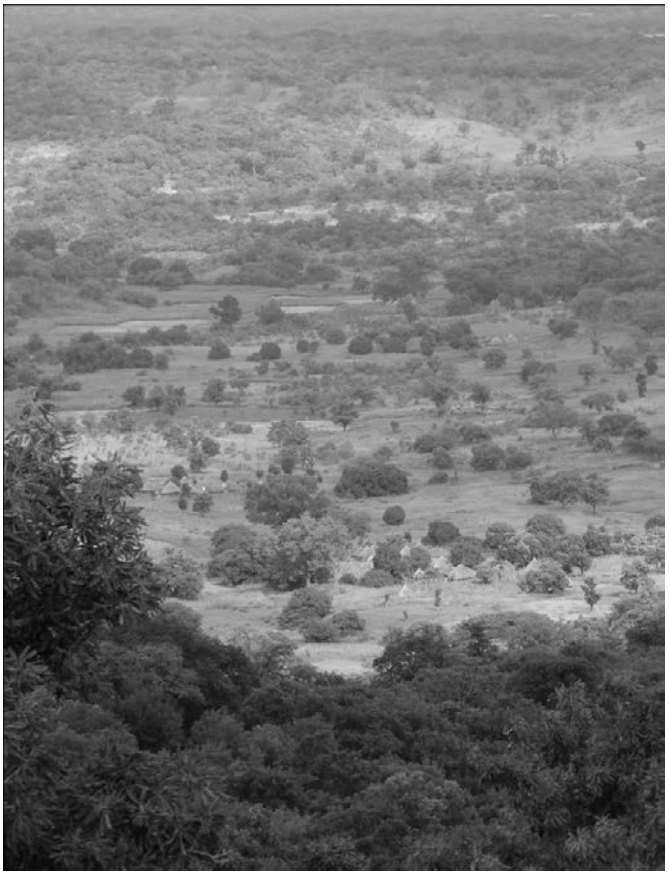
- Enforce and implement the management plan;
- With regard to the measures in place to prevent mining exploitation, confirm that the 'safeguarded sectors' mentioned in the letter of 14 February 2012 include both the nominated property and the buffer zone and that the advice of the Committee for Management of the Bassari Country is suspensive.

ICOMOS further recommends that the State Party give consideration to the following:

- Putting in place strict measures to effectively counteract fire, arson, poaching, illicit logging and traffic of cultural items;
- Providing a map showing the boundaries of the areas included under the protection of the Ministerial decree N. 004510;
- Developing and providing a complete cartography at the appropriate scale including inventories of heritage resources related to the attributes of the Outstanding Universal Value of the nominated property, for conservation and monitoring purposes;
- Developing a strategy for conservation based on all different projects and integrating it in the management plan;
- Elaborating a solution in the medium term for the water supply of the villages, especially those located on the Bandafassi and Ethiolo Plateaux; so as to improve the quality of life of the population and help them to continue their lives within the nominated property;
- Formalising the management structure, the role of each party and body and their tasks through a Memorandum of Understanding;
- Sustaining and facilitating the traditional conservation actions which have allowed the survival of the nominated property;
- Developing cultural banks so as to reduce the impact of illicit traffic of cultural items;
- Reinforcing the monitoring system on the basis of a cartographic inventory and implementing it as soon as possible.



Map showing the boundaries of the nominated properties



The Bassari landscape

The Bedik landscape

The Fula landscape

Celebration dance with the “chameleon” mask

IV Cultural properties

Rabat, modern capital and historic city (Morocco) No 1401

Official name as proposed by the State Party
Rabat, modern capital and historic city, a shared heritage

Location
City of Rabat, districts of Rabat-Hassan, Agdal-Riad and El Youssoufia
Rabat-Salé-Zemmour-Zaer Region
Kingdom of Morocco

Brief description
Rabat, the capital of the Kingdom of Morocco, constitutes an urban and architectural ensemble bearing full and balanced testimony to the different construction phases that reflect the history of its settlement. The ensemble was made possible by the "Ville Nouvelle" (New Town) project in the early 20th century, during the Protectorate period, when Rabat regained its capital city status, and when care and respect were shown for the various layers of the city's heritage. The new city made use of the existing urban structure, and drew inspiration from the architecture left by the earlier Cherifian dynasties, whilst fully embodying new European urban and architectural values. The result is a city in which the Arabo-Muslim past and Western modernism engage in a fertile and original dialogue.

Category of property
In terms of categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, this is a *group of buildings*.

1 Basic data

Included in the Tentative List
12 April 2010

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by World Heritage Centre
30 January 2011

Background
This is a new nomination.

Consultations
ICOMOS consulted its International Scientific Committees on Historic Towns and Villages, 20th Century Heritage and Shared Built Heritage, together with several independent experts.

Literature consulted (selection)

Belfquih, M., and Fadloullah, A., *Mécanismes et formes de la croissance urbaine au Maroc, cas de Rabat-Salé*, Rabat, 1986.

Louani, M., Selouani, A., *L'authenticité dans l'aménagement urbain contemporain, le cas de Rabat,* ENA, Rabat 1987.

Salwa, D., and Hassan, B., *Le projet urbain de Rabat*, École Hassania des travaux publics, Casablanca, 2005.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 5 to 9 September 2011.

Additional information requested and received from the State Party
On 6 October 2011, ICOMOS requested additional information from the State Party, with regard to a reinforced comparative analysis with similar urban properties in Morocco and the Maghreb, together with a more typological approach in the comparisons, particularly for the ancient heritage, and a more thorough study of the concepts of integrity and authenticity of the various components of the property. The State Party responded to both of these points by providing additional documents dated 2 November 2011, which have been taken into account in this report.

On 14 December 2011, ICOMOS asked the State Party to give consideration to the following points:

- to consider three possible extensions of the buffer zone (area next to the Royal Palace, right bank of the River Bou Regreg, Medina of Salé),
- to clarify the ownership situation of certain properties,
- to provide additional information about the Rabat Heritage Foundation,
- to provide additional information about the staff employed for the conservation and management of the property.

The State Party provided additional documents dated 20 February 2012, which have been taken into account in this report.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
Rabat is today the political capital of the Kingdom of Morocco. The city is located on the Atlantic coast, in the north-west of the country, on the left bank of the River Bou Regreg estuary. In geographical terms, the site is located on a plateau consisting of marl and sandstone, overlooking the ocean and the river, and its promontory is occupied by the present-day Kasbah. The city's climate reflects its position at the meeting point between wet maritime influences and dry continental influences from the Sahara.

Rabat has undergone many phases of development which have continued up to the contemporary period. All the phases have left significant urban and architectural testimony, forming a whole which is well balanced between the different periods. Respect for the existing heritage has been a constant feature of its development, from the Almohad period (12th century) up to the present day, and particularly when the structure of the city was substantially modernised by French architects and town planners in the early 20th century. The most significant buildings from earlier periods – such as fortifications, gates, mosques, madrasas and palaces – were listed as historic buildings by the Protectorate administration. Starting from this respected past framework, the city today has an urban structure made up of zones with distinctive styles and specialised functions, in ensembles which are generally well preserved.

The property consists of three distinct urban zones. The first is the most extensive, and includes several ensembles in an area which is continuous but which has many branches inside the city. The two others are a set of monuments and an isolated quarter, both of which are relatively close to the main part.

Part 1 consists of the following six components:

1.1 The *new town* was conceived, when Rabat was chosen as the political capital of the kingdom (1912), by architect and town planner Henri Prost and landscape designer Jean-Claude Forestier, at the time of the French Protectorate, when Morocco was under the control of Marshal Lyautey. The political rule adopted by Lyautey with regard to town planning was based on the idea that there were two levels of city, both of which should be respected, and this is indeed the reality in Rabat.

The new town is conceived as a southern prolongation of the medina, of which it is intended to be an urban extension, whilst conserving its 17th century southern fortification. It is an extension of the city, in a little occupied zone inside the ancient Almohad walls, whose urban plan it follows with a carefully ordered series of buildings meeting the requirements of the new town. This is one of the most vast 20th century urban projects in Africa, and is probably the most complete and fully realised. Quarters, avenues and zones with clearly identified functions were created: for the exercise of political power, for the colonial and local administration, for the royal residence, and for commercial activities, along with residential areas for the various social classes. The perspectives of the new town take as their visual references the monumental landmarks of the ancient city (gates, mosques), underlining the continuity of the urban territory and respecting the unity of the ancient quarters.

A set of major thoroughfares was laid out to serve and establish the structure of the urban space in the new town. Eleven main streets were laid out between the medina and the central railway station, establishing the principal pattern of the street network. The public works included the associated networks (water, sewerage, electricity and lighting), and were set out according to a set of strict regulatory texts. Tasks such as land use allocation were carried out at a stroke, thus giving scale and unity to the scheme as a whole, enabling a remarkable degree of control of the secondary street network, and a balance in the built structure between public and private projects. Today, Boulevard Mohammed V, which runs from the medina to the railway station via the post office, is one emblematic example of this approach amongst others. More generally, it is important to note that the streets of the new town continue on from those of the medina, passing through the ancient gates, and thus the medina is revealed to good effect by the perspectives created. The same applies to the Es-Sounna Mosque. Exceptional views of the medina and Kasbah are had from the public buildings, such as the Residence.

As a result of the attentiveness of this vast modern project to earlier Arabo-Muslim town planning and monumentalism, a synthesis emerges which is specific to 20th century Morocco, particularly in the style of the public buildings. The various European architectural movements of this period, rich in innovation and experimentation, can be found in the city's building programmes, which at the same time demonstrate distinctive interactions with Moroccan traditions. A relatively widespread taste in ornamentation is added to a basic built structure which is generally of good quality. A rich repertoire of forms, specific spaces and decorative motifs is thus constituted, ranging from the neo-Moorish style to European neo-classicism, and from naturalism to Art Deco and modernism.

Amongst an inventory of 60 buildings protected because of their 20th century architectural heritage status, several are considered to be outstanding, or illustrative of the main architectural and decorative types: these include the Banque du Maroc, the Cathedral of St. Pierre, the former General Residence of the Protectorate, the General Treasury, the Post Office, the Railway Station, the Hotel Terminus, the Fresco Building, a building in the Rue Djeddah, the Crédit du Maroc, the Café des Ambassadeurs building, the Asfar Hassan Tour agency, the Hotel Balima, the Parliament building, the Siemens building, the Navy Headquarters, and the Ministry of Economy and Finance.

In housing terms, there are three types of quarter in the new town: apartment blocks for mainly European middle class residents, with shops at street level; residential zones for the colonial elites with villas and pleasure gardens; and finally new housing, for Moroccans recently arrived in the city, which is organised in quarters inspired by the traditional medina (see Part 3 of the Description).

Earlier mosques located inside the perimeter of the new town were conserved, and included in the overall urban planning programme. These include the Molina Mosque, restored in the 1980s, and the as-Sunna mosque, dating from the late 18th century, which is the fourth-largest mosque in present-day Morocco.

1.2 The *Jardin d'Essais* and the historic gardens of Rabat demonstrate the intention of making Rabat into a "garden city", then a new concept in Europe. The design of the gardens was entrusted to Forestier, who was both a landscape gardener and town planner, two professions which were then becoming increasingly important. The work of Forestier also expresses a determination to apply a predetermined town planning scheme, whose execution is controlled by the public authorities from start to finish. The green areas created underline the humanistic inspiration of the overall urban project, and a concern for quality of life and the environment which echoes the efforts made in the conservation of the built heritage. Public parks, planted areas and private gardens sprang up in considerable numbers.

The *Jardin d'Essais* is both a pleasure garden and a botanic garden used for scientific purposes (for the acclimatisation of new species of plant to the climate of coastal Morocco). The Avenue de la Victoire is designed as a shaded promenade opening up a prospect towards the Almohad Bab Rouah gate. The low level of the buildings and houses along the avenue strengthens the impression of a continuous tree-lined setting which leads the walker towards the Jardin d'Essais. The Nouzhat Hassan Garden and the Parc de la Résidence are two other noteworthy gardens in the new town.

1.3 *The Medina of Rabat* is situated in the northern part of the property. With an area of 91 hectares, it is situated between the remains of the Almohad wall to the west and the Andalusian fortifications to the south. It grew outwards from the Oudaïa Kasbah. It contains two major orthogonal thoroughfares which lead into a dense and hierarchical road network consisting of streets, often with shops, alleyways and cul-de-sacs leading to houses. The housing is grouped in blocks, which are usually constituted around large middle-class residences. The street network is well conserved.

The medina contains several quarters which illustrate various periods of its complex history and the populations which settled there, such as the Mellah quarter, occupied by Jewish populations which had fled from Andalusia in the 16th and 17th centuries. More generally, it contains many residential ensembles which are extremely characteristic. The medina was also an important economic centre with diverse commercial functions, usually reflected in the specialisation of particular streets, within a dense network of streets.

The heritage inventory of the Medina comprises 42 noteworthy monuments and houses, which can be divided into the following main categories:

- The *fortifications* consist essentially of the Andalusian ramparts mentioned earlier, and their gates in the Moorish style. The fortifications also include vestiges of the river walls and the coastal ramparts, and various forts from the 18th and 19th centuries. The Kasbah of Moulay Rachid (or "New Fortress") was built in the 17th century. It continued to be used for military purposes until the 20th century.

- The *middle-class residences* form the centre of the housing blocks; many of them are noteworthy, particularly the Lamrini, Louis Chénier, Bargach, El Aïssaoui, Karrakchou, al-Alaoui, Boudalaâ, and al-Gharbi houses. They follow the general plan of the large Moroccan house, with an interior courtyard or patios, arcades, reception rooms, etc. Vernacular architecture also provides a set of interesting elements, some of which have been inventorised, such as doors and their accessories. In a highly specific stylistic symbiosis, the Medina of Rabat bears testimony to the diversity of influences (particularly Andalusian) which have been integrated into the Arabo-Islamic setting.

- The *religious buildings* play an important role, and punctuate the urban fabric of the medina. They comprise 9 mosques, 41 oratories for specific quarters, and 13 *zaouias* (Muslim lodges). The Al-Jamaâ al-Kabir Grand Mosque (Mosquée des Cordonniers) dates from the late 13th century, but has undergone several restorations; its architectural structure follows the Medina tradition via the influence of the Umayyad Mosque in Damascus. Mention should also be made of the Moulay al-Makki Mosque, the Moulay Sliman Mosque, which was rebuilt in the early 19th century, the al-Nakhla and al-Qubba Mosques (probably from the same period), and the Dinia Mosque, which dates from the 13th-15th centuries. The diversity of the mosques and minarets illustrates the various stages of the urban history.

- The *hammams* are used for purification rituals and are thus associated with places of worship. There are fourteen hammams, which are scattered throughout the urban fabric. The Souk hammam is believed to be the oldest, dating from the 12th century; it has been restored several times, and today constitutes a remarkable architectural complex. The Jdid hammam dates back to the Merinid constructions of the 14th century. The Alaouite sultans, in the 18th century, also built hammams in the medina. The most recent date from the 18th and early 19th centuries. All of them follow traditional bath layouts which date back to ancient times.

- The many *fondouks* (inns) which have been preserved bear witness to the economic influence of the town. They are situated close to the gates, markets and shopping areas. They were also linked to the town's activity as a port, which has been attested as far back as 1161. Originally intended to provide accommodation for travellers and caravans, many are today used for craft activities. There are three large *fondouks* close to the grain market. Another set of eight *fondouks* are located along the Souiqa shopping street. Several are of high architectural quality.

1.4 *The Oudaïa Kasbah* stands on the promontory overlooking the estuary of the River Bou Regreg, facing the ocean. Originally it was a Medieval citadel, the seat of the Almoravid power base, and the initial core of the Arabo-Islamic town. Seen from the northern bank of the *oued*, it still gives the impression of being a stronghold. Although profoundly altered down the ages, and then renovated once again during the 20th century, its traditional urban layout remains in place, consisting of blocks of housing connected by a hierarchical street network. The Kasbah is one of the great sites of Moroccan history and is extremely picturesque.

The Kasbah has its own walls, which date back to the first Almohad caliphs, and which follow the geographical forms of the promontory. Bab Lakbir, the great gate, is one of the most outstanding monuments of military architecture from this period. The Al-Masjid al-'Atiq Mosque also provides testimony dating back to the first Almohads, but it was restored in the 18th century by the Alaouite sultans, bearing witness to construction and ornamentation skills during this period.

The period of the Moorish (or Andalusian) principality, in the early 17th century, has left some military remains, including the Pirates Tower, which overlooks the Bou Regreg. The Alaouite rulers then made a series of modifications to the Kasbah, including the Moulay Rachid wall, flanked by towers and bastions. It had four gates, and it housed the princely residence of the Alaouites, which was completed in the late 17th century. It includes an ornate courtyard surrounded by galleries and many annexes, including the Menzeh, a pavilion in the shape of a tower, the hammam, shops, etc.

During the Protectorate period, the Kasbah underwent several restorations, on the basis of an "historic monuments" approach. The following were also created: an Andalusian garden, the Café Maure, traditional craft workshops, and finally the Oudaïa Museum.

The Kasbah and its surroundings is also an area of archaeological research, in view of the presence of buried pre-Islamic or ancient remains.

1.5 *The Almohad ramparts and gates* were erected in the 12th century by the caliph Yaacoub El Mansour, for defensive purposes and to mark the boundary of his vast urban project. With the Hassan Mosque, these are the only surviving monuments of "Ribat-al-Fath", the great capital city project of the Almohad caliphate.

The surviving parts of the ramparts included in the property consist of western and southern sections of the original 12th century walls which enclosed the whole of the historic town. The ramparts are rectilinear, and provide long perspectives punctuated by the monumental gates and a series of square towers flanking the walls. The present-day west and south walls include five gates and 74 towers. The gates reflect a monumental synthesis by the Almohad builders, embodying both Oriental and Andalusian influences.

The original construction was in lime concrete; made with clay earth and sometimes with aggregates, the concrete is particularly rich in lime. Maintaining the fortifications has required numerous interventions on the built structure, and bricks, masonry and other items have had to be replaced. Today, the walls have a smooth texture due either to the plaster applied during recent restorations, or to the texture of the early concrete burnished by the patina of time.

The presence of the ensemble of walls and fortified gates dictated the layout of the street network when the new town was designed and built in the 20th century.

1.6 *The archaeological site of Chellah* (also known as Sala or Chellam) is situated to the south-east of the Almohad wall, and occupies an area of slightly under 7 hectares. This was a fertile area with a plentiful supply of water, slightly higher than the surrounding plain, which encouraged human settlement from ancient times onwards. Today it contains 29 listed monuments or archaeological remains which illustrate the various periods of occupation of the site.

The ancient urban part has been only partially uncovered, and its boundaries have not yet been fully identified. The ancient city of Chellah, or Sala, probably extended as far as the Bou Regreg. This part is itself made up of two successive ancient cities, one of which lies on top of the other.

The first settlement was Mauritanian or Pre-Roman Berber, and dates back to the 7th-6th centuries BC; there are remains of three temples close to the forum. They are dry stone constructions on level, flagged terraces; there was also a network of flagged streets. The site also includes a significant set of urban archaeological remains which are considered to show Phoenician influence.

The later Roman town was constructed close to this settlement, with a set of monumental buildings around the forum, during the reign of the Emperor Trajan. It includes the remains of a capitol, a triumphal arch, a basilica and a curia. An inscription confirms the status of the city as a Roman *municipium*, and it was enclosed by a wall in 144 AD. The town also had large baths, and a Nymphaeum, a complicated monument due to it being altered in the Middle Ages. This is an impressive octagonal edifice, forming a water tower, supplied by an aqueduct. Together with another reservoir, it supplied water to the fountains next to it on the south side. The ensemble formed a hydraulic complex on a scale rarely seen in the Roman remains of North Africa.

Chellam, on the site of ancient Sala, corresponds to the vestiges of the resettlement of the ancient monumental site during the Merinid period, in the 13th-14th centuries. The Merinids turned it into a dynastic necropolis, enclosed by a wall which still marks its boundary today. It has three gates, of which the largest, flanked by towers, has imposing horseshoe arches decorated with friezes. The necropolis stands opposite the Almohad wall. It includes a substantial set of archaeological monuments, grouped

around the funerary complex or *Khalwa*. The *Khalwa* consists of a rectangular enclosure containing an oratory, funeral domes and a madrasa. A gate provides access to the internal courtyard of the Abou Youssof Yaacoub mosque, in which stand a series of tombs. The minaret stands in the south-eastern corner of the sanctuary. Finally, the site includes a well conserved hammam, which is a rare example of 14th century Moorish baths in North Africa.

The quality of Merinid art is illustrated by the geometric decoration (in ceramic marquetry or sculpted), bands of inscriptions, friezes, decorated arches, the interlaced *zellige* decoration of the madrasa, etc. Merinid decorative art became celebrated for the vivacity and subtlety of its ornamentation. Its features have regularly been incorporated in Moroccan architecture up to the present day.

Abandoned as a necropolis after the Merinid dynasty, Chellam became a holy site, particularly in the area surrounding the small oratory of the madrasa and the eel pool, a space around a spring which has returned to nature. Once again, the hill is being used for the tombs of a number of holy men and dignitaries of the city.

Part 2: the site of the *Hassan Mosque* consists of two adjacent component parts:

2.1 The construction of the Hassan Mosque was started by the Almohad caliph Yaacoub El Mansour in 1184, but the project to build the largest Mosque in the Muslim West was not totally completed by the time he died, shortly before the end of the 12th century. The mosque was hardly used as a place of worship, and soon became a quarry and source of timber for other constructions. All that remains of the edifice today is the unfinished tower of the minaret, the flagged floor of the prayer hall, with the base of the pillars and remains of the outer walls. It is an outstanding example of an Arabo-Andalusian style, drawing its inspiration from the mosques of Damascus and Cordoba. The minaret is constructed in the middle of the western wall of the city's fortifications. Although incomplete, the construction and decorative quality of the minaret has inspired many other monuments in the region. Because of its position, dominating the Bou Regreg estuary, and its height, it is an essential and symbolic landmark of the urban landscape of Rabat. Today this area is a place for promenading.

2.2 The *Mohammed V Mausoleum*, since 1969, has completed the esplanade formed by the former ground floor of the Hassan Mosque, opposite the minaret. This is the royal necropolis (1971). Its construction involved the use of the finest Moroccan architectural and decorative traditions, providing a contemporary echo to the Hassan Mosque and the set of buildings close to the medina.

Part 3 consists of the *Habous de Diour Jamaâ* quarter.

This quarter was created from 1917 onwards, based on the urban model of the traditional medina, with entrance gateways. It was designed to accommodate a newly arrived population from the countryside, attracted by the economic development of the capital. The quarter was completed in around 1930. The main streets lead into a series of alleyways and covered passages. It includes collective facilities: oven, hammam, Habous school (1938), etc.

The quarter contains places of worship: the Omar Saqqaf Mosque on the Avenue Hassan II, in typical Moroccan style, and the oratory of the Rue Al-Faraj.

The houses have a traditional plan, arranged around a central courtyard; the main construction material is sandstone. Many of the individual buildings are remarkable, because of their architectural elements (pillared angles, inlaid motifs, lancet arches or multi-lobed arches, etc.), and/or their decorative treatment, their doorways, their interior appointments, chimneys, exterior awnings, etc. A typology/inventory of the house doors, their decorations and their accessories, has been drawn up, indicating their historical evolution.

Designed by French architects, influenced by the styles of the medina, the Habous de Diour Jamaâ quarter is an emblematic and well-preserved example of a style which may be termed neo-Moorish.

Conclusion

The new town of Rabat was conceived to be a modern capital city. It has benefited from an existing urban framework and a substantial built heritage, which it has helped to highlight and preserve. In this ancient setting, the modernist project illustrates and naturalises – in the Moroccan and Arabo-Islamic context – the most innovative European trends in the nascent areas of town planning, garden cities and public health. The development of the new town was supported by legislation and by pioneering town-planning regulation which foreshadowed subsequent major regulation and guidelines, such as the Charter of Athens. The new town was designed to be functional but also to highlight a large number of cultural and symbolic landmarks.

The overall quality of the town planning and built structure of Rabat is illustrated by the fact that in general the initial functions and services given both to quarters and to buildings have remained. These attributions have been preserved even during the period when Morocco recovered its full independence, and during its current development.

History and development

The region has been shaped by a long history, which dates back to the most ancient times of prehistoric North Africa. In areas surrounding the city, traces of the Upper Palaeolithic and the Neolithic have been uncovered.

The ancient core of the city was created in the 7th and 6th centuries BC by the Mauritanians, who were the ancestors of the Berbers of Morocco. Traces of the Phoenicians are then attested, demonstrating the early role of the Bou Regreg estuary as an Atlantic port of call. It then became

a city-state, under Punic influence, with diverse commercial relations with the Iberian peninsula and the Mediterranean. It issued its own currency.

In AD 40, Rome occupied Mauretania Tingitana. The city, known as Chellah or Sala, was considerably altered, and it became a *municipium* under the Emperor Claudius. Trajan built a wall around the town in the 2nd century AD. It was a prosperous city, supplying salted goods and olive oil, and was a busy port with a military garrison.

The Mauretania Tingitana region was abandoned at the end of the 3rd century AD, but Chellah remained under Roman domination during a less active period up to the end of the 4th century. It then entered a rather obscure period, although there are some traces of continuing commercial relations with the Mediterranean world and influences from the Byzantine Christian world.

Arab historic sources refer to an abandoned ancient city, which however played a significant role in the Islamisation of the region. A vast "ribat" is said to have existed in the 10th century, but up to now the most ancient Arabo-Muslim traces date back no earlier than the 13th century.

What remained of the ancient city was abandoned in favour of a new fortress, built by the Almoravids, in the early 12th century, to withstand growing pressure from the Almohads. The fortress was situated on the southern promontory of the estuary. The Almohad conquest took place in the mid-12th century, and it transformed the fort into a fortified palace, which today has become the Oudaïa Kasbah.

The city was to be raised to the status of a great Almohad capital ("Ribat al-Fath") in the last quarter of the 12th century by Caliph Yaacoub El Mansour (Moulay Jacoub) who, by means of vast, near-rectangular ramparts, occupied all the space between the Atlantic, the Oudaïa Kasbah and the site of Chellah. Completed by the construction of the Hassan Grand Mosque (late 12th century), the urban project was considered overambitious by the caliph's 13th century Almohad successors, and both structures remained unfinished. Instead, a much simpler group of buildings partially occupied the vast enclosed area at the foot of the Kasbah.

The Merinids gained lasting control of the city from the mid-13th century until the 15th century. Chellah regained its importance as a fortified *ribat* and as the mausoleum of the dynasty, but this period above all marked the apogee of Salé, on the opposite bank, as the main economic and urban centre and port.

The 15th century was a troubled period. The city was sacked by Prince Ahmed Lahyani. The Merinids abandoned the necropolis of Chellah in favour of Fez. The city became a place of refuge, thanks to the protection afforded by its many ramparts, particularly for immigrants from Andalusia after the fall of Granada (1492).

The expulsion from Spain of the Moors during the reign of Philip II (1609) led to a significant influx of Muslim and Jewish populations, who settled in the Kasbah and in the adjacent southern area. These populations of different origins built their own quarters; they founded a medina, protected by a wall to the south, cutting in two the large area enclosed by the earlier Almohad ramparts.

In the early 17th century, the Moorish immigrants set up a principality under the suzerainty of the Saadian sultans. Shortly afterwards there was a revolt, and they formed, with Salé, an independent "Republic of Bou Regreg". They fortified the Kasbah, which became the centre of their municipal power base. They engaged in privateering and in port activities, making Rabat the premier port in Morocco. European consulates were established there for a lengthy period.

The emergence of the Alaouite dynasty ended the independent power of Bou Regreg in 1666. Substantial construction works were carried out on the fortress and the Kasbah, including the building of the prince's residence, completed during the lengthy rule of Moulay Ismail. This palace became the second residence of the dynasty, after Meknès.

The defensive works continued on the site of the Kasbah at various times from the 17th century to the early 19th century. This was a troubled period, and the ruler assigned the Kasbah to the warlike Oudaia tribe, which was the origin of the name. At the same time, a great deal of urban construction work was carried out in the medina, and mosques were built, establishing the main features that can be seen today. Its population was mixed at that time: in addition to the Berbers, who were gradually Arabised, there were Moorish and Jewish people who had come from Andalusia from the 16th century onwards. The growth of the city made it necessary to build an aqueduct in the late 19th century.

The Protectorate period led to Rabat once again becoming the country's political capital, and to the initiation of a vast modernist urban project, inspired and supported by General Lyautey. The project reflects the respect shown by European architects and town planners for the Arabo-Muslim heritage. The new urban planning scheme was aimed at reoccupying the whole area inside the early Almohad wall, whilst respecting the street structure and monuments of the old town. Henri Prost and Jean-Claude Forestier masterminded the development of a vast garden city, designed to be functional and to be made up of specialised quarters, at the same time respecting the values of the past (see Description). A policy of preserving and conserving historic ensembles was introduced, and the urban structure of the new town developed rapidly, throughout the first half of the 20th century.

In 1956, Morocco regained its full independence. The policy of urban development based on respect for the historic heritage of all periods is being maintained.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

Firstly, the State Party proposes a comparison with "modern cities" of the 20th century which are already inscribed on the World Heritage List: Bauhaus and its Sites in Weimar and Dessau, Germany (1996, criteria (ii), (iv) and (vi)), White City of Tel-Aviv, Israel (2003, criteria (ii) and (iv)), Le Havre, France (2005, criteria (ii) and (iv)) and Brasilia, Brazil (1987, criteria (i) and (iv)). None of these urban developments has had to work around the constraints of existing historic structures inside a modernist project, either because of the urban and architectural approach adopted, or because of the absence or destruction of any historic structures.

The comparison with cities not inscribed on the World Heritage List concentrates on urban ensembles which are contemporary with or slightly earlier than Rabat, and which generally emerged in the context of European colonisation: Asmara (Eritrea), Dakar (Senegal), Brazzaville (Congo), Hanoi and Saigon (Vietnam), New Delhi (India), etc. While certain influences from earlier town planning sometimes emerge, as in Eritrea, in terms of construction methods or stylistic features, the town planning usually constitutes a break with existing indigenous influences. Rabat would seem to be the only example truly incorporating the values of the past, drawing on a diversified urban, religious, military and stylistic heritage which is both substantial and significant. However, town planning based on quarters with clearly identified functions is a feature found in many cities which resulted from French colonisation.

The regional comparisons, completed by the documents sent by the State Party in November 2011, mainly concern Tunis. The protection of the Tunis medina is similar to that of Rabat and was inspired by it (1979, criteria (ii), (iv) and (v)). The modern Tunis of the 20th century has a history which parallels that of Rabat, with the same function as capital city, and is also centred on the medina. Furthermore, there is very considerable testimony to the historic heritage in Tunis (Carthage, Bardo Palace, etc.), but the testimony is dispersed, and the urban ensemble is not as integrated and diverse as at Rabat. In Morocco itself, nine *Villes Nouvelles* were built under the Protectorate, and amongst them Marrakesh and Casablanca are the most similar to Rabat. Marrakesh has town planning based on the same principles, and an outstanding medina (1985, criteria (i), (ii), (iv) and (v)); however, the style of the 20th century buildings remains detached from the Arabo-Islamic influences, and the ensembles are less extensive and of lesser quality. Casablanca was not able to draw on a substantial Arabo-Islamic heritage at the time when the colonial project was put in place. Neo-Moorish architectural and decorative features exist in Algiers, but the organisation of the city is quite different, partly for topographical reasons, and the historic heritage is less substantial.

ICOMOS considers that, rather than providing a regional comparison setting off one monument against another, it is necessary to make a more thorough comparison of construction typologies on a larger scale (quarters, street network, defensive systems, etc.) at particular historic periods. Furthermore, the creation of a modern capital, at the turn of the 19th and 20th centuries, is in itself a very rich topic, firstly in the context of different colonial approaches, and secondly in the context of the emergence and affirmation of new states.

ICOMOS considers that, in view of the additional information provided, the comparative analysis is satisfactory, even though a more extensive analysis would have been helpful. The rarity, refinement and pioneering importance in terms of modern development of Rabat have been demonstrated, as have the balance and richness of its historic heritage, in the context of a planned urban ensemble.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Rabat constitutes an original and rare synthesis of 20th century town planning with the culture and traditions of the country.
- The Rabat capital city project was carried out during the Protectorate (1912-1956). It is emblematic of rational land use through its street network, through the specialisation of the quarters, through the architectural typologies associated with the functions, through the use of a planted environment drawing on the European "garden city" concept, and through its public health concerns.
- The project incorporates a full range of monumental, architectural and decorative elements from the various earlier dynasties, each of which had left significant defensive, religious, funerary or residential monuments or ensembles.
- Rabat gives tangible expression to a pioneering town planning approach, based on the conservation of historic monuments and traditional housing. The property bears witness to pioneering regulation, which foreshadowed policies of heritage preservation which developed during the course of the 20th century.
- The reappropriation of the past, and in turn its influence on the architects and town planners of the 20th century, produced a distinctive and balanced urban synthesis, and new and refined decorative forms and motifs.
- The property as a whole provides visible testimony of a heritage which has been shared by a number of major cultures of human history: ancient, Islamic, Hispano-Maghrebian, and European.

ICOMOS considers that this justification is appropriate, as the city of Rabat constitutes a successful and rare synthesis of a modern town planning project and a profound and systematic respect for the heritage of the past. The engineers and architects of the Protectorate succeeded in designing and building a wholly successful capital city, while taking into account pre-existing town layouts and the abundant remains of earlier Moroccan dynasties. They preserved this testimony, and incorporated it into the urban project, introducing a bold town planning approach, based on appropriate regulation, which was a precursor of later projects. The influence of the heritage of the past in return enabled the flourishing of an architectural and decorative style with specific traits, which embody the characteristic stylistic signature of Morocco. The result is a garden city whose urban functions are well distributed, and which embodies a dialogue between the past and the present achieved through a great variety of testimonies, both in terms of functional purposes and periods.

Integrity and authenticity

Integrity

The urban plan of the modern city and its traditional and neo-traditional quarters has been fully conserved. There has been little subsequent impact on the modern city, other than a few high-rise buildings in the 1970s to the south-east of the property. Although abandoned for a time, the *Jardin d'Essais* has been restored, and its original structure has been conserved, together with an extremely valuable heritage of plant species.

The habitat of the various quarters has been maintained in a satisfactory state of integrity. The problems with some buildings are mainly a matter of maintenance or restoration, rather than constituting any threat to their integrity. The role of the quarters designed by the early 20th century town planners has generally been conserved, as has their functional relationship with their environment.

The archaeological elements, such as the site of Chellah, provide insights into the urbanisation of an ancient city, on the edge of an estuary, which is juxtaposed with a Merinid necropolis which has all the features of this type of foundation. The importance of the monumental Hassan Mosque is also clearly readable, thanks to the impressive power of its unfinished minaret and the preserved floor of the prayer area. More generally, the integrity of the urban landscape has been appropriately maintained.

The Almohad town walls have been preserved almost in their entirety, together with a large number of other defensive remains from the various periods of Rabat's history.
In the urban, monumental, architectural and decorative fields, and in terms of the planted environment, the number of constituent elements in the property is considered sufficient to adequately illustrate its values and their inter-relationships.

ICOMOS considers that the various dimensions of the property's integrity are satisfactory; however, it is necessary to carefully monitor the impact of the major construction works currently being considered outside the property and its buffer zone, particularly with regard to the view of the property and the River Bou Regreg from the elevated site of the Kasbah.

Authenticity

Generally speaking, there have been few interventions on the street network or the buildings in the modern city, or on the monumental or archaeological heritage elements. For example, the enclosed funerary area at Chellah has been preserved in its ruined condition. However, certain late-20th century buildings adversely affect the visual authenticity of the modern city to the south, particularly the Es-Saâda building and the Caisse de dépôt et de gestion building.

The medina is an intensively occupied urban sector and has thus been affected by recent alterations, but it has maintained its characteristic features of Islamic town planning. Its built heritage is today attracting interest for the renovation of traditional housing. Generally speaking, interventions have been neither jarring nor shoddy, and renovation programmes are planned.

The mosques have undergone frequent restorations, as in the recent case of the Kasbah Mosque. The mosques are used intensively, and renovation has therefore been a constant feature over time, and the earlier conditions of the buildings are rarely known in any detail.

The authenticity of the use of the various component parts of the city has been well preserved, and this is linked to the maintaining of the functional urban integrity of the city and its street network.

ICOMOS considers that, in the absence of quantified data concerning the authenticity of individual residential buildings, it is difficult to carry out a detailed analysis of the authenticity of the built heritage. Many individual elements however are referred to in the inventory descriptions, and they suggest a high level of authenticity, particularly in terms of perceived urban authenticity. More generally, the conditions of authenticity in urban and monumental terms are satisfactory.

ICOMOS considers that, despite some shortcomings and threats, the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (ii), (iv) and (v).

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the property is considered to be an outstanding example of early 20th century town planning and architecture, at a time when modernist ideas were gaining ground worldwide. It bears testimony to the diffusion of urban concepts originating from Europe in the context of another culture, that of the Maghreb, and in return, to the influence of the local, indigenous architecture and decorative arts on the beginnings of 20th century architecture in the Mediterranean basin. As a synthesis of Moroccan and European elements, the property has a distinctive and wholly new character.

ICOMOS considers that this criterion has been justified. The property embodies a modern urban project which takes inspiration from the earlier Arabo-Islamic heritage. It bears testimony to the diffusion of European ideas of the early 20th century, to their adaptation to conditions in the Maghreb, and, in return, to an interchange of ideas with the local, indigenous architecture and decorative arts.

ICOMOS considers that this criterion has been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the historic ensemble of Rabat constitutes a well documented legacy of diverse successive cultures. It illustrates the adaptive use of traditional materials and techniques, particularly the techniques of pisé with a rich lime content and the cutting of dune sandstone and limestone, whose mastery is visibly demonstrated in a number of the property's monuments. In addition to the use of sandstone for public buildings, the use of modern materials was accompanied by a distinctive architectural approach whereby a contrast was created with materials from earlier periods. The immaculate whiteness of the modern quarters brings out more clearly the ochre of the pisé and sandstone of the city's emblematic monuments.

ICOMOS considers that the property constitutes an outstanding and consummate example of modern town planning for a capital city in the 20th century. It demonstrates a functional organisation of land use based on respect for the values of the past, which are incorporated in a modernist project. The synthesis of decorative, architectural and landscape elements, and the interplay between the present and the past, offer a refined urban ensemble of rare quality.

ICOMOS considers that this criterion has been justified.

Criterion (v): be an outstanding example of a traditional human settlement, land-use or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that the property has been formed in successive stages over the last two millennia. Located in the favourable site of the estuary between the River Bou Regreg and the Atlantic Ocean, the ancient Sala, which later became Rabat, bears witness to the long history of a centre of political power, which was first planned and then put into effect. The synthesis which it offers today bears witness to the lengthy interchange between man and his environment, resulting in the development of a dense and distinctive human settlement.

ICOMOS considers that the property bears insufficient testimony to its relationship with a territory to fully justify this criterion. Firstly it is fragmented, sometimes on a very small scale, which bears scant testimony to a privileged relationship with a particular environment. Secondly, the relationship to the estuary, which was the basis of the geographic determination of the place, and the function as a port, are not present in the nominated property, or only very marginally. For this to have been the case, it would have been necessary to take the Rabat-Salé ensemble together as a whole, and consider the surviving vestiges of the port.

ICOMOS considers that this criterion has not been justified.

ICOMOS considers that the nominated property meets criteria (ii) and (iv) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes

Rabat bears testimony to a capital city conceived during the Protectorate period, in the early 20th century. The project is based on adapting modernist town planning and architectural values to the context of the Maghreb, whilst integrating the project into the framework of the ancient city and its many historic and heritage components.

- The modern town is well conserved, and was rationally designed, with clearly defined functions for quarters, buildings and monuments, and this is reflected both in the visual perspectives of the avenues and the distinctive architectural features;
- The modern town is characterised both by the coherence and complementarity of its public spaces and avenues, and by its implementation of ideas of public health, reflected in the water and sewerage networks, the parks and the planting in the avenues;
- The habitation is illustrated by specific quarters which bear testimony to Arabo-Islamic traditions (medina, Kasbah), residential quarters and middle-class buildings of the modern town, and finally the neo-traditional Habous de Diour Jamaâ quarter;
- The city contains a full range of monumental, architectural and decorative elements from the various

earlier dynasties, each of which has left significant monuments or ensembles, of a defensive, religious, funerary or residential nature;

- Rabat gives tangible expression to a forward-looking approach to town planning, which was careful to conserve historic monuments and traditional housing, and which to this end established pioneering conservation legislation;
- The reappropriation of the past, and its influence in return on 20th century architects and town planners, has produced a distinctive and refined synthesis of urban, architectural and decorative elements;
- The ensemble provides a visible testimony to a heritage which has been shared by several great cultures of human history: ancient, Islamic, Hispano-Maghrebian and European.

4 Factors affecting the property

Development pressures

The capital city of Rabat has undergone substantial development over recent years, at a time of strong demographic growth. This has led to two programmes which are currently being implemented: one is a general development plan (by-pass, tramway, redevelopment project for boulevards, squares and green spaces); the other is the major development project for the Bou Regreg Valley near the property. It is intended to:

- replace the road running alongside the Oudaïa Kasbah with a tunnel beneath the property; this project has been completed;

- open a large-capacity road and pedestrian bridge over the River Bou Regreg (2 x 3 lanes, tramway, pedestrian walkways); it must be sufficiently high to allow the passage of pleasure boats. The bridge was under construction when the nomination dossier was being prepared, and it is now nearing completion. It is located below the Hassan Mosque.

On its own initiative, the State Party indicates that all these projects must be very strictly controlled and monitored, to ensure that the general urban framework of the property is not endangered. It also considers that "*the project of developing the banks of the River Bou Regreg in no way compromises the outstanding views from the city of Rabat over the Medina of Salé and the river estuary which lies between them*".

Other pressures, in the form of land and property speculation, may threaten the social integrity of certain quarters, such as the Oudaïa Kasbah.

In the past a large number of quarries operated on the hillside of Rabat above the River Bou Regreg. All quarrying has today been stopped.

ICOMOS considers that some of the projects are beneficial to the property, such as the construction of the tunnel and the tramway project to reduce traffic congestion in the modern town. But some others have a more questionable visual impact, such as the large bridge under construction over the River Bou Regreg. Similarly, the situation with regard to a projected 16-storey building (sector ZP3) and Grand Theatre must be clarified.

Detailed heritage impact studies must be drawn up for all the infrastructure projects located close to the property, even if they are not explicitly inside the proposed buffer zone (as in the case of some buildings on the right bank of the river), and it is important that the World Heritage Committee is given sufficient advance notice before the projects are implemented, in accordance with Paragraph 172 of the *Operational Guidelines for the Implementation of the World Heritage Convention*.

Tourism pressures

Up to now, Rabat has remained a secondary tourism destination in Morocco, compared with the more popular Marrakesh, Agadir and Fez. The number of visitors is however increasing, and now exceeds 300,000 visitors a year, of whom 60% are foreigners.

Tourism is starting to become a significant economic activity in the capital, but remains well within existing capacities (hotels, museums, restaurants, guided tours, etc.).

Some elements of the property could prove fragile if subjected to intense tourism pressure. This applies to the Chellah and Oudaïa zones.

Environmental pressures

The dense historic fabric gives rise to some environmental problems, because of the aggressive impact of pollution on materials, and in some instances of traffic vibrations on built structures; there are also problems linked to the deterioration of some green spaces and the difficulty of keeping roadways in good condition.

There are natural environmental issues relating to the boundaries of the property and the buffer zone; these mainly concern fragile sectors such as the Bou Regreg Valley and the Atlantic coastline.

During the dry seasons, there is a fire risk in the green spaces, particularly the Jardin d'Essais and the Jardin du Triangle inside the property boundaries. There is also a fire risk for public buildings and housing, but the use of flammable materials is very limited, particularly in zones of traditional housing.

Natural disasters

The Atlantic coast of Morocco is historically subject to tsunamis; the establishment of a regional surveillance and alert system is being considered (Spain, Portugal, Morocco).

The zone in which the property is located is one of relatively high seismic activity, although it is not directly located on a fault line.

The risk of marine erosion on the Moroccan coast is relatively high. The rocky coastline, of irregular consistency, is being undermined and is tending to recede.

Impact of climate change

The coastal erosion phenomenon has been tending to accelerate since the 1970s, and has become more pronounced following the construction of the dam on the River Bou Regreg which now prevents the deposition of sediment.

The rise in sea level is currently estimated to be between 1.5 mm and 1.9 mm annually.

ICOMOS considers that the main threats to the property are the development of major urban projects in the immediate vicinity, particularly along the River Bou Regreg and in its estuary. Heritage impact studies are necessary in order to maintain the visual integrity of the property and the surrounding areas.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The property has a total surface area of 348.59 ha. It has a population of just over 50,000 people.

The Royal Palace, comprising the residences and private areas of the royal family, has not been included within the boundaries of the nominated property because of its dynastic function and the associated security issues. This enclosed area is a symbol of the reigning monarchy and its level of protection is very high. It is managed by specific institutions which ensure that all its heritage is preserved and conserved. This constitutes additional protection for the nominated site, even though the palace area itself is not officially included in the buffer zone.

The town of Salé, on the northern bank of the River Bou Regreg estuary, is closely linked to the development of Rabat both geographically and historically, and in many periods Salé formed a twin element with Rabat. But the choice of Rabat as the capital of the kingdom in the early 20th century led to an urbanisation process and a modern development project from which Salé was excluded. As the Outstanding Universal Value has been focused on the aspect of modern town planning which demonstrates respect for earlier components, the nomination has concentrated on the city of Rabat. Nevertheless, the medina of Salé and its historic monuments are protected at national level. In the view of the State Party, the development project for the banks of the River Bou Regreg does not interfere in any way with the outstanding views from the city of Rabat of the medina of Salé and the river estuary in between them.

The buffer zone extends over three districts of Rabat: Hassan, El Youssoufia and Agdal-Ryad. It mainly includes residential quarters of uninterrupted habitation of relatively high density, with some zones comprising individual villas. These quarters also include urban commercial activities, services and offices, and the Jardin du Belvédère. A certain number of buildings in the buffer zone contain architectural or decorative elements which individually add to the values of the modern city.

On the Atlantic side bordering the buffer zone, a major tourism and leisure development project called “La corniche de Rabat” is being prepared. The designs have been completed. What is unusual about this project is that there should not be any construction right on the sea front, which means that the natural panoramic view of the site should be preserved.

The valley of the Bou Regreg around Rabat is a fragile natural area, which could potentially be threatened by creeping urbanisation. Much of the left bank of the Oued Bou Regreg has been incorporated into the buffer zone, up to the right bank of the river.
The buffer zone also includes vestiges of the Roman aqueduct and of the 19th century forts along the coast.

Following the recommendations made by ICOMOS, the State Party has decided to extend the buffer zone (additional documents dated February 2012) to include the following zones:

- the bed and the banks of the coastal River Bou Regreg near to the historic urban centre,
- the downstream part of the right bank of the River Bou Regreg and its estuary,
- the Salé Medina, on the right bank, north of the nominated property,
- the Lycée Moulay Youssef, between the nominated property and the Royal Palace zone, to the south of the nominated property.

ICOMOS considers that the boundaries of the nominated property have been fully justified by the State Party and that they are satisfactory.

ICOMOS considers that the new extended buffer zone proposed by the State Party in the additional documents provided in February 2012 is satisfactory, and that it follows its recommendations; the surface area and the number of inhabitants in the extended buffer zone need to be specified.

ICOMOS considers that the boundaries of the nominated property are satisfactory and that the extended buffer zone is also satisfactory; the surface area of the buffer zone and its number of inhabitants still need to be specified.

Ownership

Most of the property consists of family-owned private properties, which are owned either individually or jointly, in some cases by real estate companies (31.8%). A significant proportion of the private property belongs to the state (15.5 %).

A large proportion of the land is however not "registered" (47.3%), and registration is in fact not a legal obligation. Properties may have various kinds of ownership status under Muslim common law and under the Moroccan law of obligations and contracts: *Melk* private properties, *Habous* properties (legacies and donations), state-owned private properties, and collective properties belonging to ethnic communities.

The property in the public domain is diversified in ownership terms (the State, ministries, local authorities, religious foundations, etc.) but is relatively limited in terms of land occupation (5.4%).

Protection

Legal Protection

The buildings, the ensembles of edifices, and the sites forming the most important elements of the property are "listed" or "inscribed" as historic monuments of Morocco. Twenty orders have been passed, many of which date back to the Protectorate period and to the origins of the modern city project in the early 20th century. Mechanisms are in place to ensure that the decrees are applied (see the section on Management).

The protection of historic monuments and archaeological sites is essentially based on Law 22-80 relating to historic monument conservation (25 December 1980), and its application decree n° 2-81-25. It sets out procedures for listing and inscription, and defines the basis of protection for listed or inscribed properties.

A new cultural heritage protection law is currently being promulgated which allows for changing heritage concepts and changes in the threats which heritage may face.

The urban areas of the medina and of the Oudaïa Kasbah are governed by orders defining highway regulations and building and works permits: the orders of 31 January 1922 and 8 July 1922.

Generally speaking, the procedure for examining building or works permits affecting the historic urban fabric of the property is subject to the issue of a notice of conformity by a commission comprising the various urban departments and the Inspectorate of Historic Monuments and Sites of Rabat.

The other main legal and town planning documents relating to the property are:

- The Special Development Plan for Bou Regreg Valley (Law 16-04, 2005);
- The Rabat Hassan development plan (approved in 1997), particularly as it relates to Sectors M (Medina) and B (Ville Nouvelle);
- The future Unified Development Plan (PAU) for Rabat provides for the creation of architectural protection zones. The projected plan is intended to provide a framework for appropriate restoration of the built heritage and the non-built heritage, and the protection of the specific character of zones of the new town whose protection is considered to be insufficient or ineffective. It is also intended to better take into consideration the urban landscape at different levels, in particular by regulating building heights. The plan will apply to the main development areas in the buffer zone.

Traditional Protection

The maintenance of buildings, particularly traditional buildings and places of worship, constitutes a form of traditional protection of the property.

Effectiveness of protection measures

ICOMOS considers that the basic measures to protect the monuments and archaeological sites are in place, and that, as the protection has been in place for a long time, it has made a major contribution to the history of the protection of the property.

The new measures announced to ensure more extensive urban protection, protection of the urban landscape formed by the property (new cultural heritage protection law) and protection/regulation of the buffer zone (projected PAU plan) are currently being promulgated.

ICOMOS considers that the legal protection in place is appropriate. It will be reinforced by the promulgation of the new cultural heritage law and of the PAU plan.

Conservation

Inventories, recording, research

The main recent inventories, based on the compilation of earlier information and studies carried out over recent years, are:

- The cultural heritage inventory of Rabat and its region, known as the Strabon programme (2003-2005),
- The architectural inventory of the Habous de Diour Jamaâ quarter, INSAP (2005),
- Mapping and photographic records of the medina monuments, Heritage Directorate (2003),
- Architectural diagnostic report on the medina, Ahmed Iraqi consultancy (2006),
- Inventory of 20th century architecture, Urban Agency (2010),
- Inventory of 20th century architectural heritage and establishment of a geographical information system (GIS), National School of Architecture of Rabat (in preparation),

- Study of 20th century architecture, Architecture Directorate (in preparation).

The main places at which information is compiled are:

- The Heritage Inventory and Documentation Division, Rabat,
- The Photographic Library of the Heritage Directorate, Rabat,
- The Documentation Unit of the Technical Intervention Division, Rabat,
- The Urban Agency of Rabat.

Archives relating to the property during the French Protectorate period exist at the Aix-en-Provence Centre of Archives in France.

Present state of conservation

The properties forming the city of Rabat are generally in a relatively good state of conservation. However, the detailed analysis shows that the state of conservation varies from one quarter to another, and indeed from one element to another inside the same quarter.

The Chellah enclosure wall as a whole is relatively well conserved; substantial progress has been made over the last few years. ICOMOS considers however that the conservation of external stucco and *zellige* is particularly challenging; special attention must be given to the intervention criteria so that the original vestiges are preserved, whilst avoiding any attempts to reconstruct.

The appearance of the Oudaïa Kasbah has been significantly improved as a result of the restoration of the walls, and the programme should be continued at the al-Kebir Gate. The elimination of road traffic between the Kasbah and the medina, by the opening of the road tunnel, has greatly improved the situation. The space freed up must now be reappropriated, paying attention to the heritage context and the role of this space as a link between two elements essential to the value of the property.

In the Medina, the most palpable deterioration is in some streets of shops, where occupiers have carried out renovations which show little respect for the setting. A renovation project has been drawn up for the largest street of this type, the Rue des Consuls. By contrast, in the Medina the return of people is giving rise to renovations which are more in keeping with the ancient architectural values.

The facings of the Almohad wall have been restored over recent years in many places. Although the technical choices are questionable, they are similar to traditional techniques. ICOMOS considers that when carrying out this type of work, the concept of reversibility must always be the guide. The major monumental gates have been restored, and many of them have been converted into cultural spaces.

Because of their symbolic importance, the Hassan Mosque and the Mausoleum of Mohammed V are given a special degree of attention. A cleaning and repointing project is planned for the minaret.

In general, the new town has been conserved in a good state, as a result of the continuity of its public, religious and commercial functions, and of its housing. However, the high-rise building constructed in the 1970s in the nominated property is jarring in view of the architectural unity and urban landscape of the quarter.

After being abandoned for a period, the Jardin d'Essais has been thoroughly restored. Although the restoration was probably excessive in its scope, it has enabled the reintroduction of several plant species which had disappeared, and ICOMOS notes that the discovery of the original plans of the garden will enable work in the future to be carried out in a more appropriate way.

The Habous de Diour Jamaâ quarter has been conserved in a relatively good general state, and has undergone no irreversible alterations. However, much of the housing has suffered from recent overpopulation.

Active Conservation measures

The active conservation measures are governed by the Rabat Hassan Development Plan, which sets out a series of conservation measures. The content of the interventions is stipulated in the 5-year Action Programme of the Heritage Directorate (see section on Management). For the current year, the Programme stipulates the following:

- The plan for the preservation of the Oudaïa residential quarter,
- The plan for the preservation of the medina, including the rehabilitation of the Rue des Consuls,
- The plan for the preservation and restoration of the new town, based on an architectural charter,
- The Hassan Tower restoration project,
- The Chellah archaeological site restoration projects,
- The restoration project for the Bab Lakbir gate in the Oudaïa Kasbah,
- The restoration project for the Bab Laalou gate,
- The cultural and artistic heritage inventory project for the historic ensemble of Rabat.

Maintenance

The maintenance of the public part of the property is carried out by the City of Rabat. Listed and inscribed sites and monuments are managed by the staff assigned to them, under the responsibility of the regional Heritage Service. Private buildings are maintained by their owners and occupants.

Effectiveness of conservation measures

ICOMOS considers that the conservation measures are appropriate. They will be reinforced by the regulatory provisions of the Urban Development Plan (PAU). A more

specific process for providing aid and advice to private owners is also necessary.

ICOMOS considers that the state of conservation of the property is generally satisfactory.

Management

Management structures and processes, including traditional management processes

The overarching structure for steering the cross-functional management of the property and coordinating the decision-making bodies involved in the conservation of the property is currently being set up: the Rabat Cultural Heritage Preservation Foundation. It has been designed to continue on from the nomination, and its brief is to bring together public bodies, elected representatives, civil society (associations), religious foundations and experts, and to manage international relations, under the presidency of the King and his wife. It includes a steering committee bringing together the various players involved in the management and conservation of the property, and is supported by a management committee.

The *National Heritage Directorate* is in charge of scientific management, particularly for restoration work. It is represented by the *Regional Inspectorate of Historic Monuments and Sites* and the *Regional Directorate (or Heritage Service*) which carries out the administrative supervision and management of projects, and their monitoring. It also supervises the Archaeological Museum and the National Jewellery Museum. These administrative institutions should be seen as the technical agents of the management and conservation of the property.

The technical structure for the management of the property, with regard to site and monument administration, is set up at Ministry of Culture level by the Heritage Directorate and its three divisions (studies and technical interventions, documentation, and museums).

The other main set-ups involved in protecting and managing the property are:

- the Royal House for the Hassan site;
- at national level: the Ministry of Habous and Religious Affairs; the Ministry of Housing, Town Planning and Development, and its Architecture Directorate;
- at regional level: the Town Planning Division;
- at sub-regional and municipal level: the Urban Agency and the Town Planning Division of Rabat; the Agency for the Development of Bou Regreg Valley.

At the level of the individual properties, the following three infrastructures are currently in place: the Oudaïa Museum, the Archaeological Museum and the Archaeological Site of Chellah.

Policy framework: management plans and arrangements, including visitor management and presentation

The *Rabat Cultural Heritage Preservation Foundation* has drawn up an Action Programme for 2012, for the monitoring and coordination of the actions set out in the Management Plan, particularly for the conservation of the property; 14 actions are planned for this purpose.

Various legal texts set out the framework for the management of the property, particularly as regards restoration and the technical maintenance of the property. All regulatory and organisational provisions, and the Five-Year Action Programme (see section on Conservation) are grouped together in the *Management Plan*.

Mention should also be made of other royal, ministerial and municipal (Town Planning Agency) initiatives, and of regional initiatives (Agency for the Development of Bou Regreg Valley), which are as follows (in addition to the conservation programmes mentioned above):

- the national archaeological museum project,
- the rehabilitation of the former head office of the Ministry of Communication,
- the Rabat Green Plan project, etc.

Risk preparedness

Various climatic and environmental parameters are monitored, in the light of potential threats. A fixed facility for the monitoring of air pollution caused by road traffic is in place. The upcoming opening of the tramway should lead to a reduction in the use of private vehicles in the historic centre of Rabat.

The coordination of civil protection emergency services involves several intervention plans, with regard to risks linked to buildings and constructions, flooding risks, and risks of fires including forest fires.

Involvement of the local communities

Local communities are currently involved through the Municipality of Rabat, and (in the case of cultural and spiritual places) through religious foundations. A public opinion survey is being considered.

Resources, including staffing levels, expertise and training

The Foundation has its own permanent executive staff (February 2012) – including an executive director (a heritage architect and geographer), a heritage architect, an architect/town planner, an archaeological curator - and various administrative staff.

In the various units in charge of the property, the staff with higher or specialised qualifications are:

- heritage curators, of whom there are 33,
- archaeologists: 26
- architects and town planners: 10
- administrative staff and legal specialists: 5
- specialist technicians: approximately 50.

The Prefecture of Rabat also has a considerable number of technicians (15), labourers (67), gardeners (200) and guards (127).

Training courses in heritage conservation, architecture and archaeology are available locally.

The closed archaeological site of Chellah, the palaces and other buildings open to the public, the museums and the other heritage locations are specifically guarded. In all, around fifty guards are available, and the same number of technical and administrative staff. The public places and emblematic monuments, such as the Hassan Mosque, are kept under appropriate public surveillance, and they have a large number of staff (80) available for this purpose. There are several police stations inside the property. No details are given about the staffing allocated to monuments, sites and museums. There are for example around 20 guards at the archaeological site of Chellah.

Scientific cooperation arrangements are in place with the École de Chaillot in Paris and with the French Ministry of Culture.

The total funding announced indicates that all three main providers of funds (the State, the regional prefecture and the municipality) are making a roughly similar contribution: between USD6m and USD7m each.

ICOMOS considers that the projects have been quantified in cost terms, but the scheduling and the implementation timetable are not always easy to understand.

Effectiveness of current management

ICOMOS considers that a management system is in place, under the highest overarching authority of the *Heritage Preservation Foundation* and under the technical responsibility of the Heritage Directorate. The system is based on a management plan which covers the main projects for the protection, conservation and enhancement of the property and its environment. It would be advisable if the presentation of these programmes focused more clearly on the specific conservation needs of the property, distinguishing them from other urban and cultural projects, and projects which affect the buffer zone or the more distant environment; an implementation timetable is also necessary to enable a better understanding of the management planning.

ICOMOS considers that a management system is in place, and that it is based on an effective Management Plan for which financial costings have been made. ICOMOS recommends that the Management Plan should make a clearer distinction between property conservation projects and other projects, and that it should include a detailed timetable for implementation.

6 Monitoring

It is announced that the monitoring of the property is to be put in place. It will be based on a series of indicators, divided into the following main categories:

- the evaluation and diagnosis of the state of conservation of the properties, which will be indicated on a map,
- public opinion surveys,
- a photographic analysis of changes in the state of properties carried out at regular intervals,
- the use of new 3D technologies for the monitoring of the state of certain monumental buildings, such as the Hassan Tower, the Almohad gates and the gate of Chellah,
- a survey of the use and occupation of the residential buildings,
- a measurement of the ratio of encroachment on archaeological remains and historic monuments.

The persons responsible for these main indicators and their details are defined, the frequency of implementation in most cases being annual.

ICOMOS considers that the monitoring project is broadly satisfactory, but that it would benefit from being strengthened in terms of the monitoring of urban housing, both in the traditional quarters and in the new town.

7 Conclusions

ICOMOS recognises the Outstanding Universal Value of Rabat, modern capital and historic city, and its heritage, which is shared between various historical periods and civilisations.

Recommendations with respect to inscription

ICOMOS recommends that Rabat, modern capital and historic city, a shared heritage, Kingdom of Morocco, be inscribed on the World Heritage List on the basis of **criteria (ii) and (iv)**.

Recommended statement of Outstanding Universal Value

Brief synthesis

Rabat bears witness to a capital city conceived at the time of the Protectorate, at the beginning of the 20th century. The project successfully adapts modernist town planning and architectural values within the context of the Maghreb, whilst incorporating them into the framework of the ancient city with its many historic and heritage components. The result embodies the emergence of a distinctive architectural and decorative style which is characteristic of contemporary Morocco.

The well-conserved modern city has been rationally designed, and contains quarters and buildings with clearly defined functions and significant visual and architectural qualities. The modern city is characterised by the coherence of its public spaces and by the putting into practice of public health ideas (services, role of vegetation, etc.). The habitat is illustrated by quarters with clearly asserted identities: the Medina and the Kasbah, the residential quarters and the middle-class housing of the modern city, and finally the neo-traditional quarter of Habous de Diour Jamaâ. The city includes a full range of monumental, architectural and decorative elements from the various earlier dynasties. The modern city of Rabat tangibly expresses a pioneering approach to town-planning, which has been careful to preserve historic monuments and traditional housing. The reappropriation of the past and its influence on 20th century town planners and architects has resulted in a distinctive and refined urban, architectural and decorative synthesis. The property as a whole makes visible a heritage shared by several major cultures of human history: ancient, Islamic, Hispano-Maghrebian and European.

Criterion (ii): Through its urban ensemble, its monuments and its public spaces, the modern city of Rabat shows respect for, and draws inspiration from, the earlier Arabo-Muslim heritage. It bears outstanding testimony to the diffusion of European ideas in the early 20th century, their adaptation to the Maghreb, and in return the influence of local, indigenous styles on architecture and decorative arts.

Criterion (iv): The city constitutes an outstanding and fully realized example of modern town planning, for a 20th century capital city, achieved by functional territorial organisation which incorporates the cultural values of the past in the modernist project. The synthesis of decorative, architectural and landscape elements, and the interplay between present and past, offer an outstanding and refined urban ensemble.

Integrity

The various dimensions of the integrity of the property are satisfactory: the balance between the urban plan of the modern city and the conservation of its many earlier urban strata, the integrity of the habitation in the various quarters, the integrity of the archaeological ensembles, the adequately conserved fortifications of the Almohad wall, etc. However, it is necessary to carefully monitor the impact of the major works being considered outside the property, particularly with regard to the view of the property and of the River Bou Regreg from the Kasbah site which overlooks them.

Authenticity

Many individual elements are indicated in the inventory descriptions, and it is clear that the elements forming the property have a high level of authenticity, particularly as regards perceived urban authenticity. More generally, the conditions of authenticity in urban and monumental terms are satisfactory. However, quantified data concerning the individual authenticity of the residential buildings would be a useful addition to the inventory system already in place.

Management and protection requirements

The measures to protect the urban ensembles, the monuments and the archaeological sites are in place. Because of its introduction from an early date, the legislation which applies to the city of Rabat has made a fundamental contribution to the history of its conservation as an urban ensemble which is both ancient and modern. The new measures announced concerning more extensive urban protection and the protection of the urban landscape formed by the property are currently being promulgated.

The management structure is in place, and is coordinated by the new overarching authority of the *Rabat Cultural Heritage Preservation Foundation*. It relies, with regard to technical and scientific matters, on the National Heritage Directorate, and on various other bodies responsible for specific elements of the property, together with the services of the Municipality and Prefecture of Rabat. A large number of qualified staff are assigned to the conservation and management of the property. All the regulatory and organisational provisions, and the 5-Year Action Programme, are set out in the Management Plan.

ICOMOS recommends that the State Party give consideration to the following:

- Specifying the surface area of the new buffer zone and the number of inhabitants;
- Promulgating the draft laws (new heritage law) and draft regulations (landscape regulation associated with the new PAU);
- Better distinguishing between property conservation projects and other urban, cultural or buffer zone projects, and schedule them by setting out a detailed timetable;
- Carrying out heritage impact studies with regard to the major urban projects for the city and for the Bou Regreg Valley, in order to guarantee the visual integrity of the property and its surrounding areas,

and submit the projects to the World Heritage Centre in accordance with Paragraph 172 of the *Operational Guidelines for the Implementation of the World Heritage Convention*;

- Systematically documenting the state of conservation and authenticity of the buildings in the inventories, and if possible express the results in terms of quantified and mapped indicators;

- Clarifying, and strengthening, the technical and financial aid to be provided to local residents to encourage high-quality conservation of private buildings;

- Reinforcing the monitoring of the urban habitat, both in the traditional quarters and in the new town.

Map showing the revised boundaries of the nominated property

View of Boulevard Mohammed V

The Medina of Rabat

The Oudaïa Kasbah

The Hassan Mosque and its immediate surroundings

Al Zubarah Archaeological Site (Qatar)
No 1402

Official name as proposed by the State Party
Al Zubarah Archaeological Site

Location
Madinat Ash Shamal Municipality
State of Qatar

Brief description
The walled coastal town of Al Zubarah flourished for a short period of some fifty years in the late 18th and early 19th centuries and is seen as one of the most important centres of pearl diving and pearl trading in the Arabian Gulf. The town is believed to have been founded by Utub merchants from Kuwait. At the height of its prosperity, Al Zubarah had trading links with the Indian Ocean, Arabia and Western Asia. The town was mostly destroyed in 1811 and finally abandoned in the early 20th century, after which its remaining rubble stone and mortar buildings collapsed and were gradually covered by a protective layer of sand blown from the desert. A small part of the town has been excavated. The property consists of the remains of the town, its harbour and defensive walls, and, on its land side, a canal, two screening walls, cemeteries, the fort of Qal'at Murair, with evidence of how the desert's supplies of water were managed and protected, and a further fort constructed in 1938.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of two *sites.*

1 Basic data

Included in the Tentative List
18 March 2008

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
31 January 2011

Background
This is a new nomination.

Consultations
ICOMOS consulted its International Scientific Committee on Archaeological Heritage Management and several independent experts.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 16 to 20 October 2011.

Additional information requested and received from the State Party
None

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
Strategically located in the Arabian Gulf between the Indian Ocean and western Asia, Al Zubarah was one of many towns to have existed in the Gulf over the past millennia whose prosperity was based on sea trade.

Al Zubarah was not the largest but certainly was one of the most prosperous towns in a short period between around 1760 and 1811 AD when it is believed that its prosperity was based on pearl diving.

What distinguishes Al Zubarah from other towns is the fact that it was abandoned and its layout has been preserved under the desert sands.

It also sits in an desert landscape within which have survived the remains of small fortified coastal and inland settlements, some of which could have had symbiotic relationships with the town, perhaps providing fish, livestock and the protection of artesian wells, while others had earlier origins and were abandoned as Al Zubarah expanded. These smaller settlements are not included in the nominated area and are also outside the buffer zone but are part of its wider setting and contribute to an understanding of its context.

In detail the property consists of the following:

- Town
- Harbour
- Screening walls
- Canal
- Cemeteries
- Qal'at Murair
- Al Zubarah Fort

Town

The town appears to demonstrate an overall planned layout of neighbourhoods, palaces, squares and the outer town wall.

There are two town walls, the outer one representing the main phase of the town between c. 1760 and 1811AD. This outer wall is constructed of undressed coral limestone bonded with lime mortar and included twenty-two circular towers that were integrated into the pattern of houses. The later inner wall was lower with eleven towers and overlays the earlier street patterns. The walls are preserved in layout over several kilometres. A few of the towers have been re-constructed.

Within the town there are two distinct palatial compounds of a form that is found in many other parts of the Gulf such as at Masmak in Saudi Arabia or Jabrin, Oman. However at Al Zubarah they are clearly seen to be part of a planned urban form and their complete layout has been preserved. Parts of the palaces have been excavated. Near to these palaces are two large public squares and adjacent to one of these a mosque site has been identified.

The town plans shows clearly the sub-division into neighbourhoods with clusters of courtyard houses that might reflect different activities related to different parts of the town.

Between 500-600 buildings have been identified, suggesting a population of around 5,000 to 6,000 people. Courtyard houses are the most common architectural form. Many display porticos and entrance halls sometimes with traces of elaborate gypsum plaster decoration that reflects the prosperity of the town.

Near the beach, excavations have recovered evidence for more ephemeral houses of timber and palm thatch, of a type once common around the Gulf and which were possibly associated with fishermen or pearl divers.

Harbour

The harbour was protected to the north by a spur of the town wall that extended into the sea by some 50 metres, and culminated in a round tower. In 1895 British warships sank a large number of dhows in the harbour (see History below) and their remains could still be preserved underwater.

Screening walls

Two almost parallel screening walls with round towers at regular intervals extend from the outer town wall inland towards the remains of the small fort of Qal' at Murair. The northern wall now extends to 1.3km, while the southern wall extends to around 0.9km. Both have been destroyed beyond a modern road. The walls appear to have offered protection for a water supply from Qat' at Murair.

Canal

The canal predates the screen walls as it was partly filled in by the southern wall. The canal runs from Qat' at Murair to the sea, a distance of some 1.76km. It is on average 20metres wide 1.5 to 2.0 metres deep. From written records it appears to have facilitated the transport of goods and water to and from the fort. Satellite imagery suggests it originally ran some 300 metres further inland.

Cemeteries

Outside the town there are remains of three cemeteries.

Qal'at Murair

This fort was constructed in 1768 on a raised escarpment overlooking the town. It was destroyed between 1960 and 1970. Remains of three wells are within the walls of the fort and there are several more outside on the escarpment. Excavations have revealed a large cistern for storing water.

Linked to the fort are several enclosures that could have been used for cattle or for the cultivation of date palms.

Al Zubarah Fort

This was constructed in 1938 as a military and police post. Its form and parts of its construction reflect the tradition of fort building around the Gulf. It is unrelated to development of Al Zubarah.

History and development

There is little evidence for early settled habitations in northern Qatar, although rock art and low burial mounds attest to some possibly seasonal occupation perhaps related to fishing or pastoralism in pre-historic times. In early historical times the region was associated with the breeding of fine horses and camels.

It is only from the 9th century, in the later Abbasid times, that evidence for significant settlement begins to appear. The only early settlement that has been excavated is Murwab were around 150-200 houses were organised along a central avenue.

From the 9th century onwards the area became more densely populated, perhaps as a result of the pearl trade, although most settlements were not on the coast. Coastal settlements began to be developed in significant numbers between the 14th and 18th centuries. They were fortified and reflect intense exploitation of marine resources including fishing for pearls.

Al Zubarah appears to have been founded in the 18th century as a result of an Utub migration from Kuwait – although it is acknowledged that it is not yet known whether there was already a sizeable settlement in existence at the time of these migrations. The exploitation of pearls is suggested as a reason for this migration. Al Zubarah soon expanded with an influx of merchants from Basra and more from Kuwait who took advantage of its 'tax free' status. By the 1770s it was the largest settlement in the Arabian Gulf.

Disputes arose with the Persian governor of Bahrain that led to a series of skirmishes. In 1783 Kuwait supported a successful invasion of Bahrain and this allowed the Utub

Al-Khalifas to expand their influence in Bahrain. The independent Al-Khalifas shifted their allegiance between Oman, Iran and the rising Wahhabi factions in central Arabia. Regional instabilities eventually led the Sultan of Oman to launch an attack on Al Zubarah in 1811 and it was burnt to the ground.

Only around a third of the settlement was subsequently re-inhabited and Al Zubarah became eclipsed by other towns. As a result of its involvement in a dispute in 1895 between the Ottomans and Bahrain, which was supported by the British Empire, during which 44 dhows were sunk in the harbour, the settlement was largely abandoned.

There have been two phases of excavation at Al Zubarah under the direction of the Qatar Museums Authority (QMA) and its predecessor. The first was in the early 1980s and the second between 2002 and 2003. In all, only a small part of the site (2.5%) has been investigated. In 2009 the Qatar Islamic Archaeology and Heritage Project (QIAH) was lunched jointly by the QMA and the University of Copenhagen. This is a ten year project that aims to research the site and preserve its fragile remains. So far five further small areas have been excavated and a complete survey of the site has been undertaken, which in time will allow a much more thorough understanding of the archaeology of Al Zubarah.

As the nomination dossier states "*although much has been discovered about the settlements' history, layout and development, there are still crucial lessons to be learnt and only further excavations in key areas can provide a more detailed understanding of its development and phasing. While there is a preliminary theory about the chronology of Al Zubarah a full history of Al Zubarah is still 'open to conjecture'."* In particular is not known whether there was a flourishing settlement on the site prior to the 18th century and the arrival of the Utubs. What also needs to be better understood is the relationship between Al Zubarah and its hinterland. Many coastal towns had symbiotic relationships with their rural areas. Al Zubarah still sits in desert landscape and the smaller settlements on which it might have depended also still exist as ruins.

ICOMOS considers that Al Zubarah could perhaps have the capacity to throw light on a complex interaction between nomadic herders, pearl divers, fishermen and traders that once characterised a way of life in the Gulf.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The analysis in the nomination dossier is based on comparison with other pearl trading centres in Qatar, in the Gulf and worldwide. It also offers comparisons with other merchant settlements already inscribed on the World Heritage List.

Comparisons are made with two inscribed sites in the Gulf, Qal'at al-Bahrain – Ancient Harbour and Capital of Dilmun, Bahrain (2005, criteria (ii), (iii) and (iv)), and the Land of Frankincense, Oman (2000, criteria (iii) and (iv)), and also with the Ruins of Loropéni, Burkina Faso (2009, criterion (iii)), and with the Iwami Ginzan Silver Mine and its Cultural Landscape, Japan (2010, criteria (ii), (iii) and (v)). With all these examples similarities are suggested rather than differences, with the conclusion being drawn that all provide a compelling insight into trade networks.

The analysis states that for 'millennia' the primary focus of the global pearl industry was the Arabian Gulf which provided some 60-70% of the world's pearls. Nevertheless there were other centres between India and in Sri Lanka, in the Philippines, and in the Caribbean. In Sri Lanka, development has overlain the traditional ports and pearl fishing grounds. In Jolo, Sulu Islands, in the Philippines, the fortified remains of a once extensive town were apparently bombed in 1973 during political instabilities and information is difficult to obtain on its current status. The once great pearling (and slave) town of Nueva Cadiz, Venezuela, established by the Spanish, was abandoned in 1541 after an earthquake and tsunami and its ruins are currently neglected with some parts covered by modern structures.

Within the Arabian Gulf, a group of towns are identified that were the focus of the pearl trade between the mid-17th century to the 19th century, when the complex geopolitics of the area led to many settlements being newly created or re-built in response, in particular, to the arrival of the Utub tribe from Arabia and to the rivalry between certain centres of power.

On the Persian shore are Nakhilu, Bandar Lingeh, Bandar Abbas, and Bushire. Only Bandar Lingeh survives as a small trading town that has not been completely re-developed.

In the Upper Gulf, are Kuwait City, Qatif, Awal (modern Manama), and Muharraq, (part of which was nominated in 2010 by the Kingdom of Bahrain as *Pearling, Testimony of an Island Economy* and referred back by the Committee at its 35th session, Paris, 2011) and all except Muharraq have had their trading centres erased by later development.

In the Lower Gulf are Muscat, Jazirat al Hamra, Dubai and Abu Dhabi. In all except Jazirat al Hamra has the evidence for pearl trading activities been lost. Jazirat al Hamra was abandoned in the 1970s and at that time did present all the aspects of an early 20th century mercantile settlement that unlike Al Zubarah had not been raised by fire. However, it is now a victim of land pressure combined with neglect and these have brought significant changes.

Within Qatar there were a few settlements along the coast associated with pearling such as Huwella, and its close neighbour, Fuwairit, and Al Bida near Doha. But

the first two were demolished in the early 19th century and Al Bida has been absorbed into Doha.

The conclusions are that within the Gulf the settlements "*exhibit notable, but limited, information on the Gulf pearl trade and its role in global mercantile culture. The physical remains of such sites are in poor condition, if they survive at all, and are in all cases divorced from their supporting hinterland. Unchecked urbanisation and minimal protection have regretfully led to the destruction, loss or neglect of many of these sites."*

ICOMOS notes that, as presented in the nomination dossier, compared to other pearling sites in the Gulf, Al Zubarah does present a more complete ensemble of urban archaeological remains in its totality. However, it should also be noted that some of the other Middle Eastern pearling sites have actually more intact and integrated 'still standing' architecture as compared to Al Zubarah. More fundamental, however, is the issue that so far no direct and substantial link between the remains of Al Zubarah and the pearling industry has been established.

What the comparative analysis does highlight is the fact that Al Zubarah survives as an intact ruin in its landscape and as such might have the potential, on the basis of further research, as suggested elsewhere, to be seen as exemplifying urban coastal settlements in the Gulf and their inter-relationship with desert settlements and desert use over time.

ICOMOS considers that the comparative analysis does not justify consideration of the property, as currently nominated, for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Al Zubarah Archaeological Site is the Gulf's most complete and well preserved pearl trading and diving town of the 18th-19th centuries that reflects human interaction with the land and sea.
- The town played a pivotal role in the historic phase of development of the pearl industry, as it represented one of the most prolific and crucial international trading ports in the region.
- The site reflects the history of tribal migration in the Arabian Gulf, as it was founded by merchants arriving from Kuwait and Basra in the search for pearls.
- Al Zubarah also represents a unique mode of occupying a fragile desert ecosystem, which includes a particular system of water management.
- The port was the Gulf's most important trading hub, connecting the Indian Ocean with Arabia and western Asia, and highlighting how trade and exchange connected people from east and west economically, socially and culturally.

ICOMOS considers that this justification for Al Zubarah being outstanding for its associations with the pearling industry cannot be said to be rooted in evidence either from archaeological investigations or from archival sources. The nomination dossier suggests that the apparent deliberate planning of al Zubarah could reflect the zoning of the town to reflect specific areas for pearl traders but so far no evidence has been revealed to substantiate this idea.

It is clear that Al Zubarah was a flourishing settlement for a period of around fifty years and that from its position on the coast and its fortified harbour; its prosperity must have been linked to maritime activity and trade. Its prosperity may have been primarily based on the pearl industry but this needs to be proved.

The nomination dossier states that *"Decorative elements, elaborate architecture, and an emphasis on receiving guests in the appropriate manner all indicate that these houses were occupied by those members of Al Zubarah's urban society who were directly involved in the fishing of and trading in pearls."* However, this statement is not enough to prove the linkage between the pearl industry and the particular architectural elements therein identified.

In order to substantiate possible links between Al Zubarah and the pearl industry, there is a need to seek concrete evidence on the association of this industry to tangible remains, such as types of buildings, as well as to supportive documentary sources and perhaps also to oral traditions.

Currently there is a degree of uncertainty about what evidence exists, as suggested in the dossier when reference is made to "potential" features, such as for example – the *"potential mosque"*.

The nomination dossier also acknowledges that the full history of Al Zubarah is still open to conjecture.

The new Qatar Islamic Archaeology and Heritage Project is beginning to bring to the site a concerted approach which, through a combination of survey and targeted test excavations, should begin to shed more light on the way the city developed and the basis of its prosperity.

If this project could also investigate archival material, oral history and underwater archaeological evidence then a more rounded picture might emerge as to whether pearling was what primarily underpinned Al Zubarah's trade.

On the basis of present knowledge, ICOMOS does not consider that the urban remains of Al Zubarah can be said to be an outstanding reflection of the pearl industry of the Gulf.

However what is so far known about Al Zubarah suggests that the overall settlement, together with what

appear to be satellite settlements that supported the main city through provision of cattle or water, might on the basis of more research, be able to present a vivid picture of small 'city states' in the Gulf and how they related to their desert hinterland. It would appear that such a picture might be forthcoming after more has been discovered about the settlements and about the history, layout and development of Al Zubarah as a result of the QIAH project. With this detailed information it should become clearer as to how Al Zubarah developed, what the basis of its prosperity was, how the town was organised and how it related to its hinterland. The possibility of nominating Al Zubarah as an exceptional example of small Gulf City State could then perhaps also be considered.

Al Zubarah currently sits within a desert landscape. The relationship between the town and this setting, not just in visual terms, but also in terms of how the town was supported by this landscape, needs to be much better understood and the relationship protected.

Integrity and authenticity

Integrity

The integrity of the Al Zubarah site relates to how far its remains can be said to include all the attributes of potential Outstanding Universal Value. Currently with the present state of knowledge, there is almost nothing that can be said to convey directly the activities of the pearling industry. Further research is needed to try and substantiate that link if the Outstanding Universal Value linked to pearling is to be substantiated.

If such a link can be found then the issue of how far the remains could be said not to be under threat would become an issue. If the city as a whole could be said to reflect specifically the way the pearling trade was organised and the wealth it generated, then the issue would be how far the physical evidence on the site is intact.

As the town was raised to the ground in 1811, with only parts of its being revived, and apparently for a much changed use as its power base had changed, and as only part of the town has been investigated, ICOMOS considers that it is not clear whether what survives can be said to provide detailed and exceptional evidence for the way it was organised and how it functioned. Further work is needed to determine the percentage of the nominated property's urban fabric that was destroyed in 1811.

As has been set out above, on the basis of the current QIAH project, the full socio-economic history of the town might become clearer. If the focus in the future is on the value of the town as an outstanding example of an urban settlement in a desert landscape (rather than on pearling), then the links between the town and its landscape could become crucial to understanding its prosperity. This would have a bearing on what the full extent of attributes might be and how much of the landscape should be within the boundaries.

Authenticity

Authenticity relates to how far the attributes can convey clearly their value. In terms of the overall evidence within Al Zubarah, ICOMOS considers that much more work is needed to understand what evidence is buried beneath the sand that might allow Al Zubarah to be considered exceptional either for its association with the pearl industry or perhaps for other aspects of its planning and organisation that has so far not been represented on the World Heritage List.

Depending on what further research reveals, the authenticity of the relationship between the town and its desert hinterland might need to be considered.

ICOMOS considers that the conditions of integrity and authenticity have not so far been met on the basis of present knowledge.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii) and (v).

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

The criterion is justified by the State Party on the grounds that the abandoned settlement of Al Zubarah is a unique testimony to the merchant and pearl trading tradition of the Arabian Gulf during the 18th and 19th centuries and is the only complete urban plan of an Arabian pearl-merchant town.

ICOMOS considers that what has not so far been substantiated is the crucial link between the pearling economy and the physical remains of Al Zubarah and until such a testimony can be demonstrated, or the physical remains linked to other exceptional socio-economic regimes, this criterion cannot be justified in the way suggested.

ICOMOS considers that this criterion has not been justified on the basis of the evidence presented.

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that Al Zubarah Archaeological Site bears unique testimony to the human interaction with both the sea and the harsh desert environment of the region. Pearl divers' weights, depictions of dhows, and imported ceramics show how the town's development was driven

by trade and commerce, and how closely the town's inhabitants were connected with the sea.

ICOMOS considers that this justification which is not directly related to the pearl industry would need to be supported by much more detail about the development of the town and its economic base and by a detailed comparative analysis of other maritime towns to make a case for why Al Zubarah's physical remains demonstrate an exceptional link with the sea. There are many dozens of towns around the Gulf Region whose economies were also closely linked with maritime exploitation and where their survival depended on harvesting scarce water resources. Ship engravings on walls are also common – particularly around the eastern side of the Indian Ocean and in most trading towns from India round the Gulf to East Africa can be found hoards of shards from imported pots.

ICOMOS considers that the results of the current QIAH project, based on survey and key targeted excavations, perhaps combined with more archival and underwater archaeology, and with more detailed surveys of the satellite settlements, are needed before a clear understanding of the development and phasing of the town, of precisely how it functioned in relation to the sea and to its desert hinterland, and of whether its urban plan is unique or typical, is forthcoming.

ICOMOS considers that Al Zubarah might have the potential to fulfil this criterion in the future on the basis of further research, survey and targeted excavations – as planned in the QIAH project - that looks more widely than the pearling industry, and more widely than maritime links to develop an understanding of the way the town functioned in relation to both the coast and its hinterland.

ICOMOS considers that this criterion has not so far been justified on the basis of the evidence presented.

ICOMOS does not consider that the criteria and Outstanding Universal Value have been justified at this stage.

4 Factors affecting the property

Development pressures

The site is a fairly remote desert area. However, while it has remained largely away from development pressures since it was abandoned, major infrastructure projects that are planned could begin to change completely the wider setting of the site.

A 40 km Qatar–Bahrain causeway and bridge is planned to be routed a few kilometres south of Al Zubarah Archaeological Site. This could impact adversely on the visual integrity of the site that currently sits within an open desert landscape.

However, the ICOMOS mission was informed that the Qatari authorities have decided to re-route the causeway a few kilometres south of the Buffer Zone, in order to minimise its visual impact. A large interchange and border customs terminal that were planned for a site to the south-west of the Buffer Zone have also been moved further east. However no firm plans have been presented and it would be necessary for a major project such as this to be subject to a detailed Heritage Impact Assessment to consider its impact on the value of the property.

The nomination dossier states that the Management plan sets up a coordination mechanism that will oversee the design and implementation of the bridge project and guarantee that it does not impact on the property's Buffer Zone. ICOMOS considers that the mechanism needs to ensure it does not impact adversely on the wider setting of the site.

A further large infrastructure development project at Madinat Ash Shamal, north-east of the Buffer Zone is related to the 2022 FIFA World Cup. The ICOMOS mission was informed that this will not encroach on the site, or on the Al Reem Biosphere Reserve, or on the National Heritage Park of Northern Qatar, as they are all legally Protected Areas. The tournament spectators for Ash Shamal stadium will be arriving from Doha via the main eastern coastal road and the Bahrain-Qatar Causeway Bridge to the south, causing minimal impact on the site.

Tourism pressures

The development and promotion of Al Zubarah as a major tourist attraction could draw large numbers of visitors, especially in winter time. The impact resulting from heavy tourism on the archaeological fabric of the site, if uncontrolled, could threaten the integrity of the surviving fragile remains. ICOMOS considers that these concerns will need to be addressed by a discrete Tourism Strategy, as envisaged in the Management Plan.

Environmental pressures

The harsh desert climatic conditions in north-west Qatar and the erosion processes caused by the sea and wind threaten the survival of the archaeological fabric of the site over time.

Rising sea water levels as a result of global warming could also pose a threat to the site. The fact that the town of Al Zubarah lies at seashore level and is surrounded on three sides by a *sabkha* makes it vulnerable.

ICOMOS considers that such challenges need to be addressed by a Conservation strategy for the site that sets out what interventions would be possible and desirable.

ICOMOS considers that the main threats to the property are the extremely fragile nature of the archaeological remains and potential major infrastructural developments that could have an adverse impact on the relationship between the town and its desert landscape.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The nominated property includes the entire remains of Al Zubarah town with its associated structures and features running inland.

The Buffer Zone surrounding the site encompasses a large area of landscape within which are various archaeological sites of Qal'at Shuwail, Helwan, Gebel Freiha and the abandoned village of Ain Muhammad. The Buffer zone also extends into the sea enclosing the harbour area and an extensive coral reef system off shore.

The Buffer Zone is surrounded to the south and south-west by Al-Reem Biosphere Reserve, its buffer zone and terrestrial and marine transition areas (about 200,000 ha). This offers Al Zubarah Archaeological Site an extra 'buffer zone' adequate to control any future urban development in the region and protect the wider natural setting of the site.

ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate.

Ownership

The Al Zubarah Archaeological Site is owned by the government.

Protection

Legal Protection

Al Zubarah is designated as an archaeological site according to the Law of Antiquities no. 2 of 1980, and its amendment, Law no. 23 of 2010. As such, it is a legally protected property.

It is the intention also to provide the buffer zone with legal protection. ICOMOS notes that the official approval of the Buffer Zone limits is not yet completed by the concerned planning authorities. The ICOMOS mission was assured that once the limits have been formally ratified, no permits will be granted for any economic or real estate development within the buffer zone.

Al Reem Biosphere Reserve and the National Heritage Park of Northern Qatar, in which Al Zubarah Archaeological Site is included, have the status of legally Protected Areas. These effectively extend protection to the wider setting and will be crucial in insuring that any regional development, especially of Madinat Ash Shamal, will respect the protection and conservation of the cultural and natural heritage of the region.

The ICOMOS mission learnt that Madinat Ash Shamal Structure Plan has already been submitted but not yet approved. The mission was informed by the Ash Shamal Municipality official that the Structure Plan would guarantee the protection of the site from any urban encroachment from the north-east. This is relevant to the large infrastructure development proposals related to preparations for the 2022 FIFA World Cup.

The Management Plan received in January 2012, see below, sets out a raft of new policies for the protection of Qatar's cultural heritage that have been developed or are being developed. These include the National Development Strategy, 2011, and the Qatar Master Plan, 2011. Further Plans in progress include the Qatar National Development framework and Municipal, City and Local Area Plans.

Effectiveness of protection measures

Given the open nature of the wider setting of the site and the potential major development projects that are being considered, there is a need to ensure that there are mechanisms in place to allow major projects outside the buffer zone to be scrutinised for their impact on the site.

ICOMOS considers that the protective measures for the property will be adequate when the buffer zone limits and the Madinat Ash Shamal Structure Plan have been officially approved.

Conservation

Present state of conservation

ICOMOS notes that the conservation and consolidation of the surviving and newly exposed archaeological structures of Al Zubarah, pose a major challenge. They are highly vulnerable to deterioration from the harsh environmental conditions. Erosion caused by the sea and desert winds, together with drastic changes between day and night time temperatures, constitute the most critical threat. Samples taken of mortars show a high saline level that can weaken their strength.

The earliest conservation works at the site were carried out following the initial archaeological excavations in the 1980s. These focused primarily on excavated buildings and segments of the outer town wall. Old stones were used to re-build additional courses on some walls, while other walls were extensively reconstructed. The mortar used in these works was mainly cement-based (rather than the softer lime of the original walls) and the walls were capped with a cement coat. Today after nearly three decades of neglect these harsh materials have caused substantial decay of the exposed walls around and beneath the cement mortar causing some collapses to the structures.

In 2009, the Qatar Islamic Archaeology and Heritage project (QIAH) was started. This is a ten-year research, conservation and heritage initiative, being undertaken jointly with the University of Copenhagen, to investigate the site, preserve its fragile remains, and work toward the presentation of the site to the public.

The first phases of the project have covered documentation using modern 3D laser scanning and more traditional techniques to provide an holistic assessment of the state of conservation of the old excavation areas; and an exemplary inventory and catalogue of the state of conservation of two parts of the site, one of which is the excavated parts of the town wall, together with a preliminary mortar and plaster analysis.

ICOMOS notes that currently there is no defined conservation strategy. This awaits the outcome of a series of further surveys and conservation experiments. Their aim is to assess different restoration techniques, materials and methods specific to the extreme environmental conditions at Al Zubarah. The nomination dossier states that as of January 2011 this evaluation work is still in progress.

Effectiveness of conservation measures

ICOMOS considers that the challenges facing the conservation of the highly fragile remains in a hostile climate are immense. Such difficulties will militate against extensive further excavations and could limit access to the site by visitors.

The approach being adopted of survey, analysis and trial conservation approaches is to be commended. Progress in consolidating the site will need to be guided by a detailed Conservation Strategy based on the outcomes of surveys and analysis of recent interventions. Developing such a strategy is part of the remit of the QIAH project. This needs to set out what interventions would be possible and desirable to stabilise the urban remains based on the outcomes of surveys and analysis of existing conservation interventions.

ICOMOS considers that the state of conservation of the property is fragile, a reflection of the inherent weaknesses of the archaeological remains in a hostile maritime and desert climate and some previous interventions; the development of a detailed Conservation Strategy needs to be a high priority.

Management

Management structures and processes, including traditional management processes

Responsibility for site management is with the Department of Antiquities under the authority of the Qatar Museums Authority (QMA), which falls in turn under the direct authority of the Amiri Diwan (office of the Qatari Amir).

In practice the QIAH project functions as the basic Site Management unit, reporting to the Department of Antiquities. This project works at full capacity during the autumn and winter seasons of archaeological and conservation works on site. A site manager is understood to have been recently appointed by the QMA. There are 14 guards at the site, 2 at the main gate and 3 teams of 4 guards each patrol the site and its perimeter during day time.

The new management plan foresees the formation of an expanded site management unit, headed by a site manager overseeing six fully-staffed sections and employing a minimum of 30 people. This would be put in place over a four year period if the site is inscribed.

A national Committee for the site was established in June 2011 and held it first meeting in October 2011. The Committee members include representatives of the various stakeholders groups, including the local community, various Ministries and the Universities of Qatar and Copenhagen, and is chaired by the Vice-Chair of the QMA. Its aim is to facilitate dialogue and to advise the QMA on protection and monitoring of the site.

Policy framework: management plans and arrangements, including visitor management and presentation

A Management Plan for the site was submitted in January 2012 to replace the shorter version submitted with the nomination dossier.

The Management Plan sets out clearly the threats to the site from uncontrolled tourism and lack of heritage conservation capacity.

The Management Plan is currently awaiting formal approval. It is stated that the plan will be further developed in the light of emerging administrative structures and capacity building amongst national experts and its development will be guided by the QIAH project.

It is anticipated that the Management Plan will be implemented in three phases over nine years. The first phase (2011-2015) will focus on archaeological investigation, conservation and the preparation of a master plan for tourism development, including the planning and designing of a visitor centre to be opened in 2015, and capacity building; the second phase (2015–2019) is a medium-term strategy for presentation and capacity building bit will include further archaeological investigations, while in the third phase (2019 onwards) the QMA will take full responsibility for managing the site which should by this time be conserved and presented.

The QIAH project also has a remit to develop a Heritage Master Plan for the whole of the north of Qatar, an area between Al Zubarah and Madinat Ash Shamal which includes abandoned villages and other archaeological

sites. A proposal for this Master Plan will be developed during Phase One.

The formation of the Management Plan has allowed the QMA to negotiate and implement heritage control and prevent or modify unsuitable development plans such as re-routing of the Bahrain-Qatar Causeway project and imposing restrictions the development of Madinat Ash Shamal towards Al Zubarah in the south-west. However ICOMOS considers that continued vigilance will still be needed to ensure these projects do not compromise the site.

Interpretation and presentation facilities at Al Zubarah are minimal. QIAH has produced a temporary exhibition with informative material on several large panels in Arabic and English which is currently displayed in Al Zubarah Fort. These panels provide visitors with basic information about the recent excavations at the site, including a general map. However, the archaeological site itself has no visitors' interpretive or instructive plaques. The ICOMOS mission was informed that a number of temporary informative panels are planned to be installed at the main excavation areas of the site. This is a subject that the Management Plan plans to address through a Tourism Strategy.

A Visitor Centre, according to the nomination dossier was planned next to Al Zubarah Fort. However, the ICOMOS mission was informed that a feasibility study is being conducted to examine potential locations. This will be completed in May or June 2012. One proposed location is the abandoned village of Ain Muhammad to the north, just outside the Buffer Zone. The Management Plan provides further information on the low impact approach to this project.

Risk preparedness

Risk management is a subject that needs to be addressed as part of the further development of the Management Plan.

Involvement of the local communities

There are no local communities in the property or the buffer zone.

Community archaeology and outreach activities are planned as part of the QIAH project. A work plan will be drawn up in 2012. This will include contact with people who once lived in the Ash Shamal area near the nominated property.

Resources, including staffing levels,
expertise and training

The Management Plan sets out details of the resources allocated to Al Zubarah for three year since 2008-9. These have amounted to over $400m in total. The budget for 2011-12 is said in the Management Plan to be not yet finalised but expected to be in the order of $300m, excluding the proposed Visitor Centre.

Effectiveness of current management

The management of the property is evolving in parallel with the evolution of the QIAH project. Both reflect the way the approach to the property is becoming more professional, more structured and better targeted.

ICOMOS considers that once the proposed management unit is in place and the Management Plan has been further developed, an effective management system will be in place.

ICOMOS considers that proposed management system for the property will be adequate when the management unit has been in place and the Management Plan has been further developed.

6 Monitoring

Monitoring of the site is foreseen in the Management Plan. Indicators will include meteorological data, satellite imagery of the buffer zone, and visitor statistics.

An initial set of indicators has been presented in the Management Plan. These include the state of conservation of the fabric monitored once a year and damage caused by visitors. These are a start but the indicators need to be more tightly related to the key attributes of the site and, in terms of monitoring the state of conservation of the archaeological remains, they need to be more specific in terms of what is being monitored and how.

ICOMOS considers that there is a need to further develop the monitoring indicators to allow them to provide a much more specific and technical record of the state of conservation.

7 Conclusions

What emerges clearly from the nomination is that the abandoned coastal town of Al Zubarah within its desert landscape setting, scattered with the remains of smaller settlements, is a rare survival in the Gulf Region.

The key issue that the nomination dossier raises is what does this site testify and therefore what is its significance. The justification for inscription put forward argues for Al Zubarah being outstanding as a testimony of the pearling traditions of the Gulf. The difficulty is that this connection between the Al Zubarah and the pearling industry has not been connected to physical remains in terms of how the structure of the town and its harbour provide evidence for the harvesting of pearls and their trade. Moreover, it is not clear whether Al Zubarah's wealth came mainly from pearls or whether this trading port had a wider mercantile basis, nor how it related to its desert landscape and smaller satellite settlements.

The lack of detailed information about the development of Al Zubarah is acknowledged in the nomination dossier which refers to conjecture about its origins and use. For instance, it is not clear whether or not it was founded in the 18th century by Utubs or whether the history of Al Zubarah started much earlier with the Utubs enlarging or re-shaping an already existing settlement that might date back several centuries before their arrival. Similarly the precise components of the city are not yet fully understood.

The ambitious and extensive QIAH ten year project that was launched in 2009 has as its remit the need to address some of these issues through surveys and targeted excavations. Such work could usefully be augmented with archival and oral history research, and perhaps underwater archaeology around the harbour.

Until such time as more detailed information is forthcoming that throws light on the social and economic details of the city as well as on its historical development, it is not clear whether it can be seen as an exceptional reflection of the pearling industry of the Gulf.

However, what is so far known about Al Zubarah suggests that the overall settlement, in its desert landscape setting with small satellite settlements, could also be researched to see whether the ensemble might be seen as exceptional in terms of testifying to a very specific interaction between nomadic herders, pearl divers, fishermen and traders that once characterised the way of life in the Gulf. The proposed Master Plan for northern Qatar will actually encompass this wider area of desert landscape, abandoned villages and archaeological sites.

The archaeological remains of Al Zubarah are extremely fragile. Their fragility relates to their materials, to the initial consolidation work, and to the adverse impact of sea and desert winds and extreme daily temperatures. The QIAH project is beginning to address this issue in a systematic way but progress with finding the most appropriate consolidation measures and conserving such a large site will inevitably be slow and must be seen as a long term project. Al Zubarah is likely to remain a vulnerable site and one where visitor numbers will need to be carefully controlled.

Good progress has been made with putting in place the framework within which protection, conservation and management can move forward. The importance of Al Zubarah is related to the open desert around it. Its wider setting extends far beyond the current proposed buffer zone in terms of historical and visual parameters. Given the large infrastructural projects that are currently being planned, great vigilance will be needed to ensure that this valuable context is protected. Although the planned Bahrain-Qatar Causeway and Bridge has been re-routed, and the interchange and border Customs House have been moved further from the nominated property, these plans could still have an adverse impact on the site and its setting and Heritage Impact Assessments need to be undertaken.

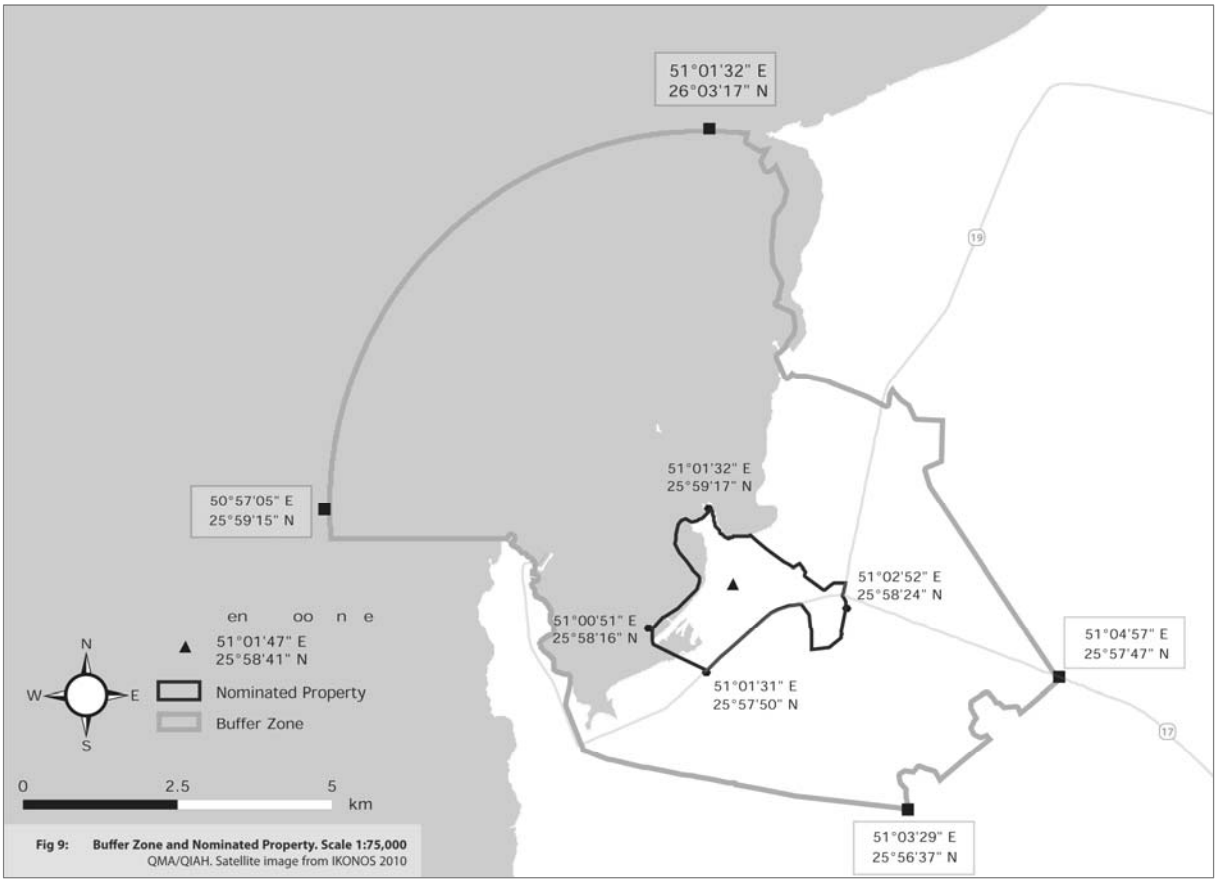
Recommendations with respect to inscription

ICOMOS recommends that the examination of the nomination of Al Zubarah Archaeological Site, State of Qatar, to the World Heritage List be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- Achieve a clearer understanding of how the fabric of Al Zubarah and its desert hinterland might be seen as an exceptional testimony to a specific interaction between nomadic herders, pearl divers, fishermen and traders that once characterised the way of life in the Gulf by:
    - Carrying out further surveys of, and targeted excavations in, the property and its wider setting, including underwater archaeology, in order to gain a greater understanding of the origins of the town, the basis for its prosperity, its layout and how it related to the coast, its desert landscape and small satellite settlements and;
    - Augmenting physical studies with archival and oral history research.
- Officially approve the buffer zone limits and the Madinat Ash Shamal urban plan;
- Develop a detailed Conservation Strategy, based on the outcomes of surveys and analysis of existing conservation interventions, that sets out what interventions would be possible and desirable to stabilise the urban remains;
- Make the proposed Management Unit fully operational;
- Further develop the Management Plan.

ICOMOS also recommends that Heritage Impact Assessments are carried for the major infrastructural projects currently being considered in the vicinity of the property in order to ensure that these do not impact adversely on the town and its wider desert setting.

ICOMOS considers that any revised nomination would need to be considered by an expert mission to the site.

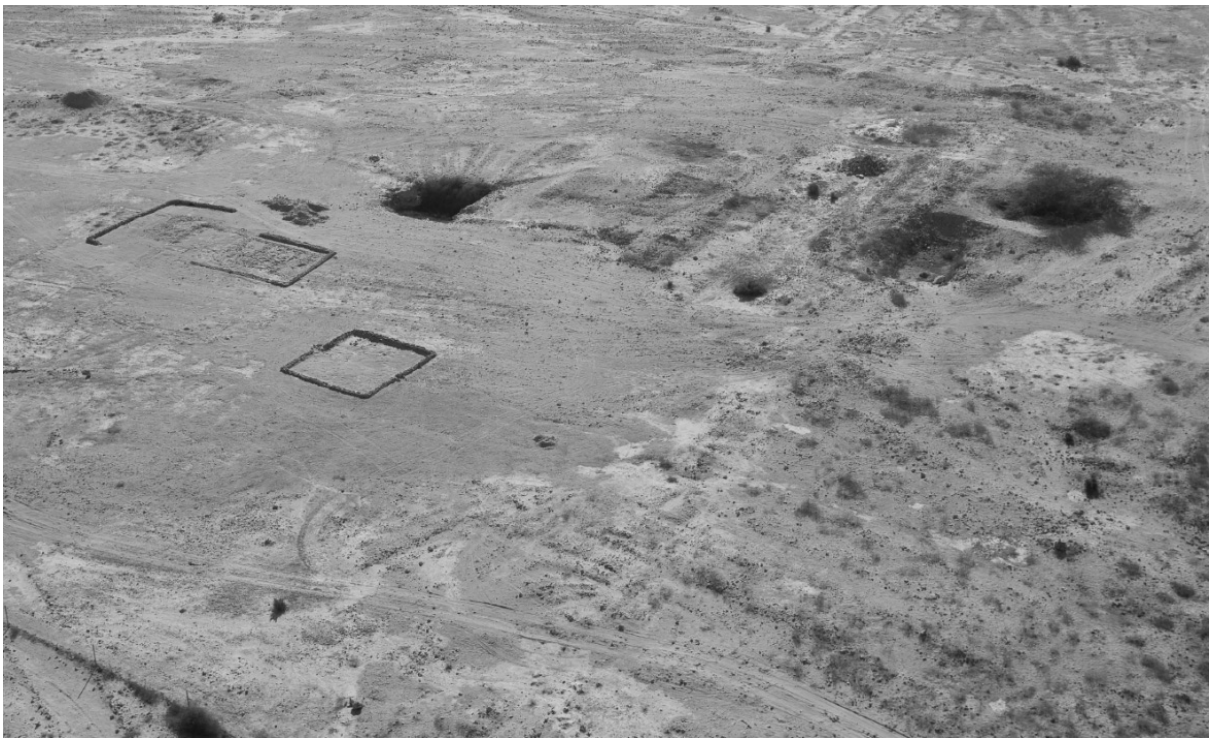


Map showing the boundaries of the nominated property

Aerial view of the nominated property

Palatial compound

Screening wall



Qal’at Murair

IV Cultural properties

Site of Xanadu
(China)
No 1389

Official name as proposed by the State Party
Site of Xanadu

Location
Zhenglan Qi and Duolun County, Xilingol Meng
Inner Mongolia Autonomous Region
The People's Republic of China

Brief description
The remains of Kublai Khan's legendary capital rise from broad grasslands at the south-eastern edge of the Mongolian Plateau. With hills to the north and river to the south, the Site of Xanadu follows *feng shui* principles and is at the same time surrounded by hilltop shrines of the Mongolian culture. As the place from which the Yuan empire (1271-1368) was extended across the whole of China and most of the known world, Xanadu witnessed a century's clashes and attempted assimilation between the nomadic and agrarian civilisations in northern Asia. The city hosted a major debate between Buddhism and Taoism in the 13th century, resulting in dissemination of Tibetan Buddhism over North-east Asia.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

1 Basic data

Included in the Tentative List
28 March 2008

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
20 January 2011

Background
This is a new nomination.

Consultations
ICOMOS has consulted its International Scientific Committee on Archaeological Heritage Management and several independent experts.

Literature consulted (selection)

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Ma, Y. (ed), *China's Minority Nationalities*, Foreign Languages Press, Beijing, 1994.

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Shatzman Steinhardt, N., *Chinese Imperial City Planning*, University of Hawaii Press, Honolulu, 1990.

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Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 7 to 10 August 2011.

Additional information requested and received from the State Party
A letter was sent to the State Party on 9 September 2011 requesting clarification on boundaries of the nominated oboos, inventory, the extent of the protected area and day-to-day management. A response from the State Party was received on 22 October 2011 and the information has been incorporated in the relevant sections. A second letter was sent to the State Party on 5 December 2011 requesting clarification on the national protection procedures. A response to this dated 7 February 2012 was received from the State Party on 15 February 2012 and the information has been incorporated into relevant sections below.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The nominated property is located north of the Great Wall, about 260km north of Beijing. It covers a total of 25,131.27ha and comprises the cultural remains of Xanadu including the remains of the city, associated tombs, water control works in particular the Tiefan'gan Canal, as well as the city's cultural and natural setting. The cultural setting includes traditional oboo shrines of the Mongolian nomads located on surrounding hills. The natural setting includes grasslands (Xar Tala) and wetlands on either side of the Xandii Gool river to the south of the city site, high hills to the north (Luuii Dobqag) and the surrounding landscape of forest–grassland to the north-east and steppe to the north-west. The property is surrounded by a buffer zone of 150,721.96ha, determined

by the range of sight from the site of Xanadu City and the inclusion of environmental features demonstrating the typical landscape of the grassland south of the Mongolian Plateau.

Xanadu City

The City, located in accordance with *feng shui* principles with hills to the north and river to the south was designed by Kublai Khan's Chinese advisor, Liu Bingzhong in 1256 and comprises the Palace City, surrounded by the Imperial City laid out along a north-south axis, together with the Outer City to the west and north, the whole a square measuring 2,200 m along each side enclosing an area of about 484 ha. The remains of associated neighbourhoods are located outside the city gates on all four sides.

The Palace City was enclosed by defensive walls and moat and contains the remains of royal pavilions and palaces. The city walls are constructed of grey bricks facing both sides of a rammed loess (mud) core, with a base foundation of slate or schist 40 cm thick. The existing city wall is about 5 m high, 10 m wide at the base and 5 m at the top with round watchtowers at the four corners. The City was accessed by the main imperial gate (Yutian Gate) with its barbican in the centre of the south wall, and gates in the centre of the east and west walls, resulting in a 'T' shaped road system. At the crossing of the 'T' in the centre of the City are remains of a building identified as the Da'an Pavilion, the main palace containing the royal throne room where the emperor held court and received visitors. At the centre of the north wall there was no gate but remains of a large building identified as the Muqing Palace, the primary royal residence with banquet halls and many rooms. The remains of 40 other building complexes are scattered throughout the city. Relics of building materials including glazed tiles and carved marble figures unearthed during the archaeological program testify to the former splendour of the city.

The Imperial City encloses the Palace City, with its north (Furen) and south (Mingde) gates and barbicans on axis with the south gate of the Palace City and about four times the distance between their southern walls as between their north walls. The distances between the walls on east and west are about equal. There are two symmetrical gates in the east and west walls with barbicans outside each, turrets at the four corners and bastions at varied intervals, 6 on each wall. The walls are constructed of stone facings 0.5-0.6 m thick both sides of a rammed loess (mud) core. The existing wall is 6-7 m high, 12 m wide at the base and 5 m at the top. The existing bastions are about 5.8 m high and 12 m wide at the base, projecting outwards about 5.4 m from the city wall. The corner turrets have a diameter of 27 m at the base and 13.5 m at the top. The surrounding moat was for both defence and drainage. Along the eastern and southern walls the moat is 20-150 m wide; along the west and north it is 8-10 m wide. The width is related to drainage needs – the terrain being higher in the west and north. Historical documents record many temples and monasteries in the Imperial City and remains of five major buildings have been investigated and identified. These include large temples in each of the four corners of the Imperial City in particular the Zen Buddhist Huayun Temple (1258) in the north-east and the Tibetan Buddhist lama temple Qianyuan Temple (1274) in the north-west. Marble stele, animal carvings, glazed tiles and stone column bases found during the archaeological investigations testify to the nature and quality of the former buildings here.

The Outer City extended 815-820 m to the west and north and was enclosed later than the imperial city. The wall is not defensive; its construction differs from that of the Imperial City being of unfaced rammed earth and the moat is only for drainage purposes and runs along outside the west and southern walls. The wall is 10 m wide at the base and 2 m at the top. There are two gates in the northern wall, one in the west and one in the south, each with a barbican. An east-west partition wall is built across the western part of the Outer City, starting 225 m north of the west gate and curving to the north and then across to meet the north-west corner of the Imperial City. The area south of this wall is known as Xinei; this is where the Mongolian people installed tents including the *ira ordo*, the tented palace (identified as the cane palace described by Marco Polo), where Kublai Khan held special feasts for the Mongolian tribes lasting three days (the *Jāma-yan*). Here also in the southern part the layout of streets and lanes indicates a high density area of numerous Han Chinese-style courtyard complexes. The northern area of the Outer City is Beiyuan, the garden where the Yuan Dynasty grew exotic and rare plants and cultivated unusual animals and birds. The large, stone courtyard investigated there is identified as the *terrarium* where rare animals and birds were kept.

Four neighbourhoods outside the Outer City extended about 2,000 m to the east, south, west and north, in total amounting to around 1,221 ha.

The East neighbourhood is identified as having accommodated Mongolian aristocrats, officials and pilgrims, with an irregular layout of building structures aligned east-west including government offices, large courtyards, warehouses and civilian houses. Two large granary/barns have been surveyed and identified as Guangji Barn and Taicang Barn. These stored grain brought from the farmlands of central China. The latter being close to Xanadu City has been identified as the special barn for the royal family and the court.

The South neighbourhood is on the bank of Xandii Gool river. It includes the main access road to the south (Mingde) gate of Xanadu City, along which the emperors and officials travelled from the southern capital Dadu, and is lined with the remains of Han style buildings. Relics unearthed include pottery and porcelain articles, wine jars and cups and indicate that these buildings were restaurants, inns, shops and other commercial establishments.

The West neighbourhood includes the main road west to Huanzhou Post house, Karakorum and Dadu across the Tiefan'gan Canal. This was the main arterial traffic and trade zone of Xanadu City, with remains of merchants' shops and stores. It includes the site of the large Wanying Barn on its northern side at the foot of Hadat Oboo hill, and remains of a strip of government offices along this northern side.

The North neighbourhood includes sites of barracks and small single buildings along the hillside to the north of Xanadu City, as well as the site of a large barn. Here (according to the historical record) were stationed 500 soldiers ready to escort the emperor. The eastern part of this neighbourhood subsequently became farmland and the remains are now indistinct.

Water control works

During the period of the Yuan Dynasty Xanadu suffered many floods, being located in a low-lying area which was essentially the drainage catchment for the north-western hills. The Tiefan'gan Canal was designed in 1298 by the Han Chinese engineer and hydraulics expert Guo Shoujing to collect the mountain torrents and channel them around the north-west of the North neighbourhood away from Xanadu City into the Xandii Gool river. Flood drainage channels and flood control dams were also built. The remains of the flood control dam run from the foot of Tiefan'gan Hill (also known as Hadat Oboo hill) to the foot of the mountain range north-east of Xanadu City. The existing part is 2-3.5 m high, 1,064 m long and 5.2-5.8 m wide at the base. It is faced with stone 0.6 m thick on both sides of a rammed loess core. The remains of a spillway 68 m wide have been identified 55 m north-east of the dam. A flood drainage channel running north-west to south-east connected to the dam 28 m north-east of the spillway, eventually discharging into Xandii Gool. A second dam was built north-east of and connecting with the first. A survey plan of the Tiefan'gan Canal was provided as part of the State Party's response to ICOMOS.

Tombs

Archaeological investigation around the site of Xanadu City has identified many tombs. These can be grouped in two categories: Han family tombs represented by the Tombs of Zhenzi Hill to the south–east of the city and tombs of Mongolian people represented by the Tombs of Modot, a group located 12 kilometres to the north-west of the City. The Zhenzi Hill group is the largest tomb group in the vicinity and comprises about 1,500 tombs distributed over an area of around 292 ha. The tombs are found in stone-built tomb shelters, 1-7 tombs to each shelter; most are rectangular vertical pit-tombs. Of the 198 tombs investigated, half contained burial objects including pottery identified as from known kilns, copper basins and mirrors, gold and silver ornaments, laquerwares, glass objects, wood and leather articles and coins.

The Tombs of Modot are distributed in two groups over an area of about 215 ha. Tombs here are not always found in tomb shelters and most have been robbed out in the past. Some have poorly preserved wooden coffins, bound with iron hoops. Burial goods included livestock bones, mostly goat, and iron objects including swords, linchpins, stirrups and arrowheads, as well as copper mirrors, gold earrings, pearls, felt and silk.

Cultural setting

The Site of Xanadu is located in Zhenglan Qi (County), part of the Xilingol region where Mongolian nomadic traditions of Oboo worship, the Naadam Festival and other activities, are still maintained by the local population of herdsmen and stock breeders. Oboos are essentially stone cairns with a hollow space for offerings, usually marked with a tall pole and located on a hilltop. The poles originally held banners and marked the boundaries of nomadic tribal territories – hence 'Tiefan'gan' meaning 'iron banner pole'. Oboo worship is considered to be a form of Shamanism involving nature and ancestor worship, which was common to the grassland peoples of East Asia. Ceremonies are held once or twice a year in summer and/or autumn, when grass and water are plentiful. Rituals involve the sacrifice of an ox or lamb; fires of branches or manure, offerings of milk, fermented milk or cream or of precious objects such as jade, coins or beads.

Around the City of Xanadu are many oboos. Twelve representative oboos have been nominated as part of the cultural setting. These are named Baga Horhoii, Yulaantai, Ejen, Hadat, Modot, Yulaan, Eej, Qantu, Adatai, Uhreqin, Qagan and Holostai. Generally they are 35-45 m in diameter, cone shaped and 8-10 m high.

Natural setting

The topographical setting of Xanadu within the nominated property boundary comprises Luuii Dobqag the main hill to the north, Big Oboo hill to the east, Holostai Oboo hill to the west and Xandii Gool river of the Luan River system flowing along the south with Nanping Hill south of the river. Xandii Gool is of great importance to the local herdsmen for its water, wetlands and the grassland flats either side known as Xar Tala (golden plain), named for the masses of golden Globeflower which cover it in July and August. The grassland includes sedge, dandelion, burnet and willow shrub. Other wild plants are peony, purple chrysanthemum, orchid, mushroom and wild leek, as well as over 200 kinds of medicinal herbs. Many species of wild animals and birds visit the river flats and the area is used for recreational purposes such as horse riding and hunting. The typical grassland species here and in the area north of the city site is represented by the *Stipa grandis* and Chinese *Aneurolepidium*. The grass is normally 30-50 cm high.

History and development

Following the unification of the Mongolian tribes under Genghis Khan as the Yeke Mongghol Ulus in 1206 and their subsequent military conquests and invasion of China, Kublai was appointed Khan in 1260 at the traditional Quriltai Assembly held in the city he had commissioned in 1256. Unlike his brother Ariq Böke, who unsuccessfully

challenged Kublai's election and wanted to preserve the Mongolian way of life without intermingling with other peoples, Kublai determined to establish a government in China administered and controlled from the cities and towns, following the Han Chinese feudal ruling system. Xanadu City, then known as Kaiping was strategically located near the borders of the Mongolian pastoral area with the residential agricultural area of the Han Chinese, on the route between the earlier Mongolian capital at Karakorum and Kublai's second capital, Dadu (Beijing), begun in 1267. In 1271 Kublai renamed the Yeke Mongghol Ulus as the Yuan Dynasty. From 1274, Xanadu became Kublai's summer capital, where he spent April to September each year with his civil and military officials, concubines and servants attending to political affairs and maintaining a presence in the Mongolian homelands. A detailed list of the dates of construction of various temples and palaces extracted from the historical records is included in the nomination dossier. Major ethnicities in Xanadu City included the Mongol, Han, Tibetan, Huihui and Uygur people. The primary religion of the Mongolian tribes at the time of Genghis Khan's conquests was Shamanism, with a couple of tribes following Nestorian Christianity. After entering central China, Mongolian leaders began to accept Buddhism and Taoism, and after their expedition to the west had contact with Islam. Buddhist, Taoist and Confucian Temples as well as mosques are recorded in Xanadu. Evidence of the many different cultures and ethnicities has been unearthed during archaeological excavations. This includes stone tablets, coffin covers, coins and other objects inscribed in Mongolian, Tibetan, Arabic, Sanskrit, and Chinese characters.

The city became an important stopping place on the silk route, receiving many foreign envoys and, among them Marco Polo in 1275-1292, who recorded his experiences in *The Travels of Marco Polo* and opened the eyes of the world to China and the marvels of Xanadu. Several emperors were enthroned there, and it hosted a major debate between Buddhism and Taoism in 1258, following which Tibetan Buddhism became the primary faith of the Chinese ruling class for six centuries. In 1358 the city suffered major damage during the peasant war at the end of the Yuan dynasty and in 1368 it was conquered by the Ming and destroyed. The city served the Ming as a military post; the military facilities were kept in repair but the palaces were not. By 1436 the city was abandoned and the surrounding meadowland was used by Mongolian nomads. In 1627 the area came under the control of Ligdan Khan and was used by the Chahar people until they were moved out by the Qing government in 1675.

Modern accounts of the site of Xanadu City begin with that of a Russian traveller who visited Mongolia in 1892-3 and gave a description of it in his journal *Mongolia and Mongolians*. Other travellers in the late 19th and early 20th centuries who recorded their descriptions of the site included Stephen Wootton Bushell, English envoy to China; Lawrence Impey, an American geographical scholar; and Kuwabara Jitsuzo, a Japanese traveller.

The Site of Xanadu has been protected since the People's Republic of China was established in 1949; in 1964 it was included as a key heritage site under the autonomous region protection, and archaeological work was begun. In 1988 the Site was declared a State Priority Protected Site, and was included on China's Tentative List for World Cultural Heritage nomination in 1996. Since the 1990s investigations have included mapping, aerial photography and archaeological excavations. Protective measures have included removal of the people inhabiting the site, recovering vegetation and repairing the enclosure.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The nominated property is compared in the nomination dossier with the earlier Mongolian capital site of Karakorum (1235), inscribed on the World Heritage List in 2004 as part of the Orkhon Valley Cultural Landscape (criteria (ii), (iii) and (iv)); other Yuan city sites including Dadu City (1267), now absorbed into the 'Forbidden City' of Beijing inscribed on the World Heritage List in 2004 as part of the Imperial Palaces of the Ming and Qing Dynasties in Beijing and Shenyang (criteria (i), (ii), (iii) and (iv)), and Zhongdu City (1307); as well as nomadic capital cities of earlier dynasties; Shangjing of the Liao (918); Zhongjing of the Liao (1007); Nanjing of the Liao (938); Shangjing of the Jin (12th C); Zhongdu of the Jin (1151); Heishui of the Western Xia (11thC); Tongwan of the Daxia (413) and Ancient Beiting of the Uygurs (701). The comparative analysis covers city roles and functions, planning, cultural and natural setting, time and scope of operation, cultural exchanges, archival records and state of preservation. The State Party argues that only Xanadu manifests two kinds of civilisation (Han Chinese agrarian and Mongolian nomadic) in a unique planning model in north Asia, and witnessed the transition from nomadic military life to the feudal ruling system of a grassland civilisation. It is also argued that the site in its natural and cultural setting is in a state of preservation such that this can easily be understood. The location of the city in accordance with *feng shui* principles can be perceived, as well as its unique identity as a Chinese style city located according to the Mongolian nomadic lifestyle of living where there is water and grass, accommodating the various activities of the Mongolian nobles such as hunting, oboo worship and festivals. As well it is argued that Xanadu had a profound and long-lasting influence on relations between east and west, and has inspired literary and other creative works through contemporary accounts of life in the City and subsequent 19th and early 20th Century reports of the abandoned site.

ICOMOS notes that the comparison between the plans of the Xanadu and Karakorum sites can be easily seen to demonstrate the first point. Whereas the layout of Xanadu of three cities one inside the other (Palace, Imperial and Outer City) is shown to be typical by the mid-13th Century of Chinese imperial urban plans, that of Karakorum has a walled palace area enclosed within the Mongolian quarter,

with a separate walled area joined to the Mongolian quarter in the south for Han artisans and craftsmen. It is noted that such double cities were predominant for Liao and Jin capital builders, where the specific purpose was to segregate the ruling dynasty and its race from non-native subjects. Excavations of the Xanadu site have indicated that Mongolians and Han Chinese occupied the Xinei area of the Outer City together, in addition to the neighbourhoods outside the four city gates, supporting the view that there was some assimilation of these two ethnicities at Xanadu. The City can be seen as an important centre of biculturalism, with a cross-fertilisation of ideas that enabled the Yuan Dynasty to unify the whole of China and make it part of an even broader empire that at its height stretched from the Qipchak Steppe to the East China Sea.

ICOMOS notes also that Xanadu had a role in the dissemination of Buddhism across North-east Asia through hosting the influential debate between Buddhism and Taoism in 1258.

The nominated property is also compared in the nomination dossier with other properties of nomadic nationalities worldwide, including Hortobágy National Park in Hungary, inscribed on the World Heritage List in 1999 (criteria (iv) and (v)), and grasslands in Slovenia and Argentina, and concludes that these differ in terms of age, geological location, type of grassland, mode of husbandry and religion. The nominated property also differs in terms of role and function from the Mongolian Sacred Mountains site, which is included in the Tentative List of Mongolia as a defined site of worship since the time of Genghis Khan.

ICOMOS notes that the comparative analysis with other capital cities of the Mongolian Empire could have been expanded to examine the uniqueness of the Mongolian-Chinese fusion versus other Mongolian fusions by comparison with Eurasian urban centres modified or rebuilt following conquest by the Mongols. The key example would be Samarkand (World Heritage listed 2001; criteria (i), (ii), (iv)), which was rebuilt as the capital of the Timurid state under Tamerlane (c 1336-1405). However ICOMOS considers that the Outstanding Universal Value of Samarkand does not diminish the case for Xanadu because Xanadu clearly stands out from the points of view of (a) clearly exhibiting the interaction between the Mongolian nomadic culture and the Chinese agrarian cultures, as well as having a profound impact on global cultural trends; (b) bearing holistic witness to Mongolian cultural traditions as they have evolved over time, in both material remains and living associated traditions; (c) demonstrating the characteristics and lifestyle of the Yuan dynasty, and (d) profoundly influencing the very nature and function of cities across Eurasia.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Xanadu City site is the best preserved capital with the oldest, unique layout, and was the longest in use among Yuan capital cities;
- The Site bears witness to the unique fusion of Mongolian and Han cultures through its bicultural urban pattern and the unearthed cultural relics;
- It is the only intact evidence for the rise and fall of a special political system and social structure (the Yuan Dynasty);
- It is the place where Kublai Khan rose to power and from where he conquered China and extended the Mongolian empire across north Asia;
- Through contemporary accounts and the reports of later travellers, Xanadu inspired influential literary and other creative works;
- The religious debate that took place in Xanadu resulted in Tibetan Buddhism being favoured across north-east Asia.

ICOMOS considers that this justification is appropriate because the nominated property exhibits a remarkable and unique attempt to assimilate the nomadic Mongolian and Han Chinese cultures, and was the base from where Kublai Khan established the Yuan Dynasty. Over a century this dynasty unified China and extended its empire across Asia. ICOMOS considers that the religious debate between Buddhism and Taoism, which took place here, resulted in the dissemination of Tibetan Buddhism over North-east Asia, a cultural (religious) tradition still practised in many areas today.

Integrity and authenticity

Integrity

The State Party states that the nominated property integrally preserves the overall urban plan and city site of Xanadu built and used in the 13th and 14th centuries including the Palace City, Imperial City and Outer City which together display the traditional urban planning of central China and arrangements for Mongolian tribal meetings and hunting; the neighbourhoods outside the gates, Tiefan'gan Canal and the Tombs, all within their natural and cultural environment. The latter preserves the natural elements crucial for the siting of the city – mountains to the north and water to the south, together with the four existing types of grassland landscape, especially the Xar Tala Globeflower plain.

In response to ICOMOS' query re inclusion of 9 oboos within the property boundary and 3 in the buffer zone, the State Party stated that while the oboos as a phenomenon make the setting of the property different from other ancient city sites, their date of origin has not been established. They themselves are not treated as part of the nominated World Heritage property but are protected at county level. Regarding other tomb areas mentioned in

the nomination dossier, the State Party responded that the Tombs of Woniushi located inside the western edge of the buffer zone and Tombs of Yangqun Temple located 70km north-west outside the buffer zone are not included in the nominated property because of their poor state of conservation and the absence of sufficient historical evidence. Woniushi tombs are protected at Qi (county) level and Yangqun Temple Tombs are protected at Autonomous Region level.

ICOMOS considers that the nominated property adequately expresses the values of the site of Xanadu. The buffer zone is sufficiently large to protect the vulnerable grassland and its related mixed forest-grassland landscape. Visually the site of Xanadu and other property components are well integrated with their natural surroundings of mountain tops and grassland landscape.

Authenticity

The State Party states that the authenticity of the site of Xanadu has been proved by both archaeological excavation and historical records. The property is an authentic representation of the interchange between Mongolian and Han people in terms of capital design, historical layout and building materials. The Tombs authenticate the historical claims concerning the life of both Mongolian and Han people in Xanadu. Apart from repairs to the Mingde Gate and the east wall of the Imperial City, there has been minimal intervention in the structure. The geographical environment and grassland landscape are intact and still convey the environmental setting and spatial feeling of the grassland capital.

ICOMOS considers that materials and records held in the site museum and archive offices together with the visible features substantiate the claim to authenticity and convey the values of the property. The spatial layout of the city is marked by mounds along the alignment of walls and foundations of gates, temples and monasteries and the remains of walls display evidence of materials and construction methods. Minor repairs to the Mingde Gate site and a section of the eastern Imperial City wall have used bricks and stones from the original structure, but climate conditions are extreme and attention is required to consolidation rather than reconstruction, particularly following archaeological excavations. The State Party has adopted a minimal approach to excavation within the property.

In conclusion, ICOMOS considers that the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii), (iii), (iv) and (vi).

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the Site of Xanadu has integrated the nomadic life style of northern grassland Mongolian people with the settlement-choosing custom of the agrarian Han ethnicity in Central China, which favours location with 'mountains in the north, water the south', demonstrating the mutual influence and integration of lifestyles and values of different civilisations in the process of conquest and assimilation. Ideas, institutions, religions, and economic policies born from such assimilation have deeply influenced the northern grasslands, the vast land of ancient China, and beyond.

ICOMOS considers that the site location and environment of the nominated property exhibit influence from both Mongolian and Han Chinese values and lifestyles. The city site exhibits an urban planning pattern indicative of integration of the two ethnicities. From the combination of Mongolian and Han ideas and institutions the Yuan Dynasty was able to extend its control over an extremely large part of the known world at that time. The comparative analysis shows that the Site of Xanadu is a unique example of an integrated city plan involving different ethnic communities. The fusion of belief systems resulted in changes to the form and function of cities from Xanadu to Dadu (Beijing) and across East Asia to Korea and Japan. Xanadu's location on the silk route was conducive to the exchange of human values.

ICOMOS considers that this criterion has been justified.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that Xanadu has witnessed the rise and fall of a colossal regime and a unique cultural phenomenon lasting for more than a century, fostered by three historic forces contradictive yet interactive to each other: namely the supreme rule of the proud conqueror, the assimilation and conversion to the culture and political system of the conquered, and the determination and effort of the conqueror in adhering and maintaining the original cultural traditions. Meanwhile, the site of Xanadu also presents the earliest, the longest in use, the most specially structured and the best preserved of all the capital cities of the Yuan dynasty. Being characteristically located in the transitional zone between the agricultural region of Central China and the northern area of the Asian pastoral regions, it reflects a unique biculturalism, which came into being during the clashes and fusion of nomadic and agrarian civilisations, and faded as the nomadic people reverted to their traditional life.

ICOMOS considers that the criterion is satisfied in terms of the Site of Xanadu being exceptional testimony to the civilisation of the Yuan Dynasty.

ICOMOS considers that this criterion has been demonstrated.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that Xanadu is an outstanding example which has incorporated the quintessence of agricultural civilisation and nomadic cultures, illustrating a significant stage during which Kublai Khan exercised dynastic administration, and ruled an agrarian ethnicity on behalf of a nomadic one. The ruling strategies have generated an urban pattern featuring the coexistence and fusion of nomadic and farming cultures, which makes it of unique significance in the history of the world civilisation and that of urban planning and design.

ICOMOS considers that the site location and environment of the nominated property together with its urban pattern demonstrates a coexistence and fusion of nomadic and farming cultures. The urban layout including the Beiyuan garden within the Outer City and the grasslands and wetlands surrounding the city combines Han city planning with features necessary to the lifestyle of the Yuan dynasty. In that sense the Site of Xanadu is an outstanding example of an urban layout that illustrates a significant stage in human history.

ICOMOS considers that this criterion has been justified.

Criterion (vi): be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;

This criterion is justified by the State Party on the grounds that Xanadu is the place where Kublai Khan founded the Yuan Empire which marked the history of Eurasian civilisation in the 13th century; the city was directly connected with *The Travels of Marco Polo*, which heralded Europe's Age of Discovery. It witnessed the great debate between Buddhism and Taoism in the 13th century, an event that changed religious history in Asia. A living tradition of nomadic culture, 'Oboo Worship', is still present at the site of the nominated property. And as the subject of a classic poem, Xanadu the 'pleasure dome' had had an extensive influence on literature, music, architecture and other artistic fields of the world.

ICOMOS notes that the wonders of Xanadu became known to the West due to its location on the silk route and through the works of Marco Polo, which subsequently inspired many creative works including Coleridge's poem, but does not consider that this is an appropriate justification for this criterion. On the other hand ICOMOS considers that the hosting of the religious debate between Buddhism and Taoism is an appropriate justification. The remains of the Huayan Temple where the religious debate took place can still be seen today in the north-east corner of the Imperial City.

ICOMOS considers that this criterion has been demonstrated.

ICOMOS considers that the nominated property meets criteria (ii), (iii), (iv) and (vi) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes

The attributes carrying the Outstanding Universal Value of the property are:

- The geographical and natural setting demonstrating the traditional Chinese *feng shui* location of mountains to the north and river to the south, together with the grassland and wetland environment necessary for the Mongolian way of life;
- The city layout and excavated temples and other structural remains demonstrating the integration of Han and Mongolian settlement and the many religions accommodated in the city;
- The Tombs demonstrating Han and Mongolian culture;
- The remains of the Tiefan'gan Canal and other structural remnants demonstrating flood control measures to protect the city and neighbourhoods;
- The associated spiritual context of the site of Xanadu, expressed by the continuing traditions of shamanist worship and its reference to Tibetan Buddhism;
- The remains of the Huayan Temple documenting the religious debate held at Xanadu.

4 Factors affecting the property

Development pressures

The Site of Xanadu is 20 km from Shangdu Town and is not threatened by urbanisation. In May 2010 the estimated population within the property was 5,300 people. No-one lives within the city site or tombs area. The Wuyi Breeding Farm within the property boundary accommodates 1,150 people and is indicative of pressures on the grassland resources of the site. Negative effects are garbage and animal waste. Other pressures relate to mineral resources. Some parts of the Wuyi Breeding Farm have been relocated to better protect the natural setting of the property. The State authority has also undertaken vegetation restoration; reclamation of former agricultural land and fenced the State protected area of the property and the Tombs to secure them against animal incursions and tomb robbery.

ICOMOS considers that protection plans involving the local community of the Wuyi Breeding Farm need to be developed with a view to protecting the ecological system and ensuring sustainable development. Fencing needs to

be extended in order to protect the site and its environment from animal grazing.

Tourism pressures

The State Party considers that the property, as a large archaeological site, faces great pressure from visitors. Numbers have increased in recent years and totalled 250,000 in 2008; 70% arrived during the three months of June, July and August. Growth in terms of tourist service projects is anticipated and it is proposed to put controls on tourist activities.

ICOMOS considers that a tourism management strategy needs to be prepared by the State Party, which considers environmental protection as described below under Management.

Environmental pressures

Overuse of underground water and desertification are the primary threats to the property, in particular the wetland and grassland landscape. The People's government of Zhenglan Qi has instigated measures to limit extraction of underground water and overgrazing of the property and buffer zone. The condition of the grassland is monitored, including its botanical composition and for the presence of pests. Air and water quality is also monitored.

ICOMOS considers that maintenance of the wetland and grassland setting is key to retention of the Outstanding Universal Value of the property. The further installation of scientific research facilities to monitor overall environmental condition and desertification is considered necessary.

Natural disasters

The Site of Xanadu is in a stable geological situation without harmful earthquakes or floods in recent times. Grass fires, forest fires, rat and insect infestation are the primary threats. The local government fire-fighting command of Zhenglan Qi has instigated fire-prevention programmes including regular patrols, fire monitoring and institutionalising fire prevention with research on rescue and protection measures and training.

ICOMOS considers that given the vast size of the property, more efficient fire-fighting equipment is required.

Impact of climate change

The climate of the site in the 13th century was quite different from today. For instance, Tiefan'gan Canal has lost its function of flood control and waterway due to climate change. The annual rainfall now is less than 500mm.

ICOMOS considers that the reduction in rainfall is contributing to the reduction in underground water and desertification of the site.

ICOMOS considers that the main threats to the property are animal grazing, tourism and desertification.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The nominated property boundary covers all the cultural remains of Xanadu, as well as the natural environmental components closely related to the Site. The property boundary links natural terrain features including a number of hilltops marked with oboos running from Tumet oboo south of the city north-west to Yalaantai, Ejen, Holostai and Qagan, passing to the north of the Tombs of Modot, across to a hilltop east of Eej Oboo and then southwards to the dam of Xandii Gool, then Zhenzi Hill passing east of the Zhenzi Hill Tombs to the main peak of South Battery Hill.

ICOMOS notes that 3 of the 12 oboos named in the description of the nominated property are not included in the property boundary but are located in the buffer zone. The State Party advised in response to ICOMOS' request for clarification on the boundaries of oboos in the buffer zone that the oboos are not part of the attributes constituting the Outstanding Universal Value but constitute the cultural setting.

ICOMOS considers that the property boundary contains the significant elements expressing the Outstanding Universal Value of the property, and possibly includes additional tombs not yet discovered.

The buffer zone was designed to protect the geographical and environmental features demonstrating the typical landscape south-east of the Mongolian Plateau. The boundary of the buffer zone contains the visual scope from the Site of Xanadu and coincides with the extent of the water catchment of the surrounding landforms.

ICOMOS notes that Shangdu town is located in the south-west corner of the buffer zone and considers that it is important that adequate controls are in place over development of this town.

ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate.

Ownership

The area of Xanadu city and its neighbourhoods is part of a total of 16,556.30 ha State–owned land in Zhenglan Qi. The Tombs of Modot are on 3,667.69 ha of Collective-owned land in Zhenglan Qi. The Tombs of Zhenzi Hill are on 4,838.86 ha of Collective-owned land in Duolun County.

Zhenglan Qi and Duolun County are both part of Xilingol Meng, a province of the Inner Mongolia Autonomous Region of the People's Republic of China.

Protection

Legal Protection

The nomination dossier lists the laws which protect cultural relics in China: Law of the People's Republic of China on the Protection of Cultural Relics (promulgated in 1982, amended in 1991, 2002, 2007); Regulation for the Implementation of the Law of the People's Republic of China on the Protection of Cultural Relics (2003), and Regulations of Inner Mongolia Autonomous Region on Heritage Conservation (promulgated in 1990, amended in 1993 and 2005). The Site of Xanadu was declared a State Priority Protected Site in 1988; this comprises a limited area covering Xanadu city and its neighbourhoods and the Tiefan'gan Canal ('Convergence map of regional division and conservation Master Plan of the nominated property', Fig. 1.e.14). In response to ICOMOS' letter of 5 December 2011 requesting clarification of national protection of the whole nominated site, the State Party has advised in a letter dated 7 February 2012 that the boundaries of the Protection Area of the Site of Xanadu will be expanded to the boundaries of the nominated property and include the Tombs of Modot, Tombs of Zhenzi Hill and 12 Oboo sites, and will be formally submitted by the State Administration of Cultural Heritage of China (SACH) to the State Council of China in 2012 for approval as a National Priority Protected Cultural Heritage Site. Currently a designated area including the Tombs of Zhenzi Hill is protected at the level of the Inner Mongolia Autonomous Region People's Government; a designated area including the Tombs of Modot and the 12 designated Oboo sites are protected at the level of Zhenglan Qi.

The grassland surrounding the protected site comes under the Grassland Law of the People's Republic of China (promulgated in 1995, amended in 2002), and Grassland Regulations of Inner Mongolia Autonomous Region (promulgated in 1984, amended in 2004). These cover stock levels, reclamation, quarrying, vegetation, hunting, use for tourism purposes, rat infestation and motor vehicle access.

The legal instruments at municipal and local level are designed to ensure effective preservation and scientific planning at the same time ensuring the economic development and amelioration of the living conditions of the people. They comprise administrative regulations which cover grassland, cultural relics, heritage conservation and pasture protection. A key instrument is the Regulations on the Protection and Management of the Site of Xanadu established by the Inner Mongolia Autonomous Region People's Government in 2010. These cover the whole nominated property area and buffer zone and refer to the Conservation and Management Plan for the Site of Xanadu (Article 7).

ICOMOS considers that all components of the nominated property will have cultural heritage protection at the highest level when the national heritage protection procedures described in the State Party's letter dated 7 February 2012 are complete.

Effectiveness of protection measures

ICOMOS considers that local herdsmen need to be made more aware through public education of the regulatory controls and the need for protection of the site and grassland.

In conclusion, ICOMOS considers that legal protection will be adequate when the national heritage protection procedures described in the State Party's letter dated 7 February 2012 are complete. This needs to be supplemented with public awareness programmes.

Conservation

Inventories, recording, research

Much scholarly research has been undertaken on the Site of Xanadu, including archaeological research and conservation reports as listed in the nomination dossier and provides a basis for the conservation, interpretation and presentation of the property. In the 1930s the site was surveyed by the Tokyo Archaeological Society of Japan and the report was published in 1941. The archive and information centre containing this and other reports and conservation plans is located with the Xanadu Museum at the offices of the People's Government of Zhenglan Qi in Shangdu town, 20km from the Site. In response to ICOMOS' request for clarification on the inventory of archaeological components, the State Party provided detailed information and examples of sections of it translated into English. The inventory covers the foundation sites of buildings in the Palace city, Imperial city, Outer city, neighbourhoods, tombs and water control structures. ICOMOS considers that the inventory is an excellent record of the Site as a basis for monitoring and any future conservation programs.

Present state of conservation

The underground remains of Xanadu city and its neighbourhoods are covered by grassland and in a stable condition. The Tombs of Modot and Zhenzi Hill are similarly protected by vegetative cover and are in good condition. Archaeological excavations have been backfilled and the unearthed artefacts have been removed to the site museum. The protected areas of the city site and the tombs sites have been fenced off and grazing is prohibited inside the enclosure. The sections of standing structure at the Mingde Gate and east wall of the Imperial City were exposed, repaired and reinforced in 2002. The natural setting is generally in good condition with restrictions on over-grazing and measures to alleviate desertification.

ICOMOS notes that maintenance of the grassland cover and vegetation is essential to the conservation of the site and prevention of soil erosion. Some further small scale archaeological excavation is required in order to expand understanding of the site. Preservation of all the historical information after archaeological excavation could be enhanced through co-operation with international experts on stabilisation techniques. It would be advantageous to digitise information archives and exhibitions about the Site for access via the web site.

Active Conservation measures

Apart from site monitoring in accordance with the Conservation and Management Plan, some small scale excavations are planned on critical sites within the Palace City and Imperial City. A surveillance centre and interpretation facility is in operation at the Zhenzi Tombs to protect against tomb robbery. A study of the oboos is planned with a view to their conservation.

Detailed measures for the conservation of the cultural relics were previously covered in the Master Plan for the Protection of the Site of Xanadu (2008) prepared for the Zhenglan Qi Administration of Cultural Heritage of the Site of Xanadu in association with addition of the site to the World Heritage Tentative List. This master plan has been updated to cover the period 2010-2029. The conservation of traditional cultural heritage and the ecological environment is covered by the Plan for the Protection of the Mongolian Cultural Heritage and Eco-system in Areas around the Site of Xanadu in Zhenglan Qi, Inner Mongolian Autonomous Region (2005) administered by the Inner Mongolian Autonomous Region Administration of Cultural Heritage.

Maintenance

Maintenance essentially comprises regular monitoring of the site from the surveillance centre at Zhenzi Tombs and the Site office located at Yulaantai Oboo near the southern entrance to Xanadu City.

Effectiveness of conservation measures

ICOMOS considers the conservation measures that have been implemented to date to be effective.

In conclusion, ICOMOS considers that protection and conservation measures are satisfactory, except that vulnerable grassland areas need to be fenced and greater efforts are required towards ensuring local awareness of the need to protect and conserve the property.

Management

Management structures and processes, including traditional management processes

The State Party provided confirmation of the management structure described below in its response to ICOMOS' request for clarification.

Management of the property is co-ordinated by the Xilingol Meng Cultural Heritage Administration (Bureau/Office) of Xanadu, under the Xilingol Meng Conservation and Management Committee. The Director of the Committee is the Head of Xilingol Meng, and the Deputy Head (of Xilingol Meng) is responsible for cultural heritage conservation as the Deputy Director of the Committee. Members of the Committee include those in charge of relevant departments of Xilingol Meng (culture, finance, environmental protection, grassland monitoring, land resource, justice, forestry, agriculture and animal husbandry, water conservancy, traffic, construction, education, tourism) and governments of Zhenglan Qi and Duolun County. Usually they delegate their deputies to participate in meetings.

The Bureau is located in the Zhenglan Qi People's Government, and the Head of the Qi government is the Director of the Bureau.

The Committee and Bureau were set up in 2010 to provide guidelines and general co-ordination of the various institutions that are directly responsible for managing the property. The latter include the cultural heritage administrations of Zhenglan Qi and Duolun County, in whose administrative areas the property is jointly located, as well as the administrative bodies for grasslands, sports, agriculture and animal husbandry. The day-to-day management is done by staff in the local government administrations. Zhenglan Qi has internal departments and grassroots units; Duolun County has five internal departments. The work of site inspection, stability assessment, planning, examination and approval processes, supervision and site monitoring is shared by the staff of these administrations, with most of it being allocated to Zhenglan Qi, where the largest part of the property lies. Applications for works within the property must pass up through the Cultural Heritage Administration of the Autonomous Region to the State Administration of Cultural Heritage. If approved at the top level, the work/project is then implemented by the Cultural Heritage Administrations of Meng, Qi and County levels.

Policy framework: management plans and arrangements, including visitor management and presentation

The Policy framework at Meng, Qi and County levels focuses largely on cultural tourism development involving the Site of Xanadu, the stories of Genghis Khan, Kublai Khan and Marco Polo, and traditional Mongolian activities in the grasslands area. The Master Plan for Mineral Resources in Xilingol Meng specifies restrictions in Zhenglan Qi-Duolun Mineral Economic Zone. The Master Plan for the Development of Shangdu Town (2002-2020) covers the protection and utilisation of Tourism Resources and includes road construction to the Site of Xanadu and Uhreqin Oboo and another road for the Huiwen River Chahar Folk-Custom Experience. The Plan for Tourism Development of Zhenglan Qi (2006-2010) focuses on the Site of Xanadu and involves a tourism resort of Beijing North Mongolian Yuan culture and grassland culture, and

tourism activities including the Xanadu City Cultural Tourism Festival; Xar Tala Flower Festival, Chahar Foods Festival and Naadam. The Site of Xanadu area is considered one of the 'Two Large Tourism Belts' of Zhenglan Qi.

The Conservation and Management Plan for the Site of Xanadu (2009-2015) was approved by the State Administration of Cultural Heritage and the Inner Mongolia Autonomous Region People's Government in December 2010 and is being implemented. It covers the scientific evidence for the systematic protection and management of the site. This covers the area of the nominated property and the buffer zone, including the archaeological, natural and cultural heritage. It examines the status quo, highlighting problems and issues and proposes mitigation and improvement measures. It also covers presentation, interpretation and visitor management, specifying tour routes around the site.

The Museum in Shangdu town presents exhibitions on themes related to the site, lectures and interpretative programmes for school children. There is also a Xanadu Site Museum located at Yulaantai Oboo near the southern entrance to Xanadu City. The property and associated information and events are featured on the local government's web site, and various books and brochures are available. The Site has hosted international research seminars and has also been featured in many television programmes.

The Site of Xanadu is remote from large cities and without regular public transport access. Construction of appropriate infrastructure is required. However ICOMOS considers that tourism numbers need to be strictly controlled in order to ensure that the vulnerable grassland environs and archaeological remains retain their integrity.

Transport around the site is by small solar battery buses, or hired bicycles. Tourist guides and other facilities including toilets are available at the Site.

ICOMOS considers that a broader presentation of the Site of Xanadu is required to both the domestic and international public, including expansion of the English speaking service and digitised exhibition programmes.

In view of the trend of increased tourism numbers from 2004-2010 a tourism management strategy is required which considers environmental protection, including a reservation system to control visitor numbers during the peak summer season. Any accommodation at the Site should be temporary, such as yurts and tents. Tourism may push an agenda for the reconstruction of ruined buildings which now exist only as foundations. Clear guidelines need to set limits to this.

Risk preparedness

Fire-protection measures have been instigated by Zhenglan Qi, however ICOMOS considers that more fire-fighting equipment is required.

Involvement of the local communities

Local community involvement is not specified in the Conservation and Management Plan; however stakeholders indicated positive interest in World Heritage inscription of the property and in being actively involved in its management.

ICOMOS considers that the Wuyi Breeding Farm community needs to be involved in protection and management of the property.

Resources, including staffing levels, expertise and training

Funding for the conservation of the Site of Xanadu is provided primarily by the central government, with special project funds being provided by local government and tourism income. Financial resources are considered adequate. Staffing levels, expertise and training were clarified by the State Party in response to ICOMOS' request.

The Zhenglan Qi Administration of Cultural Heritage has three units managing all aspects of the Site of Xanadu except the Zhenzi Hill tombs which come under Duolun County:

- The Site of Xanadu Working Station has 24 personnel. These have qualifications in relevant fields including archaeology, geography, history and heritage conservation and management. Staff benefit from on-the-job training and also participate in international seminars and courses.
- The Xanadu Law Enforcement Team has 4 personnel, 2 graduated from university and 2 from college.
- The Site of Xanadu Museum has 31 personnel with appropriate qualifications.

The Duolun County Administration of Cultural Heritage has 6 personnel with appropriate qualifications at the Duolun County Working Station for Protection and Management of the Tombs at Zhenzi Hill.

The State Party noted in the nomination dossier that there is room for improvement in team building and professional competencies, for which plans are being developed.

Effectiveness of current management

ICOMOS considers that the various institutions involved in the management of the property are well co-ordinated by the Xilingol Meng Committee and Bureau of Cultural Heritage Conservation for the Site of Xanadu.

In conclusion, ICOMOS considers that the management system for the property is adequate. A specific Tourism Management Strategy is required to ensure environmental protection at the Site. Furthermore, ICOMOS recommends that the local community of the Wuyi Breeding Farm be involved in protection and management of the property.

6 Monitoring

Monitoring activities are divided between the local governments of Zhenglan Qi and Duolun County. The office for management and monitoring is housed in white, yurt style buildings at the site. Monitoring covers the authenticity and integrity of the cultural remains, protective measures and tourism as well as environmental quality, natural disasters, grassland ecology and landscape environment. Results are kept in the relevant departments.

ICOMOS considers that monitoring is adequate.

7 Conclusions

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List. Conditions of integrity and authenticity have been met for Xanadu city and tombs. The nominated property meets criteria (ii), (iii), (iv) and (vi), and Outstanding Universal Value has been demonstrated.

Recommendations with respect to inscription
ICOMOS recommends that the Site of Xanadu, People's Republic of China, be inscribed on the World Heritage List on the basis of **criteria (ii), (iii), (iv) and (vi).**

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Site of Xanadu is the site of a grassland capital characteristic of cultural fusion, witnessing clashes and mutual assimilation between the nomadic and agrarian civilisations in northern Asia. Located on the southeast edge of the Mongolian plateau, it was the first capital (1263-1273) of Kublai Khan and later the summer capital (1274-1364) of the Yuan Dynasty. The city site and associated tombs are located on the grassland steppe with a north south axis determined by traditional Chinese *feng shui* principles, backed by mountains to the north and a river to the south.

From Xanadu, the mounted warriors of Kublai Khan unified the agrarian civilisations of China, and partly assimilated to the latter's culture, while extending the Yuan empire right across North Asia. The plan of Xanadu, with Palace and Imperial cities enclosed partly by the Outer City containing evidence of the nomadic encampments and royal hunting enclosure, comprises a unique example of this cultural fusion. Evidence of large water control works instigated to protect the city exists in the form of remains of the Tiefan'gan Canal. As the place where Kublai Khan rose to power, hosted religious debates and entertained foreign travellers whose writings gave inspiration down the centuries, it has achieved legendary status in the rest of the world and is the place from where Tibetan Buddhism expanded.

Criterion (ii): The location and environment of the Site of Xanadu exhibits influence from both Mongolian and Han Chinese values and lifestyles. The city site exhibits an urban planning pattern indicative of integration of the two ethnicities. From the combination of Mongolian and Han ideas and institutions the Yuan Dynasty was able to extend its control over an extremely large part of the known world at that time. The Site of Xanadu is a unique example of an integrated city plan involving different ethnic communities.

Criterion (iii): The Site of Xanadu is exceptional testimony to the supreme rule of the Yuan conqueror Kublai Khan, the assimilation and conversion to the culture and political system of the conquered, and the determination and effort of the conqueror in adhering to and maintaining the original cultural traditions.

Criterion (iv): The site location and environment of the Site of Xanadu together with its urban pattern demonstrates a coexistence and fusion of nomadic and farming cultures. The combination of a Han city plan with the gardens and landscape necessary to the Yuan dynasty's Mongolian lifestyle at Xanadu resulted in an outstanding example of urban layout that illustrates a significant stage in human history.

Criterion (vi): The city of Xanadu hosted the great debate between Buddhism and Taoism in the 13th century, an event that resulted in dissemination of Tibetan Buddhism over North-east Asia.

Integrity

The Site of Xanadu was abandoned in 1430. The large archaeological site now generally covered by grassland preserves the overall urban plan and city site of Xanadu as built and used in the 13th and 14th centuries. Wall lines of the Palace City, Imperial City and Outer City which together display the traditional urban planning of central China and arrangements for Mongolian tribal meetings and hunting can be clearly perceived, as can mounds indicating palace and temple buildings, some of which have been excavated, recorded and reburied. The remains of the neighbourhoods outside the gates, Tiefan'gan canal and the tomb areas, all within their natural and cultural environment. The latter preserves the natural elements crucial for the siting of the city – mountains to the north and water to the south, together with the four existing types of grassland landscape, especially the Xar Tala Globeflower plain associated with the river wetlands. The Site of Xanadu can be clearly read in the landscape.

Authenticity

Archaeological excavation and historical records bear witness to the authenticity of the property as representing the interchange between Mongolian and Han people in terms of capital design, historical layout and building materials. The Tombs authenticate the historical claims concerning the life of both Mongolian and Han people in Xanadu. Apart from repairs to the Mingde Gate and the

east wall of the Imperial City, there has been minimal intervention in the structure. The geographical environment and grassland landscape are intact and still convey the environmental setting and spatial feeling of the grassland capital.

Management and protection requirements

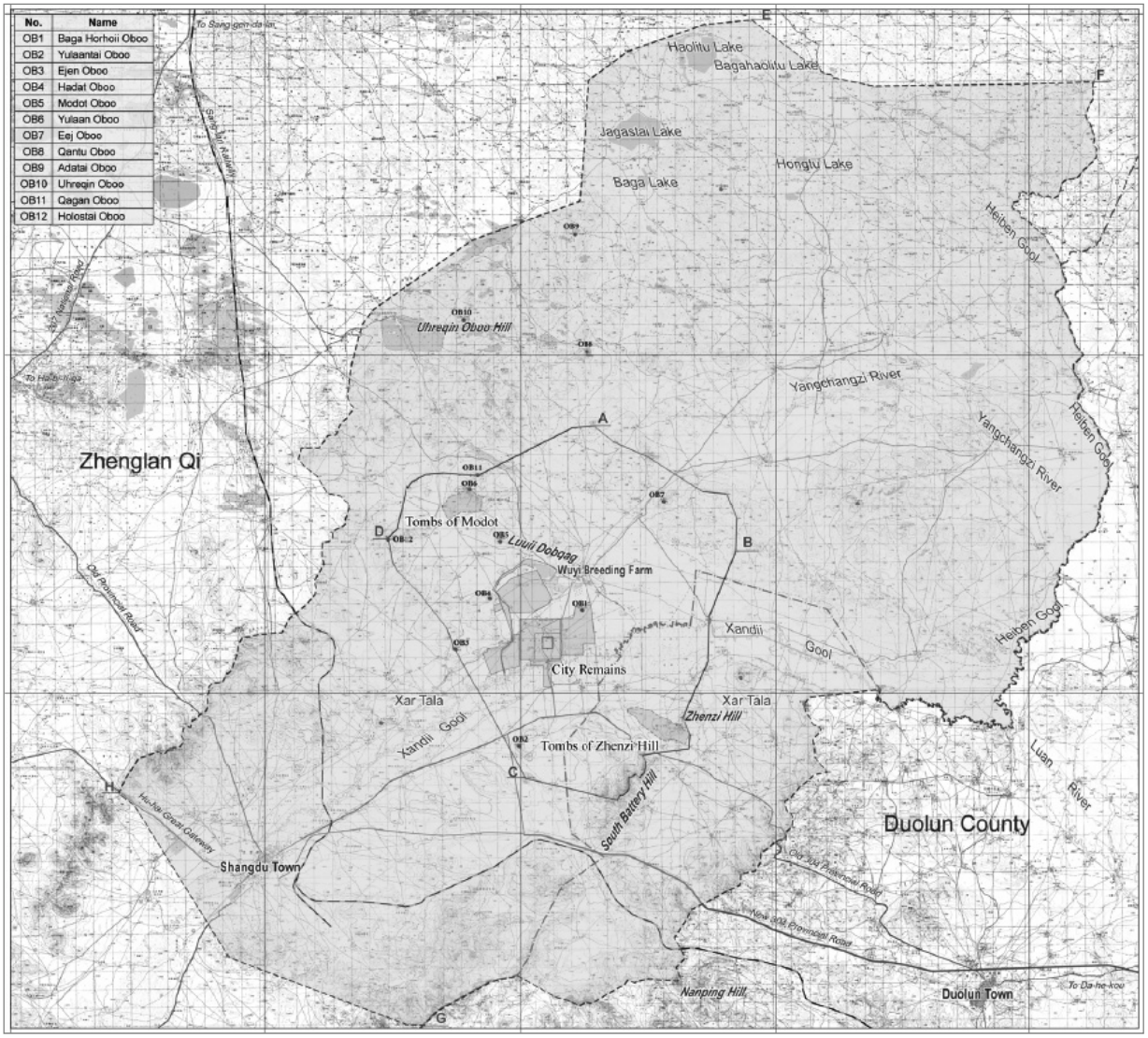
The property is protected variously by the laws of the State, the Region and the Municipality. A limited area covering Xanadu city and its neighbourhoods and the Tiefan'gan Canal is protected at State level under the Law of the People's Republic of China on the Protection of Cultural Relics. A designated area including the Tombs of Zhenzi Hill is protected at the level of the Inner Mongolia Autonomous Region People's Government; a designated area including the Tombs of Modot and the 12 designated Oboo sites are also protected at the level of Zhenglan Qi. The entire nominated property will be submitted to the State Council of China in 2012 for approval as a National Priority Protected Cultural Heritage Site.

The grassland surrounding the protected site falls under the Grassland Law of the People's Republic of China (promulgated in 1995, amended in 2002), and Grassland Regulations of Inner Mongolia Autonomous Region (promulgated in 1984, amended in 2004). Overall protection is provided by the Regulations on the Protection and Management of the Site of Xanadu in the Inner Mongolian Autonomous Region (2010), administered by Xilingol Meng. As a result of this legislation, farmland reclamation near the site has been controlled and the grassland eco-system and natural landscapes are conserved. The State protected area around the Xanadu city site and its neighbourhoods has been fenced, together with areas around the Tombs of Modot and Tombs of Zhenzi Hill.

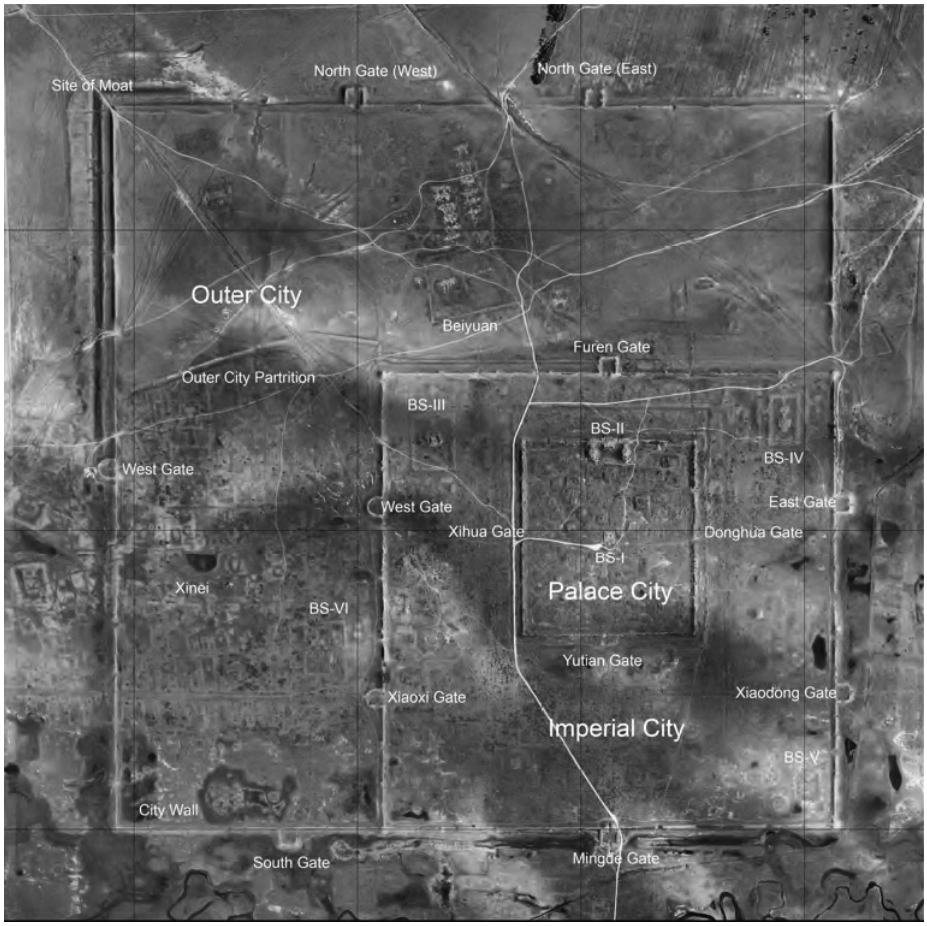
Management of the property is co-ordinated by the Xilingol Meng Cultural Heritage Administration (Bureau/Office) of Xanadu, under the Xilingol Meng Conservation and Management Committee, guided by the Conservation and Management Plan for the Site of Xanadu (2009-2015). The aim is to achieve sustainable development of the local social economy while ensuring protection of the nominated property. This requires a balance between conservation of the grassland ecology including control of desertification, and the needs of stakeholders in relation to livestock capacity and the rising demands of tourism. To this end the efficiency of heritage management is constantly being strengthened and improved.

ICOMOS recommends that the State Party give consideration to the following:

- Early completing of the procedures described in the State Party's letter dated 7 February 2012 which will provide cultural heritage protection to the entire property at the highest level;
- Developing a Tourism Management Strategy to ensure environmental protection at the property, including clear guidelines on the limits of reconstruction;
- Increasing fire protection equipment at the site;
- Engaging international co-operation on preservation technology and skills in relation to archaeological excavations;
- Further establishing scientific research facilities to monitor overall environmental conditions around the Site, particularly desertification;
- Involving the local community at the Wuyi Breeding Farm in the protection and management of the property.



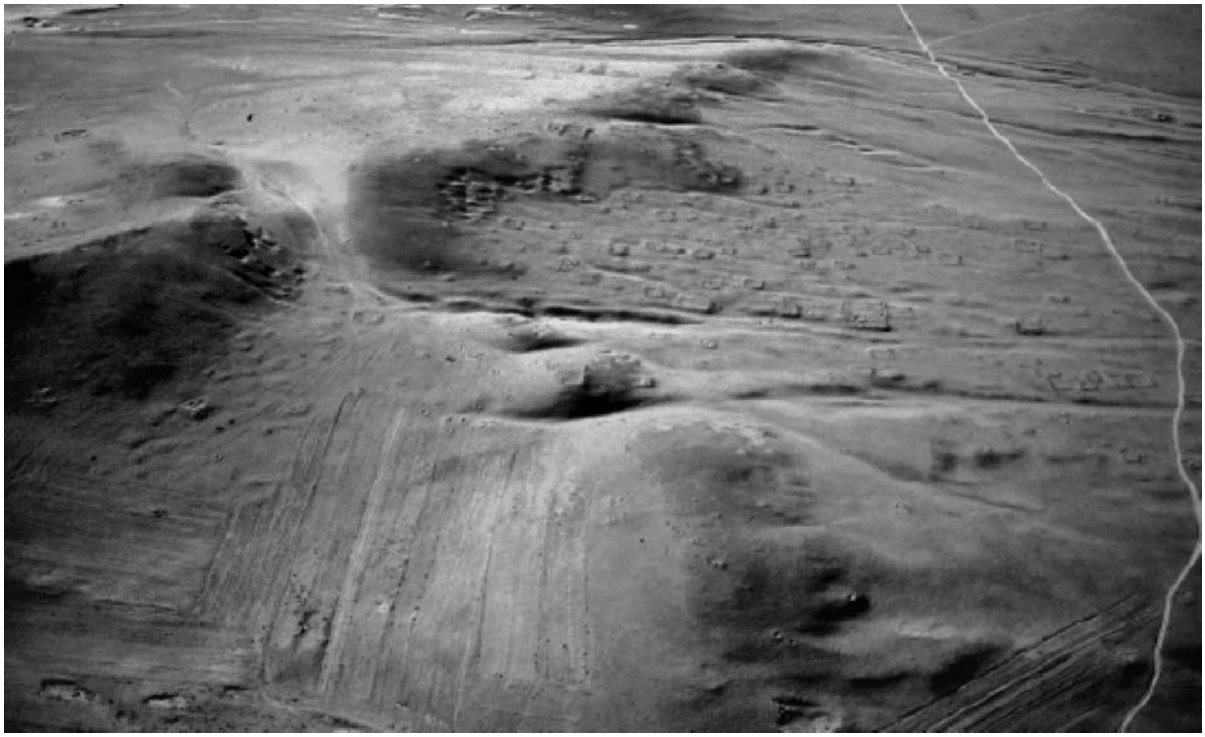
Map showing the boundaries of the nominated property



Aerial view of the Palace City, Imperial City and Outer City of Xanadu

Northern Wall of the Palace City

Yutian (southern) Gate of the Palace City



Tombs of Zhenzi Hill

Hill Forts of Rajasthan (India) No 247

Official name as proposed by the State Party
Hill Forts of Rajasthan

Location
District of Chittorgarh, City of Chittorgarh; District of Rajsamand, City of Kumbhalgarh; District of Sawai Madhopur, City of Sawai Madhopur; District of Jhalawar, City of Jhalawar; District of Jaipur, City of Jaipur
State of Rajasthan
India

Brief description
Within the Indian State of Rajasthan, five hill forts have been selected to illustrate the typological and stylistic development of Rajput defensive architecture from the 13th to the 19th centuries. The military complexes, including their palace structures, temples, memorials and water tanks, were strategically built in mountainous territory and utilized the natural defensive properties of the terrain. Testimony to alternating relations with the Sultanate and Mughal Empire and the frictions of different Rajput kingdoms, the forts provide insights into Rajput architectural, stylistic, and military technology.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of five *sites*.

1 Basic data

Included in the Tentative List
13 December 2010

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
1 February 2011

Background
This is a new nomination, which relates to an earlier nomination for Chittorgarh Fort in 1982. Following the documentation of the 7th Session of the Bureau and 7th Session of the World Heritage Committee in 1983 (SC.83/CONF.009/08, and CLT-83/CONF.021/02), the earlier nomination was not considered at the time.

Consultations
ICOMOS consulted its International Scientific Committee on Fortifications and Military Heritage as well as several independent experts.

Literature consulted (selection)

Mathur, L. P., *Forts and strongholds in Rajasthan*, New Delhi, Inter-India Publications, 1989.

Tillotson, G.H.R., *The Rajput Palaces: the development of an architectural style, 1450-1750*, New Haven, Yale University Press, 1987.

Ratanalāla, M., *Saga of forts & fortifications of Rajasthan: a peep into their resplendent glory*, Delhi, B.R. Pub. Corp., 2006

Kapoor, P. and Singh, K., *Royal Rajasthan*, London, New Holland, 2007.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 23 August to 2 September 2011.

Additional information requested and received from the State Party
ICOMOS sent a letter to the State Party on 9 September 2011 requesting additional information with regard to the justification for the serial approach and selection of sites, the justification for criteria (ii), (iii) and (iv), the definition of boundaries and buffer zones, as well the overall management framework. The State Party provided additional information in response to the questions raised on 24 October 2011, which is included under the relevant sections below.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The Hill Forts of Rajasthan are presented as a serial nomination of five sites located on rocky outcrops of the Aravallis mountain range in the south-eastern part of Rajasthan. They represent a typology of Rajput military hill architecture, which is characterized by its mountain peak settings, utilizing to the maximum the defensive properties of the terrain. All five nominated properties share multi-gated approaches, which provide access through massive and often high fortification walls, as well as central palace areas, temples, memorials and water reservoirs within the inner boundaries. The five component sites have an overall size of 700 hectares and combine an overall buffer zone area of 3,377 hectares.

Rajput forts are well known for their defensive architecture. They enclose large territories and even complete villages in walled compounds. The five selected forts contain architectural structures ranging from the 7th to the 20th centuries and each fort presents a characteristic selection of buildings and structures, which illustrate its

successive developments and military history under the Rajputs between the 13th to 19th centuries.

The property consists of:

- Chittorgarh Fort
- Kumbhalgarh Fort
- Ranthambore Fort
- Gagron Fort
- Amber Fort

The five component sites are described in turn below. Due to the variety of built structures in each hill fort, only the most significant elements of each complex are described.

- Chittorgarh Fort

The 305 hectares component site, with a buffer zone of 427 hectares, encompasses the fortified stronghold of Chittorgarh, a spacious fort located on an isolated rocky plateau of approximately 2km length and 155m width. It is surrounded by a perimeter wall 4.5 kilometres long, beyond which a 45° hill slope makes it almost inaccessible to enemies. The ascent to the fort passes through seven gateways built by the Mewar ruler Rana Kumbha (1433-1468) of the Sisodia clan. These gates are called, from the base to the hill top, the Paidal Pol, Bhairon Pol, Hanuman Pol, Ganesh Pol, Jorla Pol, Laxman Pol, and Ram Pol, the final and main gate.

The fort complex comprises 65 historic built structures, among them 4 palace complexes, 19 main temples, 4 memorials and 20 functional water bodies. These can be divided into two major construction phases. The first hill fort with one main entrance was established in the 5th century and successively fortified until the 12th century. Its remains are mostly visible on the western edges of the plateau. The second, more significant defence structure was constructed in the 15th century during the reign of the Sisodia Rajputs, when the royal entrance was relocated and fortified with seven gates, and the medieval fortification wall was built on an earlier wall construction from the 13th century.

Besides the palace complex, located on the highest and most secure terrain in the west of the fort, many of the other significant structures, such as the Kumbha Shyam Temple, the Mira Bai Temple, the Adi Varah Temple, the Shringar Chauri Temple, and the Vijay Stambh memorial were constructed in this second phase. Compared to the later additions of Sisodian rulers during the 19th and 20th centuries, the predominant construction phase illustrates a comparatively pure Rajput style combined with minimal eclecticism, such as the vaulted substructures which were borrowed from Sultanate architecture.

The 4.5km walls with integrated circular enforcements are constructed from dressed stone masonry in lime mortar and rise 500m above the plain. With the help of the seven massive stone gates, partly flanked by hexagonal or octagonal towers, the access to the fort is restricted to a narrow pathway which climbs up the steep hill through successive, ever narrower defence passages. The seventh and final gate leads directly into the palace area, which integrates a variety of residential and official structures. Rana Kumbha Mahal, the palace of Rana Kumbha, is a large Rajput domestic structure and now incorporates the Kanwar Pade Ka Mahal (the palace of the heir) and the later palace of the poetess Mira Bai (1498-1546). The palace area was further expanded in later centuries, when additional structures, such as the Ratan Singh Palace (1528-31) or the Fateh Prakash, also named Badal Mahal (1885-1930), were added.

Although the majority of temple structures represent the Hindu faith, most prominently the Kalikamata Temple (8th cent.), the Kshemankari Temple (825-850) the Kumbha Shyam Temple (1448) or the Adbuthnath Temple (15th-16th cent.), the hill fort also contains Jain temples, such as Shringar Chauri (1448) and Sat Bis Devri (mid 15th cent.) Also the two tower memorials, Kirti Stambh (13th-14th cent.) and Vijay Stambh (1433-1468), are Jain monuments. They stand out with their respective heights of 24m and 37m, which ensure their visibility from most locations of the fort complex. Finally, the fort compound is home to a contemporary municipal ward of approximately 3,000 inhabitants, which is located near Ratan Singh Tank at the northern end of the property.

- Kumbhalgarh Fort

Located in the district of Rajsamand, at an altitude of 1,100m above sea level, Kumbhalgarh Fort controlled the key border crossing between the Mewar and the Marwar territories. It is among the largest of the proposed Rajput hill forts, covering 242 hectares of territory with a buffer zone of 1,364 hectares; and it has commanding views over the Kumbhalgarh Wildlife Sanctuary, which is home to a variety of species. Like Chittorgarh, Kumbhalgarh Fort was also built under the rule of Rana Kumbha and is equally accessed through a series of seven gateways, here named Aret Pol, Halla Pol, Hanuman Pol, Ram Pol, Vijay Pol, Nimboo Pol and Bhairon Pol. Only five of these gates are located inside the property boundaries; the outermost, Aret Pol, is excluded and Halla Pol is situated in the buffer zone.

The outer walls of Kumbhalgarh Fort were constructed between 1443 and 1458, on the base of pre-15th century wall structures. The complete perimeter extends to a length of 14km, most of which consists of ramparts between 3-5m in height, enforced by circular structures constructed in rubble and brick masonry laid in lime mortar, which are plastered in some parts. All gates leading towards the palace compound on the western side of the fort are roofed and flanked by additional structures. Characteristic elements of Mewar defensive access are the zigzagging turns of the pathway between the gates, the small side cells and chambers for guards, as well as the trabeated stone construction of the gates.

The palace area consists of the Kumbha Mahal (1443-1468), integrating both men's and women's apartments, and the much later Badal Mahal (1884-1930), built under Rana Fateh Singh, which occupies the highest point of Kumbhalgarh Fort. Among the religious structures are

Hindu and Jain temples of different periods, ranging from the earlier, such as the Mataji Temple from the 13th century, to later examples such as the temples of the Golera, a group of Hindu and Jain temples constructed up until the 18th century. Kumbhalgarh Fort also includes memorials, pleasure pavilions in the historic gardens, stores and noteworthy water structures, such as the Badva Bund, a 15th century dam, or the Langan Baori, a 15th century step-well. The Kumbhalgarh component of the property is currently inhabited by approximately 300 persons, who inhabit five rural houses near the Golera Temples and a recent Muslim community settlement, which has developed around the main entrance to the fort.

- Ranthambore Fort

As a hill forest fort example in the serial nomination, this fort, located on Thambhor Hill, stands guard over the Jaipur Rajput Maharaja's former hunting grounds, in what is nowadays the Ranthambore National Park. Three large lakes, the Padam Talab, Malik Talab and Raj Bagh, are visible from the fortification walls and contribute to a landscape of forests with aquatic vegetation, which is the habitat of the Indian Tiger. The dense jungle in all directions from the fort constituted an added defence feature, a key characteristic of the Rajput forest forts. The density of the vegetation also contributed to the visual protection of the fort, which is hardly visible at a distance.

The main approach to the fort is from the north. It covers an overall area of 102 hectares within a circumference wall of 5.4km, and has a buffer zone of 372 hectares. In response to the steep ascent, stairs had to be cut into the rock and connect the four gates which guard the access to the palace area, here called Naulakha Pol, Hathi Pol, Ganesh Pol and Andheri Pol. Following the zigzag ascent, the final gate leads into the palace area, beyond which are further temples, shrines, *chattris* and other walled enclosures. In contrast to the western location of the palace area in the other forts, the residential and official structures are here located in the centre of the compound. The surrounding ramparts are adapted to the natural features of the hill crest, which at times rises vertically above the valley and required only minimal additional defences. Where necessary strong rampart walls with circular enforcements were built upon the hill side, and often contain square loopholes designed for firearms.

Hammir Mahal (1281-1301) and Rani Mahal (1283-1381) are the dominant parts of the Hindu-style palace area, which was expanded by additions in the 17th and 18th centuries, such as Supari Mahal or Dulha Mahal. Among the religious structures are Hindu temples founded as early as the 5th century (Ganesh Mandir) but also the remains of a mosque and a Muslim burial site dating to the 13th or 14th century. Significant features in Ranthambore Fort are the *chattris* and pleasure pavilions added in the 18th century, such as Battis Khamba Chattri. Little evidence is left of what must have been significant historic garden structures, but the horticulture department of the Archaeological Survey of India (ASI) is investigating opportunities to redevelop these.

- Gagron Fort

Gagron Fort is located approximately 10km north-east of Jhalawar, at the confluence of the Ahu River and the Kali Sindh River. It covers the entire stretch of a plateau on a steep outcrop of the Vindhyan Hill Range, which measures 23 hectares and is surrounded by a buffer zone of 722 hectares. It is the only serial component which represents the type of a hill water fort. In addition to its hill location it is further defended by the river, which isolates it from the surrounding terrain on three of its sides. The main access to the fort is from the northern side via a steep passage through two gates. The fortifications consist of two walls, an outer wall which loops into a major rampart at the rear and an inner fortification wall, which is interspersed with circular enforcements and crowned with large crenellations. The ramparts rise up 10-15m above ground, with the circular corner defences reaching 25m in height. The inner wall compound is accessed via an ascending route through a simple opening in the south-eastern wall, which leads directly to the outer wall over the river. On the river side, the hill top is defended by the vertical Gidh-karai (vulture's cliff) of 93.6m height. It makes the fort inaccessible and was also used as place for executions.

The typology and architectural style of Gagron Fort is representative of the Doda and Khinchi Rajput military architecture of the 12th century. The access to the palace area leads through a succession of courts and temples which are outside of the inner enclosure. The palace area itself, located in the north-west of the inner enclosure, predominantly consists of 18th-19th century structures, like the Sheesh Mahal of the Jhala Rajputs or the Zenana and Mardana Mahal, with its foliated ornamentation and arched openings of Zalim Singh Jhala's time (19th cent.). Further structures worth mentioning are the Hindu Vaishnava Temple called Madan Mohan (18th-19th cent.), the Hindu Hanuman Temple and the Muslim shrine, the Dargah (16th cent.). As in the forts previously described, Gagron Fort also includes memorials, water reservoirs and wells as well as storage buildings and habitations. At present, the fort has approximately 300 inhabitants.

- Amber Fort

In a valley formed by the range of the Aravallis known as Kalikho Hills, Amber fort is primarily a palace, which is situated below the hill fort of Jaigarh, to which it is strategically connected. The shared fortifications have gates in the four cardinal directions and include not only Jaigarh Fort but also Amber Palace, the village of Amber, Lake Maota and parts of the valley. The component part of the nominated property is restricted to the 28 hectares site of Amber Palace and Lake Maota below, with Jaigarh Fort, the village of Amber and the remaining fortification walls located in the 492 hectares buffer zone.

The primary function of Amber Palace was as the seat of power of the Kachchwaha Rajputs and the capital of the Dhoondhar region of Rajasthan. The complex, which served residential, official and religious functions, is an example of a fortified Rajput palace structure, which in layout and architectural style is strongly influenced by

Mughal architecture. The palace is built in a linear manner along an almost north-south axis, following the natural formation of the hill. All important residential and official functions are placed along its eastern side with views of the lake, while servants' quarters, storerooms and stables are oriented towards the west, facing the cliffs.

Amber Palace's ground plan follows the principle of increasing privacy via several courtyards which is so dominant in Mughal architecture. The first court, Jaleb Chowk, is directly entered via the winding, ascending path which leads through two gates from the lake to the palace. Its function was that of a forecourt, which served as an open space for large gatherings, parades and other festive events. Historically, functional buildings such as the record office, stables and staff residences were also located in this section. The second courtyard, Diwan-i-Am (1622-1667), was the court of the commoners and mostly used for public meetings. At its southern end, the imposing Ganesh Pol embellishes the passage towards the third court, the Diwan-i-Khas (1622-1667). This was the most important court in the political hierarchy and therefore the most formal and ornate. Decorated with mirror-work on the walls, columns of alabaster and intricate geometric patterns, this court was designed to impress visitors to Sawai Jai Singh's private audiences and residence. Water features, fountains and courtyard gardens created a pleasant local climate and intricate lighting arrangements enhanced by mirrored walls created a special after dark atmosphere. The fourth and southern courtyard, Man Singh Mahal (1589-1614), originally built by Raja Man Singh, was reserved for the women of the palace. It is divided into multiple smaller courts with separate residential units, each with an opening gate into the central court. From Suhag Mandir, a pavilion in this court, the female residents were able to observe the activities in the Diwan-i-Khas without being seen. They equally enjoyed views of the lake and the valley below, in particular from the terraced gardens at the southern end of the palace.

A technical intricacy of Amber Palace is the hydraulic system which uses pulleys to lift collected rain water from Maota Lake into the palace. In a three-stage process the water was first transported through clay pipes and stored, then lifted into upper tanks using pulleys and finally lifted with the help of a Persian wheel fitted with a number of earthenware buckets. The inhabitants therefore had the benefit of a continuous water supply, which during the colder months was heated in the hammam heating system. As the only water supply, the Maota Lake had a strategic function, which explains its inclusion within the fortification walls.

History and development

The nomination dossier provides detailed tabular information on the historic development of each serial site, including the related ruling dynasties, architectural interventions and important events, as well as the more recent histories of archaeological and conservation activities. Each of the five component sites contributes a slightly different combination of key phases in building activity and military action, by which it is intended that together the properties display the architectural features of Rajput military defence over several centuries.

The oldest of the hill forts could be Kumbhalgarh, also known as Machchindrapur, where, following a local legend, a Jain Prince of the Maurya dynasty built a fortress around the 2nd century BC. However, the earliest archaeological evidence in Kumbhalgarh Fort dates to the 12th century, which is considerably later than the earliest findings at Chittorgarh and Ranthambore, which date to the 5th century. However, construction of the fortifications started later, firstly at Chittorgarh, where Chitrangad, also of the Maurya dynasty, erected a stronghold in the 7th century. In Ranthambore and Gagron, the earliest certain reference to fortification structures is from the 12th century, when Ranthambore was a well-established Jain holy site and Gagron was being constructed by the Khinchi Chauhan Rajput Clan.

The Fort of Chittorgarh was expanded in the 13th and early 14th century, when it served as the capital of the Kingdom of Mewar under the Guhila Rajput dynasty. In 1336 AD the Sisodias of Mewar took the fort under their control and continued to use it as their capital. During the period of their influence, the Chittorgarh complex acquired the most important constructions still present today, including the existing Rajput palace structure, in particular during the reign of Rana Kumbha (1433-1468), who constructed amongst other things the Vijay Stambh (1440-1448) and the palace named after him. Also, Kumbhalgarh Fort displays evidence of the Sisodias of Mewar during the first half of the 15th century under the rule of Rana Kumbha, during which time many of its structures were built. This includes the walls, the gateways and several temples. Kumbhalgarh Fort also remained popular among Rana Kumbha's successors due to its strategic defensive function and was only ever captured once and for a short period by a general of Akbar in 1578AD. With this single short occupation, Kumbhalgarh has proven the most successful of the Rajput defence structures throughout its history.

Also, at Gagron Fort the ruler Rana Kumbha of Mewar left his mark, after the fort came under his control in 1439. Henceforth, it became the site of several battles between Mewar warriors and Mahmud Khilji, who took over the fort only to be defeated by the Sisodia Rajput ruler Rana Sanga soon after. Sanga held Gagron until 1532, when it was conquered by the ruler of Gujarat and held for 30 years, after which it was captured by the Mughal Emperor Akbar in 1561.

In Rathambore the earliest structures were destroyed during its sack in 1301 following Alauddin Khilji's victory. It was shortly after captured by the Sisodia Rajput of Mewar and expanded during the reigns of Rana Hamir Singh (1326-1364) and Rana Kumbha. In 1569AD Rathambore was captured by Akbar and thereby followed Chittorgarh Fort, which had already been lost in 1567AD. During this era, when all forts except Kumbhalgarh were under Mughal control, the construction of Amber palace in its

surviving form was begun during the reign of the Kachchwaha ruler Bharmal (1547-1574), who had established a political alliance between the Kachchwaha Rajputs of Amber and the Mughal Empire. The expansion was continued by the following generations, most particularly under the Kachchawaha ruler Mirza Raja Jai Singh (1622-1667), who is credited with having laid out the entire ground plan of Amber Palace.

Under Mughal rule, the Rajput signed peace treaties which also contained clauses regarding their responsibility over the forts, such as a treaty with the Mughal Emperor Jehangir, which returned Chittorgarh Fort to the Sisodias but prevented them from undertaking any repairs or constructions. Other forts were granted as feudal estates to the allies of the Mughal rulers, such as Ranthambore to Sawai Madho Singh (1753) and Gagron was awarded to Maharao Bhim Singh, the ruler of Kota, from the Hada Clan of the Rajput.

Following the weakening of the Mughal imperial powers, which were faced with several famines and internal disputes, the Sisodias signed a subsidiary alliance treaty with the East India Company in 1818. This constituted the basis for new construction and restoration activities, which were initiated for example at Chittorgarh and Kumbhalgarh. Finally, following the independence of India in 1947, the forts became the public property of the Rajasthan State government and were designated as monuments of either national or state importance. Since then, an impressive number of excavations and conservation works have been carried out.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The nomination dossier proposes five hill forts in Rajasthan, which represent Rajput military strongholds across what is described as a vast range of geographical and cultural zones. Emphasis is given to hill forts, one of the four fort categories of importance in Rajput military architecture, which is based on descriptions in ancient Hindu treatises like the third book of the *Arthashastra*. The other categories are water, forest and desert forts. The current selection is described as a judicious selection of a representative number of hill forts and is said to express the development of Rajput defensive architecture.

In order to confirm that the series covers an adequate selection of sites to demonstrate Outstanding Universal Value, the comparative analysis would need to determine whether Rajput military architecture has outstanding and unique features, which are not represented in other medieval fortifications in a wider regional context already on the World Heritage List; and that Rajput fortifications are more significant than other sites considered for potential future inscription. Following confirmation of the above, the comparative analysis would further need to emphasise that the selected serial components are the most exceptional and outstanding examples of Rajput military architecture, and that each serial component makes a unique contribution to the overall Outstanding Universal Value, as well as that it is the best possible selection to be made for this particular contribution.

The comparative analysis presented juxtaposes the individual forts with other forts in the seven cultural zones of Rajasthan, as well as the proposed series with other hill fortification groups in a national and international context. The additional information received from the State Party at ICOMOS' request, expands the comparative analysis and contrasts the technological contribution of the selected and other, comparable forts to Rajput defensive architecture and Rajput warrior clan history.

In the international context, the forts are compared as a group to other groups of hill forts but not as individual forts to other outstanding examples. Within the group context, the nominated property is considered comparable to existing archaeological World Heritage Sites, such as the Hill forts within Kernavė Archaeological Site, Lithuania (2004, (iii), (iv)), the Dacian Fortresses of the Orastie Mountains, Romania (1999, (ii), (iii), (iv)), or the Parthian Fortresses of Nisa, Turkmenistan (2007, (ii), (iii)). Equally, fort groups which still exist in their full historic monumental scale were compared, such as Three Castles, Defensive Wall and Ramparts of the Market-Town of Bellinzona, Switzerland (2000, (iv)), the Castles and Town Walls of King Edward in Gwynedd, UK (1986, (i), (iii), (iv)), or the Forts and Castles, Volta, Greater Accra, Central and Western Regions, Ghana (1979, (vi)). ICOMOS considers that the comparison to other groups of hill forts has limited the capacity to compare all typologically relevant examples on the World Heritage List, as many of these were inscribed singly as the most exceptional examples of a group of fortifications. Such examples include Bahla Fort, Oman (1987, (iv)), or Rohtas Fort, Pakistan (1997, (ii), (iv)).

Unfortunately, the only comparative factor applied in the international and national analysis is the coverage of historic eras in building activities and the numerical value of architectural structures. ICOMOS has, beyond the material provided by the State Party, studied the features and military technology of the Rajput forts and compared these with existing examples on the World Heritage and Tentative Lists. Following this, ICOMOS considers that fortifications of the Rajput warrior clans could be proven to demonstrate a combination of features of military and architectural technology that are not represented in other contexts of military architecture during the period of their key development (12^{th} – 16^{th} century).

On a regional and national level the initial comparative analysis compared the serial nomination against other hill forts in terms of their capacity to reflect all periods of Rajput building activities. The grouping together of a

group with very individual fortifications created the impression that this particular group reflects the historic development in a more complete fashion. However, almost every combination of any five forts listed would have illustrated a similar result. The additional information provided illustrated that the key references to the Rajput warrior clans and the architectural evolution are equally present in a number of other Rajput fortifications, which could have been selected. The comparative analysis does not sufficiently illustrate why the selected examples are the best possible selection. ICOMOS further considers that some of the selected fortifications represent similar features and elements related to the historic development.

On a state level, the comparative analysis demonstrates that the present selection of hill forts does not reflect all key periods or key clans of Rajput history, nor does it include monuments from all the seven cultural zones identified. ICOMOS considers that the selection of serial components is too imbalanced and too large to represent the selected theme of Rajput hill forts and inadequate to represent Rajput military architecture in general, as only one of four fort typologies has been emphasized. Although Ranthambore Fort is designated as a hill and forest fort and Gagron with its riverside location is also referred to as a water fort, their main aspect lies in their mountain peak location and therefore both qualify as hill forts.

ICOMOS further observed that the architectural style of military fortifications created during the key-period of the Rajput warrior rule (12-16th century), especially with reference to the Rajput rituals of warfare and valour, and the characteristics of the later Mughal-influenced Rajput palace architecture, as seen in Amber, illustrate considerable differences in building typology and technology. In ICOMOS' view they should preferably be considered under separate thematic approaches and in separate nominations.

ICOMOS considers that the comparative analysis does not justify consideration of this serial property for the World Heritage List, but does illustrate potential for a new proposal of a selection of different fort categories of Rajput military architecture.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The selection represents a wide-ranging repertoire of medieval military planning and construction utilizing the natural contours of the Rajasthan physiographic terrain for defence;
- The series stands as a testimony to the formation of princely states, development of Rajput ideologies (such as valour, bravery, and feudalism), and traces the development of Rajput architectural technology from the early Hindu principles to their subsequent adaptation and transformation during the Mughal and British periods;
- The forts are important records of the political situation of the period, marked by the alternate strife with and subjugation by the Sultanate and the Mughal Empire and friction between the Rajput Kingdoms ruled by various clans;
- Each fort is a conglomerate of defence mechanisms comprised of single- or multiple-tier battlemented fortification walls, gates and supporting structures, and the series illustrates the development of these defence mechanisms from the 11th to the 18th centuries;
- The selected forts provide an exceptional opportunity for multi-disciplinary research, in particular in the fields of archaeology, medieval Indian history, architecture, anthropology and historical geography.

Following the State Party, the serial approach was chosen to allow for the representation of hill forts in a vast range of geographical and cultural zones within Rajasthan, which characterizes the development of Rajput military architecture over several centuries.

ICOMOS considers that the selection of sites presented aims to illustrate a variety of features over a long range of time rather than representing the most exceptional or outstanding example(s) of an architectural phenomenon, style or typology. This methodology of variety is also expressed in the fact that not all the serial components contribute to all the suggested criteria.

In ICOMOS' view, the five selected hill fort examples cannot stand as a holistic representation of Rajput military architecture, since only one of four traditional Rajput fort categories was included. ICOMOS doubts that hills forts of Rajput power is a theme broad enough to be represented by a full series of different features, simply taking into account the changes over time in defence technology. In addition the variety of Rajput clans or kingdoms is not fully represented in the series, nor are the seven identified cultural zones included. Hence, even within the rationale formulated by the State Party for the serial approach, the present selection is imbalanced and incomplete. To seek completeness, the serial nomination would need to be considerably enlarged and include several additional forts providing evidence of other Rajput family clans or cultural zones. However, ICOMOS considers that it would be very difficult to support Outstanding Universal Value for such an enlarged number of components. ICOMOS therefore sees it necessary to focus on the most essential elements to allow a representation of the wider theme of Rajput military history and fort architecture within the framework of the Convention.

To achieve such a representation of Rajput military architecture and its unique history and technology, ICOMOS would favour nomination of a new series containing the most exceptional and outstanding examples of the full variety of different fort categories constructed in reference to their geographic terrains

(mountain, forest, desert and water forts), over the reduced approach of only one of these categories. For the category of hill forts of military Rajput architecture, the most exceptional or outstanding example of the key era of architectural development would seem sufficient, and ICOMOS does not consider the present serial approach to be justified, as long as features and key eras are repeated in more than one of the serial components.

Integrity and authenticity

Integrity

The integrity of the serial property is judged in relation to the ability of the components to cover all attributes needed to express the Outstanding Universal Value suggested by the State Party. With regard to the individual components, integrity is expressed in the completeness and adequacy of size of the component to represent the relevant contribution to the overall Outstanding Universal Value.

The rationale set out by the State Party for the serial approach was to collectively present a representative range of forts, which cover the whole span of geographical, historical, social and architectural significance of Rajput military activity. The State Party further claims that the five serial components demonstrate a relationship which enables a full understanding of not only the formation of the princely states, but also the development of their ideologies and Rajput architectural styles over successive periods, countless political conflicts, battles and alliances.

ICOMOS considers that the series of five components is not fully representative of the formation of Rajput states, alliances, or development of Rajput military architecture. The components reflect only one specific type of Rajput defensive architecture, namely hill forts, which do not represent the full capacity of Rajput military defence technology. The selection equally does not contain a representative collection of Rajput hill forts, as specific clans and geographical regions are overemphasized, while others are left out of the current selection. The State Party suggests that other sites may later be added to represent the missing regional and clan contexts, however ICOMOS is in no position to judge the integrity of a property as projected for future nomination cycles, but has to judge on the basis of what is currently presented.

When considered as individual components, Chittorgarh and Ranthambore include all relevant elements to present their local, fort-related significances. However, ICOMOS is concerned about the surrounding development and industrial activities around Chittorgarh Fort, in particular the pollution and landscape impact of the nearby quarries, cement factories and zinc smelting plants, which, if continued or even expanded, have the potential to adversely affect the property.

For Amber, Gagron and Kumbhalgarh Fort, ICOMOS considers that the strategic functions and evolutions of Rajput military architecture cannot be understood outside of the full context of their military defence structure. For Amber this context includes the outer fortification walls with Jaigarh Fort, for Gagron the river beds of the Ahu and Kali Sindh Rivers, and for Kumbhalgarh Fort the outer gates of Aret Pol and Halla Pol should be included, even if they merely served as checkpoints.

Authenticity

Authenticity of the serial property relates to the ability of the serial group to convey the Outstanding Universal Value as nominated. With regard to the individual site components, authenticity relates to their ability to exhibit the historic context, built form and function, as well as setting and other components in relation to the overall Outstanding Universal Value.

Some of the sites presented in the serial nomination illustrate the successive developments of an originally Rajput or even pre-Rajput hill fort and integrate a number of constructions and developments of post-Rajput periods, in particular the 19th and 20th centuries. Although the later developments can be distinguished from the medieval Rajput defensive architecture, they sometimes diminish the comprehensibility of the original Rajput environment. As such, some components may be considered authentic examples of development processes over several centuries, but have limited ability to credibly and truthfully represent the technological features applied at the peak of Rajput military activity and conflict (12-16th century), which ICOMOS considers to have the potential to demonstrate Outstanding Universal Value.

Structural additions introduced in the 19th and 20th centuries have, in most properties, changed the authenticity of the information sources related to the design and layout of the fort areas. This aspect particularly applies to the adjustments made for the circulation and parking of vehicular traffic. The change from private ownership to state ownership has led to a disassociation from the traditional Rajput clans and thereby a loss of authenticity in the continuation of involvement of the traditional owners, but has at the same time strengthened governmental preservation initiatives. The information sources related to material and workmanship of most key architectural components, the use of the temples and other religious structures of the properties, and the setting, with the exception of Chittorgarh Fort and the entrance area of Kumbhalgarh Fort, have been preserved authentically.

With regard to the individual structures, ICOMOS regrets that the original exterior plaster at Amber Fort and Gagron Fort has been removed and entirely replaced, which has caused a loss of the historic material and patina. ICOMOS further notes that some remote parts of the larger forts, in particular Chittorgarh and Kumbhalgarh Forts, contain structures in a state of progressive decay, which are in the process of losing their authenticity in material, substance, workmanship and design. To reverse this trend, ICOMOS recommends launching immediate action to prevent

further decay or even collapse of some structures, such as Suraj Devri Temple, the small temple near Mamadeo Baori, some parts of Kumbha Mahal and some temples of the Golera group. Additional disturbance to the integrity of the historic perspectives and setting in Kumbhalgarh Fort is caused by the parking space in front of Ram Pol, as well as in Chittorgarh Fort by the general density of vehicular traffic in some fort areas and the many parking lots at inappropriate locations as well as some temporary shop constructions.

In conclusion, ICOMOS considers that the conditions of integrity and authenticity of the series have not been met; and that the conditions of integrity and authenticity of the individual components are justified only in some cases.

Criteria under which inscription is proposed

The serial nomination of five sites is nominated on the basis of cultural criteria (i), (ii), (iii), and (iv).

Criterion (i): represent a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that the property illustrates the manifold expressions of medieval military planning and technology in utilizing the natural contours and resources for defence purposes.

ICOMOS considers that although the hill forts utilize the natural terrain for sophisticated defensive structures, the material provided does not point out how these defensive structures could be considered a major advancement in military architecture in an international context, which through either a major creative effort or pinnacle of achievement brought in new standards for fortification structures. ICOMOS considers that although the hill forts illustrate technological adaptations, they do not show innovations that could be considered masterpieces under this criterion. ICOMOS further notes that following the State Party's presentation, not all the hill forts selected for the serial nomination contribute to this criterion.

ICOMOS considers that this criterion has not been justified.

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the forts exhibit an important interchange of Rajput values and ideologies across the different cultural zones of Rajasthan and over several centuries.

ICOMOS considers that four of the five forts presented illustrate a number of key Rajput values manifested in architectural structures, which are derived from ancient Hindu texts, such as the location of the royal palace on the mountain peak, entry via five or seven gateways and temples in the outer areas of the terrain and strategies for fortification. However, these four forts do not represent the full range of Rajput ideologies, which manifested themselves in a wide range of fort architecture. As a serial property it can neither be considered the prototype for the Rajput military evolution, nor can the interaction of different cultural influences be recognized in all the serial component sites proposed. ICOMOS further considers that the justification for the inclusion of Amber palace under this criterion would need to significantly differ from the justification presented, as the references to the ancient Hindu sources of architectural design and the layout of the complex and palaces are at substantial variance.

ICOMOS considers that one selected hill fort may have the potential to represent Rajput military influence and its evolution over centuries, even in the context of a serial nomination with the other Rajput fort types, but that the serial site of five forts in the present proposal cannot justify this criterion.

ICOMOS considers that this criterion has not been justified for the series presented.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the hill forts selected are an exceptional testimony to the Rajput cultural tradition, including its different socio-economic elements, and that these forts are the manifestations of Rajput valour, bravery and feudalism.

ICOMOS considers that the testimony of the Rajput cultural tradition as expressed in its military architecture is a theme worth exploring for consideration under this criterion. However, ICOMOS does not consider that the nomination presented fully justifies this criterion in the present selection of serial components. It is evident that despite the serial approach, only a small selection of military Rajput technology has been presented in the serial components, while some features appear repeatedly. ICOMOS sees the potential of this criterion being demonstrated within a different serial approach, which includes the various types of Rajput military architecture in a more representative selection of the different Rajput regions and family clans. ICOMOS recommends that such a collection could ideally comprise the best examples of each defence fort category. ICOMOS also notes that, in following the State Party's justification, not all the serial components contribute to this criterion.

ICOMOS further considers that the aspects related to the bravery and ideology of Rajput warfare, in particular the tangible association with places where such war rituals as self immolation and fighting to the death

(*Jauhar* and *Shaka*) took place, and their representation in art and literature presented under this criterion, could, in a new nomination of a different series, be considered under criterion (vi).

ICOMOS considers that this criterion has not been justified for the series presented.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the Rajput hill forts are an outstanding example of military defence architecture and the hill fort typology, which includes unique civil engineering components and building in a particularly monumental architectural style.

ICOMOS considers that although Rajput military architecture can be said to present a unique combination of defence technologies applied in military architecture, not all forts presented in this series provide expression of a shared Rajput military typology. At the same time, it is not possible to consider each individual fort an outstanding example of fort typology in the context of this criterion. As argued above for criterion (iii), ICOMOS considers that a new serial selection related to the larger theme of Rajput defensive architecture has greater potential to demonstrate Outstanding Universal Value. Rather than the limited theme of hill forts, this new nomination should ideally present the best typologies of the different Rajput defence structures, which would then justify application of this criterion.

ICOMOS considers that this criterion has not been justified for the series presented.

ICOMOS considers that the serial approach is not justified for Hill Forts of Rajasthan but may be justified for a wider representation of Rajput military architecture. ICOMOS considers that the selection of serial sites presented is not appropriate.

In conclusion, ICOMOS does not consider that the criteria and Outstanding Universal Value have been demonstrated for the series presented.

4 Factors affecting the property

Development pressures

The State Party reports that the main development pressures derive from continued encroachment and enlargement of the residential communities within the forts, including their housing developments and adaptation of structures for domestic and community functions. Although the nomination dossier stipulates that the extension of the official and unofficial settlements, in particular vertical extensions, need to be controlled, and that more adequate settlement controls need to be established, this is not directly addressed in the Management Plans for the individual properties.

In addition, development pressures exist in the buffer zones of some properties, in particular at Chittorgarh Fort, where future vertical developments of the city to the west of the hill fort could constitute negative impacts. However, at present the main development pressures at Chittorgarh are quarrying and mining activities as well as cement factories to the east of the property, which contribute to air and landscape pollution and which progressively alter the setting of the serial component. Equally worrying is the ICOMOS observation of construction activities near Gagron Fort. Although the construction itself seems of limited extent and small dimensions, the worrying aspect lies in the fact that it is situated in the Darrah Wildlife Sanctuary, which is legally a no-construction zone. ICOMOS therefore considers that it is essential to have in place clear and concise regulations for any new constructions in the properties and buffer zones, which apply both *de jure* and *de facto*.

With regard to the planned relocation of dwellings in Ranthambore and dwellings or shop structures in the other forts, ICOMOS notes that such plans should be developed in full consultation with the communities and merchants concerned. Priority should also be given to improving the situation of traffic circulation and parking, in particular in Chittorgarh Fort, but also for the other hill forts, in which traffic infrastructure creates visual obstacles to the appreciation of the historic structures, as well as danger to the historic substance. In this context ICOMOS suggests that parking places should ideally be removed from the immediate surroundings of the entrance gates.

Tourism pressures

With the exception of Chittorgarh Fort and Amber Palace, which are already main tourism destinations and provide services for visitors, the other hill forts attract limited visitor numbers and do not seem fully prepared for a considerable increase in visitation. A particular cause of concern is the lack of security and observation personnel. Under the current situation, thefts of temple idols and also lighting installations have occurred, and acts of vandalism including graffiti are not rare occurrences.

ICOMOS would not recommend promotion of increased visitation to these sites, before the most basic security measures can be put in place and acts of theft and vandalism can be better controlled. In the long term, it also seems necessary to provide better visitor infrastructure including sanitary facilities, water and electricity, even through solar generation, at all the forts. ICOMOS notes that the State Party seems aware of these needs and that they are partly addressed in the management plans provided. A priority should be to provide security measures and personnel during major religious festivals, as during previous celebrations acts detrimental to the

preservation of individual monuments have been observed.

ICOMOS further considers that all sites, including Amber Palace and Chittorgarh Fort, would benefit from increased effectiveness of waste management systems or establishment of these. Waste Management has not yet been given adequate attention in the management plans provided.

Environmental pressures

Environmental pressures seem limited to Chittorgarh Fort, where the nearby stone quarry blasting and cement factories cause notable air pollution.

ICOMOS considers that the hilly terrain on which the fortification walls are built, which in most cases has only limited vegetation, is likely to be affected by water erosion and landslides following the annual monsoon rains. However, landslides have only been observed in the environment of Kumbhalgarh Fort, where they also present a risk of natural disaster (see below).

Natural disasters

Following water and wind erosion, landslides constitute a risk for the setting of all hill forts, in particular after the annual monsoon rains and could potentially cause damage to the outer hill fort structures. ICOMOS recommends the inclusion of inspection of the wider territories of the forts in the monitoring process, to identify potential areas at risk of future landslides.

Forest fires could also constitute a potential source of destruction, both in relation to the historic buildings and the vegetation within the fort compounds. Adequate emergency response procedures need to be established.

Impact of climate change

No impacts of climate change have been identified by the State Party. ICOMOS considers that a potential change of seasonal phenomena with increased precipitation during the monsoon months may increase the risk of water erosion and landslides.

ICOMOS considers that the main threats to the property are the expanding encroachment of habitations in the forts, industrial, mining and development activities in the buffer zones, landslides, and acts of vandalism and theft.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

Chittorgarh Fort
ICOMOS considers that the boundaries of Chittorgarh Fort are adequately defined. However, ICOMOS regards the buffer zone as too limited to ensure the full protection of the setting of the serial component and recommends expanding the management and control of urban development as well as industrial and mining activities well beyond the boundaries of the currently designated buffer zone.

Kumbhalgarh Fort
ICOMOS considers that this serial component can be better understood if the complete fort complex lies within the property boundaries, including the first two gateways, Aret Pol and Halla Pol, and a strip of the surrounding forest including smaller defence walls in the immediate environment of the fort. The buffer zone, which is largely adequate, should be extended to surround the enlarged property boundaries encompassing the gateways.

Ranthambore Fort
The boundaries of the nominated serial component and its buffer zone are considered adequate, given that the surrounding National Park provides an even larger protective zone.

Gagron Fort
The boundaries of the nominated serial component are considered acceptable, but ideally should include the river beds, which contributed so essentially to the defensive function. The buffer zone of the component is adequate, as long as additional measures are taken to protect the main view corridors of the fort and the impressive scenery of the hill fort from all sides and especially from across the river.

Amber Fort
ICOMOS considers that the Rajput military defence structure of Amber Palace can only be understood if it is seen together with its surrounding outer fortification walls and the protection provided by Jaigarh Fort on the peak above, to which it was connected by a hidden underground tunnel. ICOMOS would therefore consider it necessary to significantly enlarge the boundaries of this component part and accordingly enlarge the boundaries of the buffer zone to provide adequate protection to the structures in the enlarged boundaries.

In conclusion, ICOMOS considers that the boundaries and buffer zone of Ranthambore Fort are adequate, but would require further modification for Chittorgarh, Kumbhalgarh, Gagron and Amber Fort.

Ownership
With the exception of smaller private sections and plots in Chittorgarh, the forts are owned by different agencies of the State of Rajasthan, and administrated as state property by either the Forestry Department or the Department of Archaeology and Museums. In Chittorgarh a number of selected monuments are owned by the government of India and administered by the Archaeological Survey of India (ASI).

Protection

Legal Protection

Chittorgarh, Kumbhalgarh and Ranthambore Forts are protected as Monuments of National Importance of India under the Ancient and Historical Monuments and Archaeological Sites and Remains (Declaration of National Importance) Act of 1951 (No. LXXI of 1951 (AMASR)) and the AMASR Amendment of 2010. They were listed in 1956 (Chittorgarh), 1951 (Kumbhalgarh) and 1951 (Ranthambore) respectively. The 1951 national legislation provides unlimited protection to the monuments designated in its framework and the 2010 amendment establishes a 200 metre protection zone around the area of the designated Monuments of National Importance.

Gagron and Amber Forts are designated as State Protected Monuments of Rajasthan under the Rajasthan Monuments, Archaeological Sites and Antiquities Act of 1968. They were both listed in the very year the act was adopted. The 1968 Act stipulates that no person, including the owner of the property, can carry out any construction, restoration or excavation work, unless permission has been granted by the responsible state authorities. In the case of Amber Palace an additional notification for the protection of a 50 metre buffer zone around the property has been issued.

Effectiveness of protection measures

ICOMOS notes that only three of the five properties are designated as Monuments of National Importance and that it would be desirable to gain national designation for the remaining two. ICOMOS further considers that capacity-building measures should ensure that local site staff and other stakeholders are well-versed in the legal regulations implied by the property and buffer zone protection. Good knowledge of development limits and intervention opportunities will allow for early recognition of inappropriate activities and contribute to the effective implementation of legal regulations.

ICOMOS considers that the legal protection for Chittorgarh, Kumbhalgarh and Ranthambore Forts is adequate. ICOMOS recommends that Gagron and Amber Forts be protected at national level. ICOMOS further considers that the buffer zone protection needs to be augmented, and that the implementation of the legislation needs to be managed more effectively.

Conservation

Inventories, recording, research

Inventories seem to exist for all the properties and were either compiled by the Archaeological Survey of India (ASI), Jaipur Circle, or the Department of Archaeology and Museums of Rajasthan. Records of these inventories and other research are being held at the National Archives of India, the Archaeological Survey of India, the Kapad Dwara (City Palace) in Jaipur and the Rajasthan State Archives respectively. However, not all inventories seem to have the same level of detail and ICOMOS considers that it may be desirable to complete the inventories by surveying smaller structures in some of the forts.

Present state of conservation

The overall state of conservation varies from site to site but is in general fair to good, with the exception of Ranthambore Fort, which is not in an acceptable state of conservation to safely allow visitors in some of the key architectural structures. Apart from Ranthambore, several individual structures in almost every fort – perhaps with the exception of Amber Palace which has just undergone a major conservation project – require at least some attention. In most cases, the water reservoirs, wells and other water structures have received the least attention in conservation activities and may have to be treated more systematically.

In the larger fort complexes, Chittorgarh, Kumbhalgarh and in particular Rathambore, smaller temples and pavilions in the remote areas of the fort compounds seem to present a less satisfactory state of conservation and should ideally be surveyed to prevent future losses. This is, for instance, the case in Kumbahlgarh Fort where structures such as Suraj Devri Temple, the small temple near Mamadeo Baori, some parts of Kumbha Mahal and some temples of the Golera group require attention. In Ranthambore important sections of Hammir Mahal, Dulha Mahal, Badal Mahal, Pachauri Mahal, and Shiv Mandir need to be investigated and urgently prioritized for conservation measures.

Active Conservation measures

Active conservation measures are planned for each of the five serial components and major conservation projects were recently carried out at Gagron and Amber Forts. To a large extent the conservation measures seem appropriate although ICOMOS regrets that it was deemed necessary to remove large sections of the outer original plaster at both state-supervised component sites, as these measures seriously reduced the authenticity expressed in the material and workmanship of the outer fortifications. In general, ICOMOS observes that the conservation policy applied at state level may benefit from further collaboration with the conservation team of the Archaeological Survey of India (ASI).

The nomination dossier presents a detailed list of all conservation activities conducted between 1899 and 2010 and provides conservation plans for Gagron and Amber Forts. For the remaining serial components without explicit conservation plans, the historic records illustrate the ongoing systematic conservation activities and individual buildings are highlighted as targets for forthcoming conservation measures, in a status report and five year prospective plan provided with the additional information submitted by the State Party at ICOMOS' request. All conservation measures follow a standard routine of initial examination and documentation, followed by chemical surface cleaning, structural stabilization, biocide treatment, consolidation, and lastly hydrophobic treatment. These

steps are described in more detail in a *Conservation Manual* written by John Marshall, which is used as the handbook by those entrusted with the care of the historic monuments.

Maintenance

General maintenance works, cleaning and sweeping of the monuments are carried out on a regular basis under the supervision of the Archaeological Survey of India or the Department of Archaeology and Museums of Rajasthan. ICOMOS considers that, in order to ensure the long-term preservation of the architectural structures, especially in the outer areas of the larger forts, cutting and clearing of vegetation, in particular vegetation growing on or next to the historic structures should be increased to prevent damage caused by plant roots or falling trees.

In conclusion, ICOMOS considers that urgent attention is needed to preserve degraded and dilapidated structures at Ranthambore Fort and in a few cases at Kumbhalgarh Fort, and that the ongoing control of the vegetation in the fort compounds needs to be improved.

Management

Management structures and processes, including traditional management processes

The overall management of the five properties is steered by the State Level Apex Advisory Committee, which was established through Order A&C/2011/3949 on 11th May 2011. It is chaired by the Chief Secretary of Rajasthan and comprises members of the concerned ministries, namely Environment & Forests, Urban Development and Housing, Tourism, Art, Literature & Culture, Energy and various representatives of the heritage sector including the ASI. The Apex Advisory Committee meets on a quarterly basis and is designed to constitute the overall management framework of the serial property, guide the local management of the five serial components, coordinate cross-cutting initiatives, share research and documentation, share conservation and management practices and address the requirements of common interpretative resources.

To implement the recommendations of the Apex Advisory Committee, the Amber Development and Management Authority, which manages Amber Fort and is authorized to manage other heritage properties within the State of Rajasthan, acts as an overarching authority for management implementation. As documented in the additional information the State Party provided at ICOMOS' request, the authorization of the Amber Development and Management Authority to act as the overarching management agency was legalized through notification by the Chief Secretary of the Government of Rajasthan dated 14 October 2011.

Policy framework: management plans and arrangements, including visitor management and presentation

As part of the nomination dossier, the State Party has provided separate so-called Management Plans for all five serial components including a shared introductory section highlighting the overall management structure of the five components. The Management Plans are designed to cover the period 2011 to 2015 and contain, following a description of architectural structures and site significance, somewhat general policy and strategy statements for future work.

ICOMOS notes that the policy statements are not directly referencing the Outstanding Universal Value suggested, and that more detailed action plans for the implementation of the management policies, as well as indicators for management quality assurance during the implementation processes, are needed.

In Chittorgarh, Kumbhalgarh and Ranthambore Forts new interpretation signage has been installed (in 2009-2010), and further measures to expand the presentation are envisaged in the management plans. Gagron Fort at present does not have any interpretative facilities, but the development of a comprehensive interpretation plan was earmarked as a management priority. In Amber Fort visitors can find a variety of interpretive material, including signage and audio guides, and a number of human guides are part of the site management team.

Risk preparedness

At present, detailed risk management plans are not available for the five serial components, but the State Party indicated in the nomination dossier that these risk management plans will be compiled. Yet, at present this process is not included in the Management Plans for 2011-2015. ICOMOS recommends that risk management should be given priority in the short-term action plans and that specific emphasis should be given to the risk of forest fires as well as flooding and subsequent landslides.

Involvement of the local communities

As indicated in the documentation provided, limited community consultation took place in the preparation of the nomination dossier but broader community involvement initiatives are planned for the future management of the hill forts, and in particular for the aspects related to the community habitations. A noteworthy past project of community involvement is the World Monuments Fund-supported revitalization of streetscapes project at Amber, which encouraged local residents to participate in the interpretation of landscape values in the buffer zone.

Resources, including staffing levels, expertise and training

Financial resources and staffing levels at present do not seem adequate to ensure the management and protection of those hill forts designated as national monuments.

ICOMOS notes that, whilst funding is made available by ASI to conduct conservation measures following the five year plan, the annual regular budgets of the Chittorgarh, Kumbhalgarh and Ranthambore forts are not adequate to provide for the most essential personnel and maintenance needs.

ICOMOS notes from the State Party's report that the costs for electricity, in particular lighting, are high and recommends exploring the opportunity of utilizing solar energy lighting systems. ICOMOS considers it essential to provide additional personnel to guard the key historic structures in the fort compounds and prevent further vandalism and theft.

In terms of training, the professional experience of ASI-trained staff and consultants seems generally adequate for their respective functions, yet the craftsmen participating in the maintenance of the conservation works supervised by the department of Archaeology and Museums of the Government of Rajasthan, could benefit from further training in heritage conservation technologies.

Effectiveness of current management

The coordination of management activities by the Apex Advisory Committee commenced in May 2011 and has initiated closer cooperation between the serial components. At present, the site management lacks detailed action plans as well as personnel to undertake the most essential management functions, especially with regard to guarding and security activities. In order to ensure the effectiveness of the management at all the serial components, funding resources need to be increased to employ site guards on all the properties. Tourism management strategies need to be further developed to ensure visitor safety and adequate site interpretation.

ICOMOS considers that the management plans provided contain adequate policy guidelines but should be supplemented to contain more detailed action plans for implementation, including for tourism management. ICOMOS further recommends providing additional funds for security and maintenance personnel to ensure the effective management and protection of the property.

6 Monitoring

The State Party reports that comprehensive monitoring measures have been in place since 1951 and that the sites are monitored on an annual basis by the ASI Director of Conservation, and on a quarterly basis by the Superintendent Archaeologist of the ASI Jaipur Circle. In addition, the superintendents on site are responsible for monitoring the condition of all structures on a weekly basis.

ICOMOS considers that whilst the administrative arrangements for monitoring seem satisfactory, detailed monitoring indicators need to be developed with explicit reference to the Outstanding Universal Value proposed. ICOMOS further recommends including a periodic inspection of the outer hill structures in the monitoring process to identify any risk of future landslides.

In conclusion, ICOMOS considers that the administrative monitoring arrangements are adequate but that monitoring indicators need to be further developed.

7 Conclusions

ICOMOS considers that the theme of Rajput military architecture and defensive technology has strong potential to illustrate Outstanding Universal Value. However, the selection of sites for this serial nomination does not adequately support the Outstanding Universal Value proposed by the State Party. ICOMOS encourages the future submission of a new nomination with a series of sites that present the various categories of Rajput military architecture, adapted to the whole range of the Rajput kingdom's physiographical terrain, including mountains, forests, water, and desert forts. ICOMOS in this context welcomes a new nomination to present a series of the single most outstanding and exceptional representations of each of these categories and considers that such a nomination would very likely demonstrate Outstanding Universal Value.

For the protection of the hill forts currently presented, a number of measures would seem necessary, before it can be considered that adequate and effective conservation and management standards are in place. Most vital among these is the employment of guards and maintenance personnel at all forts, to prevent future acts of theft and vandalism. The number of guards should particularly be increased during major religious festivals. For Chittorgarh Fort, it is essential to control urban and industrial development beyond the designated buffer zone, to reduce the adverse impacts of the stone quarries and cement factories in the immediate vicinity and to prevent adverse effects of future urban development. To achieve this, Chittorgarh and the other hill forts require clear and concise regulations for any new construction in the serial components and their buffer zones. Gagron and Amber Forts should be designated as Monuments of National Importance. In addition, capacity-building for the responsible authorities will allow them to become more observant and ready to intervene and enforce the legislation in the case of any inappropriate construction. ICOMOS considers such local awareness and alertness an essential component of effective site management.

The state of conservation varies in the five serial sites presented and ICOMOS observed the most critical situation in Ranthambore Fort and areas of Kumbhalgarh Fort. Ranthambore is not currently in a condition to ensure visitor safety in some of its key architectural structures and also some structures in Kumbhalgarh require urgent intervention to prevent further losses or even collapse of historic structures. ICOMOS recommends, where

possible, cutting and clearing vegetation which has a damaging effect on the historic structures and to periodically inspect the hill slopes to identify any potential risk for landslides. For more effective management, ICOMOS advises the development of action plans for the implementation of the management policies and the establishment of detailed monitoring indicators to monitor the properties' state of conservation as well as the quality of management plan execution.

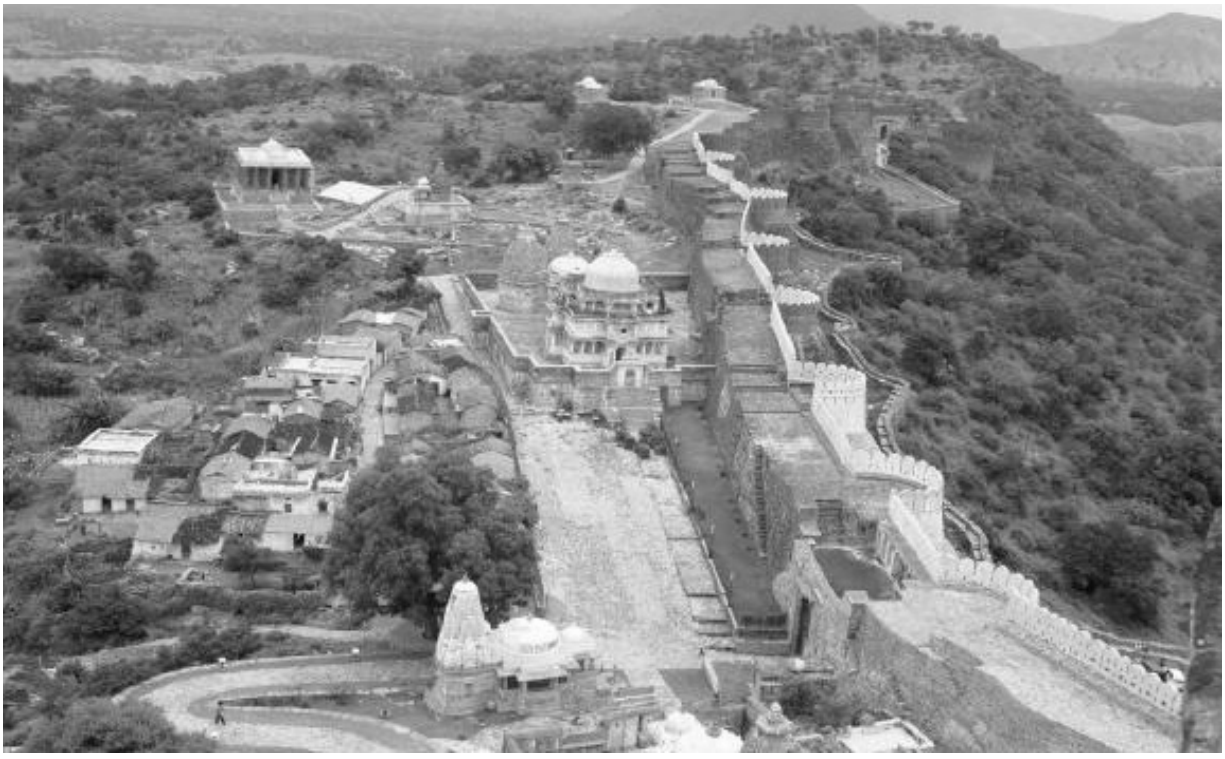
Recommendations with respect to inscription

ICOMOS recommends that the Hill Forts of Rajasthan, India, should **not be inscribed** on the World Heritage List.

ICOMOS recognizes the importance of the theme of Rajput military architecture and defensive technology for the World Heritage List and encourages the State Party to prepare a new nomination for a series of sites that present the various categories of Rajput military architecture and the whole range of the Rajput kingdom's physiographical terrain.

Map showing the location of the nominated properties

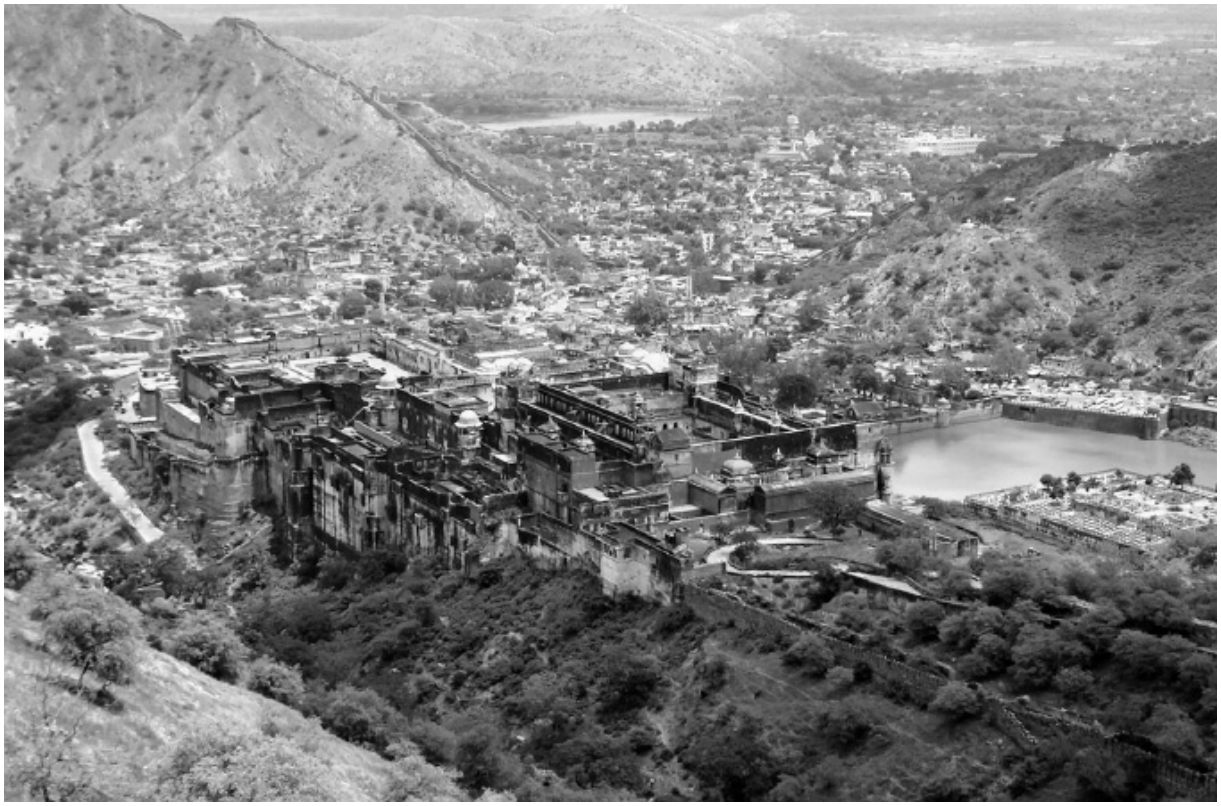
Chittorgarh Fort



Kumbhalgarh Fort

Ranthambore Fort

Gagron Fort



Amber Fort

Masjed-e Jāme' of Isfahan (Iran) No 1397

Official name as proposed by the State Party
Masjed-e Jāme' of Isfahan

Location
City of Isfahan
Isfahan Province
Islamic Republic of Iran

Brief description
Masjed-e Jāme' is the oldest Friday (congregational) mosque in Iran, located in the historical centre of Isfahan. The monument illustrates a sequence of architectural construction and decorative styles of different periods in Iranian Islamic architecture, covering 12 centuries, most predominantly the Abbasid, Buyid, Seljuq, Ilkhanid, Muzzafarid, Timurid and Safavid eras. Following its Seljuq expansion and the characteristic introduction of the four iwans (*Chahar Ayvān*) around the courtyard as well as two extraordinary domes, the mosque became the prototype of a distinctive Islamic architectural style.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *monument*.

1 Basic data

Included in the Tentative List
22 June 1997

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
31 January 2011

Background
This is a new nomination.

Consultations
ICOMOS has consulted several independent experts.

Literature consulted (selection)

Finster, B., *Frühe iranische Moscheen: vom Beginn des Islam bis zur Zeit Salğūqischer Herrschaft*, Berlin, D. Reimer, 1994.

Galdieri, E., *Isfahān: Masgid-I Gum'a*, Rome, IsMEO, 1972.

Grabar, O., The Islamic dome, some considerations, in *Journal of the Society of Architectural Historians*, vol. 22, 4 (Dec.), p.191-198, 1963.

Grabar, O., *The great mosque of Isfahan*, London, Tauris, 1990.

Ozdural, A., A mathematical sonata for architecture: Omar Khayyam and the Friday Mosque of Isfahan, in *Technology and Culture*, vol. 39, 4, p. 699-715, 1998.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 8 to 13 September 2011.

Additional information requested and received from the State Party
ICOMOS sent letters to the State Party on 9 September and 14 December 2011. In these it requested additional information with regard to the historical development of the mosque, the justification and comparative analysis related to criteria (ii), (iv) and (vi), the development of the Meydan-e Atiq project, the management framework, and the established monitoring procedures. The State Party responded by letter of 21 October 2011 and of 25 February 2012 and provided additional information in response to all queries. This information is included under the relevant sections below.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
Located in the historic centre of Isfahan, the Masjed-e Jāme' (Friday or congregational mosque) is the centrepiece of Islamic religious life in the city. Organically integrated in the urban fabric, the 20,756 square metre mosque can be accessed through ten portals, two of which are closed at present, many directly from the labrynthine covered bazaar. In its current condition, the Masjed-e Jāme' is a composite of a variety of Iranian Islamic styles of construction and decoration and has even been referred to as a "museum of mosque architecture". The mosque is surrounded by a buffer zone of approximately 18 hectares.

Upon entering the mosque, the dominant space of the monument is its *sahn* (courtyard) of 60m by 70m, with the impressive four iwans (vaulted halls opening into the courtyard) situated in all the cardinal directions. Two water basins are the only free-standing architectural elements in this rectangular space, one a square basin with a platform standing on four columns in the centre of the courtyard, and the other a polygonal basin on its northern side.

The north-south axis of the mosque indicates the *qiblah* (prayer direction) and emphasizes the southern iwan and the *maqsura* (a space in the centre of the *qiblah* wall). The *maqsura*, at the southernmost centre of the mosque, is the location of the Nezam al-Molk dome, the first dome of the mosque. It was built on the orders of the Seljuq ruler

Malek Shah and initiated and supervised by his minister Nezam al-Molk, who gave his name to it. Built on the square-shaped ground plan of the *maqsura* hall at 11.5m from the ground, an intermediate polygonal independent section 6.37m high provided a circular base for the dome, which was constructed with a diameter of 15m. This first example of a gradual transition section, which converted the square to an octagon on the first level, then to a 16-sided plan, which then provided the base for the circular walls carrying the dome, was an innovation, which paved the way for much larger and more secure dome structures.

Also the construction of the dome itself, reckoned to have been during 479-480AH (1086-1088AD), brought in the innovation of an internal load-bearing framework of so-called *tarkineh* (ribs), which often have egg-shaped forms built upon a dome cylinder. This technique is referred to as connected double-shelled rib dome construction. A second dome of smaller size and the same technique is located at the northernmost centre of the mosque and is referred to as Taj al-Molk. Taj al-Molk, the succeeding minister and opponent of Nezam al-Molk, copied the general technique of the earlier dome but perfected its proportions to such fine effect, that the dome is often praised as demonstrating the Golden Ratio in dome architecture. Both dome structures were initially free standing but were later connected to the *shabestani* (hypostyle) sections of the mosque.

The *shabestani* sections were the initial components of the square Abbasid mosque, and were partly destroyed for the construction of the dome and iwans. The *shabestans* visible today are mostly Seljuq structures with extensions added during Timurid and Safavid times. Among the most significant features of the mosque are the 484 vaults of these hypostyle sections, which were constructed utilising approximately 50 different techniques, some of them open to allow light into the inner structure, others closed. Brick pillars carrying the covering vaults, so-called *taq-o-cheshmehs* (small domes often with central openings) show a variety of decorations and each of the 484 small domes is different in characteristics, dimensions and appearance.

The centrepieces, and the most visible features of the Masjed-e Jāme', are the four iwans (*chahar ayvān*), one in the centre of each of the façades of the courtyard. Their differing dimensions, structures and decorative motives emphasise their different levels of importance. Most impressive is the southern iwan which lies in front of the Nezam al-Molk dome chamber, followed by the western and eastern iwans and lastly, the northern of significantly smaller width.

The southern iwan is a platform of 12 by 12 metres skilfully annexed to the *maqsura* hall. It can be assumed that the intention of the construction was to connect the free-standing *maqsura* and dome to the courtyard by means of a representative transition that provides an access route of impressive status. Two service staircases, which provide access to the roof, illustrate that it may not have been connected to the neighbouring hypostyle halls in its initial construction phase. All the interior walls of the southern iwan were decorated during the reign of Ozun Hassan, an Aq Qoyunlus king, in the late 9th century AH with large *muqarnases* (an Islamic ceiling decoration style), as well as *mo'araq* (enamel coloured tile work). He also ordered the construction of the two minarets on both sides of the iwan, which have similar surface decoration and Kufic inscriptions, written upon turquoise coloured tiles in spiral style. Unfortunately, the southern iwan has suffered heavy damage during the course of the centuries.

Constructed with cradle type arches, the slightly smaller western and eastern iwans (10.5 x 10.5m) were built after destruction of the hypostyle mosque elements of Abbasid times, which had previously stood on their locations. They were built as structures separate from the existing buildings, but were later connected through small corridors decorated with *muqarnas*. Regrettably, the courtyard front of the eastern iwan was completely destroyed during restoration work in 1312AH (1894AD), when reconstruction was carried out in a rather unconventional fashion. Its western counterpart is in a better condition and has retained the tile-work and *muqarnas* commissioned by Shah Sultan Hosein Safavid.

The northern iwan connects to the courtyard on the shorter side of its rectangular shape and takes up the north-south axis of the southern iwan. It was built in the last phase of Seljuq alterations to the mosque and creates an opening through the original northern enclosure wall, making a direct connection to the Taj al-Molk Dome. The outer façade was destroyed in 1313AH (1896AD) and also the first 3.5m from the iwan's edge is a modern reconstruction. The northern iwan is the only structure of the mosque that was built on foundations and initially its characteristic inner portals, now closed up by brick walls, were open to the hypostyle sections on either side.

The Masjed-e Jāme' of Isfahan, apart from its architectural and structural qualities, also contains fine examples of stucco decoration and tile-work. In the case of the stucco decoration, the additions of the Ilkhanid period should be highlighted, in particular the so-called Uljeitu Mehrab and the Ilkhanid Mehrab. The Uljeitu Mehrab, located on the northern outer wall of the western iwan, is a *mehrab* (prayer niche) of very fine stucco work, containing floral and geometric designs as well as inscriptions in Thuluth and Kufic script. The second *mehrab* of later Ilkhanid times can be found in the roofed corridor of the Eastern entrance.

History and development

The Masjed-e Jāme' is the oldest preserved Friday (congregational) mosque in Iran and was built and extended in several subsequent stages. As a result of its multi-layered architecture and the occasional lack of documentation for certain phases of its construction and extension, different scholars of Iranian and Islamic architectural history have proposed different theories regarding its historic evolution, some of which seem contradictory. The history and development of the mosque

presented below is based on the latest archaeological and architectural findings presented in the nomination dossier, which occasionally revise theories published earlier.

Earlier theories have for example assumed that the Abbasid hypostyle mosque, constructed from 226AH (841AD) onwards, was built on virgin land. However, archaeological excavations have confirmed the existence of a pre-Islamic structure, which shows a north-eastern, south-western axis like Sassanid buildings and therefore differs by 20 degrees from the *qiblah* wall. This structure was demolished to allow the correct orientation of the *qiblah* wall of the Abbasid hypostyle construction, which provided the existing square courtyard and the main hypostyle sections of the mosque. It was initiated under the reign of al-Mo'tasem the Abbasid and was again extended under al-Moqtader.

In the Abbasid construction four buildings with porticos, each occupied by separate *khanqahs* (a building designed for gatherings of a brotherhood) and *madrasas* (religious schools), were arranged around the central court. In total the hypostyle sections of the four buildings contained 262 arches and 355 brick pillars. Although little of the original Abbasid fabric remains, some sections of the Abbasid enclosure wall are still visible in the roof spaces of the later extensions.

The first changes were implemented in the Buyid period (10-11th cent. AD), when colonnaded arcades were added to the four sides of the courtyard, reducing its original size. The elevations were relined with poly-lobed piers faced with small bricks, which gave the facades a more decorative character. The surfaces of the external enclosure wall of Abbasid times show similar patterns, which suggests that the mosque must have been surrounded by colonnades during the Buyid era.

The most influential period for the Masjed-e Jāme' of Isfahan was during Seljuq rule. The various architectural innovations and additions can be chronologically arranged in three intervention phases. The first phase took place under the reign of Malek Shah (1072-1092AD), who ordered his minister Nezam al-Molk to construct the first dome in the southern *maqsura* (1086-1088AD). For this project 24 pillars of the Abbasid hypostyle mosque had to be removed. Also during the rule of Malek Shah, the second phase started, now carried out by the minister's successor, Taj al-Molk.

The second phase added the famous Taj al-Molk Dome, constructed in imitation of the first on a smaller scale but more elaborate aesthetically. Its superior quality in architectural structure and decoration has brought it even higher praise than the prototype structure of the Nezam al-Molk Dome. In addition, vaulted roofs were constructed for the free section between the Nezam al-Molk Dome and the hypostyle sections of the mosque to its east and west, which connected the previously isolated dome to the other parts of the mosque complex.

In the third and final Seljuq phase, the mosque required extensive restoration after a devastating fire in 515AH (1121AD), which destroyed most of the courtyard facades. In an attempt to make the mosque more magnificent after reconstruction, four iwans were introduced, which dramatically changed the architectural emphasis of the mosque layout. It was the first ever attempt to integrate iwans, an element of Sassanid palace architecture, into Islamic religious structures. This change led to a new prototype in mosque layouts for large parts of, in particular, the Eastern Muslim Empire, and the four iwans are still considered the most eminent elements of the golden age of Seljuq architecture. As mentioned in the description above, the eastern iwan, of all the four, retains the most elements of the original Seljuq construction and decoration.

Following Mongolian raids, until the reign of the Ilkhanids (14th cent. AD), no significant changes were recorded. The Ilkhanid rulers changed the inner courtyard elevations into two-storey structures. The Ilkhanids further added rich decoration to different elements of the mosque, most strikingly two *mehrabs*, the Uljeitu (710AH (1310AD)) and the so-called Ilkhanid Mehrab. The Beit ash-Shata Shabestan was originally a Muzaffarid *mosallah* (open prayer place). Under the reign of Qotb-e din Shah Mahmud Muzaffar (759-776AH, 1358-1374AD) the Muzaffarid Madrasa was constructed outside the eastern wall of the Abbasid mosque complex.

During the Timurid era (16th cent. AD), the south western *shabestan* of the main prayer hall was extended towards the outer limits of the Muzafarrid *mosallah*. However, little is visible of this extension today, as the Safavids later destroyed parts of this Timurid *shabestan* to replace it with the so-called Safavid Shabestan. Surviving Timurid elements can be seen in the structures that covered the passageways of the previously free-standing iwans which connect them to the neighbouring *shabestan* prayer areas.

The Safavid period brought little architectural modification but left highly visible traces in decoration, and crucial restoration projects to the older structures were also carried out. The most obvious changes affected the courtyard facades, which to today have sophisticated Safavid decoration. Apart from the facades, Safavid decoration can be seen in much of the northern iwan and in a marble *mehrab* at the southern wall of the western iwan. Like the Timurid *shabestan*, the Muzaffarid *mosallah* was also restored and partly modified. The *mosallah* was extended northwards and covered with a vaulted roof structure. Restorations and repairs during Safavid time are particularly well documented in a variety of inscriptions in different parts of the complex.

Following the Safavid era the Masjed-e Jāme' of Isfahan underwent regular conservation and repairs, but it has retained the principle layout and decoration it had during the 14th century AD. An air attack on the 12th of March 1984 destroyed sections close to the southern dome and the northern enclosure. These were reconstructed on the

basis of maps and photographs by the ICHHTO (Iranian Cultural Heritage, Handicraft and Tourism Organization), which continues to supervise and approve conservation or restoration projects which are required in the Masjed-e Jāme' complex.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The comparative analysis in the nomination dossier compares the Masjed-e Jāme' of Isfahan with other mosque complexes in three chrono-typological sequences, with: (1) mosques built before the initial construction of the Masjed-e Jāme' at Isfahan, (2) mosques built at the same time during the Abbasid era and a consideration of their later development, and (3) mosques constructed after this era, in particular those having similar features to those constructed during the Seljuq era. The latter gives special consideration to those mosques constructed after the prototype Masjed-e Jāme' of Isfahan and thereby provides a comprehensive catalogue of *Chahar Ayvāni* mosques. Among the mosques reproducing the layout of the Masjed-e Jāme' of Isfahan are the Masjed-e Jāme' of Varamin, the Masjed-e Bibi-Khanym in Samarkand, Uzbekistan, the Masjed-e Jāme' of Herat, Afghanistan, the Masjed-e Jāme' of Bukhara, Uzbekistan, and the Masjed-e Iman in Isfahan. A tabular comparison allows for immediate visual comparison of the central mosque features in relation to ground plans, construction dates, perspectives and types.

The additional information sent by the State Party at ICOMOS's request deepens the comparative analysis through consideration of other types of dome structures and dome construction technologies, both in the Islamic context and beyond, including Hagia Sophia in Istanbul, the dome in the mosque of Yerevan, and Soltaniyeh Dome in Iran. ICOMOS further requested the State Party to enhance the comparative analysis to compare the Masjed-e Jāme' with architectural structures illustrating similar mathematical complexities and associated beliefs and meanings. The response received referenced the mosques discussed in the comparative analysis in the nomination dossier but did not add specific information on comparability with regard to associated scholarly inspiration.

ICOMOS considers that the comparative analysis is sufficient to confirm the prototype role of the Masjed-e Jāme' of Isfahan with regard to the four iwan layout in Islamic religious architecture as well as the prototype role of the Nezam al-Molk dome with regard to double-shell ribbed dome structures. ICOMOS further considers that the comparative analysis has not fully demonstrated the unique role of the Taj al-Molk dome as the most perfect example of a dome structure in Islamic architecture, nor of the associated knowledge and philosophies expressed in its proportions and decoration.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- It is a masterpiece of Seljuq brick architecture and contains innovative elements, which were celebrated for their structural ingenuity and complexity;
- Masjed-e Jāme' illustrates outstanding innovations of Friday mosques during the Seljuq period, most notably its *Chahar Ayvān* structure and the two Seljuq domes;
- Taj al-Molk Dome is a masterpiece in engineering and, according to several authors, the most perfect dome ever created; it follows the ideal mathematical proportions of a perfect dome and has stood without any cracks appearing for more than 900 years;
- The Uljeitu *mehrab* of the Ilkhanid period is a masterpiece of stucco work with complex compositions and three-dimensional inscriptions, merged with floral and geometrical carvings;
- Masjed-e Jāme' represents more than 1,000 years of different traditions of mosque construction in Iran, and with its variety of techniques and decoration is a textbook example of the evolution of mosque architecture.

ICOMOS considers that only the justification in relation to the prototype aspect of the double-shell ribbed Nezam al-Molk dome, the first use of the four iwan (*Chahar Ayvān*) typology in Islamic architecture, as well as the textbook character of the Masjed-e Jāme' as a compilation of Islamic architectural styles is appropriate. The Masjed-e Jāme' of Isfahan is an outstanding example of innovation in architectural adaptation and technology applied during the restoration and expansion of an earlier mosque complex during the Seljuq era, which has been further added to during later Islamic periods through the addition of high quality extensions and decoration.

Integrity and authenticity

Integrity

The integrity of the Masjed-e Jāme' of Isfahan is judged in relation to its completeness and adequacy of its size, in particular as these relate to its ability to express all necessary elements of its Outstanding Universal Value. The Masjed-e Jāme' contains a continuous sequence of Islamic architectural styles, the most prominent of which date from the Seljuq period. The remains from the Seljuq era, especially the key elements of the ground plan, the four iwans, and the two domes are sufficient to illustrate the advances in mosque and dome architecture made at the time.

The boundaries of the property are adequate to encompass the entire mosque complex with all its extensions and significant functions over time. However, the Meydan-e Atiq project, which is currently being developed on the south-eastern side of the property is planned to be connected to the eastern bazaar structures, which form the outer structural boundary of Masjed-e Jāme'. This will likely have an adverse impact on the integrity of the property, if not implemented in a sensitive fashion. The State Party provided revised plans for the Meydan-e Atiq project, in particular for the north-western section, which was initially designed to attach to the eastern entrance of the mosque. The State Party submitted the architectural drawings for the section in question and suggested that comments and indications for required changes from ICOMOS were welcome. ICOMOS considers that the latest design submitted shows several improvements when compared to the earlier designs but could still negatively impact on the integrity of the property, and that further revision will be required. ICOMOS further considers that, based on the future revised design proposal, a comprehensive Heritage Impact Assessment (HIA) should be carried out to analyse the potential negative impacts of the project on the physical structure of the mosque complex and its setting, before its approval can be considered.

Authenticity

Most elements of the mosque, in particular the four iwans and the Malek al-Molk and Taj al-Molk domes, are authentic in material, design and location. Restorations and a reconstruction, which was necessary following the air raid in 1984, were carried out to an adequate standard, using traditional craftsmanship and materials. ICOMOS considers that an important aspect of authenticity is the function of the Masjed-e Jāme' of Isfahan, both as a mosque, which continues to be used for prayers, and also as a component of the Isfahan historic bazaar fabric. Connected to and accessed from the street network of the bazaar area, the mosque has a significant setting, which seems at present endangered by the Meydan-e Atiq project, designed to border the eastern outer bazaar structures. As a new square, intended to provide space for up to 25,000 people, the Meydan-e Atiq is likely to change visitor flows and put added pressure on the eastern section of the mosque, which may impact on the authenticity of its atmosphere as well as historic substance.

Besides its religious function, the mosque is open to visitors with an interest in its historic and architectural qualities. Via its eastern gate, which functions as a museum entrance and integrates a visitor centre, non-Muslim visitors are allowed access to explore the Masjed-e Jāme' of Isfahan. The new museum function is supported by exhibitions and information panels, which at present are remarkably sensitive and well-placed. However, even with growing visitor numbers, ICOMOS considers that visitor information has to remain sensitive to the mosque's religious functions and architectural perspectives, to prevent any reduction of authenticity in design, spirit and feeling.

In conclusion, ICOMOS considers that the conditions of integrity and authenticity have been met at present but are highly vulnerable. In order to ensure that integrity and authenticity are maintained in the future, the Meydan-e Atiq project requires to be further revised, assessed, and a comprehensive Heritage Impact Assessment should be conducted.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i), (ii), (iii), (iv) and (vi).

Criterion (i): represent a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that the mosque represents a masterpiece in its innovative design which became a reference for the planning and construction of mosques in later centuries, as well as being the most significant architectural testimony of the Seljuq period in Iran.

ICOMOS considers that although the introduction of the four iwan layout provided the reference for later mosque complexes, it is an adaptation of the layout of earlier Sassanid palaces to Islamic religious architecture and as such not a creative innovation that could justify recognition under this criterion. With regard to the argument that the Masjed-e Jāme' is a masterpiece of Seljuq architecture in Iran, ICOMOS notes that such a characteristic would need to be demonstrated against Seljuq architecture in general, and is difficult to be justified in a complex, which is characterized by a large number of subsequent architectural interventions of different periods.

ICOMOS considers that this criterion has not been justified.

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the Masjed-e Jāme' was a prototype for the later design and construction of mosques in Central Asia and that its technological innovation of the double-shelled ribbed dome represents new engineering skills, which had not been used before in the construction of domes. Therefore, the State Party argues, the Masjed-e Jāme' should be recognized for having the most perfect dome structure of its time.

ICOMOS considers that the Masjed-e Jāme' is the first Islamic building that adapted the four iwan (*Chahar Ayvān*) courtyard layout of Sassanid palaces to Islamic religious architecture and thereby became the prototype

construction for a new layout and aesthetic in mosque design. ICOMOS also considers that the Nezam al-Molk Dome is the first double-shell ribbed dome structure in the Islamic empire, which introduced new engineering skills, allowing for more elaborate dome constructions in later mosque and burial complexes. On the basis of these two elements, the Masjed-e Jāme' became a recognized prototype for mosque design, layout and dome construction, which was referenced in several later eras and regions of the Islamic world.

ICOMOS considers that this criterion has been justified.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the Masjed-e Jāme' of Isfahan provides a unique or at least exceptional testimony to the tradition of mosque construction over a span of more than a thousand years, starting with the 8th century Abbasid era up to the Safavids in the 17th century.

ICOMOS considers that the evolution of mosque construction cannot be considered a cultural tradition as recognized under this criterion. ICOMOS further considers that the Masjed-e Jāme' cannot be recognized as an exceptionally well-preserved testimony of the Seljuq era, mostly as a result of its later modifications in different historical periods.

ICOMOS considers that this criterion has not been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the Masjed-e Jāme' is an outstanding example of mosque architecture, which became influential as a new prototype for mosque design, both within and far beyond the borders of Iran.

ICOMOS considers that the prototype character of the Masjed-e Jāme', which is based on its four iwan layout and its dome technology, is better recognized under criterion (ii). ICOMOS further considers that the description of the Taj al-Molk as the most perfect dome ever created, based on its ideal proportions and fine workmanship, could fall under this criterion. However, ICOMOS notes that whilst the dome may have an exceptional status in Islamic dome architecture, its uniqueness in an international context has not yet been demonstrated. Further documentation on its aesthetic perception, decoration and its so-called Golden Ratio needs to be provided and compared with other perfect-ratio dome structures.

ICOMOS considers that this criterion has not been justified.

Criterion (vi): be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;

This criterion is justified by the State Party on the grounds that the Masjed-e Jāme' is tangibly associated with values and concepts manifested in mathematical complexities and shapes, which inspired many scholars and their scholarly theories, and referenced philosophical and theological principles.

ICOMOS considers that the mathematical complexities applied in the mosque layout and decoration, in symbols, inscriptions, and geometrical proportions, may have been a tangible source of inspiration for scholarly theories in Islamic philosophy and theology. However, the nomination dossier does not provide information on the nature and interpretation of these complexities. ICOMOS requested further elucidation from the State Party as well as identification of the attributes, proportions and mathematical complexities that demonstrate the associations described. The State Party's response highlighted the role of the Masjed-e Jāme' of Isfahan as a functional mosque, in which prayers take place and which therefore has spiritual associations. ICOMOS considers that many mosques in Isfahan and beyond are functional and that this fact does not justify Outstanding Universal Value. Should, however, specific scholarly theories and references be demonstrated in the specific mathematical proportions and designs of the architecture, these could, if very significant, fall under this criterion. However, ICOMOS considers that the information provided at present is not sufficient to justify criterion (vi).

ICOMOS considers that this criterion has not been justified.

ICOMOS considers that the nominated property meets criterion (ii) and that the conditions of authenticity and integrity have been met but are highly vulnerable, and that Outstanding Universal Value has been demonstrated.

Description of the attributes

- The Masjed-e Jāme' is the first Islamic building that adapted the four iwan courtyard layout of Sassanid palaces to Islamic religious architecture. This layout became the prototype for mosque design in the Eastern Islamic empire for many centuries.
- The Nezam al-Molk Dome set new engineering standards as the first double-shell ribbed dome structure with a gradual transition base in the Islamic world. As such, the dome equally became a prototype, which was not only reproduced in the Masjed-e Jāme' but also in dome constructions of later periods and regions of the Islamic world.

4 Factors affecting the property

Development pressures

Development pressures are at present the most relevant threat to the Masjed-e Jāme' of Isfahan, particularly the Meydan-e Atiq project, which is partly located in the buffer zone and is designed to immediately adjoin the eastern bazaar structures connected to the walls of the property. This project, which is already under construction at its southern, opposite end, but has not yet commenced in the area which affects the Masjed-e Jāme', is of concern for a number of reasons. The open square project with surrounding arcades is designed to accommodate up to 25,000 people and has one of its access points in the north-west corner at the visitor entrance gate of the Masjed-e Jāme'.

Designed to reduce vehicular traffic in the historic city, the square project has tunnelled two main traffic axes and creates a vast, pedestrianised public space. Besides aesthetic concerns with regard to the currently planned visual façade superimposition of the new Meydan galleries on both sides of the historic mosque gate, the plaza exit in the current design may create significant increases in pedestrian movements, and crowds passing through a rather narrow connection passage would unduly stress the outer bazaar structures attached to the mosque. In addition, the schedule proposed for this major project, aimed to be completed within two years, has given little opportunity for archaeological excavations ahead of the project implementation, which does not seem adequate due to the significant potential of archaeological finds in the area. ICOMOS in its first letter requested additional information regarding the exact design, planning status and implementation schedule of the Meydan-e Atiq project. In its response to the request, the State Party provided detailed drawings and stated that the current designs were still subject to further discussion, and that revised drawings would soon be made available. Following this ICOMOS in its second letter requested a more detailed indication concerning the finalization and approval procedures of the revised drawings and the time available for archaeological excavations. In its second response, the State Party provided detailed revised drawings, a historical overview of the project undertakings to date and the envisaged completion date within two years. While the revised drawings indicate clear improvements, such as the disassociation of the new structure from the mosque entrance gate itself, the connections to the historic bazaar structures attached to the mosque, the narrowly designed visitor access routes along these bazaar structures and the aesthetic aspects of the façade superimpositions still raise concerns. ICOMOS considers that the latest design of the north-western section of the square and the present time schedule for anticipated completion are not yet acceptable and need to be further revised, submitted and analysed with regard to their impact on the mosque structure as well as its setting before they are approved. This future revision should be based on a clear structural disassociation of the new additions and the historic structure to prevent any additional loads on the outer walls of the mosque. ICOMOS notes that this should ideally be facilitated based on local urban design principles, which may not necessitate that the structural disassociation is visibly obvious. The revised design should further include provision for alternative routes of visitor access in the north-eastern corner of Meydan-e Atiq, which prevent potential visitor congestion in the narrow passageways of the bazaar before or after major events on the square. ICOMOS welcomes the opportunity to provide further comments to the State Party with regard to the revisions required and would be available to conduct an advisory mission at the invitation of the State Party in this context.

Any future developments in the buffer zone, in particular if attached to the outer walls of the mosque, such as further rehabilitations of the surrounding historic bazaar or the construction of the envisaged religious ablution facilities, to the north-west of the mosque, should be formulated on the basis of ample archaeological and cultural heritage impact assessments, expert reviews, and with an approach based on minimal intervention to the historic structures.

Tourism pressures

Whilst at the moment visitor pressures are limited to the major religious and public holidays, in particular during Nouruz, the Iranian New Year celebration, an increase in visitor numbers can be expected after the completion of the Meydan-e Atiq project.

While the improvement of tourism facilities is a clear priority in the action plan presented as part of the introduction to the general management approach, ICOMOS considers that new installations of signboards and other means of interpretation should be planned with caution to prevent any negative impact on the authenticity of the complex. Visitor management would in addition require more detailed consideration of visitor flows and carrying capacity in certain spaces, as well as ensuring a harmonious co-existence between touristic and religious use, which seems an important opportunity at the Masjed-e Jāme' of Isfahan.

Environmental pressures

Two major environmental factors, which have an impact on the conservation of the property, are moisture, both in the form of ascending and descending humidity, and air pollution. The ascending humidity results from the fact that in previous times a small stream flowed underneath the mosque. Although this stream has now dried up, during periods of intense rainfall water gathers underneath the foundations and causes physical, biological and chemical reactions within the soil layers. This problem has partly been dealt with through the construction of rainwater drainage channels and ventilation systems but in some areas of the mosque it persists.

Rainwater causes yet another challenge, as the air pollution of Isfahan, a result of dense vehicular traffic and

natural gas heating systems, has turned it acid and thus highly damaging once it penetrates the brick domes. ICOMOS notes that at present a detailed study on protective impermeable coating materials is being conducted.

Natural disasters

Despite several past earthquakes, the Masjed-e Jāme' has never experienced any major damage or collapse as a result. To ensure the future continuation of this positive trend, ICOMOS recommends that risk management plans and emergency procedures for earthquakes should be elaborated. These plans should equally address the risk of fire, which is a second disaster-risk in the bazaar area, with its densely interconnected architectural structures.

Impact of climate change

No measurable impact of climate change has been observed in the context of this property.

ICOMOS considers that the main threats to the property are development pressures within the buffer zone, in particular the Meydan-e Atiq project, as well as the risk of earthquakes and fire.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries of the property and the buffer zone are adequate. However, developments in the buffer zone as well as the wider historical and cultural axis of Isfahan need to be designed and implemented with full respect to the Outstanding Universal Value of the proposed and existing World Heritage properties in Isfahan. ICOMOS therefore considers it essential to have in place clear and concise regulations for any new construction in the buffer zone, as well as the wider historical and cultural axis, which apply both *de jure* and *de facto*.

ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate.

Ownership

As an Islamic religious foundation, the Masjed-e Jāme' of Isfahan is a public *Vaqf* (religious endowment) administered by the Endowment and Charity Affairs Organization of Iran.

Protection

Legal Protection

Masjed-e Jāme' of Isfahan is designated as a national monument (no. 95 of 1932AD) following article 83 of the Constitution Law of the Islamic Republic of Iran (1920) and the more detailed regulations in article 26 of the Iranian Civil Law (1939). According to the latest version of the Iranian Penal Law (1996, art. 558-569) violation of any regulations established by ICHHTO resulting in deterioration, defect, or damage of heritage property is a crime subject to punishment.

The buffer zone is protected by specific regulations set up by the ICHHTO, following a cabinet decision adopted in 2001, which stipulates that buffer zones fall under national law. ICOMOS considers that it is essential that the designated buffer zone is also integrated in the zoning bylaws and the Isfahan urban master plan.

Traditional Protection

As a *Vaqf* property, the Masjed-e Jāme' of Isfahan is protected as a religious site in addition to its heritage value. *Vaqf* properties are cared for by the religious communities and institutions responsible, often on the basis of donations, and cannot be used for private interests.

Effectiveness of protection measures

According to civil law, the ICHHTO is the responsible authority for the conservation and protection of historical cultural monuments. To coordinate the management processes, the ICHHTO has set up a permanent office in the Masjed-e Jāme' of Isfahan. While the office is responsible for all conservation and property management-related aspects, the *Ovqaf* (pl. of *Vaqf*) organization participates in a Steering Committee, which serves as a platform for wider policy discussions as well as exchange of ideas and interests regarding use and function of the building.

While the protection of the property is effective, the protection of the buffer zone and the wider setting raises concerns. Although the ICHHTO legally has to approve all land use and infrastructure plans in the historical cultural axis of Isfahan as well as the designs of urban developments in the buffer zone, the development of Meydan-e Atiq, currently underway, is not fully sensitive to the Outstanding Universal Value of the property. It is essential that the role of cultural Heritage Impact Assessments is strengthened and that the time and budget available for these is increased.

ICOMOS considers that legal protection for the property is adequate, but that the protection of the buffer zone and the wider setting needs to be strengthened through integration of the buffer zone in the Isfahan master plan and municipal by-laws.

Conservation

Inventories, recording, research

The property has been inventoried and a large number of historic documents relating to the construction and conservation of different components are available and have partially been transformed into electronic files. More than 100 dissertations, PhD theses and other scientific

and academic studies have been conducted on the Masjed-e Jāme' of Isfahan since the Iranian revolution in 1979, and there are copies of most of these available in the ICHHTO archives.

Present state of conservation

Following decades of continuous conservation activity, which has been largely well documented, the present state of conservation is adequate in most parts of the Masjed-e Jāme'. In other sections, conservation activities are either being carried out at the moment, with a team of approximately 30 academically-trained conservators, or are scheduled for the near future. ICOMOS considers that whilst at present conservation activities are initiated by the Steering Committee at rather short notice, the establishment of a medium or long term conservation plan would focus activities and provide opportunities for ample research before conservation activities start. ICOMOS therefore requested additional information from the State Party as to whether it is planning to develop a conservation plan. In its response, the State Party indicated that the development of such a conservation plan is a high priority, has already been started and is expected to be finalized within two years.

Detailed descriptions of the state of conservation and interventions since the 1970s, in particular measures to eliminate moisture from the façades and piers, have been provided. Interventions, although in traditional materials and techniques, are recognizable to the expert eye as they were carried out in slightly different sized-materials and/or colours. With this methodology, a harmonious appearance, important for religious visitors, is maintained, whilst heritage professionals can easily tell the original fabric and later restorations apart. A conservative estimate assumes about 80% original surfaces and about 20% restored or reconstructed surfaces.

Active conservation measures

Critical situations and therefore conservation challenges for the future are visible in the domed structures of the *shabestani* sections of the mosque, where old cross-bracings intended to stabilize the domes have become ineffective after movements and shifts of the building. The bracings are now more of a risk than a support to the structure but their removal requires a difficult intervention, which poses risk of dome collapses. ICOMOS notes that the best possible methodology for these interventions is currently being investigated.

Maintenance

Daily maintenance in the Masjed-e Jāme' is a shared task of the ICHHTO and the volunteers, who administer the religious functions and use of the complex. At present the ICHHTO is in the process of establishing a site office in the mosque itself, which will increase their presence and supervision of daily maintenance.

Effectiveness of conservation measures

The conservation measures have been effective in enhancing the condition of the property. Nevertheless, ICOMOS recommends that conservation activity should always be based on the principle of minimum intervention.

In conclusion, ICOMOS considers that the present state of conservation is adequate but that a medium or long-term conservation plan should be finalized.

Management

Management structures and processes, including traditional management processes

The management of the property is coordinated by three bodies, a Steering Committee, a Technical Committee and the Iranian Cultural Heritage, Handicrafts and Tourism Organization's (ICHHTO) site management office. The Steering Committee consist of representatives of the ICHHTO, the *Vaqf* authorities, the governor and mayor of Isfahan, as well as reputable experts. It is responsible for supervising the protection and conservation of the site and giving guidance to the site's management team. All projects have to be approved and evaluated by the Steering Committee.

The Technical Committee consists of local ICHHTO representatives and specialist architects, conservation architects and civil engineers. This Committee has the authority to review and approve detailed project plans and schedules of activities requested by the Steering Committee. It further reviews work progress at regular intervals and, if necessary, advises on how to improve the implementation of activities. Finally, the site management office is responsible for the day-to-day coordination and supervision of activities. It is at present located in the vicinity of the Masjed-e Jāme' but is in the process of moving into a permanent base in the mosque complex. The Masjed-e Jāme' office has approximately 15 staff members, including technical specialists, researchers and security personnel. The management office further coordinates the management processes with the volunteers, who facilitate the religious use and function of the mosque.

Policy framework: management plans and arrangements, including visitor management and presentation

The nomination dossier in several contexts refers to a finalized management plan. However, what have been presented are general management strategies, as well as lists of short, medium and long-term actions. Although this list can function as a preliminary management tool, which indicates priority activities, it lacks many essential elements of a management plan including responsibilities, budgeting, or monitoring and quality assurance indicators. The action plan provided emphasises aspects of visitor access and provision of information, but provides little reference to buffer zone management, apart from the provision of a car park for visitors, or conservation

concerns. The so-called action plan for site management is therefore rather an action plan for the provision of presentation and interpretation facilities, aimed at making the Masjed-e Jāme' a tourism destination.

ICOMOS considers that the obvious interest in tourism facilitation should not take place at the expense of essential management components and that additional information panels, if required at all, should be designed to cause minimal visual interference and should be limited to the most necessary locations. Alternative approaches envisaged, such as human or audio guides, seem more appropriate to the religious atmosphere of the mosque. ICOMOS further considers that the drafting of an integrated management and conservation plan, including a section dedicated to the visitor management strategy for the Masjed-e Jāme' is highly desirable.

Risk preparedness

In the State Party's view the proximity of the fire station provides for instant reaction in case of the main risks, fire and earthquakes, and that the mosque has been well-equipped with emergency equipment, such as fire extinguishers. In ICOMOS's view a more systematic risk-preparedness strategy should be developed along with the integrated conservation and management plan.

Involvement of the local communities

The Masjed-e Jāme' is a popular religious building and frequented by many merchants from the nearby bazaar during prayer times. These merchants and the local residents could be considered the most relevant local communities. Through the mosque administration and the volunteers as well as *Ovqaf* representatives, they are involved in the management considerations. In addition the merchants and local residents have been consulted regarding the buffer zone regulations and will continue to be involved in the regular evaluation and adjustment of these provisions.

Resources, including staffing levels, expertise and training

As the most significant Friday mosque in Isfahan, the Masjed-e Jāme' was endowed a number of *Vaqf* properties in addition to the mosque itself. At present the mosque complex counts two residential houses, and 163 shops as its *Vaqf* endowment, which means that the income generated through rental of these is exclusively reserved for the upkeep and maintenance of the mosque. The *Vaqf* of a mosque cannot be reduced as the public property character of a *Vaqf* endowment does not allow for ownership changes. However, it can carry on increasing, if new endowments are added to the existing ones.

In addition to the *Vaqf* income, an annual budget has been designated from the Iranian Parliamentary allocation for national monuments. This has been entirely reserved for the necessary conservation and restoration measures. Additional funds are assigned to national monuments once they have been inscribed on the World Heritage List. The training of conservation professionals and staff on site is adequate.

Effectiveness of current management

ICOMOS considers that the management strategies do not yet cover all relevant aspects of site management and that responsibility, time frames and monitoring indicators need to be better defined. ICOMOS recommends adopting an integrated conservation and management plan, with special sections on visitor management, buffer zone management and risk-preparedness, which will provide a more structured, better documented and more effective approach to site management.

ICOMOS considers that while the management authorities are well defined, responsibilities for action, time frames and indicators for quality assurance are not. ICOMOS further considers that a comprehensive integrated management and conservation plan, including visitor management and risk-preparedness strategies, should be drafted and adopted.

6 Monitoring

A number of monitoring indicators have been defined together with tools applied, periodicity and annual time frames. The indicators sometimes appear general and could benefit from increased detail and, where possible, quantification. Although monitoring responsibilities are not clearly indicated, it seems that the ICHHTO site office plays a key role. However, the monitoring procedures for the buffer zone do not yet seem adequate and should not be the exclusive responsibility of the ICHHTO. ICOMOS considers that in order to gain effective buffer zone protection, monitoring should be linked to the Isfahan master plan and municipal authorities should be involved in the process.

In conclusion, ICOMOS considers that monitoring of the property is acceptable but that indicators could be expanded in the future, and that the monitoring for the buffer zone needs to be improved.

7 Conclusions

ICOMOS recognizes the Outstanding Universal Value of the Masjed-e Jāme' of Isfahan and considers that criterion (ii) has been demonstrated. ICOMOS considers that the conditions of authenticity and integrity have been met at present, but that these are very vulnerable. The property is subject to potential negative impact of the urban development project of Meydan-e Atiq, which needs to be further modified to allow consideration of the inscription of the Masjed-e Jāme' of Isfahan on the World Heritage List.

ICOMOS is concerned that both the design and time schedule of the Meydan-e Atiq project do not fully respect the property's Outstanding Universal Value. The design, which channels one of the visitor access routes to the square through a narrow pathway via the historic bazaar structures directly connected to the mosque, creates a risk of undue stress on the historic structure and endangers its authenticity in material, substance, design and setting. ICOMOS considers that, in addition to the necessary further revision of the design, and the carrying out of a Heritage Impact Assessment to assess its potential risks to the mosque structure and its setting, the project implementation needs to be slowed down in order to give ample time for assessment and modification of the design, additional archaeological investigations and, if necessary, excavations adjacent to the property. To prevent that future projects, such as the Meydan-e Atiq, create negative impacts on the property, it is essential to strengthen the buffer zone protection and to broaden the monitoring procedures for the buffer zone.

ICOMOS is further concerned by the emphasis on visitor facilitation that currently characterises the management approach. ICOMOS requests the State Party to ensure that the visitor concept is sensitive to the religious function of the property and concentrates on non-intervention methods of visitor guidance, such as human, audio or mobile technology guides. ICOMOS recommends that an integrated conservation and management plan for the property, which includes sections on visitor management and risk-preparedness strategies, should be developed and adopted with high priority.

Recommendations with respect to inscription

ICOMOS recommends that the examination of the nomination of Masjed-e Jāme' of Isfahan, Islamic Republic of Iran, to the World Heritage List be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- Strengthen the protection of the buffer zone and wider setting and expand the monitoring mechanisms related to urban development, in particular through integration of the buffer zone in the Isfahan master plan and municipal by-laws.

- Develop and adopt an integrated conservation and management plan, with special sections on visitor management and risk-preparedness strategies.

- Further revise the Meydan-e Atiq project, in particular its north-western corner in the immediate vicinity of the Masjed-e Jāme' of Isfahan, in a way that will:

    a) not foresee any structural connection between the new galleries and the historic walls of the mosque or the structures connected to the mosque walls, which could transmit loads or vibrations to these;
    b) provide ample passage for pedestrians, in particular through redesign of the entrance gate situation to the Meydan in the north-western corner, to ensure that the mosque and its adjacent historic structures are not endangered by crowds accessing the square during major events;
    c) ensure that the overall design is appropriate to the local urban design tradition and setting of the mosque and sensitive to its Outstanding Universal Value, and
    d) follow a revised implementation schedule that allows for ample time to assess the revision through a comprehensive Heritage Impact Assessment and conduct further archaeological excavations.

- Following the availability of a revised project design for Meydan-e Atiq (following the criteria listed above), conduct a comprehensive Heritage Impact Assessment (HIA) to ensure that the revised project proposal does not cause any negative impact on the historic mosque structure or its setting.

ICOMOS further confirms its availability to conduct an advisory mission at the invitation of the State Party to assist in the revision of the Meydan-e Atiq project, to ensure that it does not constitute a negative impact on the Outstanding Universal Value of the mosque.

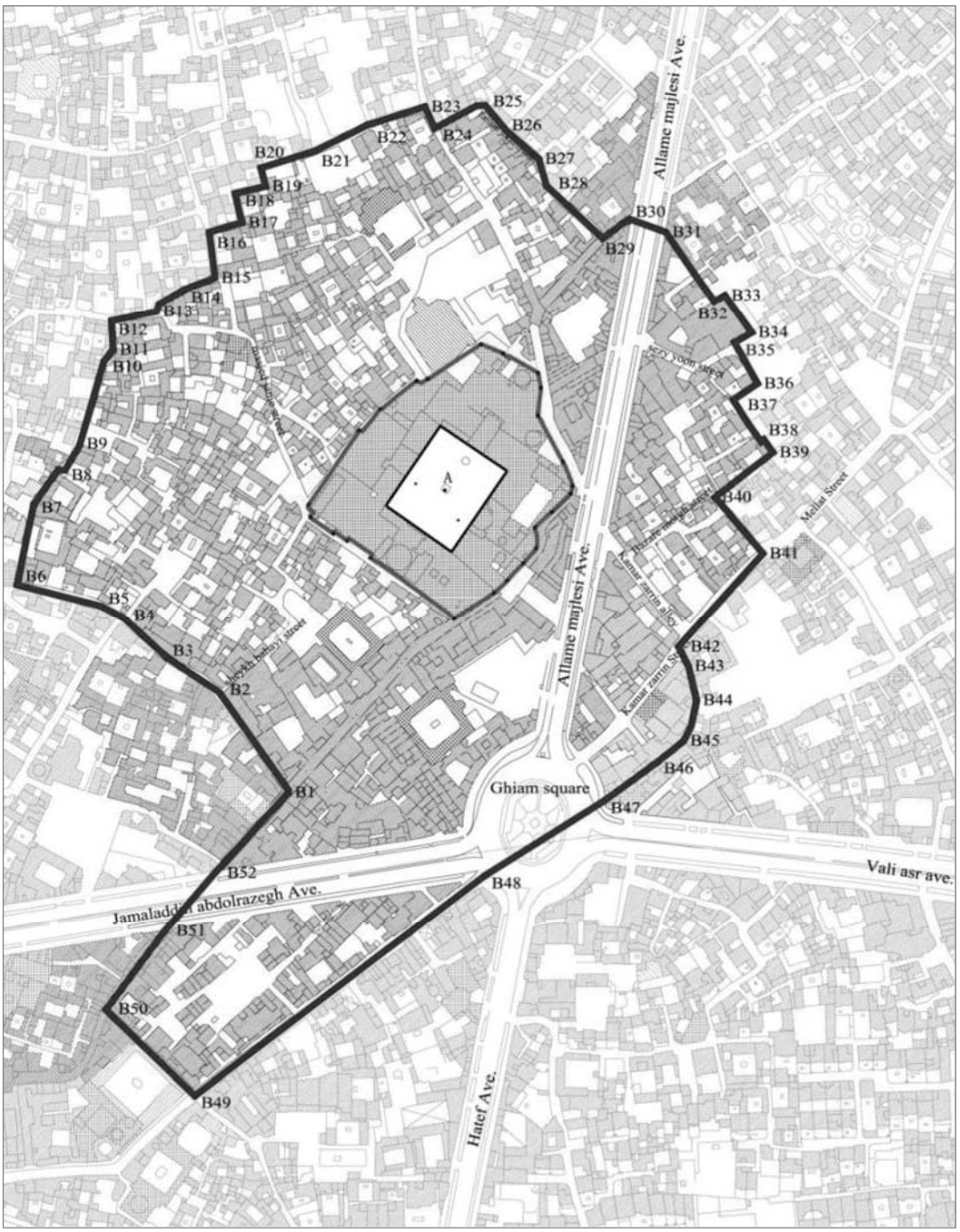
ICOMOS further recommends that the State Party give consideration to the following:

- Ensuring that the design and presentation of information in the property is based on the principle of minimal intervention in full respect for the aesthetic and religious significance of the Masjed-e Jāme' of Isfahan;

- Giving priority attention to the challenge posed by the necessary removal of the bracings in the *shabestani* domed areas.

ICOMOS also recommends that Heritage Impact Assessments (HIA) are carried out for any future developments in the buffer zone, such as further rehabilitation of the surrounding historic bazaar or the envisaged ablution facilities to the north-west of the mosque, in particular if these are intended to be directly attached to the mosque complex or in its immediate vicinity, to ensure that any developments do not impact adversely on the property and its wider setting.

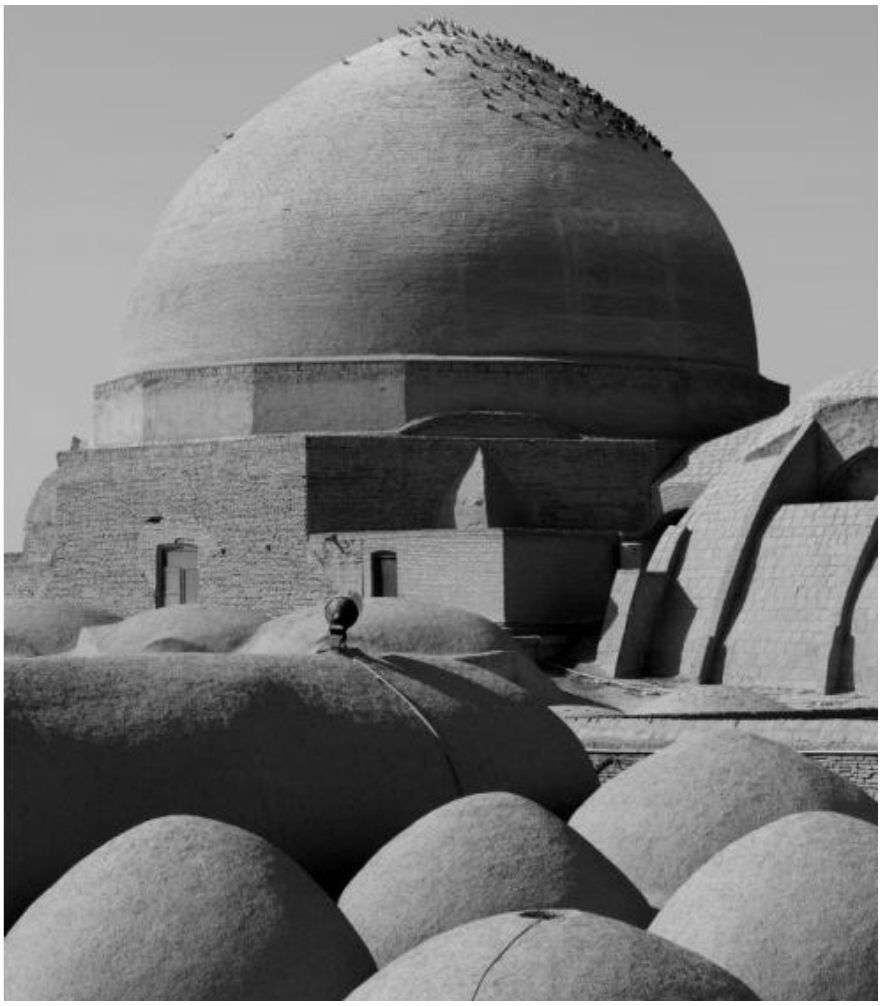
ICOMOS considers that any revised nomination would need to be considered by an expert mission to the site.



Map showing the boundaries of the nominated property

Aerial view of the nominated property

South-eastern entrance



Nezam al-Molk

Taj al-Molk

Gonbad-e Qābus
(Iran)
No 1398

Official name as proposed by the State Party
Gonbad-e Qābus

Location
Golestan Province
Islamic Republic of Iran

Brief description
Visible from great distances in the surrounding lowlands, Gonbad-e Qābus is the tallest and oldest of what was to become a predominant monumental tomb form for the Iranian-Turkish region. Built in 1006 AD near the ancient Ziyarid capital *Jorjan* to commemorate the reign of the ruler Qābus Ibn Voshmgir, the tower rises to 53 metres. Designed in accordance with intricate geometry and mathematical principles and constructed of unglazed fired brick, the hollow cylindrical shaft, buttressed by ten triangular flanges tapers to a conical roof from the base diameter of 17 metres.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *monument.*

1 Basic data

Included in the Tentative List
5 February 2008

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
31 January 2011

Background
This is a new nomination.

Consultations
ICOMOS consulted several independent experts.

Literature consulted (selection)

Aslanapa, O., *Turkish Art and Architecture*, Faber, London, 1971.

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Michell, G. (ed), *Architecture of the Islamic world: its History and Social Meaning,* Thames and Hudson Ltd., London, 1978.

Pope, A.U., *Introducing Persian Architecture*, Soroush Press, Tehran, 1976.

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Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 31 August to 3 September 2011.

Additional information requested and received from the State Party
A letter was sent to the State Party on 8 September 2011 requesting clarification on the dome construction, comparative analysis, protection in relation to surrounding height limits, and management. A response was received from the State Party on 25 October 2011 and the information has been incorporated into the relevant sections below. A second letter was sent on 9 December 2011 requesting adjustment of the buffer zone. A third letter was sent on 9 January 2012 requesting information on the status of the management and restoration plan. Responses with supplementary information were received from the State Party on 28 February 2012.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The nominated property covers 1.48 ha and is surrounded by a buffer zone of 17.85 ha. This in turn is surrounded by a landscape zone of 478.71 ha.

The tomb tower is located on a 10 m high mound in the northern part of the town of Gonbad-e Qābus and is 3 km southwest of the ruins of the ancient city of *Jorjan* on the Gorgan River in north-east Iran. The modern city of Gorgan is about 100 km to the south-west; the border with Turkmenistan is around 60 km to the north-west. The Caspian Sea lies around 100 km to the east with the Alborz mountains to the south. The tower is surrounded by a modern town laid out in 1926 by order of the Pahlavi ruler Reza Shah in a flat river plain between the Gorgan and Chehel Chäy rivers. The nominated property includes the tower and the mound on which it stands. According to recent excavations, the tower was built over

archaeological strata dating back to the Iron Age. In old photographs, it is possible to see that the hill was perhaps surrounded by a furrow, similar to a moat. The surrounding buffer zone includes adjacent green space to east and south and extends one block further to east, south and west, and two blocks to the north.

The nominated property is the only remaining evidence of the ancient city of *Jorjan,* which was the capital of the Ziyarid emir Qābus Ibn Voshmgir and his predecessors before being destroyed during the subsequent Mongols' invasions of the 14th-15th centuries. *Jorjan* County corresponded to the Median *Hyrcania* in 600 BC and was recorded as Varkān or Varkāna in the inscription of Darius in Bisotun. *Jorjan* town was commercially significant in the Roman period due to its location on the Silk Road between Merv and Ctesiphon. The town may have gained importance under the Sassanids when immigrants were settled there and the town was fortified. But its zenith came during the rule of the Ziyarids when it became a centre of arts and science. The fourth Ziyarid emir Qābus Ibn Voshmgir, himself the author of an important literary work, the *Qābusnameh,* commissioned the tower in 1006 AD.

The specific location and monumental nature of the tower enabled it to act as a landmark to guide travellers to *Jorjan* while at the same time commemorating the greatness of the reign of its founder.

Constructed in unglazed fired bricks, the tower is planned using an intricate geometric layout to achieve a tapering, cylindrical tower with a conical brick roof to a total height of 53 metres on a 9.8 metres deep brick foundation, 17 metres in diameter at the base and 15.5 metres at the base of the cone. Based on a plan deriving from the star decagon, the design incorporates ten triangular flanges/buttresses which terminate beneath the corbelled cornice of the dome. The walls are 3 metres thick and are gradually corbelled inwards to achieve the taper. The brick cone which crowns the tower is 18 m from the base of the cornice to its top: this height equals half the height of the tower to the base of the cornice. The brick wall of the cone is gradually corbelled inwards to achieve the conical shape and it is faced both sides with specially made angled facing bricks/tiles which tie into the core and achieve a smooth finish. The tower is described in the nomination as a *'double dome'*. In response to ICOMOS' request for clarification, the State Party explained that it is the 'solid connected' type of double shelled dome, where the inner and outer shell are connected to each other and separated slightly at the apex.

The face of the tower is plain except for two inscriptions: one around the top of the tower just below the cornice and one a short distance above the base. These use Kufic calligraphy, are made of relief bricks and were once plastered. They state: *'"In the name of God the Merciful the Compassionate." This tall palace for the prince Shams ul-Ma'ali, Amir Qābus Ibn Voshmgir ordered to build during his life, in the year 397 the lunar Hegira, and the year 375 the solar Hegira.'*

The tower is entered up two steps through a narrow, arched entry 5.6 m high into a small recess then through another arch 4.3 m high, above which is decorative *muqarnas* work either side. The walls of the interior were once covered in plaster 1-6 cm thick, of which the remainder is still visible from a height of 7-8 metres up to the apex of the cone.

In the east side of the conical roof there is a small, segmented arch opening 2 m wide and 1.8 m high. It is said that this was to allow entry of the light of the rising sun, in line with the tribal tradition of making a hole in the wall of nomadic tents for this purpose.

No tomb was found during excavations of the base of the structure by Russian investigators in 1899 or subsequently in 1936. Legend has it that the body of Qābus in a glass coffin was suspended within the cone, the morning sun striking his body through the eastern opening.

History and development

Gonbad e-Qābus survived the Mongols' invasions and the earthquake c.1470 AD, said to have killed many people in *Jorjan*. In the Seljuk period the Turkmens used the ranches in the area for their animals. Under the Qajars, *Jorjan* became known as Astar Abad and developed as one of the famous and commercially important towns of the district.

The border between Iran and Turkmenistan was established in 1881 and in 1882 the Russian consulate established a base on top of Qābus hill, as a customs and security control point, constructing a large building there in 1908. After the October Revolution of 1917 in Russia the site was abandoned until with Russian attempts to again gain control over the area it was conquered by Reza Shah's troops and a new town was laid out there around the tower by German planners in 1926. Agriculture was established in the area and the town expanded with the forced settlement of Turkmen nomads. Since then various ethnic groups have settled in different parts of the town, which has consequently expanded in all directions.

Damage to the brickwork of the tower had occurred during World War I and in 1928 restoration works were carried out. The tower was inscribed as a national monument (reference no. 86) in 1930 and the first documented restoration project was carried out in 1937-9. This included work to the foundation, base of the tower, inscriptions and to the conical roof, as well as to the interior.

In 1994, the Iranian Cultural Heritage, Handicrafts and Tourism Organisation (ICHHTO) office in Mazandaran Province began a landscaping project around the base of the tower. This included construction of an access ramp up to the top of the mound, paths, flower beds and fountains. In 2005, an ICHHTO office was established in Gonbad-e Qābus town just across the street from the tower and in 2006 some minor restoration and cleaning were carried out as emergency conservation work and

the tower materials (bricks and mortars) were sampled for analytical purposes. In 2009 work included soundings to enable study of soil mechanics of the hill of Gonbad-e Qābus and some interior stabilisation of brickwork to walls and floor.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The State Party has compared the Gonbad-e Qābus with many other tomb towers throughout Iran and Central Asia to Anatolia and finds that it is the earliest and tallest of this type of monument. It appears that the form of subsequent tomb towers (cylindrical towers with conical or domed roof) derived from this monument, but no other example was able to achieve even half the height of Qābus' tower. The comparisons with other tomb towers in Iran are summarised in a table in the nomination dossier and comparative heights are shown in Figure 60. They include the Tower of Pir-e Alamdar, Damghan and the Kashaneh Tomb Tower, Bastam which are on the Tentative List (2007). The comparisons with tomb towers outside Iran are summarised in a table in the nomination dossier and the comparative heights are shown in figure 95. A comparison of the heights of all the comparative examples both inside and outside Iran is shown in Figure 97. The distinguishing feature of Qābus' tower apart from being the oldest surviving example is that the structural design has been exploited to achieve a great height, expressing the great achievements of its founder, whereas the other tomb towers either did not attempt to achieve such height because the founder was insufficiently important, or lacked the technical expertise or funds to build it.

ICOMOS considers that as a commemorative tower, Gonbad-e Qābus (53 m high) could be compared in terms of its technical achievement of great height with even higher commemorative towers or minarets such as the 65 metres high Minaret of Jam (Afghanistan) of 1194, inscribed on the World Heritage List (2002, criteria (ii), (iii) and (iv)); the 60 metres high Kutlug-Timur Minaret (Turkmenistan) inscribed on the World Heritage List (2005 as part of Kunya-Urgench, criteria (ii) and (iii)); and possibly the Kalyan Minaret in Bukhara (Uzbekistan) of 1194, which is 48 m high but believed to have been higher originally. All of these take a circular plan rather than the stellar plan form of Gonbad-e Qābus. Other shorter examples built on a circular plan include the surviving part of the minaret built by Abu Bini Ziyard in 1004/5 at Dehistan / Mishrian, Turkmenistan included on the Tentative List, which is 20 m high but may originally have had a second stage; the Minaret at Vobkent, Uzbekistan of 1196-7, included on the Tentative List, which is 40.3 m high and similar in style to the Kalyan Minaret in Bukhara, and the Hiran Minar, Sheikhupura, Pakistan, included on the Tentative List, which is 30 m high. However the towers of Mas'ud III and his son Bahrām Shāh in Ghazni (Afghanistan) of the early 12th century take a similar flanged form to Gonbad-e Qābus deriving from the stellar plan, and originally had another cylindrical stage above the existing stelliform shaft, reaching a height of over 44 m (shown in a painting by James Atkinson c.1839). The Minaret of Jarkurgan near Termez, Uzbekistan designed by the architect Ali bin Muhammad Serakhsi and erected in 1108-1109 under Qarakhanid rule has a fluted shaft of stellar plan on an octagonal base and is around 19 m high, but appears to have originally had a second stage. It should be noted that tall stellar towers built of stone are found in western Sichuan, China, apparently dating from the 12th century or earlier.

The ultimate development in terms of exploiting the stellar plan form to achieve great height is the 72.5 m high Qutb Minar, Delhi of 1202, inscribed on the World Heritage List (1993, criterion (iv)). The minaret tapers to a diameter of 2.75 m at the top from 14.32 m at its base. This comparison suggests that the structural form that derived from the geometric stellar plan of Gonbad-e Qābus was a technical prototype for achieving a tower of maximum height as well as in terms of the symbolic form used subsequently for tomb towers, which were all of far less height.

In response to ICOMOS' request for the comparative analysis to be deepened in relation to this, the State Party explained that since minarets and tomb towers are quite different within the school of Iranian architecture only the buildings used as tomb towers, within and outside of Iran, are described and analyzed in the comparative analysis and justification parts of the nomination dossier. Tall slim towers (*Menar/Minar*, *Menareh* (minaret) or guiding *Mil*) were built during the pre-Islamic era on specific routes and locations as landmarks for travellers. The same kind of structures were also constructed as minarets beside mosques and tombs to mark the building itself and provide a place for muezzins. The State Party states that the only common point between the *minarets* and tomb towers is their occasional application as a guiding landmark for travellers.

ICOMOS considers that greater enquiry should be made into the origin of the Gonbad-e Qābus design. It is known that Qābus supported the great mathematician and astrologist Abū al-Rayhān Muhammad ibn Ahmad al-Bīrūnī (973–c.1052) who dedicated his work *Al-Āthār al-bāqiyyah 'an al-qurūn al-khāliyyah* (*The Chronology of Ancient Nations*) to Qābus in *Jorjan* c.1000 (Saliba 2011). A subsequent patron of al-Bīrūnī was Mahmūd of Ghazni to whose son, Mas'ūd, al-Bīrūnī dedicated *Al-Qānūn al-Mas'ūdi* (*The Mas'ūdic Canon*). Later descendants in this dynasty, Mas'ud III and his son Bahrām Shāh built the two commemorative towers at Ghazni (referred to above) which are of similar stelliform plan as Gonbad-e Qābus. At Ghazni al-Bīrūnī, who was also the author of *Tahdid nihāyāt al-amākin li-tashīh masāfāt al-masākin* (*Determination of the Coordinates of Places for the Correction of Distances between Cities*) solved the spherical trigonometric problem of determining the direction of Mecca along the local horizon at Ghazni. A similar calculation may have determined the location of Gonbad-e Qābus to the south-west of *Jorjan*. In addition

the significance of the use of a star decagon plan has not been explored in terms of number symbolism and whether this relates to how Qābus wished to be perceived as a ruler.

ICOMOS considers that Gonbad-e Qabus is one of the first buildings in Iran that can be associated with the advent of Central Asian Turks. Vibrantly monumental, it presages the great Seljuk buildings of the late 11th century. Built by order of Qābus ibn Voshmgir, the most vigorous and enlightened of the Ziyarids, it marked his court as a centre for the arts. Qābus was a scholar and patron of scholars, a poet and patron of poets, a calligrapher, astrologer, linguist and doughty warrior. The tomb tower is the earliest and most expressive of a series of some fifty monumental tomb towers still standing, all of which are of considerably lower height. These cover a period of seven hundred years and vary enormously in size, form and ornamentation. They have been found in nearly every part of Iran. Apart from those covered in the nomination dossier, they include others where the body of the tower is composed of an engaged cluster of almost round shafts as at Jarkurgan and at Kāshmar or coupled columns as at Rabat-e Malek. A few towers are octagonal, beginning with the Gonbad-e Ali at Abarquh (1036), the pair at Kharagan (1067-1093) continuing through the 14th century in tombs at Qumm and the Imamzada Jafar at Isfahan (1341) and even later. Some are square, such as the Gonbad-e Surkh at Maragha (11th century) and the tomb of Shahzada Muhammed at Sari in Mazandaran (15th century).

In conclusion ICOMOS notes that the comparative analysis has been undertaken by the State Party in relation to some properties bearing similar values to those of Gonbad-e Qābus, inscribed or not on the World Heritage List and at national, regional and international level, but could also have considered others as discussed.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Gonbad-e Qābus is a masterpiece and outstanding achievement in early Islamic brick architecture due to the structural and aesthetic qualities of its specific geometry.
- The property is significant as a prototype for the development of tomb towers in Iran, Anatolia and Central Asia, representing architectural cultural exchange between the Central Asian nomads and ancient Iranian civilisation.
- The property is exceptional evidence of the power and quality of the Ziyarid civilisation which dominated a major part of the region during the 10th and 11th centuries, and having being built for an emir who was also a writer, marked the beginning of a regional cultural tradition where tombs are built for the literati.
- The monument is an outstanding example of an Islamic tomb tower whose innovative structural design illustrates the exceptional development of mathematics and science in the Muslim world at the turn of the first millennium AD.

ICOMOS considers that this justification is appropriate and the point about innovative structural design has been further demonstrated by ICOMOS in relation to the influence of the structural design on subsequent high towers.

Integrity and authenticity

Integrity

The State Party states that the visual and structural integrity of the Gonbad-e Qābus tower is maintained. However the surroundings have been changed in that a new town has grown up around the mound on which it is located and landscaping works have been carried out on the mound. In particular, electricity posts and cables, fencing and the lighting system around the site compromise the visual integrity of the property. The interior has lost its decorative features.

ICOMOS considers that the exterior flanges and inscription band are in good condition, but the insertion of the ramp and the design of the retaining wall on the hillside have slightly damaged the form of the mound on which it stands. It is essential that the visual integrity of the tower in terms of its dominant location be maintained through height restrictions on surrounding buildings and protection of views to the monument.

Authenticity

The State Party states that the design and materials of the tower retain their authenticity without incompatible interventions, and that the setting in terms of its distance from the historical town of *Jorjan* and location in the low lands of the Gorgan plain is unchanged. Since the use of the tower has not been definitely determined, it is necessary to rely on the inscription that indicates it was created as an exceptional monument illustrating the exceptional knowledge and art of its founders.

ICOMOS considers that the property expresses its value as an exceptional geometric structure and icon in the small town of Gonbad-e Qābus, clearly visible from many directions. It continues to express features of an Islamic commemorative monument combining traditions of Central Asia and Iran.

ICOMOS considers that the form and design of the monument are preserved. It is cherished by the people of the region and has been maintained with regular repairs. The interior has been impoverished with looting and vandalism; the original floor has been changed; the walls have been partly stripped of finishes to reveal the brick walls. Further investigation using non-destructive

techniques such as geo-radar is required to determine whether there is a tomb in the base of the structure. The exterior brickwork retains its authenticity in spite of past repairs which used new bricks as these are negligible in relation to the size of the whole structure. The monument is recognised as a funerary building and is in active use as a holy place for visits by local people and foreigners. The legends and traditions associated with the tomb continue and are important to the local people. Festivals and ceremonies take place in front of the tomb and in the park around it. The immediate surroundings of the monument have been changed in recent times but the setting of the tomb with a dominating position in the silhouette is still valid.

In conclusion ICOMOS considers that the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (i), (ii), (iii) and (iv).

Criterion (i): represent a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that Gonbad-e Qābus as the first example of monumental tomb structures that employs a conical dome construction is a masterpiece which has extensively contributed to the development of Islamic architecture. It is also considered to be among the best proportioned and most representative brick-made tomb towers of the early Islamic centuries which with its specific geometry, particularly the change from circle to the 10 flanged form, not only contributed immensely to the knowledge of the structural stability of tomb towers but is also aesthetically exceptional. The inscriptions of the tomb with their Kufic calligraphy originating in the Razi style of the Ziyarid period, is another outstanding feature which influenced greatly the following historic periods.

ICOMOS considers that the contribution made by the tower to the knowledge of structural stability was not in fact used in subsequent tomb towers, which the State Party has shown to all be of less than half the height of Gonbad-e Qābus, but was used in the structure of commemorative minarets such as the Minarets at Ghazni and ultimately the Qutb Minar at Delhi. On the other hand, the symbolic conically roofed form of Gonbad-e Qābus clearly did influence the form of subsequent tomb towers.

ICOMOS considers that the Gonbad-e Qābus is an aesthetically exceptional monumental tomb tower and can be considered as an architectural masterpiece.

ICOMOS considers that this criterion has been justified.

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the creative architecture of Gonbad-e Qābus played a significant role in the development of the architecture, technology and monumental aspects of the tomb towers of the Iranian territory, Anatoly and Central Asia. Gonbad-e Qābus was a prototype for the development of the construction of tomb towers, becoming a significant reference in the history of Islamic architecture. Gonbad-e Qābus being the place of architectural cultural exchange between the Central Asian nomads and the ancient Iranian civilisation could be considered as a common heritage between the Turks and Iranians and a significant point in the beginning of the Islamic era.

ICOMOS considers that the conically roofed form of Gonbad-e Qābus representing architectural cultural exchange between the Central Asian nomads and ancient Iranian civilisation is significant as a prototype for the development of tomb towers in Iran, Anatolia and Central Asia. Mausoleums built for the Seljuks in Anatolia perpetuated the model of Iranian Gonbad-e Qābus though in stone rather in brick; they are known in Turkey as *Kümbet*.

ICOMOS considers that this criterion has been justified.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that Gonbad-e Qābus represents exceptional evidence to the power and quality of the Ziyarid civilization which dominated a major part of the region during the 10th and 11th centuries. The tower also stands for the cultural tradition as well as funerary building technology of the time epitomizing the paradisiacal quality of the ascension toward the heavens, a tradition which was then widely expanded throughout the region. The significance of Gonbad-e Qābus amongst the early Islamic tomb towers is not merely due to its relation with a Ziyarid Emir but also is owed to its attribution to one of the most renowned literate writers of the so-called Khorassan school of writing and creation of *Qābusnameh* (a new method in story telling), considered to be among the most important sources of Farsi-e dari (dari Persian) in the world, as a valuable intangible heritage of mankind. Therefore Gonbad-e Qābus is in fact the starting point in a regional cultural tradition in which tombs are built for the writers and literates, a tradition which is continued to the present time.

ICOMOS considers that the property is exceptional evidence of the power and quality of the Ziyarid dynasty, whose territory stretched around the southern border of the Caspian Sea. From there the Ziyarids, in succeeding the Samanids as patrons of the arts, science and literature and bridging the Zoroastrian culture of Mazandaran and

that of the Muslim Ghaznavids, dominated a major part of the region during the 10th and 11th centuries. As a commemorative tomb tower, it is also exceptional evidence of the tradition which lasted several centuries (11th – 15th) throughout the region, of building monumental tomb towers.

ICOMOS considers that this criterion has been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that Gonbad-e Qābus is an outstanding example of Islamic architecture in the region which played a significant role, illustrating an exceptional case in further dissemination of the concept and architecture of the tomb towers in Iran, Anatolia, and Central Asia. Its innovative structural design supporting the stability of this over one thousand years old brick-made monument and initiating a specific building technology to erect a 53 meters height tower with 9 meters deep brick made foundation for the first time in history, have made Gonbad-e Qābus an exception among the similar towers in the world.

ICOMOS notes that the design of Gonbad-e Qābus tower is based on the architectural method of squares within a circle. It comprises five inscribed squares. The same geometry was used in the design of free-standing minarets isolated from the mosque such as are found in Afghanistan and India; a type exemplified in the star-shaped octagonal minaret built by Mas'ud III in 1114 / 15 AD in Ghazni, and subsequently used in burial towers built for Seljuks in Anatolia. The Gonbad-e Qābus tower provides a clear overview of the architectural development of burial towers and other architectural elements in sacral Islamic architecture in Iran, Anatolia and Central Asia.

ICOMOS considers that the monument is an outstanding example of an Islamic commemorative tower whose innovative structural design illustrates the exceptional development of mathematics and science in the Muslim world at the turn of the first millennium AD.

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the nominated property meets criteria (i), (ii), (iii) and (iv) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes

The attributes carrying the Outstanding Universal Value of the property are:

- the innovative structural design of the tower, reflecting Iranian mathematical science;
- the 53 m height of the tower demonstrating the structural success of the stelliform plan;
- the conical roofed form of the tower, reflecting influence from the traditional nomadic tent form;
- the extremely fine brickwork of the tower demonstrating the skill of craftsmen of that time;
- the inscriptions linking the founding of the tower to Ziyarid ruler and literati Qābus Ibn Voshmgir;
- the landmark location of the tower in the plain near ancient *Jorjan;*
- the clear visibility of the tower from considerable distances.

4 Factors affecting the property

Development pressures

According to the State Party, the property is not threatened by development due to its designated protection status and controls in the surrounding area. In 2010 there were 11 people living within the property boundary, and 700 within the buffer zone.

ICOMOS notes that the nomination dossier mentions a legal case in 2008 concerning the Qābus Commercial Complex, the height of which was subsequently reduced.

ICOMOS considers that the small town is a living structure and development is on the move. There are some 6-8 storey constructions and the tendency is to build more of these. Special care is needed to protect the silhouette of the tomb tower within the town.

Tourism pressures

The table in the nomination dossier indicates that tourist numbers have increased in Gonbad-e Qābus town from 95,689 in 2006-7 to 129,141 in 2008-9. The area around the base of the tower is used for cultural events. However according to the nomination dossier, there is no pressure from tourism. Some graffiti around the tower is noted. It is planned to address this through public education.

Environmental pressures

The State Party states that the tower has been affected by rising damp due to a number of factors that have arisen since the new town was created around Gonbad-e Qābus in the 1920s. These include a rise in the level of groundwater as well as inadequate control of drainage around the tower and unsuitable landscaping works. The use of unsuitable repair materials has contributed to retention of moisture within the structure. In order to address these problems a canal 50cm wide by 100cm deep was built around the building. This has not proved successful and further works are planned to address all the contributing factors.

Erosion of brickwork due to wind and extreme temperature variation and possibly vehicle traffic pollution is also evident. It is planned to pedestrianise the roadway around the tower.

There is also biological growth, bird and insect depositions on the conical roof of the tower. It is planned to clean this off regularly.

ICOMOS notes that no new roads or road widening are proposed around the property.

ICOMOS considers that because of the harsh weather conditions, environmental monitoring equipment should be installed at the site.

Natural disasters

The area is considered to be earthquake prone. Damage due to past earthquakes is evident in the form of cracking over the entrance to the tower. This is monitored and is considered stable. The structural stability of the brickwork in the face of earthquakes is attributed to the original use of gypsum mortar in the brickwork. Lime mortar used in past restoration works has either detached or cracked.

ICOMOS considers that the frequency and magnitude of earthquakes needs to be assessed in order to understand the weak points of the structure. A soil interaction study should be done to identify the soil parameters under dynamic and static loading; developing a 3D finite element model that accounts for the superstructure and soil stratification underneath the foundation and to evaluate the stresses and deformation of the superstructure taking into consideration the soil effect. A mathematical model should be developed for the tower using the infinite element technique in order to study the tower behaviour under various loading conditions and to evaluate the structural safety of the tower based on these calculations and to put recommendations, if required, for strengthening and retrofitting the tower.

Impact of climate change

ICOMOS considers that this needs to be addressed in relation to the rising damp issue.

ICOMOS considers that the main threats to the property are rising damp and earthquakes. The possible future degradation of the monument's visual integrity through the construction of high buildings impacting on its dominant position is also a factor. The State Party has addressed this issue by declaration of a protective Landscape Zone around the property and its buffer zone.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundary of the property includes the mound on which the tower stands. The adjacent parkland is Zone I of the buffer zone.

Zone II of the buffer zone surrounds the property and Zone I. The buffer zone is in turn surrounded by a Landscape Zone which is a polygonal area with a minimum radius of approximately 1 km. In this area the construction of high rise buildings or urban facilities having a negative influence on the tower landscape is prohibited.

ICOMOS notes that the buffer zone was defined to include a roughly equal distance around the tomb in four directions. Part of the west boundary passes through buildings. In response to ICOMOS' letter requesting adjustment of this boundary, the State Party advised that the boundary follows alleys along this section except for one building of which the Golestan Cultural Heritage, Handicrafts and Tourism Organization has now obtained ownership in order to make a passage connecting the existing alleys either side. The buffer zone II boundary will then be along this link instead of through the building.

The rehabilitation of the urban fabric in the buffer zone would help to improve the appreciation of the site as a whole.

In conclusion, ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate.

Ownership

The nominated property is owned by the State Government. The parkland in the buffer zone (Zone I) is owned by the Municipality. Several properties in the buffer zone (Zone II) are owned by the State and others are privately owned.

Protection

Legal Protection

Gonbad-e Qābus is protected under the Law for Protection of National Heritage (1930) and was inscribed on Iran's list of national monuments in 1975 as no. 1097. Regulations pertaining to the property provide that damaging activities are prohibited and any intervention, including archaeological investigation, restoration and works to the site must be approved by the Iranian Cultural Heritage, Handicrafts and Tourism Organisation (ICHHTO).

In 2008 the proposed height of a commercial building in the vicinity was reduced through action in the Gonbad City Court. Regular meetings were held with the aim of improving interactions between Gonbad-e Qābus Municipality and the ICHHTO representatives.

The Master Plan for Gonbad-e Qābus town was developed in 1989. This urban plan aims at preserving the historic and visual characteristics of the city. The detailed plan for Gonbad-e Qābus town was developed in 2009 and approved by the authorities. The protection measures described for the buffer zone and landscape zone below are supported by the Master Plan as revised in 2010.

The buffer zone (Zone I) is protected by similar regulations as above for the property. In Zone II, works with the potential to harm the property such as construction of canals, sewage lines or water wells, or the installation of vibrating or polluting machinery is prohibited. Building height is restricted to two storeys up to 7.5 m and wall facades and any other development shall be in accordance with guidelines administered by ICHHTO involving the use of sympathetic materials and design. Heavy traffic is prohibited in the boundary streets.

Information on height limits in the Landscape Zone was provided by the State Party in response to ICOMOS' request: the height limit in this zone is five storeys over the ground floor except in areas with no negative impact on the monument where seven storeys are allowed. This zone is jointly controlled by the Municipality and the Cultural Heritage Office (ICHHTO).

Effectiveness of protection measures

Physical protection of the property is ensured by the presence of local guards employed by the local office of ICHHTO.

ICOMOS considers that protection is adequate, given the example of the successful legal case in 2008 quoted in the nomination dossier.

ICOMOS considers that the legal protection in place is adequate.

Conservation

Inventories, recording, research

Considerable historical research and physical investigation reports have been carried out at the property as listed in the nomination dossier. These are held at the local ICHHTO office near the property.

In 2009, a photogrammetric survey of the tower and its surrounding area was carried out.

In 2010, archaeological excavations were carried out on the hill to identify the historical bed of the structure and the nature of the foundation including documentation and reporting on unearthed materials.

ICOMOS considers that there is also a need for detailed survey drawings on which chronological analysis of the fabric, repairs and damage can be indicated.

Present state of conservation

The current state of conservation of the monument is considered good. However there has been damage to the brickwork at the top and bottom of the tower due to humidity and rising damp. Drainage works and other protective measures are required to deal with the problems.

Active Conservation measures

Works scheduled for 2011 include the erection of scaffolding in order to remove vegetation from the roof. Other works proposed include the review of maps and regulations; establishment of the Handicraft Museum; reorganising the surroundings, improvement of illumination and replacing metal doors with wooden ones.

ICOMOS considers that the work plan should relate to a full existing condition record and regular monitoring of changes to the condition of the structure. To that end it is recommended that a conservation programme be developed.

Maintenance

In 2008-9 the area was cleaned of weeds and rubbish, a paving and landscaping project was implemented, and the tower and hill area were illuminated.

Inspection and maintenance requiring scaffolding of the tower was carried out in 2007 when a number of technical sessions of ICHHTO were held. Works are scheduled again for 2011. They will include clearing the hill area and removing grass.

Effectiveness of conservation measures

There is an ongoing problem with rising damp, which is yet to be solved. It has been exacerbated by various interventions as mentioned above. The landscaping of the mound is not considered successful and needs to be reconsidered. The park and mound can be improved to have a more natural atmosphere.

ICOMOS considers that a full study and strategy are needed to address the rising damp issue.

ICOMOS also notes that no actions are listed in the works schedule for 2011 in relation to the rising damp problem. However in the additional information provided by the State Party on 28 February 2012 an additional list of short term activities was provided which addresses this and other conservation issues.

ICOMOS considers that great care is required in relation to any repairs to the facade brickwork.

In conclusion, ICOMOS considers that the present state of conservation of Gonbad-e Qābus is adequate. However, ICOMOS recommends that a conservation programme be developed including a detailed record of the existing condition of the structure as a basis for the conservation programme, and reconsideration of the landscaping of the mound in conjunction with developing a strategy for dealing with the rising damp problem.

Management

Management structures and processes, including traditional management processes

The tomb tower and surrounding area are managed jointly by the Municipality and ICHHTO. All plans and programmes including interventions and funding allocations affecting the property must be approved by the ICHHTO High Council, which meets periodically at the property. Members of the Council include ICHHTO Deputy for Conservation; four ICHHTO Director-generals for Conservation, Urban Fabric, Inscription and Moveable Property; and five national experts. The property has a Steering Committee of experts who advise and adopt overall priorities, and approve technical decisions for conservation interventions. On technical matters the Committee co-ordinates with the respective Deputies of ICHHTO, especially the Deputy for Conservation. Members of the Gonbad-e Qābus Steering Committee include the Civil and Construction Affairs Deputy of the Governor; the Head of the Gonbad-e Qābus ICHHTO Office; the Head of the Urban Development and Housing Organisation; the Head of the Islamic Council of Gonbad-e Qābus; the Mayor of Gonbad-e Qābus, and six experts named in the nomination dossier. Day-to-day management is by the local office of ICHHTO at Gonbad-e Qābus.

Policy framework: management plans and arrangements, including visitor management and presentation

In the nomination dossier, it is recorded in Section 4 on the history of restoration conducted at the nominated property that a management and restoration plan was prepared in 2006. In Section 5, it is stated that the property will be managed under an integrated system in accordance with the Master Plan. In response to ICOMOS' request for clarification of how the two are integrated, the State Party advised that construction and development regulations within the property, buffer zone and landscape zone are subject to cultural heritage rules and guidelines. These regulations were officially communicated to the Gonbad-e Qābus Municipality by the Governor General of Golestan Province on 7 December 2011 for their implementation. The representative of the Cultural Heritage, Handicrafts and Tourism Organization of the Province of Gorgan is officially present in all the relevant meetings of the Municipality of Gonbad-e Qābus, ensuring that these laws are precisely maintained and enforced by the authorities.

There is a Steering Committee which meets every 2 or 3 months in order to determine priorities, actions and funding allocations.

The State Party in its response of 28 February 2012 provided a list of additional activities already carried out or planned to be executed. This includes research into conservation techniques and the rising damp issue.

In 2010 updates were made to the web page on Gonbad-e Qābus and ongoing seminars and involvement with students in relation to the conservation and preservation of the site.

Among the Short term (2 years) actions listed in the nomination dossier are to complete signboards and presentation facilities; hold an exhibition to present the Outstanding Universal Value of the monument; reorganise and equip the office for experts in the buffer zone; provide brochures and guide books in Farsi and English; improve visitors' toilets; hold briefing and consultation sessions with buffer zone residents and other interested groups; reorganise shopfronts located in the buffer zone, and improve the facade of the tower and the floor inside and out.

Longer term actions are listed for five years and ten years including audio tours and an accessible data base.

ICOMOS considers that it would be advantageous to incorporate all these actions as part of a tourism strategy in an integrated conservation and management plan.

Risk preparedness

ICOMOS considers that a risk preparedness strategy is required. As part of its response to ICOMOS' request for information, the State Party replied that the General Directorate for the Crisis Management in Golestan Province has the responsibility of administering the programs concerning the preventive measures within a Civil Defence Plan. The State Party also stated that the Gonbad-e Qābus Research Base has already embarked on a geotechnical research program concerning the consolidation of the mound and the building itself. Furthermore the Municipality has designated safe and secure specific locations within the city as well as for the fire fighting brigade near the monument in case of earthquakes.

Involvement of the local communities

In response to ICOMOS' request for clarification on this, the State Party responded that *"indeed the buffer zone residents are represented on the steering committee. The city's residents show great interests and sensitivities toward the protection of the monument, a very significant factor for the implementation of the activities."*

ICOMOS notes that it is proposed to hold consultation sessions with buffer zone residents and other interested groups. There is great interest in attracting more tourists to the region by offering recreational facilities and organising meetings. For the development of tourism and tourist facilities, conversion of some houses in the town to hostels or small hotels could be considered.

Resources, including staffing levels, expertise and training

Funds for works to the property come from both the national and provincial governments. The ICHHTO office

at Gonbad-e Qābus is staffed by 13 personnel including three restoration experts and two craftsmen. As well there are ten students, and a research unit comprising 6 personnel including two archaeologists and one historian. Sources of expertise and training in conservation and management include the Research Organisation of Cultural Heritage and Tourism (ROCHT); local and national universities and short term training workshops. The latter have been held in Gorgan during the past 2 years involving Gonbad-e Qābus experts. Traditional craftsmen and masons are training the young generation.

ICOMOS considers that the conservation office could be advantageously supported by 1 or 2 conservation architects.

In the additional information provided by the State Party on 28 February 2012 the reorganisation of the ICHHTO Office is shown to consist of 3 units totalling 23 staff plus 10 students and now includes 1 architect.

Effectiveness of current management

ICOMOS considers that the maintenance of the tomb is of paramount importance. Interventions in the structure itself should be carried out with great care in order not to disturb original elements. The structure must be monitored for further movement. It would be advantageous to extend the management plan to include a conservation programme in order to ensure the proper co-ordination of the work by the Steering Committee.

In conclusion, ICOMOS recommends that the Management Plan be extended to include a conservation programme, which should examine the most appropriate conservation treatment, include a risk preparedness strategy and tourism strategy and involve the local community.

6 Monitoring

The monitoring programme for Gonbad-e Qābus is administered by the ICHHTO office at the property which includes a monitoring unit of 2 staff members. Key indicator measures cover the effect of moisture and biological factors on deterioration on the structure, movement of crack markers, level of water table, compliance with regulations and visitor interviews. Records are kept at the local ICHHTO office. The monitoring staff have access to other experts including at the Islamic Azad University of Gonbad-e Qābus and a private engineering company. They report to the Director of the Gonbad-e Qābus ICHHTO office who in turn is responsible to the Head of the Golestan provincial ICHHTO office.

ICOMOS considers that careful, regular monitoring and feedback to the Steering Committee as a basis for ongoing maintenance are essential to the proper management of the property.

7 Conclusions

ICOMOS considers that comparative analysis beyond that provided in the nomination dossier justifies consideration of this property for the World Heritage List, and that conditions of integrity and authenticity have been met. The nominated property meets criteria (i), (ii), (iii) and (iv) and Outstanding Universal Value has been demonstrated. The boundaries of the nominated property are adequate. The legal protection in place is adequate.

ICOMOS considers that a risk preparedness strategy is required. A detailed record of the existing condition of the structure is required as a basis for the conservation programme and monitoring. Careful, regular monitoring and feedback to the Steering Committee as a basis for ongoing maintenance are essential to the proper management of the property. The landscaping of the mound needs to be reconsidered in conjunction with developing a strategy for dealing with the rising damp problem. Interventions to the monument should be carried out with great care. The management system should be extended to involve the local community. These issues would be best coordinated by extending the Management Plan to include a conservation programme for the property, to be implemented under the guidance of the Steering Committee.

Recommendations with respect to inscription
ICOMOS recommends that Gonbad-e Qābus, Islamic Republic of Iran, be inscribed on the World Heritage List on the basis of **criteria (i), (ii), (iii) and (iv)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

Visible from great distances in the surrounding lowlands near the ancient Ziyarid capital, *Jorjan*, the 53-metre high Gonbad-e Qābus tower dominates the town laid out around its base in the early 20th century. The tower's hollow cylindrical shaft of unglazed fired brick tapers up from an intricate geometric plan in the form of a ten pointed star to a conical roof. Two encircling Kufic inscriptions commemorate Qābus Ibn Voshmgir, Ziyarid ruler and literati as its founder in 1006 AD.

The tower is an outstanding example of early Islamic innovative structural design based on geometric formulae which achieved great height in load-bearing brickwork. Its conical roofed form became a prototype for tomb towers and other commemorative towers in the region, representing an architectural cultural exchange between the Central Asian nomads and ancient Iranian civilisation.

Criterion (i): Gonbad-e Qābus is a masterpiece and outstanding achievement in early Islamic brick architecture due to the structural and aesthetic qualities of its specific geometry.

Criterion (ii): The conically roofed form of Gonbad-e Qābus is significant as a prototype for the development of tomb towers in Iran, Anatolia and Central Asia, representing architectural cultural exchange between the Central Asian nomads and ancient Iranian civilisation.

Criterion (iii): Gonbad-e Qābus is exceptional evidence of the power and quality of the Ziyarid civilisation which dominated a major part of the region during the 10th and 11th centuries. Having been built for an emir who was also a writer, it marked the beginning of a regional cultural tradition of monumental tomb building including for the literati.

Criterion (iv): The monument is an outstanding example of an Islamic commemorative tower whose innovative structural design illustrates the exceptional development of mathematics and science in the Muslim world at the turn of the first millennium AD.

Integrity

The property expresses its value as an exceptional geometric structure and icon in the small town of Gonbad-e Qābus, clearly visible from many directions. It continues to express features of an Islamic commemorative monument combining traditions of Central Asia and Iran. The exterior flanges and inscription bands are in good condition, but the insertion of the ramp and the design of the retaining wall on the hillside have slightly damaged the form of the mound on which it stands.

Authenticity

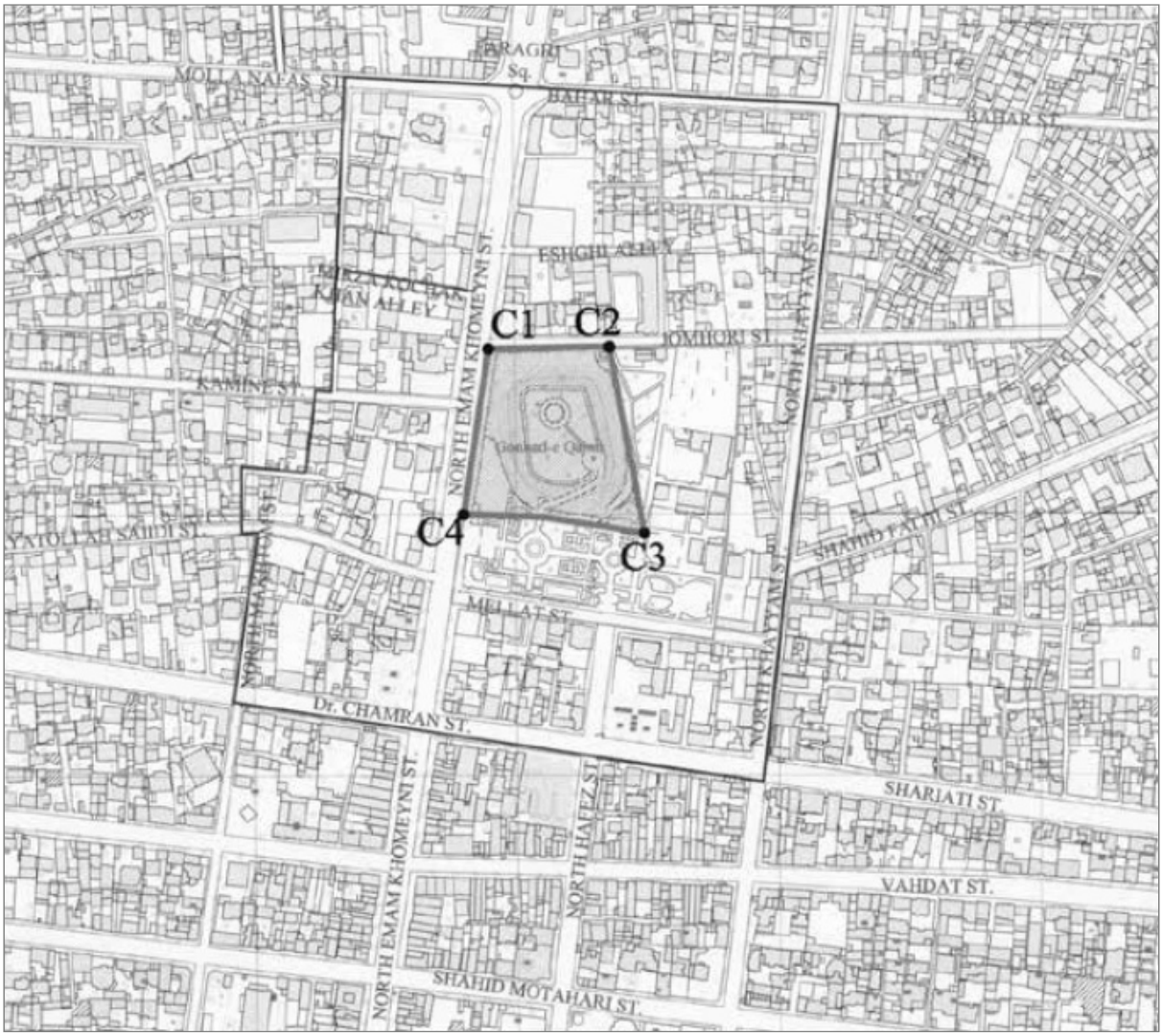
The monument retains its form and design, materials, visual dominance in the landscape, and continues as a holy place visited by local people and foreigners, and as a focus for traditional events.

Management and protection requirements

Gonbad-e Qābus is protected under the Law for Protection of National Heritage (1930) and was inscribed on Iran's list of national monuments in 1975 as number 1097. Regulations pertaining to the property provide that damaging activities are prohibited and any intervention, including archaeological investigation, restoration and works to the site must be approved by the Iranian Cultural Heritage, Handicrafts and Tourism Organisation (ICHHTO). The tomb tower and surrounding area are managed jointly by the Municipality and ICHHTO in accordance with the Master Plan for Gonbad-e Qābus town (1989) and the detailed plan (2009), which aim to preserve the historic and visual characteristics of the city. Protection measures controlling heights in the buffer zone and landscape zone are supported by the Master Plan. The management plan should be extended to include a conservation programme.

ICOMOS recommends that the State Party give consideration to the following:

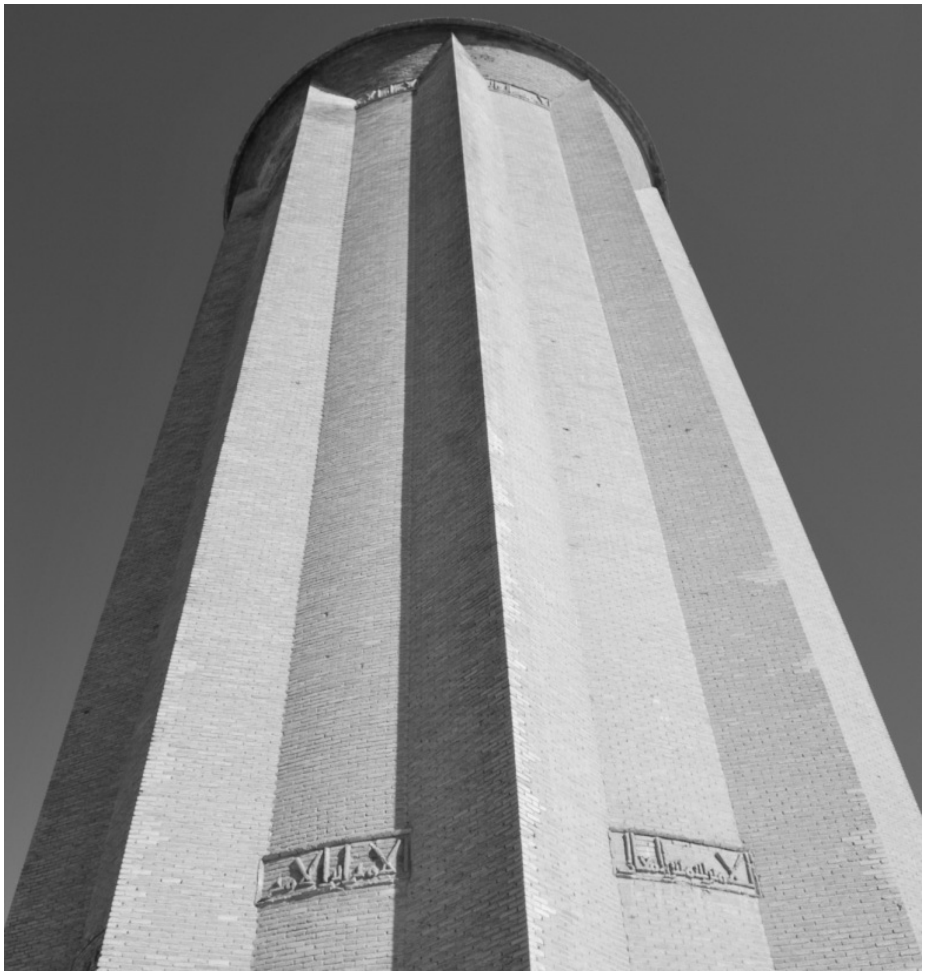
- Extending the Management Plan to integrate a conservation programme for the property, to be implemented under the guidance of the Steering Committee. This should cover :
    - completion of the geotechnical research programme concerning the consolidation of the mound and the building itself;
    - a detailed record of the existing condition of the structure as a basis for the conservation programme;
    - guidelines for interventions to the monument and regular monitoring and feedback to the Steering Committee as a basis for ongoing maintenance;
    - a risk preparedness strategy;
    - review of the landscaping of the mound in conjunction with developing a strategy for dealing with the rising damp problem;
    - a tourism management strategy.



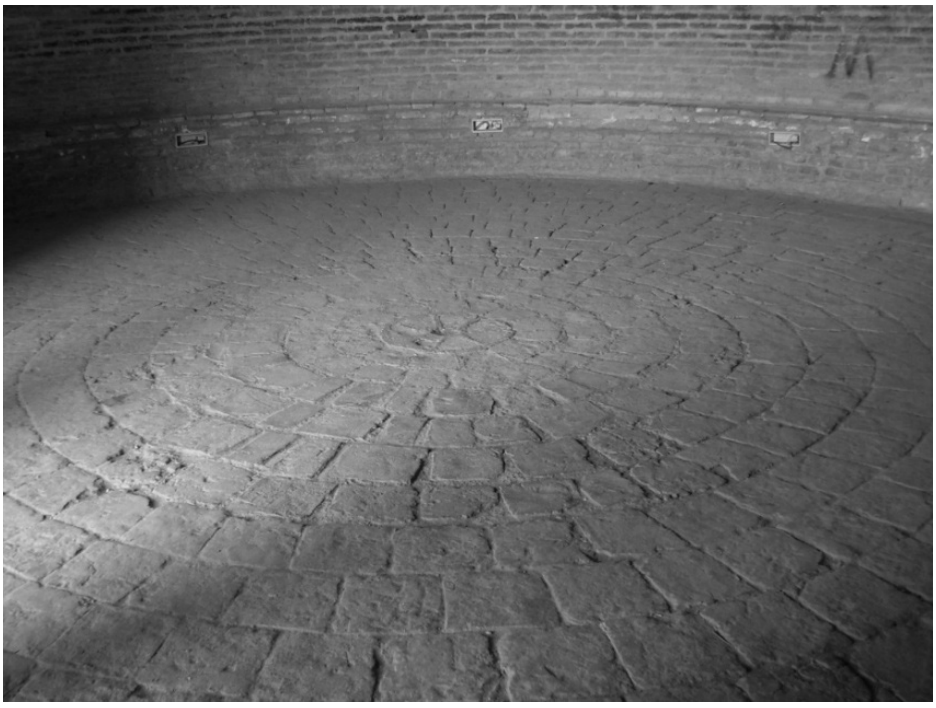
Map showing the boundaries of the nominated property

General view of Gonbad-e Qābus

Entrance



View of the flanges and the lower inscription



Interior view

Lenggong Valley (Malaysia) No 1396

Official name as proposed by the State Party
Archaeological Heritage of the Lenggong Valley

Location
The State of Perak
Malaysia

Brief description
The lush Lenggong Valley on the Malay Peninsula contains artefactual evidence in open-air and cave sites spanning all the periods of hominid history outside Africa. A meteorite strike 1.83 million BP preserved Palaeolithic tools at Bukit Bunuh, and a catastrophic Toba volcanic eruption 70,000 BP caused abandonment of a workshop site containing multiple tool types at Kota Tampan. Other workshop sites date from 200,000-100,000 BP at Bukit Jawa, 40,000 BP at Bukit Bunuh and 1,000 BP at Gua Harimau. Perak Man (10,000 BP) was found in Gua Gunung Runtuh cave site. Together these sites represent one of the longest records of early man in a single locality in the world.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of four *sites*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (January 2008), paragraph 47, the property is nominated also as a *cultural landscape*.

1 Basic data

Included in the Tentative List
4 January 2010

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
31 January 2011

Background
This is a new nomination.

Consultations
ICOMOS has consulted its International Scientific Committee on Archaeological Heritage Management and several independent experts.

Literature consulted (selection)

Barker, G.W.W., et al., 'The 'human revolution' in lowland tropical Southeast Asia: the antiquity and behaviour of anatomically modern humans at Niah Cave (Sarawak, Borneo)', *Journal of Human Evolution,* 52(3): 243-61, 2007.

Gamble, C., and Stringer, C., *Potential Fossil Hominid Sites for Inscription on the World Heritage List: A Comparative Study*, ICOMOS, Paris, 1997.

Sanz, N., and Keenan, P. (eds), *Human Evolution: Adaptions, Dispersals and Social Development (HEADS), World Heritage Thematic Programme*, World Heritage Papers 29, Paris, UNESCO, 2011.

Stringer, C.B., 'Evolution of early modern humans' in *The Cambridge encyclopedia of human evolution*, Cambridge; New York, NY, Cambridge University Press, 1992.

Wolpoff, M.H., *Paleoanthropology*, Knopf, distributed by Random House, New York, c1980.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 11 to 16 September 2011.

Additional information requested and received from the State Party
A letter was sent to the State Party on 9 September 2011 asking for clarification regarding the selection of sites and relationship to the Niah Caves; length of cultural sequence; property boundaries; ownership; protection; current conservation and management. A response was received from the State Party on 25 October 2011 and the information provided has been incorporated into relevant sections below.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The nominated property comprises four sites in two clusters totalling 398.64 ha. The clusters are located on the Perak River separated by Lenggong town. Each cluster is surrounded by its own buffer zone which together total 1786.77 ha. The Lenggong Valley is located between the Titiwangsa mountain range on the east and the lower Bintang range on the west. The Perak River with its little islands and tributaries flows through the valley, which is today essentially an agricultural landscape including rubber and palm oil plantations threaded with traditional villages and dotted with limestone massifs. Pockets of tropical rainforest associated with the limestone outcrops are considered to be remnants of the Belum-Temengor tropical rainforest which once extended 60 kilometres from the north. Geological evidence indicates that the Perak River has changed its course at various times, resulting in gravel deposits, and creating lakes at Lenggong and nearby Lawin and Gerik in the ancient past. A meteorite impact 1.83 million years ago blocked the river and diverted its course. During the period

of much lower sea levels 40,000 years ago the valley was part of a tropical savannah. Over a period of two million years the valley provided gravel suitable for prehistoric stone tool making and limestone caves for shelter. The Lenggong Valley is described in the nomination dossier as a relict cultural landscape comprising river gravels, the Bukit Bunuh meteorite impact crater, open-air stone tool workshop sites, limestone massifs and their caves.

Cluster 1

Cluster 1 is located north of a bend in the Perak River and consists of one overall site which includes the open-air stone tool workshop sites at Bukit Bunuh and Kota Tampan approximately 1 km apart located on the ancient lake shore and gravel river terraces. It also includes the Lenggong Archaeological Museum and the University of Science Malaysia Archaeological Field Station, located near the Kota Tampan site.

Bukit Bunuh

Located today in an oil palm estate, the meteorite impact crater at Bukit Bunuh measures approximately 3.45 km in diameter. Suevite rocks created at the site by high pressures and temperatures from the impact contain embedded stone hand axes chronometrically dated to 1.83 million BP by the fission-track method. These hand axes are the oldest or among the oldest so far discovered outside Africa. An in-situ workshop with stone assemblages has also been excavated here, with finds dating to 40,000 BP, including one hand axe made from suevite.

ICOMOS considers that the use of CT scanning to reveal the contours of the hand axe partially embedded in the rock melted by the meteorite's impact is innovative and yielded important supporting evidence for the identification of these objects as shaped by hominids.

Kota Tampan

This workshop site is presently on a hill slope but was on a shore of the ancient Chenderoh Lake during the Pleistocene, 70,000 BP. The evidence of the ancient lake can be read in the landscape as high terraces, landslide scars, paddy field valleys indicating streamline remnants of the ancient lake and ancient lake outlets. As an undisturbed Palaeolithic stone tool workshop, the association of artefacts (raw materials, finished and unfinished tools, and tool-making debris) is clearly visible. Its sudden abandonment was apparently due to the catastrophic Toba volcanic eruption, indicated by the presence of volcanic ash. The assemblage of artefacts found at this site has revealed and made possible the identification and classification of multiple tool types with specialised functions, indicating a lithic technology in South-east Asia as sophisticated as anywhere else in the world. As such this site is an important global reference site for Palaeolithic stone tool-making.

ICOMOS notes that this site has particular importance in the debates about the expansion of Anatomically Modern Humans out of Africa. While there is no doubt that the group of material is of human origin, no human fossils have been found at the site so there is lively debate about whether the tools were made by pre-modern Homo *erectus* or by Homo *sapiens.* There is no doubt the site is and will remain a site of international importance in the big debates about the origin of our species.

Cluster 2

Cluster 2 is located further up the river to the north of Cluster 1, north of Lenggong town and comprises three sites: the limestone outcrop containing the cave Gua Harimau; the open-air workshop site at Bukit Jawa and a third site which consists of the limestone massif Bukit Kepala Gajah containing the caves Gua Gunung Runtuh, Gua Teluk Kelawar and Gua Kajang. The buffer zone of this cluster also contains three other limestone massifs, Bukit Gua Badak, Bukit Batu Tukang and Bukit Gua Dayak which have caves known to contain cultural remains.

Bukit Jawa

The open-air *in situ* stone tool workshop site at Bukit Jawa was located on the shores of an island in the ancient lake 200,000-100,000 BP. The technique of tool-making using anvils and hammer stones was similar to but not as technically developed as those found at the later Kota Tampan site. Tools were mostly made from locally available quartz, but finds of sandstone tools led to the discovery of a nearby sandstone source at Bukit Suring (in the buffer zone).

Bukit Kepala Gajah

This large karst outcrop occupies an area of six square kilometres at its foot, with a summit 258 metres above sea level. It contains more than 20 caves, of which 4 have been excavated. Three of these revealed prehistoric burials: Gua Gunung Runtuh, Gua Teluk Kelawar and Gua Kajang.

Gua Gunung Runtuh

Perak Man was found in this cave, which has three chambers and was first excavated in 1990. The cave was used for habitation and burial purposes from around 13,000 BP until 2,600 BP. Perak Man is South-east Asia's oldest most complete human skeleton, radiocarbon dated to 10,120 BP and identified as *Australomelanesoid*, a hominid type occupying the western part of the Indonesia archipelago and continental South-east Asia at the end of the Pleistocene and early Holocene but now largely confined to east Indonesia, Melanesia and Australia. The smaller left arm and compensatory curvature of the spine exhibited by the skeleton indicate a genetic deformity known as *Brachymesophalangia type A2.* The burial was accompanied by stone tools, animal bones and shells. Similarities in lithic technology and tools with those produced at Kota Tampan suggest that there was little cultural change between the two sites, which are separated by around 60,000 years, indicating that the Kota Tampan population around 70,000 BP was already anatomically modern man, making tools that earlier hominids could not.

Gua Kajang

Located approximately 8 km from Lenggong town, Gua Kajang is a natural limestone tunnel through the Bukit Kepala Gajah comprising three caves. Two human burials excavated there in 2007 were dated to between 10,000 and 7,800 BP, one of which was identified as having *Australomelanesoid* features, which is consistent with Perak Man and other late Palaeolithic skeletons uncovered so far in the Lenggong Valley. The floor of the tunnel is interspersed with man-made holes, over which crude wooden platforms have been laid to provide passage through the tunnel for wheeled vehicles. According to local knowledge the tunnel was used in the recent past as a thoroughfare for horse or buffalo-drawn carts.

Gua Teluk Kelawar

This is a rock shelter located about 1 km from Lenggong town. Excavations in 2004 uncovered a partly disturbed human burial dating from around 8,400 BP, associated with similar stone tools, animal bones and *Brotia* shells as found with Perak Man and in Gua Kajang. The skeleton exhibited *Australomelanesoid* features.

Bukit Gua Harimau

This is a limestone massif containing the large cave Gua Harimau, a prehistoric burial site first investigated in 1951. A total of 13 skeletons were uncovered during that and subsequent excavations in 1987-8 and 1995, dating from 1,700 BP to 4,900 BP. There is no evidence of the cave being used for habitation. Burial items included earthenware vessels, stone tools, stone adze, bark-cloth beater, shells and stone ornaments, food remains, bronze items including a bronze celt and the mould in which it was made. The pottery dates from around 3,000 BP and the types were common throughout prehistoric mainland South-east Asia. The pottery was sand-tempered, hand moulded using the slow wheel and fired at 600–800 degrees C. Similar pottery assemblages have been found in southern Thailand. Analysis of the human remains indicates that they were a Mongoloid group similar to others found in Asia dating from the Neolithic period. The bronze finds are the earliest in the Malay Peninsula, and so far this is the only archaeological site containing evidence of occupation in the Lenggong Valley during the metal period.

ICOMOS considers that the sequence of occupation n the cave sites is well-documented by an adequate number of carbon dates, but it would have been useful if the calibrated dates were given, as well as the uncalibrated dates. This is because most of the dates are on shell, which can be difficult to interpret, whereas charcoal is more reliable. Fortunately there are some charcoal dates in the tables provided.

History and development

The evidence from the excavated sites in the Lenggong Valley indicates that humans (probably *Homo erectus*) first occupied the area at least as early as 1.83 million years ago and again 200,000-100,000 years ago. It is posited in the nomination dossier that the Lenggong Valley was a corridor through which early man passed intermittently over a long period of time on his way from mainland South-east Asia to Australia. In particular it is proposed that anatomically modern humans represented by the Kota Tampan site of 70,000 BP moved through the valley reaching Australia as represented at Lake Mungo by 50,000 BP. Similarly the Perak Man site of 10,000 BP and the other nearby burial sites in the Bukit Kepala Gajah Massif are thought to represent the later passage of *Australomelanesoid* man to Indonesia, Melanesia and Australia. The earliest inhabitants in historic times were probably the Semangs who are ethnically Negrito. It is thought that they have an ancestry within the Malay Peninsula going back 50,000 years to initial settlement from Africa. They settled along the Perak River or inhabited caves and rock shelters such as Gua Badak, Gua Harimau, Gua Kajang and Gua Dayak as temporary camps, leaving charcoal drawings in several caves.

In the first millennium CE rival empires competed for hegemony and control of trade between India and China. South-east Asia became settled; Melaka became an important entrepot but fell to the Portuguese in 1511. The first ruler of Perak was a son of the former sultan of Melaka. Tin resources brought the British to Penang and in the early 19th century the sultan of Perak sought assistance from the British East India Company to recover territory. The 1826 Burnley Treaty between Britain and Siam gave freedom to Perak, but in the face of troubles due partly to a huge influx of migrant workers, another treaty put Perak under the control of the British. In 1895 Perak, Selangor, Negeri, Sembilan and Pahang together became the Federated Malay States (FMS). Japanese forces invaded the FMS in 1941 and moved down the Perak River, occupying the Lenggong area until falling to the Allied forces in 1945. The holes in the cave floor of Gua Kajang are attributed to use of the cave by soldiers or locals and subsequent treasure-hunting. From 1948 to 1960 disturbances deriving from the Malayan Emergency, a war of National Liberation against the British resulted in new villages being built in which to settle rural Chinese, many of whom were supporting the guerrilla forces. This included the Lenggong Valley where Kota Tampan New Village is one example. Engagements between the British and later Malaysian forces and guerrillas in the vicinity of the nominated cave sites during this period resulted in the disturbance of deposits and artefacts. Since Independence was declared in 1957, development occurred mainly in the urban centres and the western corridor. However current plans for the Northern Corridor Economic Region specifically target Hulu Perak to receive attention in agriculture and tourism which will be reinforced by Perak State's own economic development plans for its North-east Corridor.

Research and archaeological exploration in the area began with investigations by British colonial officers in the period from 1917 to World War II, including work at Gua Kajang, Gua Badak (where relatively recent rock art thought to be of Negrito origin was discovered) and Kota Tampan. These were followed by Williams-Hunt and Sieveking in the 1950s at the same sites, and Williams-

Hunt also excavated Gua Harimau. Post-independence work in 1960 by Matthews at Gua Bukit Batu Berdinding located in the proposed buffer zone has not been published. Since 1987 Malaysian archaeologists have been leading research in the area and discovered the open-air *in situ* stone tool workshop Kota Tampan dated to 70,000 BP which has become a global reference site for the Palaeolithic in South-east Asia, as well as the Bronze Age occupation of Gua Harimau. The discovery of Perak Man in 1990 brought the Malay Peninsula sites further to the forefront of archaeological research into prehistory and in 2008, the discovery of the hand axe embedded in suevite dated to 1.83 million BP provided evidence that the earliest humans in the region inhabited the Lenggong Valley before they were in Java. The Lenggong Archaeological Museum was built to house, exhibit and preserve the artefacts found during research and excavation of the sites and opened to the public in 2003. The University of Science Malaysia (USM) Archaeological Field Station opened in 2005 and will continue research and training under the management of the Centre for Global Archaeological Research (CGAR) with funding from the Department of National Heritage.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The State Party has identified four themes within which to compare the nominated property with other Palaeolithic to Neolithic period sites:

- One of the longest prehistoric culture sequences in a single locality;
- In-situ Palaeolithic workshops;
- Palaeolithic skeleton with *Brachymesophalangia type A2;*
- Evidence for the oldest hominid presence outside Africa.

Sixteen sites have been identified for comparison.

In relation to the longest culture sequence, the nominated property has been compared with two World Heritage listed sites: Rock Shelters of Bhimbetka, India (2003, criteria (iii), (iv)); Peking Man Site at Zhoukoudian, China (1987, criteria (iii), (vi)); one site on the Tentative List: Wonderwerk Cave, South Africa (1998), and one not listed: Theopetra, Greece, and found to cover a much longer date range than any of these.

ICOMOS notes that habitation over the date range is intermittent, with a long gap between 1.83 million BP and 200,000 BP. However the overall date range is longer than the similar pattern at the World Heritage listed (1996, criteria (iii), (vi)) Sangiran Early Man Site in Indonesia, which contains evidence that hominids have inhabited the area for at least 1.5 million years.

ICOMOS notes that the date range is far less than that of the World Heritage listed (2010, criterion (iv)) Ngorongoro Conservation Area, Tanzania - an area that has been subject to extensive archaeological research for over 80 years and has yielded a long sequence of evidence of human evolution and human-environment dynamics, collectively extending over a span of almost four million years to the early modern era. However ICOMOS considers that it is more appropriate to limit comparison to sites outside Africa since the site is related to the dispersal of early man out of Africa.

In comparing the open-air stone tool workshop sites with other *in situ* Palaeolithic workshops in South-east Asia including the Irrawaddy Valley of Burma, the Kanchanaburi Valley, Thailand and the Cagayan Valley, Philippines, the State Party argues that whereas these are all disturbed Palaeolithic sites, the Lenggong Valley open air sites are considered undisturbed because they contain tool-making equipment and finished tools in association as well as conjoined artefacts. The nomination dossier lists a number of other Palaeolithic stone tool workshop sites in the world (none of which are World Heritage or Tentative lists) that may be comparable in this respect to those found in the nominated property including the English site at Boxgrove, the French Solvieux site, brickyard quarry sites at the Dutch-Belgian border near Maastricht, the Turkish site of Kaletepe Deresi 3 in Central Anatolia, Isampur and Hunsgi valleys in Karnataka, India, the Bose Basin in China and the very old sites at Gona, Ethiopia and Lokalalei, Kenya. These sites share with the nominated sites characteristics of being in-situ Palaeolithic workshop sites found with large stone assemblages and bearing artefacts capable of being refitted – that is it can be shown that discarded flakes have come from nearby cores. However except for Bose they use different raw materials and do not exhibit the same technology required to make quartz and quartzite tools as at the nominated site. At Bose the raw material is similar, but the dating is considered to be controversial because of the unclear association of the tektite used for dating, whereas at Lenggong the chronometric dating is secure.

In relation to the third theme, Perak Man is claimed by the State Party to be outstanding as the most complete Palaeolithic skeleton found in South-east Asia, which together with the accompanying grave goods provides extraordinary evidence for his physical and medical condition and unique congenital deformity (*Brachymesophalangia type A2)* as well as for prehistoric life ways and burial ritual practices. No examples are quoted for comparison however.

As evidence for the oldest hominid presence outside Africa, the Bukit Bunuh site of the meteorite crater and hand axe embedded in suevite is said by the State Party to prove a hominid presence of at least 1.83 million BP. This is compared with eight sites located in Pakistan, China, Indonesia, Israel and Spain dated between 2 and 1.2 million BP in Table 3.3 (p. 131) in the nomination dossier. Among them the sites at Zhoukoudian, Sangiran and Atapuerca (Spain) are inscribed on the World

Heritage List and Dmanisi (Georgia) is on the Tentative List. The site of Riwat in Pakistan has yielded stone core tools dated from 2 million BP, evidence from 'Ubeidiya in the Jordan Valley is dated to between 2.6 and 1.7 million BP, but the evidence from the other sites is younger. Within South-east Asia, the skull of Mojokerto Boy from Mojokerto (Indonesia) was dated to 1.81 million BP and *Homo erectus* skulls from Sangiran in Java have been re-dated to 1.66 million BP. While the nominated property therefore cannot claim to contain the earliest evidence of hominid presence outside Africa, the State Party argues that the evidence is rare for Early Pleistocene dispersal into the further reaches of Asia, which has to be considered in any discussion or theory on the human journey out of Africa.

The serial approach is justified by the fact that the sites are in relatively close proximity and demonstrate an exceptionally long culture sequence within that locality. In response to ICOMOS' request for clarification, the State Party responded that the sites are undisturbed *in situ* sites which have produced important findings of significance to the prehistory of area and region.

ICOMOS considers that the comparative analysis justifies the selection of sites.

In response to ICOMOS' request for clarification on how the nominated property relates to the Niah Caves, Sarawak, the State Party responded that methodological problems with the Niah Caves research meant the findings at Niah could not be compared with the sites in Lenggong Valley.

ICOMOS notes that research published in 200è (Barker et al) confirms that the *Homo sapiens* skull found at Niah by Harrison in the 1950s *"is indeed ca. 40,000 years old, and it is thus the earliest example in South-east Asia"*, and that the cave now has an extremely detailed and well-dated sequence extending from 40 ka BP into the Holocene and is now "*the best documented Upper Pleistocene site in Asia east of Israel."*

ICOMOS notes however that the remains comprise primarily a skull, whereas Perak Man is a complete skeleton, and currently the oldest preserved skeleton in Malaysia.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- one of the longest culture sequences in a single locality in the world;
- numerous undisturbed in-situ stone tool workshops in the Lenggong Valley dated in a long chronological sequence provide a key to the understanding of the development of Palaeolithic human culture in Southeast Asia;
- evidence for very early hominid presence outside Africa;
- the find of a unique Palaeolithic skeleton with Brachymesophalangia type A2.

ICOMOS considers that there is some ambiguity in the nomination dossier as to whether the culture sequence being represented includes the period of the more recent occupation of the caves. However ICOMOS considers that the justification stated above is appropriate in applying only to the prehistoric culture sequence and excluding the recent past.

Integrity and authenticity

Integrity

The State Party states that the sites were chosen to illustrate the various phases in the development of early man in the Lenggong Valley. Together they provide the long culture sequence claimed as a major aspect of the Outstanding Universal Value of the property - a sequence that challenges established ideas about the Palaeolithic in general and about South-east Asia in particular.

The Lenggong Valley has provided a fertile and environmentally stable habitat for repeated human occupation since early Palaeolithic times. The evidence provided by the selected *in situ* stone tool workshops and the cave burials demonstrate that the Valley's resources have been exploited with increasing technological sophistication over 1.83 million years. The spatial association, chronological sequencing and undisturbed character of the archaeological deposits of these sites, together with the discernible palaeo landscape features hold the key to the integrity of the relict cultural landscape. The excavated remains have been documented and conserved, providing evidence for the development of Palaeolithic hominid culture outside Africa which is available for educational purposes and scientific research.

ICOMOS considers that description of the ecological relations existing among the plants and animals in the landscape in which the sites are found is lacking. Although the geology of the region is well documented, there has apparently been no effort to collect data such as fossil pollen which would yield insight into previous vegetation and thus climate in this area.

ICOMOS notes that Palaeolithic landscape features are still intact but visibility is somewhat masked by the palm oil plantations. The remains of the lake and terraces are still visible; the meteorite crater is intact but is overly masked by the plantation. There is clearly potential for further discoveries within the whole Valley.

ICOMOS considers that the visual integrity of the setting of the property overall is problematic. While the setting of the cave sites (Cluster 2) in their limestone massifs and

immediate forest surrounds is retained, that of the open stone tool workshop sites has been greatly modified. Bukit Bunuh (in Cluster 1) is hidden in an oil palm plantation, Kota Tampan (Cluster 1) is surrounded by rubber plantation and Bukit Jawa (in Cluster 2) is an unrehabilitated clearing within the rubber plantation. While it is clearly not possible to recover the prehistoric setting of these sites, some linkages need to be made with it in terms of connections to the relict palaeo lake, gravel terraces and other features described in the nomination dossier.

ICOMOS considers that the sites are generally in good condition, largely due to low visitation. The exception is Gua Kajang which is easily accessible by car along a flat road from a nearby village. Subsidence from poorly back-filled pits is evident across the uneven floor of the shelter. There is also some graffiti. However ICOMOS considers that damage is reversible and the site's significance could be realised by careful management and investment in interpretation.

Authenticity

The State Party states that documented research and investigation of the site have followed a single system throughout the Valley since 1987. Utilisation of a common scientific research methodology at all sites ensures that comparative studies can be made between sites and testifies to the authenticity of the prehistoric remains.

ICOMOS considers that documented evidence supports the values claimed for this site. Much of the documentation has been independently peer reviewed through the academic publishing process and provides evidence of:

- the extremely early date for hominid presence in South-east Asia at Bukit Bunuh;
- the most easterly and early occurrence of hand axes at Bukit Bunuh;
- the oldest most complete skeleton in southeast Asia (found at Gua Gunung Runtuh);
- possibly the most southern evidence of metal making in Asia at Gua Harimau;
- the relative abundance of early sites in a relatively contained area hinting at relatively large or semi sedentary population.

The value of this evidence lies partially in the number of chronometric dates rather than relative dating techniques which are open to greater contestation. The story that is woven around these sites of a long and continuing tradition is convincing. There is little evidence linking this deep past to the recent historic past however.

ICOMOS considers that while the recent (post 1987) Lenggong Valley research to the story of early human migration ensures the reliability and authenticity of the nominated property, this research is apparently not widely known. The research has not been published in a range of widely accessible publications. The key evidence of the dating of the Bukit Bunuh hand axe in suevite was published only in 2010 (Ariffin et al) in the conference proceedings of the Asian Institute of Physics. There have been no publications yet in international peer reviewed journals to confirm the hand-axe as the oldest so far discovered outside Africa. The evidence of the Bukit Bunuh tool workshop site dating from 40,000 BP (Saidin 2006) was published in the selected papers of the 10th International Conference of the European Association of Southeast Asian Archaeologists, held at the British Museum, London in 2004. Establishment of the 200,000 - 100,000 BP date of the stone tool workshop at Kota Tampan (Zuraina Majid and Tjia, H 1988) was published in the Journal of the Malayan Branch of the Royal Asiatic Society. Perak Man and other hominids remains excavated from the cave sites have been published by the University of Science Malaysia Press in *The Perak Man and other prehistoric skeletons of Malaysia* (Penang 2005). A paper on the Bronze Age remains at Gua Harimau was presented (1988) by Zuraina Majid at the International Conference of Ancient Bronze Drums and Bronze cultures in southern China and Southeast Asia in Kunming, China.

In conclusion, ICOMOS considers that the conditions of integrity and authenticity have been met but the visual integrity of the setting is highly vulnerable.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (iii) and (iv).

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the Archaeological Heritage of the Lenggong Valley is one of the longest culture sequences in a single locality in the world, covering an extraordinary range of nearly 2 million years and spanning all the periods of hominid history outside of Africa. The artefactual evidence for this is found in the open-air and cave sites situated in close physical proximity to one another and located in a river valley that has remained geologically and environmentally stable for the past 2 million years. The key markers in this long culture sequence can be seen in the excavated sites of Bukit Bunuh, Kota Tampan, Bukit Jawa, Gua Gunung Runtuh, Gua Harimau and cave drawings by local aboriginal people.

ICOMOS considers that this criterion is met through evidence drawn from the archaeological finds at AHLV. The archaeological evidence shows that the human occupation in the Lenggong valley covers Palaeolithic, Neolithic and Metal age cultures, ranging from 1.83 million years ago to 1,700 BP. The AHLV therefore, represents one of the longest archaeological cultural sequences found in a single locality in the world. The archaeological research also reveals that the AHLV has the largest number of in-situ Palaeolithic open-air sites in South-east Asia. Well-preserved, *in-situ* Palaeolithic sites are

extremely rare because over hundreds of thousands of years of natural processes and human activities almost inevitably disturb original archaeological contexts. The Perak Man, which is dated to more than 10,000 years ago, is the oldest complete Palaeolithic skeleton in Southeast Asia. It provides significant information concerning Late Palaeolithic burial traditions and lifeways.

ICOMOS considers that the Archaeological Heritage of the Lenggong Valley is exceptional testimony to occupation of the Valley by Palaeolithic, Neolithic and Bronze Age man and their cultural traditions, ranging from 1.83 million years ago to 1,700 BP.

ICOMOS considers that this criterion has been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that human existence during the Palaeolithic, the longest period in human history, centred around stone resources. Stones provided the raw material for the earliest tools and the archaeological remains of stone tools and stone tool workshop sites are important evidence of early human technology. Thus, the discovery of numerous undisturbed *in-situ* stone tool workshops in the Lenggong Valley dated in a long chronological sequence covering the entire Palaeolithic period provides a key to the understanding of the development of human culture in Southeast Asia at this significant stage of human history. An outstanding example of lithic manufacturing at the Kota Tampan site has become an important global reference site for Palaeolithic tool technology. The archaeological sites in the Lenggong Valley preserve an outstanding record of the evolution of human cognitive complexity evidenced by the development of lithic tradition and stone tool technology over an extremely long time sequence from 1.83 million years ago to the recent past.

ICOMOS considers that the nomination dossier doesn't make it clear how the data from the archaeological sites provides insight into ancient minds. The study of cognitive behaviour based on stone tools is still under debate among scholars in modern archaeology. It seems the value of this aspect should not be over-estimated.

However ICOMOS considers that the undisturbed in-situ Palaeolithic stone tool workshops located on the shores of a paleolake and ancient river gravel beds and dated in a long chronological sequence are an outstanding technological ensemble. The sequence of significant stages in human history represented at the sites is unrivalled in the region. Whether or not the 1.83 million year old finds are validated, the site is of unique importance for the region's prehistory remains.

ICOMOS does not consider the inclusion of the recent past is justified because the quoted evidence of it – cave drawings - is not part of the technological ensemble of stone tool workshops.

ICOMOS considers that this criterion has been demonstrated.

ICOMOS considers that the serial approach is justified.

ICOMOS considers that the nominated property meets criteria (iii) and (iv) and conditions of authenticity and integrity but the visual integrity of the setting is highly vulnerable and that Outstanding Universal Value has been demonstrated.

Description of the attributes
The attributes carrying the Outstanding Universal Value of the property are:

- The *in situ* stone tool workshop sites;
- The cave sites.

4 Factors affecting the property

Development pressures

Lenggong is an agricultural valley targeted for more intensive food production as part of the Northern Corridor Economic Region (NCER). This is likely to result in farms which carry ten to fifty times more animals than they do at present. Landowners within the property and buffer zone are likely to respond to government incentives and funding. The overall impact should be to reduce the number of poor in the area who currently need to engage in guano collection (from the caves) and illegal wood felling, which would benefit the property. Cyclical replanting of oil palms will be a serious threat to the Bukit Bunuh and Kota Tampan sites, damaging gravel beds and in-situ workshops yet to be uncovered.

Two other economic sectors have been identified for the NCER: manufacturing and tourism. The nomination dossier proposes that land use within the two clusters should be changed from agricultural to tourism-related, and the requirement for Heritage Impact Assessment be applied.

New housing developments have been built and more are planned in the area to eventually accommodate more than 800 people, but these do not encroach on the nominated property. Currently there are no inhabitants within the property boundary. However in 2002 there were 2,513 within the buffer zone of Cluster 1 and 4,350 within the buffer zone of Cluster 2. Building and infrastructure works will create demand for building material and could lead to pressure for quarrying the limestone hills. It is proposed in the nomination dossier that such pressures can be resisted by application of legal instruments and diverting quarrying activities to those hills with demonstrated paucity of significant sites. All limestone hill quarrying is currently embargoed, and

quarrying for other materials including granite, earth and sand requires a licence. The nomination dossier states that such activities will be banned within the nominated property and that the Special Area Plan currently being developed will deal with these issues.

ICOMOS notes that the area adjacent to the Bukit Jawa excavation was cleared and levelled for a housing development before being stopped by the authorities. The Local District Office is confident that the Special Area Plan will be the appropriate tool to control such issues. It will include controls to trigger assessment of some landowner activities such as change of use.

Tourism pressures

Currently the property has few visitors although there are access roads, parking areas and boardwalks around several of the caves. There is no entry point to enable recording of visitor statistics. The components of the property are not actively marketed by government agencies or private travel businesses. However there is an archaeology field station run by the Centre for Global Archaeological Research of the University of Science Malaysia (CGAR USM) near the Kota Tampan site which is the point of entry for researchers and students. Looting is rare but there have been a few cases of pilfered artefacts being offered for sale. There has been some vandalism in the form of graffiti on the walls and roof of some caves.

The caves and archaeological sites together with the Lenggong Archaeological Museum are slowly becoming one of the principal tourism products within the district, along with a homestay programme at Tasik Raban and Lake Raban and forests within Lata Kekabu. Tourist facilities include the Lenggong Resthouse and Lake Raban Resort, which together accommodated 12,074 visitors in 2009. Visitors to the Lenggong Archaeological Museum totalled 78,808 in 2009; mostly local visitors with a large proportion of school children. It is expected that the number of visitors to the property will increase due to its inclusion in regional and district tourism development strategies. The Northern Corridor Implementation Authority (NCIA) is developing plans for ecotourism at the Royal Belum State Park and the Temengor and Gerik Forest Reserves enabling visitors to combine visits to the tropical rainforest with visits to the archaeological heritage.

ICOMOS considers that a Tourism and Interpretation Plan should be included in the Conservation Management Plan to guide tourism management and the development of tourist facilities for the property.

Environmental pressures

It is stated in the nomination dossier that there are no current environmental pressures. Incentives to increase agricultural productivity may cause owners to switch land use and crops. However the conservation of the property will be an important consideration of the Special Area Plan.

ICOMOS notes that most of the area of Cluster 1 is in private ownership as rubber and palm oil plantations. Given that rubber plantations are gaining popularity in line with a world-wide increase in rubber prices, a particular concern is that palms may be replaced with rubber trees. Not only would this involve the disturbance caused by their removal but in the long term the spreading roots of rubber trees would prove a greater hindrance to archaeological investigation and potentially cause greater disturbance to subsurface deposits causing vertical and horizontal migration of artefacts through the deposit. This should also be controlled through the Special Area Plan.

Natural disasters

According to the nomination dossier, flooding is considered a low risk to the property. Flooding of the Perak River from unusually heavy rainfall is a possible natural disaster threat to Cluster 1. In the last major flood (2009) the flood did not affect the property but a small area of the buffer zone was flooded in 2009 and 2010 due to lack of capacity of the drainage system. The Lenggong District Flood Action Committee has long and short-term plans for flood mitigation. In the short term the Tasik Raban (canal) will be enlarged and dredged. Long term proposals include the upgrading of 10 bridges and the diversion of a stream.

Impact of climate change

According to the nomination dossier there is no risk from climate change.

ICOMOS considers that the main threats to the property are change of land use sought by private landowners, housing development, quarrying activities, increased tourism pressure to develop the buffer zone, and graffiti at cave sites due to increased visitation.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The property boundary was selected to enclose significant sites which contribute definitively to the nominated Outstanding Universal Value. The boundary of the buffer zone is designed to include all other areas having been assessed as having archaeological 'potential' to contribute further to that story. These are shown on the map provided with the State Party's response to ICOMOS' request for clarification of the location of these sites (Appendix A (Map)).

ICOMOS notes that design of the buffer zone, while focusing on potential for further research, and to some extent including elements of the palaeo landscape, does not consider the wider landscape as a setting for the sites.

Cluster 1
The property boundary enclosing the workshop sites at Bukit Bunuh and Kota Tampan encloses 6 cadastral land lots and was designed to include the known extent of the archaeological sites.

The buffer zone boundary follows the natural boundary of the Perak River on the east and then local administrative boundaries and land lot boundaries to the south, the meteorite crater rim on the west and the contour of the palaeo lake and limestone massif boundary to the north. There are three small sections on the north, south and west where the Cluster 1 property does not have a buffer although on the south the Perak River forms a natural buffer zone.

Cluster 2
Bukit Jawa
The property boundary encloses 7 cadastral land lots and was designed to include the known extent of the archaeological site.

Bukit Kepala Gajah
The property boundary follows the State Land boundary around the base of the limestone massif.

Bukit Gua Harimau
The property boundary follows the State Land boundary around the base of the limestone massif.

The buffer zone boundary enclosing these three sites follows the natural boundary of the Perak River, local administrative boundaries and land lot boundaries on the east, the contour of the palaeo lake and land lots on the south, land lots and limestone massifs on the west and north. There is a small section along the north-western property boundary of Bukit Kepala Gajah which does not have a buffer.

ICOMOS notes that the property boundaries are unmarked and that there is the potential for landowners to intrude into the property area. This was observed by the ICOMOS mission at Bukit Kepala Gajah.

In conclusion, ICOMOS considers that the boundaries of the nominated sites are adequate. ICOMOS recommends that the boundaries of the buffer zones should be extended to include the wider landscape as a setting for the sites, ensuring coverage also of the small sections of property boundaries that currently have no buffer, and the property boundary needs to be marked on the ground.

Ownership
Cluster 1
Bukit Bunuh-Kota Tampan is partly in private ownership (2 lots); one lot is owned and occupied by the Lenggong Archaeological Museum and two lots are owned by a statutory authority (MARA), which was persuaded in 1995 not to build a large vocational training complex adjacent to the excavation sites. Plans are being considered for acquisition by the State.

Cluster 2
Bukit Jawa is in private ownership and is currently in the process of being acquired by the State.
Bukit Kepala Gajah and Bukit Gua Harimau are owned by the State.

Protection

Legal Protection

Cluster 1
Kota Tampan and the first hand axe found embedded in suevite are registered under the National Heritage Act 2005. The site of Bukit Bunuh is not yet registered but the amendment is underway and expected to be gazetted by 2012. The boundaries do not coincide with the nominated property.

Cluster 2
Bukit Jawa and Bukit Kepala Gajah are registered under the National Heritage Act 2005 and their boundaries coincide with the nominated property boundaries. Bukit Gua Harimau is not yet registered but the amendment is underway and expected to be gazetted by 2012.

In response to ICOMOS' request for information on how the non-registered sites are currently protected the State Party responded that the whole of the nominated property is protected under the National Land Code 1965 and the Town and Country Planning Act 1976, where any removal of soil, rocks and minerals as well as development activities require approval from State and Local Governments. The Special Area Plan currently being prepared will further refine protection measures for the nominated property under the Town and Country Planning Act.

ICOMOS notes that archaeological sites have blanket protection in Malaysia under the National Heritage Act of 2005. Under this Act any person discovering any archaeological object must report the find to the Commissioner and any authorized officer or the District Officer of the area (Part VIII s47(1)). All such objects (since enactment of the Act) are the property of the Federal Government (Part VIII s 48 (1)), this includes all undiscovered objects whether on the surface, subsurface or in any river or sea (s 48 (4)). However the section of the Act that relates to 'Treasure Troves' (S73-82) suggests that archaeological sites are vulnerable to disturbance unless they have been assessed by the Heritage Commissioner and entered on the Heritage Register. ICOMOS considers that 'Unauthorised' excavation with 'intent to discover' archaeological material should be prohibited.

ICOMOS also notes that the mission was advised that the entire area of property and buffer zones will be protected under the Special Area Plan currently being prepared.

Effectiveness of protection measures

ICOMOS notes that in the past the highway development has destroyed part of one site at Bukit Jawa and there

have been disturbances at Bukit Bunuh when the oil palm plantation was planted and at Bukit Jawa when an area was cleared for development adjacent to the site. The proposed protective mechanism for the nominated property and buffer zones is far from complete. The process to develop the Special Area Plan has only just commenced and is due to be finished just before the next World Heritage Committee meeting. The Special Area Plan takes about 9 months to complete. The Terms of Reference for the consultant based on local people's needs and comments have been finalized and the budget allocations are in hand. The programme for completion means that there is little or no time for advisory bodies such as ICOMOS to provide any feedback on the effectiveness of the proposed mechanism. However, the commitment to include the entire boundary of the Special Area Plan on the National Heritage Register means that both the nominated property and the buffer zones would be protected under the highest protection measures available to the State Party.

ICOMOS considers that the protection measures in place are not yet adequate. ICOMOS recommends that the sites of Bukit Bunuh and Bukit Gua Harimau be registered under the National Heritage Act and that the Special Area Plan be completed and its entire boundary included on the National Register.

Conservation

Inventories, recording, research

It is stated in the nomination dossier that an inventory of excavations and artefacts has been kept since 1987 by the Upper Perak Archaeological Project, managed by the University of Science Malaysia (USM). Artefacts uncovered during the excavations are displayed or stored in the Lenggong Archaeological Museum; the National Museum in Kuala Lumpur, Taiping Museum, Matang Museum and the Department of Museums in Kuala Lumpur. Artefacts for research and conservation are at the Centre for Global Archaeological Research (CGAR) USM. Records and documentation are kept at the Department of National Heritage in Kuala Lumpur, the CGAR USM and the Lenggong Archaeological Museum. ICOMOS notes that an updated and complete inventory of all the nominated sites within the property and buffer zone will be prepared by the World Heritage Office to be established under the Management Plan for the property.

In response to ICOMOS' request for clarification on the inventory, the State Party responded that the inventory, data and artefacts of the previously excavated sites in the whole Valley is available in the Centre of Global Archaeological Research, University of Science, Malaysia.

Present state of conservation

Cluster 1
Kota Tampan
The first stone tool workshop site to be excavated (KT 1987) was back-filled in 1999 and is currently in the process of being exposed for display. Several trenches of the site excavated in 2005 (KT 2005) are currently protected by a pavilion.

Bukit Bunuh
The excavated remains of the 40,000-year old stone tool workshop (BBH 2001) are exposed and unprotected.
At the meteorite crater site (BBH 2007) the hand axe and fourteen other stone tools found embedded in suevite are held at CGAR USM. More than a thousand others remain *in situ* and have been mapped.

Cluster 2
Bukit Jawa
The original Bukit Jawa rescue excavations (BJ1 and BJ2) were destroyed by construction of the trunk road FT 76 in 1996. Another area of the site was excavated in 2005 and these trenches with the artefacts have been exposed for display, covered by a pavilion and provided with information panels on the research and findings at Bukit Jawa.

Bukit Kepala Gajah
The limestone massif has not been subject to human activity; however the three important caves here have long been a source of guano for local villagers to use as fertiliser. The Lenggong Land and District Office ceased issuing guano licenses in 1996, but access to the caves is not restricted or guarded.

Gua Gunung Runtuh
The cave is accessible by footpath, taking around 45 minutes from the small hamlet, Kampung Gelok. Visitors leave trash and graffiti. The trench from which Perak Man was excavated has been left open as a record. The skeleton was displayed in the 1996 'Reviving Pithecanthropus' exhibition at the National Science Museum, Tokyo, Japan. It is now at the National Museum in Kuala Lumpur, displayed in a custom-made airtight glass cabinet. Two accurate replicas were made for use in other displays.

Gua Kajang
This cave is accessible by a paved road and is subject to visitor degradation including digging for artefacts and graffiti. Back-filling the trench is therefore being considered. The southern part of the cave is covered by rubble from cave-ins. There is a boardwalk with information panels linking Gua Kajang to other caves with archaeological and natural attractions.

Gua Teluk Kelawar
This rock shelter is easily accessible via a 15 minute walk from the main road. For the past decade the site has been used for field training archaeology students from the USM. Excavated trenches have not been back-filled. Others made by treasure hunters require back-filling. There are information panels and a gazebo at the site.

Bukit Gua Harimau
The limestone massif has been subject to quarrying in the past.

Gua Harimau
The cave is accessible by jeep along a dirt track; 30 minutes on foot. Villagers still take guano from the cave and visitors have left graffiti. The excavation trenches are being considered for back-filling. There are information panels and a gazebo.

Active Conservation measures

Research is being undertaken into suitable methods of preserving the in-situ deposits for public viewing. Otherwise exposed trenches will be back-filled.

ICOMOS considers that Conservation Action priorities are needed in anticipation of increased visitor impacts and interpretation. This should include guidance on back-filling, safety and related signage. The draft Property Management Plan included as Volume II of the nomination dossier does not cover conservation in sufficient detail.

Maintenance

Basic maintenance including grass cutting, sweeping and cleaning, maintaining access to the sites and rubbish collection is carried out by the Lenggong District Council.

Effectiveness of conservation measures

ICOMOS considers that the sites are generally robust and conservation has been 'passive'. The most significant conservation measures have been the interventions by the State Party to stop guano collection and other developments while at the same time raising the public profile of the sites through the museum and the archaeological field research facility. The transition from essentially a specialist field study area to a cultural tourism site such as is planned if the property is inscribed on the World Heritage List will require more active conservation interventions to manage visitor impacts.

In conclusion, ICOMOS considers that Conservation Action priorities are required as part of the overall Management Plan.

Management

Management structures and processes, including traditional management processes

The property including all components is managed by the Lenggong District Council (the local authority) with the co-operation of the Department of National Heritage (which is ultimately responsible for the nationally registered sites), and with the occasional assistance of CGAR USM. The District Council includes a Heritage Unit with a technical section, administration section and enforcement section. There is currently no on-site manager to take charge of non-statutory duties.

It is proposed in the nomination dossier that following World Heritage inscription, a Heritage Steering Committee will be set up, chaired by the Chief Minister of the State of Perak, with members representing Federal, State and Local governments, and independent expert members. The role of the proposed Steering Committee is set out in the nomination dossier and will cover all aspects of implementation of the Property Management Plan including fundraising. The Committee will be advised as to implementation of the work plan by a Heritage Technical and Scientific Committee, chaired by the District Officer. The District Council's Heritage Unit would be upgraded to become the World Heritage Office headed by a General Manager, the staff of which will implement the work plan with external assistance from the University of Science Malaysia and others as required.

Policy framework: management plans and arrangements, including visitor management and presentation

The national policies under the Tenth Malaysia Plan (2011-2015) and the regional policies under the Northern Corridor Economic Region Plan focus on development of the Lenggong Valley for agriculture and tourism. In particular Hulu Perak district of Perak State is planned to be a nature and adventure holiday destination centred on Gerik, to the north of the Valley. A Special Area Plan for the Lenggong sub-district focusing on the preservation and conservation of the nominated property will be developed for the nominated property to be incorporated within the Perak Structure Plan (2001-2020). The current Local Plan (2002-2015) touches only briefly on the archaeological discoveries in the nominated property.

The Draft Property Management Plan (DPMP) for the Archaeological Heritage of the Lenggong Valley forms Volume II of the nomination dossier. It is expected that this will be implemented by the end of 2011 after approval from all parties concerned. The DPMP sets out objectives including the development of tourism and visitor management strategies, risk management strategies and provision for stakeholder participation and collaboration.

At present the Lenggong Archaeological Museum acts as an informal visitors' centre and recommends individuals who can act as guides to the sites on a fee-paying basis. The Museum is the first and only museum in Malaysia specialising in prehistoric archaeology. It is a two storey building at present comprising two galleries, an administration office, audio visual room, research room, conservation laboratory and a cafeteria. It employs an Assistant Curator, 2 museum assistants and 1 support staff.

An issue is that some of the artefacts/cultural objects have been removed from the Valley. The Perak Man skeleton for example has been removed to the Negara Museum in Kuala Lumpur to be housed in special dehumidified display cases in an exhibition that also houses other skeletons from Lenggong that have been repatriated from

the United Kingdom. Casts of the bones remain on display in the local museum. Many artefacts are also kept in other places such as at the university (USM). Ultimately, should the site be inscribed on the World Heritage List it would be desirable to have the local facilities upgraded so that the original material can be repatriated to the local area museum as a Cultural Keeping Place.

ICOMOS considers that the active involvement of the Lenggong District Office, the Council and the people of the Lenggong Valley in the development of the Special Area Plan is the main mechanism for building a shared understanding of conservation and management requirements. The Draft Property Management Plan needs to be completed, approved and implemented. This needs to include an updated and complete inventory of all the nominated sites within the property and buffer zone, conservation action priorities and a Tourism Management and Interpretation Plan. The latter should be cognizant of the Government's stated aims to integrate the eco and cultural tourism potential of the nominated property and the Belum-Temengor Tropical Rainforest.

Risk preparedness

The development of risk management strategies will be part of the implementation of the Management Plan.

As part of risk preparedness, ICOMOS considers that an archaeological zoning plan needs to be prepared for the property and the buffer zone that identifies areas of known archaeological significance and the areas of potential archaeological significance.

Involvement of the local communities

The development of strategies to involve local communities in ongoing management will be part of the implementation of the Management Plan.

The State Party clarified in response to ICOMOS' request on this that the members of the State and Local Government sitting on the Steering Committee automatically include residents of the buffer zone in their capacity as Councillor, Assistant Administrative Officer or Village Headman.

ICOMOS notes that local communities were involved in the preparation of the nomination through a 'community carnivale' held in May 2011. This formed the basis of the brief for the development of the Special Area Plan. However ICOMOS notes that there has been no involvement or consultation with the local 'aboriginal' community.

Resources, including staffing levels, expertise and training

Operational funds to ensure administrative functions are provided by the State of Perak. Project funds may come from both Federal and State budgets under specific programmes. Additional funds may also be sought from non-government sources. A 5-year development budget will be sought by the General Manager of the World Heritage office on the basis of the proposed work plan. Fees collected from visitors and services will be placed in a special fund for conservation and outreach programmes.

The primary source of expertise available to the property is the University of Science Malaysia Archaeological Field Station established in 2004 near the Kota Tampan site in the buffer zone of Cluster 1. The field station comprises laboratory space, accommodation for staff and students, an office and a seminar room and is managed and operated by the CGAR with 10 highly qualified staff. It provides training for students from the USM and staff from the Department of Museums and the Department of National Heritage, and hosts visiting scientists who wish to participate in research. A list of workshops and courses provided since 2004 is included in the nomination dossier, as well as a list of undergraduate courses that can be converted into training modules for specialist guides and heritage site management staff.

ICOMOS notes that currently the nearest dedicated heritage staff are at Taiping, around 60 km away. It is intended that the proposed World Heritage Office would be established locally, if the property is inscribed. Many of the local people have a great deal of experience managing and working on archaeological sites because of the 27 years of regular archaeological research in the Lenggong Valley.

In response to ICOMOS' request for clarification on staff numbers and qualifications, the State Party responded that the District Council's Heritage Unit comprises 6 staff:

Head (BSc Town and Country Planning);
Technical - Assistant Engineer (Diploma in Engineering);
Enforcement- Assistant legal officer (Diploma in Law) and 2 Assistant enforcement officers (Malaysian Certificate of Education);
Administration-Clerk (Malaysian Certificate of Education).

Effectiveness of current management

ICOMOS considers that there is a heavy reliance on the successful inscription of the site before committing to many of the management tasks that need to be done. Increased funding will be released if the site is recognized as being of World Heritage status. However for a site of such importance the State Party needs to have a strategy in place that will ensure the reasonable conservation of the site.

ICOMOS considers that the Property Management Plan should be extended to include an archaeological zoning plan that identifies areas of known archaeological significance and the areas of potential archaeological significance within the property and buffer zones; an updated and complete inventory of all the nominated sites within the property and buffer zone; conservation action priorities and a Tourism Management and Interpretation Plan. The Management Plan should then be formally approved and implemented.

6 Monitoring

Currently the state of conservation of the registered components of the property has been inspected on an irregular basis by officers of the Department of National Heritage. CGAR USM personnel assist with this work and report any problems to the District Council for remedial action. Owners of palm oil plantations at the open sites of Bukit Bunuh and Kota Tampan have been informed of the need to keep digging and replanting to a minimum and to consult with the archaeological team on their future land use and replanting plans in order to avoid disturbing the sites. According to the nomination dossier, co-operation between the scientists and the landowners has been excellent and this is not expected to be an issue. Owners also monitor their own properties against intruders and poachers.

The Draft Property Management Plan proposes key indicators for six monthly monitoring that focuses on disturbances/intrusions of the sites, as well as for annual monitoring of development projects, research, visitor impacts and staff matters.

The nomination dossier lists previous reports containing the first descriptions of each of the excavated sites of the nominated property.

ICOMOS considers that a full inventory is required as a basis for monitoring, as well as the archaeological zoning plan.

In conclusion, ICOMOS considers that the monitoring system is not yet adequate.

7 Conclusions

ICOMOS considers that documented evidence supports the values claimed for this site. However is seems that the importance of recent (post 1987) Lenggong Valley research to the story of early human migration has not been widely considered outside Malaysia.

The comparative analysis is satisfactory for the Palaeolithic to Bronze Age period and the serial approach is justified. Criterion (iii) is justified for the culture sequence from 1.8 m BP to 1,700 BP. Criterion (iv) is justified in relation to the Palaeolithic sites, but the mention of the *'recent past'* in the justification is not relevant Outstanding Universal Value is justified for the 1.8 m - 1,700 BP period of the property.

The conditions of authenticity and integrity have been met. The visual integrity of the setting is highly vulnerable due to the current use of the Valley for industrial agriculture.

The boundaries of the buffer zones need to be extended to include the wider landscape as a setting for the sites, ensuring coverage also of the small sections of property boundaries that currently have no buffer and the property boundary needs to be marked on the ground. The main threats to the property are change of land use sought by private landowners, housing development, quarrying activities, increased tourism pressure to develop the buffer zone and graffiti at cave sites due to increased visitation. In relation to these, the protection measures in place are not yet adequate. In relation to development pressures it would be helpful to prepare an archaeological zoning plan for the property and the buffer zone that identifies areas of known archaeological significance and the areas of potential archaeological significance. The Special Area Plan will not be complete until June 2012.

The Property Management Plan is not complete. A full inventory is required as a basis for conservation and monitoring, and an archaeological zoning plan is required as part of risk preparedness. The Property Management Plan needs to be extended to include conservation action priorities and a Tourism Management and Interpretation Plan.

Recommendations with respect to inscription

ICOMOS recommends that the examination of the nomination of the Archaeological Heritage of the Lenggong Valley, Malaysia, to the World Heritage List be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- Extend the buffer zones to not only protect the potential archaeological deposits relating to the Archaeological Heritage of the Lenggong Valley but also the setting of the property including palaeo-environmental features, ensuring that the boundaries of the buffer zones protect the entire perimeter of each site;

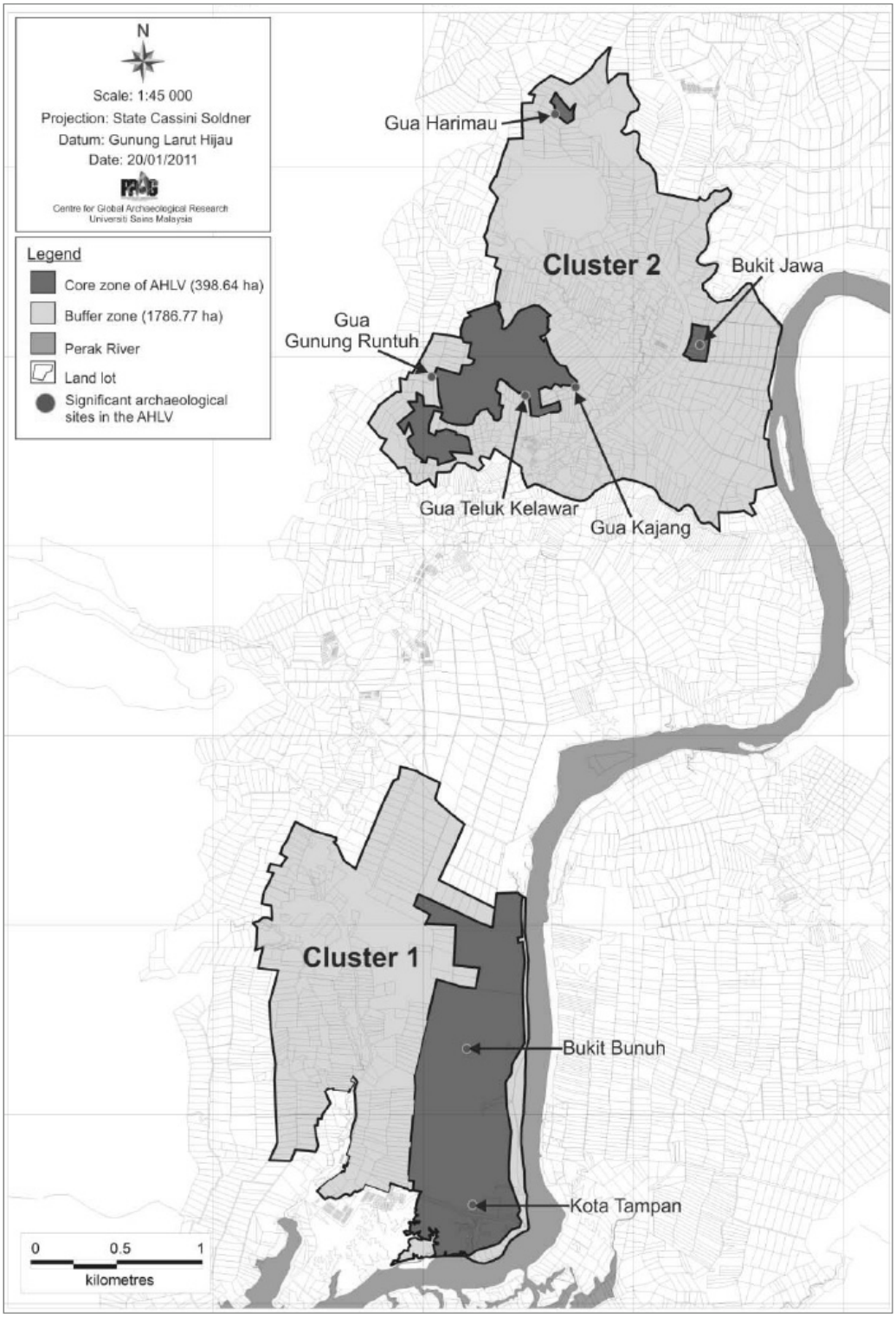
- Complete registration of the sites of Bukit Bunuh and Bukit Gua Harimau under the National Heritage Act and complete the Special Area Plan and include its entire boundary on the National Register;

- Complete the Property Management Plan to include an archaeological zoning plan that identifies areas of known archaeological significance and the areas of potential archaeological significance within the property and buffer zones; an updated and complete inventory of all the nominated sites within the property and buffer zones, conservation priority actions and a Tourism and Interpretation Management Plan. The Management Plan should then be formally approved and implemented.

ICOMOS considers that any revised nomination would need to be considered by an expert mission to the site.

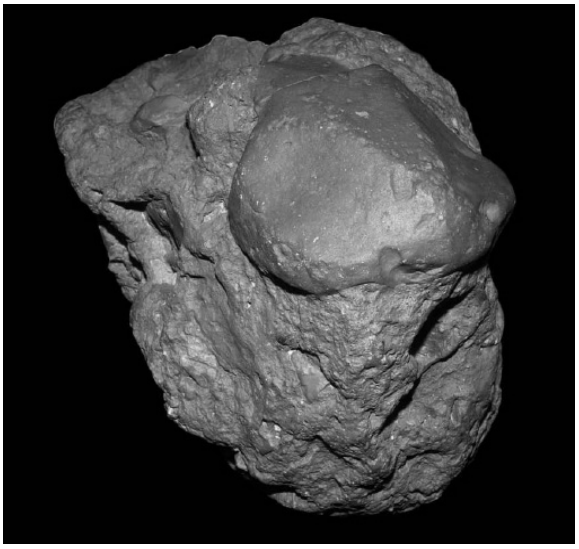
ICOMOS further recommends that the State Party give consideration to the following:

- Marking boundaries of the property on the ground to avoid inadvertent incursions and damage by neighbouring landowners.



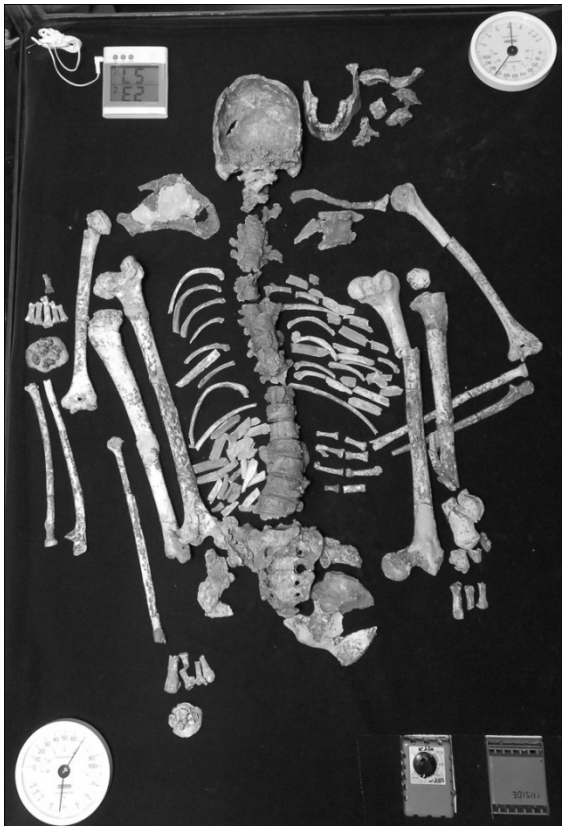
Map showing the boundaries of the nominated properties

Exposed gravel layer



Bukit Bunuh, hand axe embedded in suevite rock dated to 1.83 m BP

Artefact from Kota Tampan dated 70,000 BP



Perak Man found at Gua Gunung Runtuh
dated to 10,120 BP

Gua Harimau site

IV Cultural properties

Cultural Landscape of Bali Province (Indonesia)
No 1194rev

Official name as proposed by the State Party
The Cultural Landscape of Bali Province: the *Subak* System as a Manifestation of the *Tri Hita Karana* Philosophy

Location
Province of Bali
Indonesia

Brief description
Five sites of rice terraces and associated water temples on the island of Bali represent the *subak* system, a unique social and religious democratic institution of self-governing associations of farmers who share responsibility for the just and efficient use of irrigation water needed to cultivate terraced paddy rice fields.

The success of the thousand year old *subak* system, based on weirs to divert water from rivers flowing from volcanic lakes through irrigation tunnels onto rice terraces carved out of the flanks of mountains, has created a landscape perceived to be of great beauty and one that is ecologically sustainable.

The supreme *subak* temple Puru Ulun Danu Batur on the rim of a volcanic crater, Lake Batur within the crater, temples and *subaks* along the Tampaksiring valley, a sacred landscape of forests, lakes, temples and *subaks* around Mount Batukaru, and the Royal temple of Pura Taman Ayun are together seen as manifestations of the Balinese philosophical principle *Tri Hita Karana* (three causes of goodness), that promotes a harmonious relationship between the realms of the spirit, the human world and nature.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of five *sites*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (2 February 2005) paragraph 47, this is a *cultural landscape*.

1 Basic data

Included in the Tentative List
18 January 2007

International Assistance from the World Heritage Fund for preparing the Nomination
30 June 2001

Date received by the World Heritage Centre
31 January 2007
28 January 2011

Background
This is a deferred nomination (32 COM, Quebec City, 2008).

The World Heritage Committee adopted the following decision (Decision 32 COM 8B.22):

The World Heritage Committee,
1. Having examined Documents WHC-08/32.COM/8B and WHC-08/32.COM/INF.8B1,
2. Defers the examination of the nomination of the Cultural Landscape of Bali Province, Indonesia, to the World Heritage List in order to allow the State Party to:
a) reconsider the choice of sites to allow a nomination on the cultural landscape of Bali that reflects the extent and scope of the subak system of water management and the profound effect it has had on the cultural landscape and political, social and agricultural systems of land management over at least a millennia;
b) consider re-nominating a site or sites that display the close link between rice terraces, water temples, villages and forest catchment areas and where the traditional subak system is still functioning in its entirety and managed by local communities;
c) put in place a management system that aims to sustain traditional practices and deflect inappropriate development or the impacts of development;
3. Considers that any revised nomination with revised boundaries, would need to be considered by a mission to the site.

On 28 January 2011 the State Party submitted a revised nomination.

Consultations
ICOMOS has consulted its International Scientific Committee on Cultural Landscapes and several independent experts.

For the first nomination, ICOMOS also consulted IUCN who provided comments on 13 December 2007.

IUCN also provided comments on the revised nomination on 1st February 2012. The information was carefully considered by ICOMOS in reaching the final decision and recommendation in March 2012, and IUCN has also reviewed the presentation of its comments as included in this report by ICOMOS.

Literature consulted (selection)

Lansing, J. Stephen, *Perfect Order: Recognizing Complexity in Bali*, Princeton University Press, 2006.

Scarborough, Vernon L., Schoenfelder, John W., and Lansing, J. Stephen, "Ancient Water Management & Landscape Transformation at Sebatu, Bali", in *Indo-Pacific Prehistory Association Bulletin* 20, 2000 (Melaka Papers vol 4).

Schoenfelder, John W., *New Dramas for the Theatre State: The shifting roles of ideological power sources in Balinese Politics*, *World Archaeology*, volume 36(3), 2004.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 12 to 19 October 2011.

Additional information requested and received from the State Party
On 9 December 2011, ICOMOS wrote to the State Party to request further information on the following: when the Governing Assembly will become fully operational, the responsibilities and resources of the Assembly and the time-frame for the first phase of the Management Plan Action Plan. The response from the State Party dated 27th February 2012 has been incorporated into this report.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
Bali has a line of volcanoes running along an east-west axis from one end of the island to the other. The largest Mount Agung is in the east of the island. These dominate the landscape of Bali and have provided it with fertile soil which, combined with a wet tropical climate, make it an ideal place for crop cultivation. Water from the rivers that run all over the island has been channelled into canals to irrigate the land, allowing the cultivation of rice on both flat land and mountain terraces, with a traditional production of two crops each year.

Rice, the water that sustains it, and *subak*, the cooperative social system that controls the water, have together shaped the landscape over the past thousand years and are an integral part of religious life. Rice is seen as the gift of god, and the *subak* system is part of temple culture. Water from springs and canals flows through the temples and out onto the rice paddy fields.

The water temples are the focus of a cooperative management of water resource by a group of *subaks.* Since the 11th century the water temple networks have managed the ecology of rice terraces at the scale of whole watersheds. They provide a unique response to the challenge of supporting a dense population on a rugged volcanic island.

The *subak* system dates back to at least the 9th century AD. In total Bali has about 1,200 of these water collectives, which over many centuries have engineered the landscape of the island's rice terraces. Between 50 and 400 farmers manage the water supply from one source of water.

The water temples are at the centre of a delicately balanced system of cooperation between neighbouring farmers. Due to rigorous social coordination led by temple priests, pest levels are minimized and water sharing optimised in the rice paddies. The need for effective cooperation in water management links thousands of farmers together in hierarchies of productive relationships.

The overall *subak* system exemplifies the Balinese philosophical principle of *Tri Hita Karana* that draws together the realms of the spirit, the human world and nature. Water temple rituals promote a harmonious relationship between people and their environment through the active engagement of people with ritual concepts that emphasise dependence on the life-sustaining forces of the natural world.

The *Tri Hita Karan*a philosophy is a reflection of cultural exchange between Bali and India over the past two millennia. In Bali people have been incorporated into the India cosmological dualism of the opposing powers of two immortal worlds of good and evil. The *Tri Hita Karana* philosophy is one of various views of the universe such as *Rwabhineda*, *Tri Samaya*, and *Tri Mandala* – see below.

Responding to the decision 32 COM 8B.22, item 2.a of the World Heritage Committee, each of the five sites chosen for the revised nomination fully includes all interconnected natural, religious, and cultural components that encompass the entire extent of the traditional *subak* system. *Subak* components are the terraced paddy landscape, rice fields connected by a system of canals, tunnels and weirs, villages, and temples of varying size and importance that mark either the source of water or its passage through the temple on its way downhill to irrigate *subak* land.

The sites chosen are those were the *subak* system is still fully functioning, where farmers still grow traditional Balinese rice without the aid of fertilisers or pesticides, and where the landscapes overall are seen to have sacred connotations. In all cases the sites have been selected after extensive consultations with farmers who saw inclusion on the World Heritage list as positive support.

The nominated property covers 19,519.90 hectares and the five buffer zones in total cover 1,454.80 hectares.

The nominated prosperity consists of the following:

- The *Subak* system
- Supreme Water Temple of Pura Ulun Danu Batur
- Lake Batur
- *Subak* Landscape of the Pakerisan Watershed
- *Subak* Landscape of Catur Angga Batukaru
- The Royal Water temple of Pura Taman Ayun

These are considered separately:

The *Subak* system

Subak is a Balinese word that first appears in royal inscriptions in the 11th century. It refers to a religious and social institution of self-governing organisations of farmers who share responsibility for the just and efficient use of water needed to grow paddy rice. Most *subaks* have written legal codes that detail rights and responsibilities in the management of water that is seen as a gift from the Goddess of the Lake(s) Dewi Danu.

The boundary of a *subak* is defined as the limits of a collection of paddy fields that are irrigated by a shared irrigation structure. They vary in size from a few hectares in the uplands to several hundred thousand hectares at lower levels. Ultimately the upper and lower *subak* systems need to work together to ensure that enough of the water from the mountains reaches the lowest fields on the plains.

The landscape is criss-crossed with elaborate networks of weirs spaced a few kilometres apart that divert water from rivers flowing down from volcanic lakes, into irrigation tunnels, many over a kilometre in length that feed canals running round the rice terraces. This system allows the delivery of small quantities of water with remarkable accuracy.

The right of each *subak* to draw water is linked to rituals in the water temples that honour the Goddess of the Lake and other deities. The *subak* landscape thus includes, as well as engineered features, water temples and farmers' shrines that are the focus of an the annual calendar of rituals linked to the rice growing cycle of a complex system of Balinese time reckoning, and of the *Tri Hita Karana* philosophy that attaches meaning to landscape features in a sort of cosmological grid.

Supreme Water Temple of Pura Ulun Danu Batur

This supreme water temple is dramatically located on the rim of the volcanic crater Lake Batur. Because the crater lake is regarded as the ultimate origin of every spring and river, its congregation appropriately includes all *subak*s. The temple is managed by the people of Batur village, supported by contributions from more than 250 *subaks.*

Until 1926 the temple and Batur village were further down the slopes of the volcano. Both were destroyed in an eruption of 1926 and rebuilt higher on the rim of the caldera.

The temple consists of a collection of five courtyards enclosing tall, tiered shrines and pavilions dedicated to a pantheon of some 45 deities, foremost among them the Goddess of the Lake, who is said to make the rivers flow and bring prosperity to the land.

The buffer zone encloses the inhabited land belonging to the village of Batur.

Lake Batur

This crater lake is regarded as the abode of the Goddess of the Lake and as the ultimate source of water for the *subaks.* The deep lake has no overground outlets but feeds the underground water system that augments river flows.

- *Subak* Landscape of the Pakerisan Watershed

This site encompasses the oldest known irrigation system in Bali. It includes the lands and watercourses of three *subaks,* Pulagan and Upper and Lower Kulub, four water temples associated with major archaeological sites, a group of royal temples and monasteries, and three villages.

Tirtha Empul water temple was built in the 10th century. It surrounds one of Bali's most revered springs, the main sources of the Pakerisan River, which is used to irrigate the surrounding rice-fields and has done for more than a thousand years. This was one of the first canals in Bali. One of the earliest royal inscriptions, dated 962 AD, refers to a dam at this site. The temple has three yards, the outer one with a communal ablution area and garden, the inner yard containing a pool where visitors purify their souls and a large square, terraced altar in honour of Dewa Indira, the Hindu deity. All the shrines around the temple are arranged to face Mount Agung. The temple was partly reconstructed between 1970 and 1990.

Pura Mengening water temple is built around a sacred spring above a steeply sloping riverbank on a tributary of the Pakerisan river. The temple is dedicated to the Hindu trinity Shiva, Vishnu and Brahma and to the Buddha. The temple was partly reconstructed in the 1980s.

Pura Pegulingan is both a water temple and a community temple for the village. It was established in the 9th century. It has two yards and some 34 shrines. Originally a place of worship for Buddhist, it then later developed as a place of religion for Hindus. Its octagonal stupa, reconstructed in the late 1980s, has eight sides representing eight wind directions, and consists of three parts, the foot, body and top, representing the worlds of god, men and nature. Here the ancient royal inscription (see above) is kept.

Gunung Kawi Temple rock cut monuments and monasteries dating to the 11th century are set in a deep ravine overlooked by terraced rice-fields and coconut palms. They consist of a group of five temples on both sides of the Pakerisan River cut out of the breccia stone. Some of the structures are niches, others freestanding, cut from blocks. All the structures are associated with water channels carved into the river bank. These royal tombs and monasteries testify to the prosperity of early Balinese kingdoms.

Subak Landscape of Catur Angga Batukaru

The area encompasses the forests of Bali's second highest volcano, Mount Batukaru (2,276 m) as well as Lake Tamblingan in Buleleng Regency, which is considered to be the source of water for the many upland springs that feed Tabanan's "water mountains", or irrigated terraces.

The 11th century Pura Luhur Batukaru temple, in the forests above the rice terraces, sits at the apex of Batukaru's temple system.

This area contains terraces and temples mentioned in a 10th century inscription, making them amongst the oldest in Bali. This region is regarded as the *utama mandala* (highest mandala, or sacred landscape) in western Bali. Its boundaries and sacred topography are defined by five guardian temples, whose shrines, rites and attributes attach symbolic and spiritual meaning to landscape features.

The Batukaru site is a pilot area for the implementation of livelihood and ecosystem conservation initiatives proposed in the management plan.

The Royal Water temple of Pura Taman Ayun

While the Pakerisan and Catur Angga Batukaru sites are at a high elevation and reflect the formation of the *subak* system, this temple reflects the way that, as rice cultivation spread and new kingdoms appeared, more complex relationships were developed between *subaks,* temples and Balinese kings.

Built as a Royal temple in the early 18th century, the Pura Taman Ayun is the largest and most architecturally distinguished regional water temple on Bali, exemplifying the fullest expansion of the *subak* system under the largest Balinese kingdom of the 19th century.

The temple plays a major role in the collection and distribution of holy water from the mountain lakes to a large congregation of *subaks* downstream, part of a ritualised water control system that encompasses entire river systems. So successful is this system that farmers downstream may 'borrow' water from *subaks* far upstream and with the cooperation of thousands of farmers, weirs are managed to allow this flow of water.

Architecturally the temple is influenced by East Java or Majapahit and Chinese styles. The temple is surrounded by a water-filled moat, planted with a type of lotus, within which is a flat area of grass and fruit and flowering trees, giving the impression of a park. In its inner yard are 29 shrines or altars, some with tall multi-tiered roofs. The temple was restored in 1934.

The temple moat supplies water for the small *subak* of Batan Badung (not included in the nominated area).

History and development

Bali has been influenced by successive cultural waves from outside the area. In prehistoric time, its culture was part of the ancient Austronesian culture of Southeast Asian characterized by a simple agricultural tradition. Metal technology arrived around 500 BC from Dongson in the Southeast Asian mainland. A few centuries before the beginning of Christian Era, Hindu culture was introduced to Bali from India and the newly introduced philosophical and cosmological concepts merged with prehistoric Balinese philosophies to produce local philosophies that have persisted to the present day. Among the various Balinese views of the universe, the concepts of *Rwabhineda* (dualism of opposites), *Tri Samaya* (continuity of past, present and future), *Tri Mandala* (tri-partite spatial arrangements) and *Tri Hita Karana* are the most important, with the latter being the most influential.

Around the 9th century the *subak* system was introduced from Bali. This developed for around three centuries under a fairly centralised political system under which elaborate royal stone temples were built. Thereafter, for reasons that are still speculative, political control was decentralised into a plurality of smaller principalities that delegated power still further to *subaks* as they increased in power and influence. Water temples were built quite separately from the royal temples near water sources.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The comparative analysis considers first comparisons with sites located within Indonesia and other parts of the world that might have a similar combination of terraced landscape and communal water management system, linked to temples and a spiritual philosophy, and then considers sites within Bali to justify the choice of sites for the serial nomination.

Within Indonesia, although rice terraces exist in Java, Flores, Sumatra and Sulawesi, their organisation does not involve temples.

Outside Indonesia the site is compared to the Rice Terraces of the Philippine Cordilleras (1995, criteria (iii), (iv) and (v)). There are similarities in terms of the rice terraces being watered by an ancient irrigation system, supported by traditional organisation. However the underpinning rituals and belief system is quite different from Bali. Moreover while the Philippine terraces are a spectacular example of the development of terraced rice fields in a traditional rural society the Balinese terraces exemplify the role of irrigation in the formation of Balinese kingdoms, and their management by complex hierarchies of democratic *subak* assemblies, and include temples that incorporated architectural and ritual symbolism related to the life-giving properties of water.

Mention is made of some similarities with a no longer functioning belief system associated with rice fields near Angkor Wat. In the headwaters of the Russei river are carved reliefs of Hindu Gods over which the water flows and could have been to purify the water reaching the fields.

The conclusion is that within south and south east Asia nothing similar to Bali is known to exist.

Outside these areas, comparisons are made with the inscribed sites of Agave Landscape and Ancient Industrial Facilities of Tequila, Mexico (2006, criteria (ii), (iv), (v) and (vi)) and Chief Roi Mata's Domain, Vanuatu (2008, criteria (iii), (v) and (vi)). In neither case is the complex transformation of the natural environment seen to reflect the involvement of religious institutions nor do the buildings exhibit 'Classical' culture.

ICOMOS notes that what the analysis does not cover are Tentative List sites. Mention could have been made of the Hani Terraces, China. This extensive rice terrace system dates back to the Tang Dynasty and has been documented since the Ming Dynasty. Its management reflects traditional practices and also involves the planting of up to a thousand different types of rice. This manifestation of a traditional response to rice cultivation complements the system in the Philippines and also the *subak* system in Bali. They each reflect persistent and robust approaches to the management of water. What distinguishes the *subak* system of Bali is its integration of religious institutions and its complement of temples that reflect Balinese Classical culture.

Within Bali, comparisons are made with other terraced areas. The justification for the choice of sites is that they demonstrate unbroken traditions of *subak* and temple rites for more than millennia, the landscapes have sacred associations and their traditions are still continuing and the landscapes have not experienced environmental change.

Elsewhere in Bali there are terraced landscapes that have significant historical and cultural interest such as *subaks* associated with the Pura Masceti Pamos water temple, west of Pakerisan, and other sites in the former princedom of Sideman east of Pakerisan. However in both these cases, modern buildings have been built on terraced land and farmers no longer plant traditional varieties of rice without fertilisers and pesticides. Elsewhere in Bali other terraced sites suffer from one or more deficiencies such as environmental degradation or lack of historical or religious significance.

Nevertheless the nomination dossier states that in the future restoration work might allow consideration of an extension of the proposed five sites to include the *subak* landscape of Sideman and perhaps other sites on the basis of more research by the staff of the Governing Assembly. It is also stated that the fourth Crater Lake, Lake Beratan might also be considered.

ICOMOS considers that the comparative analysis justifies consideration of the five selected sites for nomination. It does also consider that in the future, on the basis of more research and conservation work, other sites might also be identified that could be considered as extensions to this present series, if they can demonstrate that they include attributes that contribute significantly to the proposed Outstanding Universal Value

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The *subaks* and water temples of Bali reflect the Balinese philosophical principle *Tri Hita Karana* (three causes of goodness) which promotes a harmonious relationship between the individual, the realms of the spirit, the human world and nature.
- The institution of *subaks,* ancient, democratic, self-governing farmers' associations, and water temples give spiritual meaning to the governance of the rice terraces.
- Over the centuries the physical landscape of Bali has been re-shaped by these philosophical ideas.
- Water temple networks have expanded to manage the ecology of rice terraces at the scale of whole watersheds, transforming the volcanic landscape into faceted terraces whose jewel-like perfection creates general prosperity.
- Water temples for over more than a thousand years have drawn inspiration from several religious traditions including Saivasiddhanta and Samkhyā Hinduism, Vajrayana Buddhism and Austronesian cosmology.
- The temple networks represent a unique response to the challenge of supporting a dense population on a rugged volcanic island in a monsoonal area, but one that is now under threat.

ICOMOS considers that this justification is appropriate for the selection of five sites that together represent the historic depth of the *subak* landscape, its geographical scope of volcanic craters, forests, mountainous terraces, and lower-lying terraced systems, its active governance by water temples and Royal temples of irrigation across whole watersheds, and significant examples of temple buildings reflecting the Classical architecture of Bali. The sites also exemplify the ecological balance that can be sustained by the *subak* system.

Integrity and authenticity

Integrity

The series of sites fully encompasses the key attributes of the *subak* system and the profound impact that it has

had on the landscape of Bali. The processes that shaped the landscape, in the form of irrigated, terraced agriculture organised by the *subak* system, are still vibrant and resilient. The agricultural areas are all still farmed in a sustainable way by local communities and their water supplies are democratically managed by the water temples.

None of the component parts is under threat but the terraced landscape is highly vulnerable to a range of social and economic changes such as changes in agricultural practices and increasing tourism pressures. The management system will need to provide support to sustain the traditional systems and to provide benefits that will allow farmers to stay on the land.

Furthermore the setting of the various sites is fragile and under pressure from development particularly associated with tourism. The visual setting for the five sites extends beyond the nominated boundaries and in many instances beyond the buffer zones. In a few cases some adverse development has already occurred. ICOMOS considers that it will be essential to protect the wider context of the nominated sites to avoid further loss of visual integrity.

As raised by IUCN, the management of water, and particularly its sources are also a critical element in maintaining the visual quality of the property.

Authenticity

The authenticity of the terraced landscapes, forests, water management structures, temples and shrines in terms of the way they convey Outstanding Universal Value and reflect the *subak* system is clear.

The overall interaction between people and the landscape is however highly vulnerable and, if the sites are still to reflect the harmonious relationship with the spiritual world and the ancient philosophical concept of *Tri Hita Karana,* it will be essential for the management system to offer positive support.

The village buildings have to a degree lost some of their authenticity in terms of materials and construction, although they are still functionally linked to the landscape.

ICOMOS considers that the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii), (iii), (v) and (vi).

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the origins of the Balinese philosophical principle *Tri Hita Karana* can be traced to the oldest temples built by Javanese kings on the central volcanoes in the first millennium AD. Whereas their architecture reflects evidence of contact with South Asian religious and architectural traditions, the use of the temples reflects other older traditions of ancestor worship, as the buildings were not dedicated to the worship of Indian Gods or Boddhisattvas but rather the spirits of Javanese kings. From the 9th century onwards temples were associated with sacred springs and the holy water that flowed from it. Water temples associated with *subaks* started to be built from the 9th century onwards, to commemorate the sites where water originates. Thus the Royal temples do reflect an interchange of values over time in terms of a combination of architecture and ritual uses.

ICOMOS considers that the *subak* landscape of Bali is what is being nominated, with its intricate water engineering and complex system of water management, of which the temples and water temples are an important component. What has not been demonstrated is how this overall *subak* system could be said to reflect an interchange of ideas and indeed what is known of the history of the system tends to point towards its development within Bali from at least the 9th century AD, rather than reflecting the impact of cultural exchange from elsewhere.

ICOMOS considers that this criterion has not been justified.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the cultural tradition that shaped the landscape of Bali, since at least the 12th century, is the ancient philosophical concept of *Tri Hita Karana.* The congregations of the water temples that underpin the water management of the *subak* landscape, aim to sustain an harmonious relationship with naturel and spiritual world, through an intricate series of rituals, offerings and artistic performances. Such a system is now only extant in Bali.

ICOMOS concurs with this justification.

ICOMOS considers that this criterion has been justified.

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that Balinese water temple networks represent

an exceptional response to the challenge of supporting a dense population on a rugged volcanic island in a monsoonal area with seasonal rains which can lead to water shortages. The water temple networks, based on terraces irrigated by an extensive system of canals and weirs under the control of the water temples, traditionally copes with these problems by enabling clusters of *subaks* to adjust irrigation schedules at the watershed scale. This system also controls pests by inducing synchronized fallow cycles. Although each *subak* focuses on the management of its own rice terraces, a wider solution to water allocation emerges from the networks of individual temple, optimising irrigation flows for all.

This thousand-year-old system of democratic and egalitarian farming practices enabled the Balinese to become the most prolific rice growers in the archipelago. The system is now vulnerable to development pressures and to the use of fertilisers and pest control chemicals.

ICOMOS considers that the five nominated landscape areas within Bali shaped by the *subak* system for over at least a millennium is an exceptional testimony to what could be seen as a unique cultural system and one that deserves to be sustained.

ICOMOS considers that this criterion has been justified.

Criterion (vi): be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;

This criterion is justified by the State Party on the grounds that Balinese water temples are unique institutions, which for more than a thousand years have drawn inspiration from several ancient religious traditions, including Saivasiddhanta and Samkhyā Hinduism, Vajrayana Buddhism and Austronesian cosmology. The ceremonies associated with the temples and their role in the practical management of water both crystallise the ideas of the *Tri Hita Karana* philosophy that promotes the harmonious relationship between the realms of the spirit, the human world and nature.

ICOMOS considers that this conjunction of ideas can be said to be of outstanding significance and directly manifest in the way the landscape has developed and is managed by local communities within the *subak* system.

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the serial approach is justified and that the selection of sites is appropriate.

ICOMOS considers that the nominated property meets criteria (iii), (v) and (vi) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes

The Outstanding Universal Value of the property is conveyed by the terraced landscape, its water supply system of weirs and tunnels combined with the sources of water supply in the lakes and rivers, the forests that help sustain the water supplies, its temples, water temples, shrines, and villages, together with the traditional processes of the *subak* system related to the philosophical principle *Tri Hita Karana* that deliver sustainable social and ecological responses.

4 Factors affecting the property

Development pressures

The first threat identified in the nomination dossier is the cumulative effect of the over-use of agrochemicals, leading to loss of soil fertility. The text summarises recent research into this issue that highlights the harm caused by chemicals leaching sea coral and the fact that volcanic ash and irrigation water provides adequate supplies of potassium and phosphate for the growing of rice, strengthening the case for traditional practice.

A related threat is the low price of hybrid 'Green Revolution' rice grown with chemical fertilizers. Organically grown native Balinese rice sells for a much higher price, but decades of support for chemical fertilizers have made it hard for farmers to return to organic production of Balinese rice. As long as farmers can only grow cheap hybrid rice, rising land prices and increasing living costs tempt them to sell their land and seek alternative professions. Thus land in the buffer zone or setting of the nominated sites can be vulnerable to development.

To address these pressures, the Management Plan specifies that stricter zoning will be applied to agriculture areas to control development.

Tourism pressures

A second threat identified in the nomination dossier is the uncontrolled expansion of tourism. At popular temple sites along the Pakerisan river, parking is difficult and interpretation at most sites is basic. Most congested is Pura Gunung Kawi whose traffic-congested approach is further encroached upon by rows of souvenir stalls and hawkers who crowd the entrance. Sight lines to the temple are blocked. Not as congested as, and subject to less pressure than Pura Gunung Kawi, is Pura Ulun Danu Batur that is well managed in keeping with traditional practices by its priests and local community. Pura Taman Ayun, although heavily visited by tourists, is ably managed by the Royal House of Mengwi.

Tourism can also leads to the sale and fragmentation of the rice terraces. In *subak* areas close to main roads, some rice terraces outside the nominated area have been sold and now contain buildings or houses for tourist use, seriously damaging the visual integrity of the landscape.

There is considerable pressure in the two nominated large *subak* areas, which are the most beautiful in Bali and attract large number of tourists, for land to be made available for the development of retail shops, hotels or villas.

Environmental pressures

A third threat identified in the nomination dossier is the loss of forest cover and consequent potential water shortage. As raised by IUCN, the protection of water quality, and the maintenance of water flows are especially critical considering growing development pressures, fragmentation of the landscape and pollution from agricultural chemicals.

ICOMOS notes that a threat not mentioned in the dossier is the loss of traditional materials and technique in villages. Modernisation has changed the appearance of villages in the outer, more organised and visually degraded edges of the *subak* landscape. However those located in the *subak* interior retain much of the original and traditional wood architecture, which consists of family houses formed out of a series of single story structures clustered around the family *lumbung* (granary), a steeply thatched roofed structure built on stilts. Traditional building materials, wood and thatch, are now scarce and building craftsmanship is vanishing; what little remains tends to go into building tourist bungalows and resorts rather than being used to rebuild village architecture. Authentic wooden structures, particularly the *lumbung* (granary) are conserved and still in use. The newer houses are mainly built of concrete, but do continue to follow traditional forms and massing, maintaining the same traditional village patterns.

Despite the popularity of traditional architecture for tourists, there is currently no concerted effort by authorities to encourage a return to traditional architecture and building techniques for the *subak* villages. However discussions are now on-going to develop ways of strengthening traditional practice – see below.

In conclusion the nomination dossier states that '*the Government of Indonesia is confident that the various threats to the conservation of these sites (…) can and will be successfully addressed*'. The mechanisms to achieve this are detailed under management below.

Natural disasters

ICOMOS notes that Bali is in an earthquake zone that requires an efficient disaster preparedness program that remains to be addressed thoroughly by the authorities.

Impact of climate change

ICOMOS considers that change that impacted on the amount of rainfall, either considerably more or considerably less, could have a highly negative impact on the viability of the terraced landscape.

ICOMOS considers that the main threats to the property are from changes to the rice growing system away from traditional rice and organic farming, and from tourism pressures upon farmers to sell land for villas and other tourism enterprises.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries have been developed through careful study and mapping and by extensive consultation workshops with local communities.

Each of the five nominated clusters contains all the attributes that convey Outstanding Universal Value, and their boundaries circumscribe pertinent areas protected by either government legislation or traditional practice or both.

The boundaries are thus satisfactory.

Buffer zones protect all nominated areas. The size of the buffer zones follows the prescribed distance specified by Indonesian law. Despite this concurrence with law, future study is needed to identify the precise relationship between the buffer zones and the landscape through GIS mapping. As raised by IUCN, this is particularly necessary for the watersheds that protect water flow. While effective watershed management is essential to the conservation of the *subaks*, the nomination dossier does not clearly identify the geographical extent of the upper watersheds that feed the *subaks*. The maps provided in the nomination documents make it difficult or impossible to work out the extent of the upper watersheds for each *subak*. Ideally, they should be clearly outlined on maps and included within the buffer zone of the property.

Until more detailed studies are made to tailor the buffer zones to actual site conditions, the preliminary buffer zone delineations are satisfactory. However for all sites there will remain a need to protect not just the immediate setting covered by buffer zones, but aspects of the wider setting that may be visually of functionally linked to the nominated areas.

ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate, although further work is needed to adapt the buffer zone boundaries to landscape features.

Ownership

The majority of the nominated area is in customary ownership; the Royal Temple of Pura Taman Ayun is owned by the Royal Palace, while the temples along the Pakerisan River are owned by the Office for Archaeological Heritage in Gianyar.

Protection

Legal Protection

The broad legal framework for the protection of the property was established by Provincial Decree of 2008 for conservation and spatial planning for the proposed sites.

A specific legal framework for the nominated areas has been established by a Memorandum of Understanding between the Government of Bali and Regencies of Bali for the Establishment of the Strategic Area of Bali. This agreement legally codifies conservation and spatial planning for the five sites, including tangible and intangible heritage and agricultural and forest ecosystems within the site boundaries. The Provincial Decree is based on National Law No. 26/2007, and National Government Decree No. 26/2008, concerning spatial planning and the establishment of National Strategic Areas for conservation of critical cultural landscapes.

Most *subak*s possess written legal codes, called *awig-awig*, which detail the rights and responsibilities of *subak* membership. *Awig-awig,* or traditional customary laws and regulations, including *subak* management and the traditional protection and conservation of cultural properties are covered by regulations of Bali Province Number 5 (2005) Section 19, that clarify zoning for protected sacred sites such as temples, based on local *awig-awig* (customary law).

Rice terraces within the nominated sites are also protected against large-scale tourism development by Tabanan Regency Decree No 9/2005.

The temples and archaeological sites are currently protected under National Law No.5/1992 concerning Items of Cultural Heritage.

A Governing Assembly for the Cultural Heritage of Bali *(Dewan Pengelola Warisan Budaya Bali)* was established by decree of the Governor of Bali in August 2010 (see below).

Traditional Protection

ICOMOS notes that traditional protection is at the heart of this nomination. All of the nominated properties and their component parts are living sites still in heavy and continuous use by the local community. These sites are communally maintained by the *subak* system in the traditional manner.

Temple maintenance is in the hands of the community who traditionally contribute funds and materials, and also volunteer labour for routine conservation measures that are carried out in cooperation with the local government and the Archaeological Office for Bali-NTB-NTT Province who provide the necessary expertise to control quality of conservation and who are fully aware of the maintenance requirements imposed by the damp tropical environment of the temples and the need to respect the authenticity and integrity of their structures.

Effectiveness of protection measures

ICOMOS notes that a good deal of effort has been put into developing specific legal measure for the nominated sites. The legal protection in place is adequate and this combined with the strong traditional protection of the five sites provides an effective protective framework.

ICOMOS considers that the legal framework in place is adequate.

Conservation

Inventories, recording, research

Maps submitted with the nomination dossier show that documentation undertaken for the nomination provides excellent baseline data. Component parts for each of the nominated sites, especially temples, have been inventoried, described, and boundaries clearly marked. However, ICOMOS considers that additional GIS mapping should be carried out with local communities participating in the mapping exercises to increase the level of detail in the *subak* areas to show water channels, villages, location of different temple types, etc. ICOMOS notes that such a project was indicated by the Bali Provincial Culture Office.

Present state of conservation

The present state of conservation for all the sites is good – although they are for the most part living, working landscapes and their conservation is the outcome of traditional processes. For the temples, conservation is also the responsibility of the communities but with professional guidance.

Effectiveness of conservation measures

The traditional maintenance and conservation are effective when carried out within a supportive framework and with adequate professional advice. The one area where more attention needs to be given is to traditional building practices for village houses. ICOMOS notes that sustaining this traditional conservation is one of the key aims of the Management Plan.

As raised by IUCN, one area where more clarity is needed is on effective conservation measures for the watersheds. These should be put in place and be considered an integral part of the protection of the *subak* water management system and monitored on a regular basis.

The most notable example is Lake Bakur. While the lake itself is included within the boundaries of the nominated area, the watersheds that feed the lake are not. It is not clear from the nomination dossier how the quality, quantity, and flow rates of waters that feed Lake Bakur will be guaranteed.

ICOMOS considers that conservation is satisfactory but attentions need to be given to delineating the watersheds and ensuring their adequate protection.

Management

Management structures and processes,
including traditional management processes

The need for new approaches to support the *subak* system has become a major topic in Bali's press; the development of the nomination has contributed to this rising awareness. The nomination dossier states that the key issue is how to adapt the existing framework of *subak* and governmental institutions to enable the *subaks* to flourish now as in the past. Importantly, this question extends beyond the ecological management of the rice paddies to include the preservation of the cultural values of *Tri Hita Karana*, in which the *subaks* play a vital role.

Up till today the local community has sustained the integrity of this landscape area in the nomination but local village leaders as well as staff of the Office for Heritage Conservation consider that the landscape is poised on the brink of irreversible changes, such as those which have occurred in the vicinity of Ubud.

Over the island of Bali as a whole, significant areas of agricultural land have already been lost. However the nominated areas still maintain their authenticity and authorities consider that World Heritage inscription is an incentive to work with farmers, who support inscription, to sustain the *subak* system within these areas.

There is support at the highest political level from the Governor of Bali to sustain a system that is now seen to be so closely linked to the identity of Bali.

The management system for the nominated sites needed to meet the challenges of managing extensive landscapes of rice terraces, monuments, villages, forests and lakes, together covering over 19,500 hectares, and, as requested by Decision 32 COM 8B.22, item 2.c of the World Heritage Committee, to sustain traditional practices and deflect inappropriate development.

In order to take forward the development of a suitable management system and a management plan, two measures were undertaken. First in 2008 the Coordinating Ministry for People's Welfare agreed to create an oversight committee within the Ministry of Culture and Tourism, called the National Focal Point for World Heritage.

The purpose of this committee is to provide integrated cross-sector advice and planning for the management of the nominated cultural landscapes across Indonesia. The head of the committee is the Minister for Culture and Tourism. Its membership consists of representatives from the following ministries and departments: the Ministry of Culture and Tourism, the Ministry of the Environment, the Ministry of People's Welfare, and the Secretaries General of Forestry, Agriculture and Public Works.

Secondly, in 2008 the Governor of Bali created a new Planning Committee to take forward the nomination. This 27-member committee includes representatives of all relevant government departments at both the Provincial and Regency levels, including Agriculture, Forestry, Culture, History and Archaeology, Public Works, Legal Affairs and Planning. In addition the committee includes four academic experts. This Committee organised exhibitions and many meetings to discuss the way forward.

After lengthy discussions and consultations, the outcome is a Management Plan that has been adopted by the Provincial Government of Bali. This Plan sets out in details a management system that, as requested by the World Heritage Committee, aims to sustain traditional practices and deflect inappropriate development.

The Management Plan uses established management principles of '*adaptive co-management by diverse stakeholders'* and modifies these to suit the Balinese context.

This system of adaptive governance will connect individuals, organisations, agencies, and institutions at multiple organizational levels by means of a democratic Governing Assembly. Regulation of the Government of Bali No. 17, 2010 approved the creation of the Governing Assembly of Bali Cultural Heritage. This Decree sets out the composition of the Governing Assembly that includes representatives from different government departments and empowers *subak* community members to jointly undertake a major role in the management of the nominated sites. The Assembly will be the successor to the Planning Committee.

What this structure means is that the acknowledged threats can be addressed effectively by strengthening the control of the *subaks* over their local environments, and integrating them into regional and national policies and support.

The aim is also to try and encourage neighbouring communities in time to adopt similar programmes to spread the benefits.

To achieve the implementation of this system, further legal, institutional, and administrative structures will be put in place to coordinate the adaptive co-management among stakeholders.

Assessment and monitoring of the cultural, social and ecological components of the property will be carried out by the staff of the Governing Assembly, in collaboration with stakeholders and resource users.

Master plans, including land-use conservation strategies for each of the sites will be developed by the Governing Assembly.

The nominated sites are now designed as Strategic Areas, which may receive unusual levels of support from the Provincial Government. The goal of this support is to strengthen the *subaks* and water temples. Strategic priorities have been identified in the Management Plan and these will be supported by specific activities such as comprehensive support for a return to organic farming. The model for this phase of the project is the on-going successful return to organic farming in the *Somya Pertiwi* projects of the Catur Angga area.

The Governor's office has also opened discussion on proposals to actively strengthen the *subaks* in the nominated areas. These include a land tax subsidy for rice paddy land; support for health care services and for education for participating communities; assistance to communities that rely on and maintain forested areas, particularly for sustainable non-timber forest production; enforcement of restrictions on deep well construction; incentives to *subaks* and local communities to restore and maintain traditional architecture; and development of facilities and interpretation to enhance the experience of visitors to the *subaks* and water temples. These proposals are presently under review by the relevant government agencies, and will be submitted to the Governing Assembly.

In supplementary information provided by the State Party, it was confirmed that the Governing Assembly will provide *subak* assistance in the form of technical assistance and financial aid for the amount *$2,200* per *subak* to support *subak* transition to organic farming. This assistance will be given to 17 *subaks* within the proposed sites for a period of one year.

At a national level in order to provide links between the various Ministries that have an interest in the multi-faceted cultural landscape, and to support an inter-disciplinary approach, two inter-Ministerial Committees have been put in place, under the Coordination of the Ministry for People's Welfare. Their membership consists of representatives from the Ministry of Culture and Tourism, the Ministry of the Environment, the Ministry of People's Welfare, and the Secretaries General of Forestry, Agriculture and Public Works.

On February 2012 the State Party provided supplementary information on the Governing Assembly.

The Assembly officially exists and will be given a mandate to facilitate protection and enhancement of the property through a Memorandum of Understanding (MoU) signed by the Ministry of Education and Culture; the Government of Bali Province; and Regency Governments of Bali (Regencies of Buleleng, Tabanan, Bangli, Badung, and Gianyar). This MOU will be followed by a Letter of Cooperation between the three parties that will further describe the shared roles and responsibilities of the Governing Assembly in the management of the sites.

Regular meetings of the General Assembly are held once a month to clarify the rights and duties and to organize working group schedules. Through these meetings, the Assembly will ensure that financial support is available from government agencies, public sources, and the private sector.

The Assembly has officially appointed a Secretariat and Working Units. To support the work of the Governing Assembly, an office has been established and equipped in the Bali Provincial Cultural Office.

Policy framework: management plans and arrangements, including visitor management and presentation

A detailed Management Plan was submitted with the nomination dossier. Its aim is to effectively manage the five sites in order to promote the goals of sustainable livelihoods and sustainable ecosystems.

The Management Plan sets out the management system and also strategic priorities. These include:

- Preservation of Culture
- Preservation of Ecosystems and Environment
- Visitors and Education
- Farming Development
- Social and Infrastructure Development
- Legal Affairs and Governance

Six working groups reflect these subjects and *subak* representatives will sit on all of them.

The Management Plan will be implemented by the Governing Assembly. It has the appropriate staffing levels, expertise, and training components.

No Visitor Centres exist in the sites. ICOMOS notes that there is a need for more interpretation at each of the sites and for the overall property. There is also a need for interpretation to focus on the overall significance of the *subak* system not just on the temples that are currently the focus of many visitors.

A *Subak* Museum does however exist outside the sites and presents a good introduction to the *subak* system. The museum is centrally located in Tabanan and conveniently on the way from Denpasar or Ubud to the nominated sites. Although there are a number of community-managed tourism projects in the temples and *subaks,* they need to be increased as farmers benefit very little from tourism.

A main aim of the Management Plan is to address this issue and to improve public knowledge and appreciation of this dynamic cultural landscape. The Management Plan also aims to regulate the provision of tourism related structure in the overall landscape to protect the

buffer zone and settings of the nominated sites as well as the sites themselves.

Resources, including staffing levels, expertise and training

Overall operating funding for the Assembly is provided by the Provincial Assembly through the Department of Culture and Tourism.

The Head of the Governing Assembly is the Head of the Department of Culture and Tourism. The Head will appoint a Secretary to manage the three main units: Programme Group, Finance and Human Resources Group and Monitoring and Evaluation Group. Each of these groups has professional staff and part-time representatives from various departments. Clear budgetary and reporting lines are set out in the Management Plan.

The Management Plan acknowledges the *'critical priority'* that needs to be given to developing further knowledge, skills, and expertise to manage the property as a complex and dynamic cultural landscape. A programme of training has been developed with the Stockholm Resilience Centre and funding is currently being sought to implement this programme possibly in collaboration with ICCROM.

In supplementary information provided by the State Party it was indicated that the first phase of the Action Plan will be implemented in 2012. This will cover five strategic priorities:

1. Livelihood protection and enhancement for *subak* institutions and their members;
2. Conservation and promotion of ecosystem services to ensure sustainable use of natural resources;
3. Conservation of material culture;
4. Appropriate tourism development;
5. Infrastructure and facility development.

A detailed Work Plan for 2012 has been provided.

Effectiveness of current management

ICOMOS considers that the overall management system is admirable in providing a framework that links traditional practice with national priorities. As is acknowledged, the *subak* system highly vulnerable and reaching a critical stage beyond which it could be difficult to reverse trends. The Management Plan that has been put in place acknowledges this and is ambitious in trying through social and economic tools to strengthen the traditional systems.

The Management Plan if successful could be used as a model for other similarly complex cultural landscapes.

ICOMOS considers that the management system for the property as set out in the Management Plan is a very satisfactory response to the challenges of a complex multi-disciplinary cultural landscape and the Management Plan address the key challenges through its strategic aims and action plans.

6 Monitoring

Monitoring is a key aim of the Management Plan related to the overall attributes that convey Outstanding Universal Value. Specific monitoring indicators still need to be developed for the various sites.

ICOMOS considers that monitoring indicators need to be developed in the first phase of the implementation of the Management Plan.

7 Conclusions

In responding to the requests to the World Heritage Committee, the serial nomination now fully encapsulates the significance of the *subak* system of water management and its profound impact on the landscape. Together the five sites cover an extensive landscape area of 19,519.9 ha of rice terraces, woodlands, lakes, villages and temples and are manifestations of the Balinese reverence for water in both practical and sacred contexts.

The landscapes that have been nominated still reflect the traditional *subak* system, their water supplies are still democratically managed by the water temples and overall they still can be seen as a manifestation of the *Tri Hita Karana* philosophy. As is acknowledged in the nomination dossier these *subak* landscapes are now highly vulnerable to pressure from new rice types and the use of chemical fertilisers and to pressures from tourism. They are almost reaching a critical point where change could be irreversible. This means that ways need to be found to provide more support to sustain the traditional systems and to provide benefits that will allow farmers to stay on the land.

These needs are fully recognised in the detailed, innovative and highly aspirational Management Plan. This aims to provide sustainable livelihoods and a sustainable environment. It is based on the idea of participation, linking the *subak* communities into the regional and national planning frameworks. It states that farmers must be involved in all programmes to manage and develop the nominated sites, and acknowledges that the heritage will be better preserved if local communities benefit directly from their heritage. To this end programmes have been developed and financial support envisaged for livelihood enhancement, including health and education, and to limit encroachment of tourism facilities into the landscapes.

Incentives and subsidies to support prosperous rural livelihoods and strong *subak* institutions will be coupled with statutory authority and enforcement of land use

regulations to prohibit inappropriate development within the proposed five nominated sites.

This ambitious Plan, which is a model of how the management of complex cultural landscapes can be approached, will be managed by a special Governing Assembly.

Recommendations with respect to inscription
ICOMOS recommends that the Cultural Landscape of Bali Province: the *Subak* System as a Manifestation of the *Tri Hita Karana* Philosophy, Indonesia, be inscribed on the World Heritage List as a cultural landscape on the basis of **criteria (iii), (v) and (vi)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

A line of volcanoes dominate the landscape of Bali and have provided it with fertile soil which, combined with a wet tropical climate, make it an ideal place for crop cultivation. Water from the rivers has been channelled into canals to irrigate the land, allowing the cultivation of rice on both flat land and mountain terraces.

Rice, the water that sustains it, and *subak*, the cooperative social system that controls the water, have together shaped the landscape over the past thousand years and are an integral part of religious life. Rice is seen as the gift of god, and the *subak* system is part of temple culture. Water from springs and canals flows through the temples and out onto the rice paddy fields. Water temples are the focus of a cooperative management of water resource by a group of *subaks*. Since the 11th century the water temple networks have managed the ecology of rice terraces at the scale of whole watersheds. They provide a unique response to the challenge of supporting a dense population on a rugged volcanic island.

The overall *subak* system exemplifies the Balinese philosophical principle of *Tri Hita Karana* that draws together the realms of the spirit, the human world and nature. Water temple rituals promote a harmonious relationship between people and their environment through the active engagement of people with ritual concepts that emphasise dependence on the life-sustaining forces of the natural world.

In total Bali has about 1,200 water collectives and between 50 and 400 farmers manage the water supply from one source of water. The property consists of five sites that exemplify the interconnected natural, religious, and cultural components of the traditional *subak* system, where the *subak* system is still fully functioning, where farmers still grow traditional Balinese rice without the aid of fertilisers or pesticides, and where the landscapes overall are seen to have sacred connotations.

The sites are the Supreme Water Temple of Pura Ulun Danu Batur on the edge of Lake Batur whose crater lake is regarded as the ultimate origin of every spring and river, the *Subak* Landscape of the Pakerisan Watershed the oldest known irrigation system in Bali, the *Subak* Landscape of Catur Angga Batukaru with terraces mentioned in a 10th century inscription making them amongst the oldest in Bali and prime examples of Classical Balinese temple architecture, and the Royal Water temple of Pura Taman Ayun, the largest and most architecturally distinguished regional water temple, exemplifying the fullest expansion of the *subak* system under the largest Balinese kingdom of the 19th century.

Subak components are the forests that protect the water supply, terraced paddy landscape, rice fields connected by a system of canals, tunnels and weirs, villages, and temples of varying size and importance that mark either the source of water or its passage through the temple on its way downhill to irrigate *subak* land.

Criterion (iii): The cultural tradition that shaped the landscape of Bali, since at least the 12th century, is the ancient philosophical concept of *Tri Hita Karana*. The congregations of water temples, that underpin the water management of the *subak* landscape, aim to sustain an harmonious relationship with natural and spiritual world, through an intricate series of rituals, offerings and artistic performances.

Criterion (v): The five landscapes within Bali are an exceptional testimony to the *subak* system, a democratic and egalitarian system focused on water temples and the control of irrigation that has shaped the landscape over the past thousand years. Since the 11th century the water temple networks have managed the ecology of rice terraces at the scale of whole watersheds. They provide a unique response to the challenge of supporting a dense population on a rugged volcanic island that is only extant in Bali.

Criterion (vi): Balinese water temples are unique institutions, which for more than a thousand years have drawn inspiration from several ancient religious traditions, including Saivasiddhanta and Samkhyā Hinduism, Vajrayana Buddhism and Austronesian cosmology. The ceremonies associated with the temples and their role in the practical management of water together crystallise the ideas of the *Tri Hita Karana* philosophy that promotes the harmonious relationship between the realms of the spirit, the human world and nature. This conjunction of ideas can be said to be of outstanding significance and directly manifest in the way the landscape has developed and is managed by local communities within the *subak* system.

Integrity

The property fully encompasses the key attributes of the *subak* system and the profound impact that it has had on the landscape of Bali. The processes that shaped the landscape, in the form of irrigated, terraced agriculture

organised by the *subak* system, are still vibrant and resilient. The agricultural areas are all still farmed in a sustainable way by local communities and their water supplies are democratically managed by the water temples.

None of the component parts is under threat but the terraced landscape is highly vulnerable to a range of social and economic changes, such as changes in agricultural practices and increasing tourism pressures. The management system will need to provide support to sustain the traditional systems and to provide benefits that will allow farmers to stay on the land.

Furthermore the setting of the various sites is fragile and under pressure from development particularly associated with tourism. The visual setting for the five sites extends beyond the nominated boundaries and in many instances beyond the buffer zones. In a few cases some adverse development has already occurred. It will be essential to protect the wider context of the nominated sites to avoid further loss of visual integrity. The management of water is also a critical element in maintaining the visual quality of the property.

Authenticity

The authenticity of the terraced landscapes, forests, water management structures, temples and shrines in terms of the way they convey Outstanding Universal Value and reflect the *subak* system is clear.

The overall interaction between people and the landscape is however highly vulnerable and, if the sites are still to reflect the harmonious relationship with the spiritual world and the ancient philosophical concept of *Tri Hita Karana*, it will be essential for the management system to offer positive support.

The village buildings have to a degree lost some of their authenticity in terms of materials and construction, although they are still functionally linked to the landscape.

Management and protection requirements

The broad legal framework for the protection of the property was established by Provincial Decree of 2008 for conservation and spatial planning for the proposed sites. A specific legal framework for the nominated areas has been established by a Memorandum of Understanding between the Government of Bali and Regencies of Bali for the Establishment of the Strategic Area of Bali. This agreement legally codifies conservation and spatial planning for the five sites, including tangible and intangible heritage and agricultural and forest ecosystems within the site boundaries. The Provincial Decree is based on National Law No. 26/2007, and National Government Decree No. 26/2008, concerning spatial planning and the establishment of National Strategic Areas for conservation of critical cultural landscapes.

Most *subaks* possess written legal codes, called *awig-awig,* which detail the rights and responsibilities of *subak* membership. *Awig-awig*, or traditional customary laws and regulations, including subak management and the traditional protection and conservation of cultural properties are covered by regulations of Bali Province Number 5 (2005) Section 19, that clarify zoning for protected sacred sites such as temples, based on local *awig-awig.*

Rice terraces within the nominated sites are also protected against large-scale tourism development by Tabanan Regency Decree No 9/2005.

The temples and archaeological sites are currently protected under National Law No.5/1992 concerning Items of Cultural Heritage.

The component sites are designed as Strategic Areas which may receive unusual levels of support from the Provincial Government.

A Management Plan has been adopted by the Provincial Government of Bali. This Plan puts in place a management system that aims to sustain traditional practices and deflect inappropriate development. The uses established management principles of 'adaptive co-management by diverse stakeholders' and modifies these to suit the Balinese context. It connects individuals, organisations, agencies, and institutions at multiple organizational levels by means of a democratic Governing Assembly.

Regulation of the Government of Bali No. 17, 2010 approved the creation of the Governing Assembly of Bali Cultural Heritage. This Decree sets out the composition of the Governing Assembly that includes representatives from different government departments and empowers subak community members to jointly undertake a major role in the management of the nominated sites. To foster links between Ministries with an interest in the property, two inter-Ministerial Committees have been put in place, under the Coordination of the Ministry for People's Welfare.

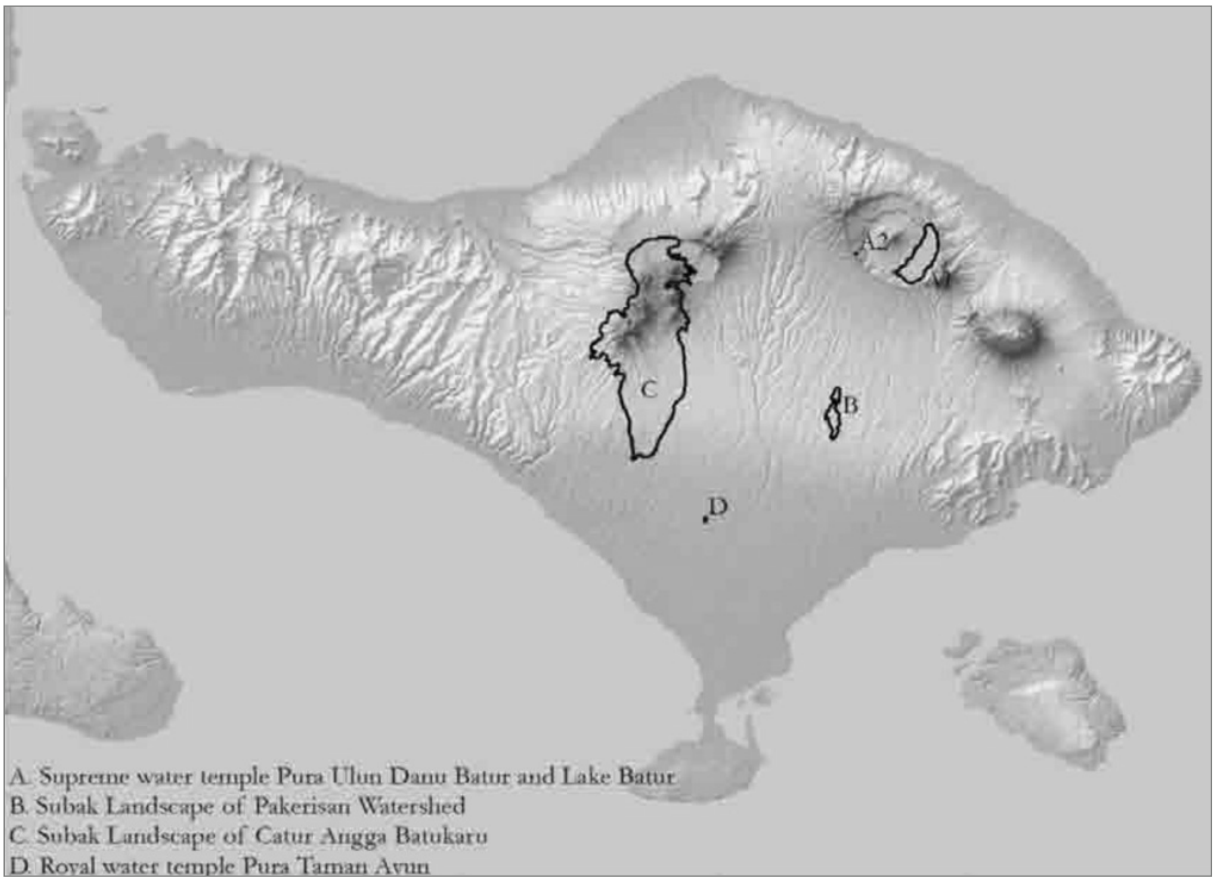
All of the nominated properties and their component parts are living sites still in heavy and continuous use by the local community. These sites are communally maintained by the *subak* system in the traditional manner. Temple maintenance is in the hands of the community who traditionally contribute funds and materials, and also volunteer labour for routine conservation measures that are carried out in cooperation with the local government and the Archaeological Office for Bali-NTB-NTT Province who provide the necessary expertise.

To sustain the living landscape ways will need to be found to provide more support to support the traditional systems and to provide benefits that will allow farmers to stay on the land. The protection of the setting of the

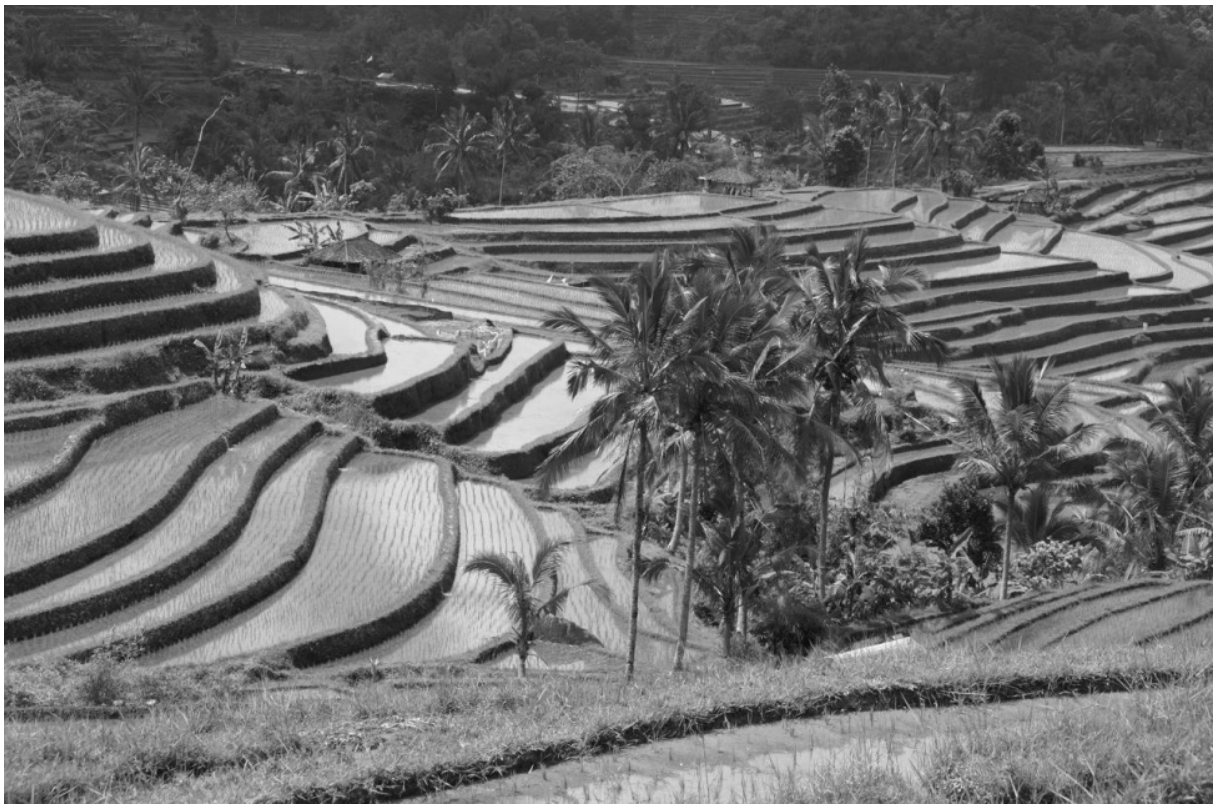
landscapes will also be essential in order to protect the source of water that underpins the *subak* system.

ICOMOS further recommends that the State Party give consideration to the following:

- Adapting the buffer zone boundaries to landscape features, and particularly watersheds, through detailed studies;
- Elaborating a disaster preparedness plan;
- Developing detailed monitoring indicators;
- Creating low-key site specific information to raise awareness of the *subak* system;
- Promoting traditional building practices for village houses.



Map showing the boundaries of the nominated properties



Rice terraces of Subak Wongaya

The main irrigation canal from the spring at Tirtha Empul, branching into flows for Pulagan and Kulub Atas

Supreme Water Temple of Pura Ulun Danu Batur

Water temple of Pura Luhur Batukaru

IV Cultural properties

The Landscape of Grand Pré (Canada)
No 1404

Official name as proposed by the State Party
The Landscape of Grand Pré

Location
Nova Scotia Province
Kings County
Canada

Brief description
The Grand Pré 'marshland' and archaeological sites in the old villages associated with Grand Pré and Hortonville constitute a cultural landscape bearing testimony to a remarkable effort, over many centuries, using the polder technique to develop agricultural farmland, in a maritime location with extreme tides. In particular, it demonstrates the permanency of its hydraulic drainage system using dykes and *aboiteaux* and its agricultural use through a community-based management system established by the Acadians and then taken over by the Planters and their contemporary successors. Grand Pré is also testimony to the history of the Acadians in the 17th and 18th centuries and their deportation (1755), constituting their main place of remembrance and the iconic 'symbolic landscape' of their past.

Category of property
In terms of categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, this is a *site*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (January 2008), it is also a *cultural landscape.*

1 Basic data

Included in the Tentative List
1 October 2004

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
31 January 2011

Background
This is a new nomination.

Consultations
ICOMOS consulted its International Scientific Committee on Cultural Landscapes and several independent experts.

IUCN also provided comments on the revised nomination on 1st February 2012. The information was carefully considered by ICOMOS in reaching the final decision and recommendation in March 2012, and IUCN has also reviewed the presentation of its comments as included in this report by ICOMOS.

Literature consulted (selection)

Bleakney, S., *Sods, Soils and Spades*, Montréal, 2004.

Dunn, B., *The Acadians of Minas*, Ottawa, 1990.

Johnston, A.J.B., Kerr, W.P., *Grand Pré, Heart of Acadie*, Halifax, 2004.

Landry, N., Lang, N., *Histoire de l'Acadie*, Québec, 2001.

Longfellow, H.W., *Evangeline, a Romance of Acadia*, 1847, Springfield, 1922.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 25 to 29 September 2011.

Additional information requested and received from the State Party
ICOMOS requested additional information from the State Party on 14 December 2011 to:

- Strengthen the comparative analysis notably with comparison to other deportation sites,
- Provide additional information about how the property's landscape and maritime environment is taken into account and, if necessary, to review the buffer zone,
- Clarify the property's overarching management and its structural organization.

The State Party's 28 February 2012 reply has been incorporated into the present assessment report.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The nominated property is located in the southern section of Minas Basin, which extends the Bay of Fundy towards the hinterland of Nova Scotia. The Bay of Fundy separates Nova Scotia from the American continent. It is one of the places where the most extreme tidal ranges in the world are observed, with an average range of 11.6 m.

The property is essentially formed of a large expanse of farmland resulting from the polderisation of a flooded zone, locally referred to as 'marshlands'. It connects in the north with Long Island and in the south with the mainland coast. It is here that the towns of Grand Pré and then Hortonville were built, the first by the Acadians, the second by their British successors (see history). The

remains of these two human settlements and an area of coastal farmland form the southern part of the property. The ensemble presents a living cultural landscape bearing testimony to a remarkable and lasting system of polderisation and to the Acadian memory.

1) The marshland
The marshland was originally shifting coastal land with specific vegetation but which was regularly flooded by high tides and storms. Despite tidal ranges that are difficult to control, the wealth of the alluvial deposits left by the currents immediately attracted the attention of the first Acadian colonists. Once protected from the sea and suitably drained and desalinated, this land was exceptionally fertile and was used for crops, arboriculture, dairy cows and pasturing.

The marshland corresponds to a little over 1,300 hectares of farmland that is still in use. Its overall shape is more or less rectangular, measuring roughly 5 km from east to west and around 2.5 km at its widest north-south point. It is today protected by 13 km of dykes of which several still follow the historic lines; other more recent ones have been adapted to the conditions caused by coastal erosion. The traditional dykes are built from clay soil extracted from the marshland (see history).

Three main discharge arteries drain the water from the heart of the marshland into the bay. Their outline dates back to the origins of the polder, created at the end of the 17th century. A network of smaller creeks drains into these arteries.

Right from the start, the drainage system included an ingenious device called an '*aboiteau*', that is a 'slab' or rectangular wooden sluice buried under the dyke fitted with a hinged anti-return clapper valve. The *aboiteaux* allowed the water to be drained from the marsh into the bay at low tide, but automatically closed as the tide came in. In addition to keeping the land permanently dry, this hydraulic system also desalinated the land.

The marshland retains several visible vestiges of old, abandoned dykes, but most of the historic hydraulic testimonies are now buried, including the Acadian *aboiteaux*. Recent archaeological excavations have uncovered several.

There were never any dwellings on the marshland. The division of farmland has overall continued to be dictated by the water drainage network. Almost one third of the current farmland boundaries date back to the 1760 allocations to the British 'Planters'. The marshland is still crossed through its centre by Grand Pré Road to Long Island. It has been restored and widened several times, notably in the 19th century.

Harvests and farming techniques have changed little. The extreme fertility of the marshland has maintained both the types of crops and their yields almost continuously. There has been very little mechanization of the marshland farming practices because of the clay nature of the soil.

2) The coastal strip
As the human population density was always fairly low, the land division along the western coastal section has remained stable. It is formed of long parallel strips angled towards the hill, in accordance with the French colonial method. This part of the property contains archaeological remains of the Acadian village of Grand Pré and the memorial components erected in the 20th century. It includes the coastal road originally laid out by the Acadians.

The eastern coastal strip includes clearly visible remains of the Planters' square-shaped plots. It bears testimony to their roads, such as 'Old Post', and their village of Hortonville. The latter, with its chequerboard layout, is typical of British rural colonisation. The south-eastern end of the property's coastal strip is the old landing stage of Horton Landing, at the mouth of the Gaspereau River.

Archaeological excavations have above all revealed structural elements of the two successive villages, the interpretation of which can be made from relatively extensive archival sources. Nonetheless, the latter indicate large constructions that have not yet been fully identified in the field.

Since the early 19th century, the Grand Pré site has remained the major symbolic place of remembrance for the Acadians, following their deportation by the British (see history). In material terms, this is demonstrated by Herbin Cross, situated where the old cemetery once stood, Memorial Church, commemorative gardens with ancient willows, the bust of the poet Longfellow and the statue of his now mythological Acadian heroine Evangeline, etc. The entire former village is now the *Grand Pré National Historic Site of Canada*. There is also an Acadian Deportation Cross at Horton Landing, the place from where the Acadian's were deported.

A railway was also built along the coastal zone (1869), close to Old French Road. It was in use up until 2008 and the track is still in place.

History and development
During the millennium preceding the arrival of the French colonists, Grand Pré was a maritime marsh with thick layers of alluvia that slowly deposited and built up. The bay supports a rich fauna of several types of fish and shellfish, and more broadly a wide biological diversity. At that time, most of the Grand Pré marsh was only covered in water at the highest tides and its flora was adapted to the wet and salty conditions. The region was occupied by the native Mi'kmaq people who were hunters, fishers and gatherers, especially around Minas Basin. Mi'kmaq remains dating back 4,000 years have been found at Horton Landing. The bay was an important site for Mi'kmaq legends and spirituality.

The first attempts at colonization by the French, in this maritime region of North America, date back to the 17th century, in the Bay of Fundy, on Saint Croix Island (1604) then in Port-Royal (1605). The region's

colonisation developed throughout the first half of the century, in an atmosphere of fairly good relations with the Mi'kmaqs. However, the region was wide open in maritime terms, located halfway between New England and New France. Called Acadia by the French, it gradually became the subject of rivalry between the two great colonial powers of the time.

The situation became permanently unstable due to military conflicts and changes of political power, encouraging an independent attitude among the colonists and strengthening the attitude of neutrality typified by their trading relations with both sides. The Acadians also developed a unique lifestyle, notably through their cooperative relations with the Mi'kmaqs and their projects specific to the region, such as Grand Pré, where the creation of polders was started in 1680. These elements concern both lifestyle and mentality and led to the establishment of a specific Acadian culture. However, Grand Pré was ravaged in 1704 by British troops from New England.

The Grand Pré farming settlement corresponds to a French style of settlement of the *Ancien Régime*, under the authority of the *Seigneur* of Sainte Croix. It led to a dispersed form of habitation along the coastal strip, with a classic division of the land in strips for the higher areas, and a collective construction and exploitation system in the marshes. The success of the marshland polders led to prosperity and exports of farm produce. The population of Grand Pré was one of the largest Acadian colonies in the 17th century with a population of around 2,000.

Remarkable drainage expertise was developed in Acadia, thanks to the experience of the French colonists, many of whom came from the drained marshlands of western France (Poitou, Aunis, Saintonge, etc.). The initial experience of creating polders had involved the use of Dutch technicians, who had been the great specialists in this field in Europe since the Middle Ages. However, the Acadians gradually developed a specific technique in a context of extreme tidal ranges, even though they only had access to simple tools: a row of deep posts, clay soil sods piled up, and earth cover reinforced by deep-rooted halophile plants, a system of wooden *aboiteaux* with non-return clapper valves, etc. Those parts most exposed to the tidal currents were given impressive reinforcements in the form of superimposed terraces of posts with log and clay fascines, as shown on the photographic documentation dating from the end of the 19th century (2-27).

The Grand Pré project was the largest undertaken in the region by the Acadians, and it advanced in successive stages. When they were expelled, in 1755, they had completed twelve stages of polderisation out of the planned fifteen. In 75 years, around 1,000 hectares had been drained. The remaining area, in the northwest was completed by the Planters who succeeded them, who drained this area starting in the 1760s, using the same techniques.

The conflicts between the French and British started up again in 1744. Despite being located in the heart of the conflict, the Acadians wanted to remain neutral, annoying the French and worrying the British. In 1746, Grand Pré was occupied by the Anglo-Americans; but a surprise operation by pro-French Acadians and Mi'kmaqs led to the 'Battle of Grand Pré', in February 1747, and major losses for the occupying forces. The event was to be a decisive factor in the Acadians' expulsion from Grand Pré several years later.

As early as 1748, the British started to establish Protestant colonists in the eastern part of the coastal strip of Grand Pré that was to become the Hortonville project. More generally, a complex and tense situation grew up between the Acadians, suspected of helping the last French units, and their new masters who became more hard-line in their views. A systematic movement of expulsion of colonists of French origin was started in 1755 by the Nova Scotia Council, who replaced them with new Protestant colonists or 'Planters'. Over a period of seven years, this led to the massive deportation of Acadians, which has remained etched in their collective memory as the 'Grand Dérangement' or deportation. Its beginning was marked by the military occupation of Grand Pré, which organized the expropriation and then brutal expulsion of all the Acadian families from the region, that is over 2,000 people, and then the destruction of the village and farms. This event has become the very symbol of the 'Grand Dérangement'.

At the end of a complex military history, the French finally lost control of Acadia in 1758, and it became part of Nova Scotia, then the whole of New France came under the control of the British crown in 1763.

The first deportation movements took the Acadian exiles, including those from Grand Pré, to other British colonies along the Atlantic seaboard, with the aim of dispersing this population. Following the fall of Louisbourg (1758), the deportation movement picked up pace and the exiles were sent to France and England. Often rejected wherever they went, or even considered as prisoners of war, the families were dispersed and often separated. The history of the Acadians from this point on was unsettled and painful, seeing them wander between both sides of the Atlantic and, from the end of the 1760s, making their way back to the New World. They either opted to resettle in Nova Scotia, tolerated under strict conditions set out by the British authorities, or to head to new lands, such as Louisiana, Guyana or the Falklands, all of which were French colonies at the time.

The Acadians form a diaspora that retains the memory of its culture and its origins, whilst at the same time becoming diluted in the local population by which it is generally outnumbered. Only the settlement in south Louisiana allowed them an important role in the region for many years, at least until the War of Secession (1861), and then a more local and minority influence under the name of Cajun culture.

Thanks to its agricultural wealth, Grand Pré was rapidly re-settled by the Planters, in particular after the 1759 storm that broke through the old Acadian dykes. The new village of Horton was established and developed by the colonial authorities. The hydraulic and agricultural expertise was passed on to the Planters by the Acadian prisoners who had remained in Nova Scotia. The community-based management of the dykes and marshlands continued unchanged from the methods implemented in the time of French colonisation. The name of Grand Pré was retained for the polder and the location of the former Acadian village. Grand Pré was one of the largest and richest farming lands in Nova Scotia and remains so to this day.

A movement to recognize the Acadian culture appeared in the 19th century, and the memory of the events at Grand Pré became the major symbol of the territory. The epic poem by American author Henry W. Longfellow, *Evangeline, a Romance of Acadia*, 1847, became a popular and soon mythical tale within a broader intellectual movement of rediscovery of Acadian history. The strength of this movement towards recognition lies in its origin in the English-speaking culture which disseminated it well beyond just the Acadian descendants.

The gradual symbolic re-appropriation of Grand Pré by the Acadians dates from the early 19th century. It was widely echoed in the intellectual movement referred to above, and in the Acadian cultural renaissance in Canada's Atlantic maritime provinces in the second half of the 19th century. This re-appropriation gained tangible force with the arrival of the railway in Grand Pré (1869), with a sign at the station that read 'Welcome to the Land of Evangeline and Gabriel'.

In the 20th century, Grand Pré became a major place of Acadian remembrance and awareness. In 1907, part of the old village was bought by an Acadian descendant, John F. Herbin, including the location of the old church and cemetery; the centuries-old willows stood as silent witnesses to the events. A series of projects followed to symbolically mark the old territory: gardens with the willows, the statue of Evangeline (1920), Memorial Church (1922), Deportation Cross (1924), etc. Since this period, Grand Pré has become the main gathering place for commemorations by the Acadian diaspora. At the end of the 1950s, the Grand Pré memorial site became the property of the Federal Government and was named 'Grand Pré National Historic Site of Canada'.

In the 1940s, the Federal and Provincial authorities launched a restoration programme for the dykes and *aboiteaux.* It was implemented and completed by the end of the 1960s, with a view to maintaining the integrity of the marshland while taking account of erosion phenomena and the evolution of the coast line, which has led to dykes being moved, and some of the older being abandoned. All this work was carried out by the community-based Grand Pré Marsh Body, which is today responsible for the hydraulic management and maintenance using an approach that is similar to that adopted by the Acadian pioneers.

Between 1982 and 1997, the *aboiteau* system was remade, reducing their number to five, but making them larger and easier to maintain.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

ICOMOS considers that the nomination dossier together with the additional information supplied by the State Party provides a complete and detailed comparative analysis, in two main directions: polder farming settlements and their landscapes, and memorial places and landscapes associated with deported peoples.

Lands reclaimed from the sea as polders by human effort are analysed from their historical perspective, especially in Europe during the late Middle Ages, the Renaissance, and then the 15th and 17th centuries. These two centuries were particularly fruitful in Holland, the leading country in the drainage of land to create polders, in Germany, England and then in France's western Atlantic regions from where many of the Acadian colonists originated. The techniques used to improve the soil and cultivation techniques are also examined, from the point of view of sustainable production systems.

With regard to the creation of polders for agricultural purposes, a series of places are examined, two of which have already been inscribed on the World Heritage List, in the Netherlands: Beemster Polder (1999, criteria (i), (ii) and (iv)) and Schokland and Surroundings (1995, criteria (iii) and (v)). These have a direct rapport with the creation of polders at Grand Pré, in terms of their testimony to combating rises in water levels by the use of natural hydraulic techniques, before the use of mechanical pumps. Again in the Netherlands, the Mill Network at Kinderdijk-Elshout (1997, criteria (i), (ii) and (iv)) could also be added because the overall structure of its landscape and the first drainage system dates back well before the period of pumps driven by windmills and then by electric motors.

The other properties examined, again from the point of view of polders created for farmland, are firstly the nearby site of Tantramar Marsh in the Bay of Fundy (Nova Scotia, Canada), then the Atlantic Coast of North America with the Delaware Bay dykes (United States), and finally a series of sites in Europe: the Marais Dol in Mont Saint-Michel Bay (France), the Marais Poitevan (France), Gwent Levels at the mouth of the Severn (United Kingdom) and Altes Land (Germany). More broadly, the movement of polderisation and the defence of farmland against rising tides in coastal regions dates back to antiquity, but it developed in particular in Western Europe starting from the Middle Ages on the Atlantic and North Sea coasts. The phenomenon increased considerably in the modern era to promote the colonisation of new farmland, generally

more fertile because of its alluvial base. It would be worth adding to this comparison the entire Friesland region in the Netherlands, where a vast gravity drainage system involves an entire province, and where mechanical pumping is only reserved for extreme situations (spring tides, storms and exceptional rainfall).

Inter-regional comparisons are made regarding *hydraulic networks* and valve systems, that play a crucial role at low tide in this first phase of natural gravity drainage, being the most widespread method. Particular attention is paid to the tidal range in the various regions examined, from which it appears that the Bay of Fundy and Minas Basin have the highest in the world.

The comparative analysis then addresses a wide variety of factors that have formed the landscape of each polder: technical and hydraulic choices, landholding system and roadway structure, agricultural uses, built structures, and the coastal environment viewed from the hydrological and landscape aspects.

For the State Party, Grand Pré is the best example of an historic polder in North America, as it is the most complete and the most authentic of them all. More broadly, it is an exceptional legacy of human effort to control and develop, under extreme tidal conditions, areas subject to flooding. It has also escaped the transformations of industrial agriculture, conserving its traditional methods of agrarian and hydraulic management.

The second part of the comparative analysis deals with landscapes, in general, as places of memory, and was strengthened by the additional documentation sent by the State Party. The comparison criteria examined are the association of the property with the Acadian diaspora, its state of conservation, its symbolic role in the collective memory and its inter-community value.

There are other sites linked to the deportation of the Acadians at local and regional levels, such as Monument-Lefebvre in Memramcook (New Brunswick) and the Acadian museums in Bonaventure (Quebec) and Prince Edward Island, but Grand Pré remains the most important in symbolic terms and it has been reinvested by the Acadian community in a privileged manner, notably as the place of commemoration for the entire community, since the end of the 19th century.

There are other places of Acadian memory, linked to their passage during the *Grand Dérangement* (France), or to their resettlement in new areas (Louisiana and South America). The significance of these places is complementary, marking the historical stages following the diaspora, with Grand Pré remaining a point of departure, the point of rupture of the *Grand Dérangement*.

In broader terms, there have been many deportation events throughout human history and many places retain strong symbolic and memorial values for their descendants.

Sites conveying these values and already inscribed on the World Heritage List are examined, notably in Africa: Tsodilo (Botswana, 2001, criteria (i), (iii) and (vi)), Koutammakou, the Land of the Batammariba (Togo, 2004, criteria (v) and (vi)), and Matobo Hills (Zimbabwe, 2003, criteria (iii), (v) and (vi)). Regarding more specifically the memory of the deportation of slaves, the sites of Kunta Kinteh Island and associated sites (Gambia, 2003, criteria (iii) and (vi)), Island of Gorée (Senegal, 1978, criterion (vi)), Aapravasi Ghat (Mauritius, 2006, criterion (vi)), and Le Morne Cultural Landscape (Mauritius, 2008, criteria (iii) and (vi)), and Robben Island (South Africa, 1999, criteria (iii) and (vi)) are examined. In Europe, other memorial sites linked to dramatic events are also considered, such as the Old Bridge Area of the Old City of Mostar (Bosnia and Herzegovina, 2005, criterion (vi)), and Auschwitz Birkenau (Poland, 1978, criterion (vi)). This study reveals the importance of places of memory in terms of the authenticity of the link between a region and a human group, the importance of the associated dramatic events, the importance of the memorial experience that derives from these sites and its universal meaning. Additionally, criterion (vi) is always used for places of memory.

ICOMOS considers that the comparative analysis justifies consideration of this property on the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- It is a property that illustrates an effort to reclaim land from the sea using simple and ingenious *aboiteaux*, dykes and drainage channel techniques, in a maritime environment made extreme by the extent of the tidal range.
- More than 1,300 hectares were transformed as a result into particularly rich and prosperous farmland, using a community-based hydraulic management system and a durable system of cultivation that is still in use
- Complemented by the remains of human settlements along the adjacent coastal strip, the Grand Pré marshland forms an exceptionally well preserved polder landscape that is unique in North America.
- The Grand Pré landscape is testimony to the exceptional way European colonists settled in the maritime provinces of modern Canada. In particular, it testifies to the Acadian culture of the 17th and 18th centuries, established under peaceful relations with the Mi'kmaq people, followed by the expulsion of the Acadians starting in 1755.
- From the mid-19th century, Grand Pré, its archaeological vestiges and its marshland landscape became the main place of remembrance of the *Grand Dérangement* of the Acadians.
- In a peaceful manner and through shared recognition in Nova Scotia, in the 20th century Grand Pré has become the main place for the commemoration of

the Acadian diaspora, and more generally the landscape which symbolises its origins.

ICOMOS considers that the justification of proposed Outstanding Universal Value is completely acceptable. Grand Pré constitutes a major effort in the relationship between humans and their natural maritime environment. It is expressed through a remarkable and lasting effort to create a polder under extreme tidal conditions. It employs simple and ingenious techniques of *aboiteaux*, dykes and drainage networks. Grand Pré also constitutes the main Acadian place of remembrance, the celebration of their culture and the landscape symbolising their origins.

Integrity and authenticity

Integrity

The nominated property presents a sufficiently vast ensemble of farmland forming a continuous polder of more than 1,300 hectares, with clearly identified boundaries. The polder is complemented by higher land that has functional and historic relationships with the polder.

All the technical and structural vestiges of the creation of the polder out of the marsh and its hydraulic management present all the elements needed for its understanding: dykes, *aboiteaux*, network of drainage channels, paths, human coastal settlements, farmland divisions, etc. The archaeological vestiges unearthed in Grand Pré village are however less extensive than hoped given the available archival documentation. The material testimonies of Acadian culture are essentially structural and topographical. The ensemble allows an understanding of the general settlement of the Acadians and later the Planters in Grand Pré.

The ensemble forms a very legible and broadly open cultural landscape, in a well preserved coastal and maritime environment allowing the full expression of its values. The habitation on the higher ground has remained sufficiently dispersed so as not to alter the meaning of the marshland landscape. It has also retained a quality maritime environment with an open bay and rich biodiversity.

The Minas Basin region is a place of reference and memory for the Acadians, with Grand Pré at its centre, because of its symbolic landscape and the peaceful re-appropriation of Grand Pré village for commemorative purposes and as a gathering place for the Acadian diaspora.

ICOMOS considers that the conditions of integrity of the material and landscape ensemble formed by the property are met, as are the memorial and symbolic values. However, the coastal instability due to the tidal currents and the possibility mentioned above of a wind farm in the property's maritime environment beyond the buffer zone proposed by the State Party, weaken this integrity in the longer term.

Authenticity

The traditional construction of the dykes is still used today, with blocks of clay soil dug out and then appropriately piled up, but the earth sods are now produced by mechanised means. They still use the technique of soil reinforced by the roots of carefully selected halophile plants for the dykes. There are vestiges of old dykes, reinforcements using posts and log fascines, together with rock facings for protection against the currents.

The construction technique for the *aboiteaux* has retained the same structural typology of a "sluice", a square section channel under the dyke, with clapper valves. Archaeological excavations have revealed *aboiteaux* from all periods, starting from the 17th century, making it possible to follow their history. Their size has increased and their number decreased for reasons of efficiency (maintenance and silting). Wood has been replaced by modern materials, such as concrete, steel and even plastic, in the five large *aboiteaux* currently in use.

The configuration of farmland division in the marsh suitably illustrates the original irregular structure, and bears testimony to the drainage of the soil and the progressive construction of the dykes since their initial function as alluvial banks. Almost one third of the current land boundaries in the marsh still conform to those of the Planters in 1760.

The community-based hydraulic management has been retained throughout time, notably when the Acadians were replaced by the Planters. Today, it is represented by the *Grand Pré Marsh Body*.

The archaeological elements unearthed in Grand Pré and Hortonville are limited to structural and topographical aspects, but they are intelligible and wholly authentic.

The memorial constructions of the 20th century have been retained in their original form and materials. The landscapes are fully evocative of the creation of a polder for farmland at Grand Pré by the Acadians.

ICOMOS considers that the conditions of authenticity are met both for the constituent material elements of the marsh and its landscapes, and for the hydraulic, land and agrarian management. They are also met for the memorial aspects of the Acadian culture and for the symbolic dimension of the landscapes.

ICOMOS considers that the conditions of integrity and authenticity have been met.

Criteria under which the inscription is proposed

The property is nominated on the basis of cultural criteria (v) and (vi).

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the State Party on the grounds that Grand Pré is a living landscape of a farmland polder, locally called the *marshland*, in a difficult coastal environment characterised by some of the highest tidal ranges in the world. It was installed by the Acadians, more than three centuries ago, creating extraordinarily fertile farmland. For this, they used an ingenious soil drainage and desalination system with a series of dykes fitted with *aboiteaux* and a network of drainage channels. They instituted a community-based management system for the marshland, especially its hydraulic system that has been maintained over time. It continues today to ensure the prosperity of the local rural community. The Grand Pré living cultural landscape is an exceptional example of a prosperous farming community that has managed to come to terms with its environment through an ingenious technology and remarkable community-based organisation. It bears testimony to the lifestyle of the Acadians and then the Planters who followed them.

ICOMOS considers that the Grand Pré cultural landscape indeed provides outstanding testimony to a traditional farming settlement that was created by the Acadian colonists in the 17th century in a coastal region with one of the world's highest tidal ranges. The reclamation of the land subject to flooding was made possible by the particularly ingenious use of traditional techniques of dykes, *aboiteaux* and a drainage network, as well as their community-based management system that is still practised today. Grand Pré is testimony to the continued application of the hydraulic and technical models put in place by the Acadians and their successors. The resultant rich alluvial land led to continuous and lasting agricultural development.

ICOMOS considers that this criterion has been justified.

Criterion (vi): be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;

This criterion is justified by the State Party on the grounds that the landscape of Grand Pré is the most important place of remembrance for the Acadians, dispersed by the *Grand Dérangement* and their deportation starting in 1755. It is expressed today by the imposing presence of the drained marshland and its continued use, by its symbolic and peaceful re-appropriation by the Acadian descendants and the presence of memorial elements erected in the early 20th century, such as Memorial Church, the willow gardens, etc. It is the most emblematic evocation of the ancestral lands of the Acadians and the origins of their culture. The landscape and memorial legacy of Grand Pré is testimony to the various stages in Acadian history: its beginnings, the establishment of its traditional culture based on hydraulic and farming skills, followed by the expulsion and forced displacement of the community at the beginning of the Acadian diaspora, and lastly the Acadian renaissance and peaceful reconciliation of the communities through cultural sharing. Grand Pré is a living and striking example of the universal human aspirations exemplified in the desire to belong to a community, the intimate link with one's ancestral lands, and the desire for reconciliation.

ICOMOS considers that indeed Grand Pré is the iconic place of memorial of the Acadian diaspora dispersed by the *Grand Dérangement* in the second half of the 18th century, along the coastal fringes of Europe and Atlantic America. Its polder landscape and archaeological remains bear testimony to a culture of pioneers having been able to create their own territory, whilst living in harmony with the native Mi'kmaq people. Its memorial constructions form the centre of the Acadians' symbolic re-appropriation of the land of their origins, in a spirit of peace and cultural sharing with the English-speaking community.

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the nominated property meets criteria (v) and (vi) and conditions of integrity and authenticity and that Outstanding Universal Value has been demonstrated.

Description of the attributes

The property is based on the creation and development of the Grand Pré polder or marshland covering an area of 1,300 hectares. It is complemented by a coastal strip which is closely associated with its creation and history. The property's main components supporting its Outstanding Universal Value are:

- The territory of Grand Pré forming a vast polder or marshland, the land division, cultivation methods and agricultural production which have been followed with considerable continuity for more than three centuries.
- The farming landscape is complemented by the strip land division of the eastern section and the coastal strip, bearing testimony to the French colonization in the 17th century.
- The hydraulic drainage system is based on an exemplary ensemble of dyke and *aboiteau* construction techniques for the removal of water and a network of streams and drainage channels. Its technical continuity and community-based management have continued through to the present day.
- The property includes archaeological vestiges of the villages of Grand Pré and Hortonville that bear testimony to the settlements and lifestyles of the Acadian colonists and their successors, the Planters.
- The property and its landscape include traces of the more important paths that crossed the marshland and structured the adjacent coastal area.

- The original sites of Grand Pré village and Horton Landing have memorial structures and monuments erected in the 20th century in honour of the Acadian ancestors and their deportation during the *Grand Dérangement* starting in 1755.
- The entire property forms the symbolic reference landscape for the Acadian memory and is the main venue for its commemoration.

4 Factors affecting the property

Development pressures

Overall, the State Party does not consider that there is any notable negative effect from modern development on the property, because of its status as a protected property and the continuing hydraulic and agricultural management in accordance with its traditional values. It does, however, refer to a certain number of elements and trends to which attention needs to be paid.

Maintaining a viable agricultural economy is vital for the future of the marshland's conservation. Its present and future development must comply with the property's cultural and landscape values. The compromise with modernity is balanced and mechanization remains limited, both for the property's preservation and for structural and technical reasons, such as the nature of the soil. Furthermore, the demographic trend is toward a slow decrease in the number of farmers and to their overall ageing. The result is a certain lack of manpower for farming, and in the longer term concern about who will take over farming the marshland. It would be regrettable if inscription on the List were to accelerate any such movement through a marked increase in constraints, real or perceived by the farmers. There is therefore a degree of concern about the future of intensive farming in Grand Pré, and more broadly in Kings County.

On the other hand, the property's environmental qualities have led to the creation of holiday homes and the arrival of well-off retirees. In the past twenty years, this has led to a trend to convert farm buildings into holiday homes and denser habitation on the higher ground. This increase is leading to pressure to extend the road network in the property and its buffer zone. Conversely, older paths are tending to be abandoned and absorbed into the agricultural land.

The strong winds that blow in Minas Basin make it an attractive region for the installation of wind turbines. For the moment no such project has been announced in the region, but the possibility shouldn't be excluded. The use of tidal power in the bay has also been considered; this could lead to its silting up and changes to the equilibrium between marine species.

ICOMOS shares the concerns expressed by the State Party in its assessment of the potential risks weighing on farming, for the moment presented as minor or with effects in the medium term. They are nonetheless very real, crucial even for the future of the property's conservation, and must be monitored closely, especially with regard to the changing social conditions and farming techniques in Grand Pré. The density and architectural compatibility of new or restored habitations are also creating pressures that need to be suitably controlled. The appearance of wind turbine projects in Minas Basin could seriously undermine the landscape quality of Grand Pré.

Tourism pressures

Tourism in Grand Pré involves, on the one hand, local seasonal visitors, and on the other, the participants in the memorial events organised by the Acadian diaspora. However, the current annual number estimated at around 30,000 people, is half that of the early 1990s. The tourism infrastructure is sufficient and able to cope with any increase that might result from the property's inscription on the World Heritage List.

Environmental pressures

The main pressure lies in the historic phenomenon of erosion of the earthen banks supporting the marsh and its alluvial surrounds by the effect of coastal currents compounded by the heights of the tides as already mentioned. This is a constant pressure on the property against which the dyke system has ceaselessly fought. The property's history is punctuated by the regular repositioning of the dykes and their reconstruction to adapt the marshlands' tidal defences to the hydrological reality of the bay. This is an artificial physical boundary evolving slowly as it comes into contact with natural pressures.

ICOMOS considers that the coastal environment close to the property forms a relatively fragile ensemble that merits particular attention in terms of its erosion and biodiversity.

Natural disasters and impact of climate change

Through the slow rise in sea levels, global warming is tending to exacerbate the effects of coastal erosion by the currents. These are placing increased pressure on the established dykes and on their maintenance, especially during the spring tides. The burying of the old dykes and their relatively rapid transformation into archaeological remains is a striking phenomenon. This costal deterioration effect is for the moment particularly noticeable on the northernmost part of Long Island (buffer zone), with the beaches having receded by around 15 m since the 1960s. This phenomenon is contained in the marshland by the active management and maintenance of the dykes.

ICOMOS considers that the main threats to the property are development pressures from habitation and increased density in the area of the higher ground, and the possibility of wind farm projects in the Minas Basin area. For the longer term, particular attention must be paid to agricultural development issues.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The surface area of the nominated property is 1,323 hectares, and it has a population of 154. Its boundary corresponds to the marshland, by following the boundary of the current dykes, and the coastal section of the nearby higher ground with historical ties to the property.

The land part of the buffer zone incorporates Long Island, Boot Island and the land surrounding the property to its south up to the boundary defined in the Grand Pré Community Plan; it includes a population of around 1,100 people of whom a good third are seasonal. The maritime section corresponds to a 500m strip surrounding the property's maritime boundaries and the land sections of the buffer zone. Following ICOMOS's recommendations, the buffer zone has been extended in Minas Basin to protect the visual integrity of the Grand Pré marshland, viewed from the coastal area of Grand Pré at Horton Landing, by a maritime strip up to the coast of Blomidon Peninsula facing Grand Pré. The coastal part of Blomidon Peninsula is included in the buffer zone and forms its northern boundary. The extended buffer zone has a surface area of 5,868 hectares, of which 1,448ha are in the land zone and 4,420ha in the maritime zone.

In relation to Minas Basin, IUCN considers that "*this internally important wetland appears to be appropriately protected as a Ramsar site. Whilst it possesses important natural values, it does not appear to be an essential component of the Landscape of the Gran Pré, as nominated.*"

ICOMOS considers that the boundaries of the property and its buffer zone are adequate.

Ownership

The nominated property is mainly comprised of privately owned land (92.63%). The Province owns the roads and various other pieces of land (3.09%). The dykes, paths serving the marshland and the drainage network belong to the community-based organisation in charge of the marshland's hydraulic management, *Grand Pré Marsh Body* (2.36%). The memorial site is a Federal property managed by Parks Canada: the *Grand Pré National Historical Site of Canada* (1.92%).

Protection

Legal Protection

The property's legal and regulatory protection depends on the Federal Government of Canada, the Government of the Province of Nova Scotia and the Municipality of Kings County. The main legal texts protecting the property and the buffer zones are:

At the Federal level:

- The Grand Pré National Historical Site of Canada is managed by Parks Canada (Act of 1998), and it is protected by the *Canada National Parks Act* (2000), and the various associated texts, and by the *National Historic Sites Policy of Canada*.
- Four other sites within the property and two in the buffer zone are protected by the *Historic Sites and Monuments Act* (1985), which is implemented by Parks Canada.

At the Nova Scotia provincial government level:

- The property's archaeological and historical resources are protected by the *Special Places Protection Act* (1989), which particularly regulates excavation rights.
- The *Agricultural Marshland Conservation Act* (2000) identifies land recognised as subject to flooding; it organizes its management and controls the creation of administrative and technical bodies in charge of its management, in this instance the Grand Pré Marsh Body.
- The historical burial site in Lower Horton is regulated by the *Cemetery Protection Act* (1998).
- The beaches and dunes are protected by the *Beaches Act* (1989).
- The *Municipal Government Act* organizes the power of the counties (municipalities) in Nova Scotia, especially as regards land use and building codes.

At the Kings County level:

- The *Municipal Planning Strategy* (1979, modified in 1992) defines and controls land use, issues policy statements regarding social and economic development, and recognizes the need to protect existing agricultural resources.
- Specific planning for the property was created under the *Grand Pré and Area Community Plan* (2008); it defines the general policy for coordinating the property's protection, especially for the conservation of cultural landscapes.

The marshland and maritime area of the extended buffer zone is protected by a Ramsar Convention on Wetlands that guarantees the conservation and monitoring of its natural values and protection under the Federal Species at Risk Act. Its visual and landscape protection is guaranteed by the Provincial Agricultural Marshland Conservation Act, that also applies to Blomidon Peninsula, and by the Canadian Environmental Protection Act.

Traditional Protection

There are several levels to the traditional protection of the property: the transmission of expertise for the community-based technical management of the hydraulic system, the continuation of farming practices respecting the traditional and landscape values, and the considerable interest paid by the Acadian diaspora to the property's symbolic value.

Effectiveness of protection measures

ICOMOS considers that the property's protection measures are effective because they correspond to clear directions and choices that are well accepted by the population and the Acadian diaspora. They are applied at the main places of remembrance by the Federal agency Parks Canada, and elsewhere by the other stakeholders in the property's practical management: regional technical authorities, the municipality, the Grand Pré Marsh Body and the farmers.

ICOMOS considers that the extension to the maritime buffer zone to guarantee the property's visual integrity is adequate, as are the associated protections.

ICOMOS considers that the protection of the property and its buffer zone is adequately provided.

Conservation

Inventories, recording, research

There are extensive public archives documenting the history of Grand Pré, especially maps and drawings of the site at various periods. Grand Pré has also been the subject of many historical studies from the mid-19th century and an extensive bibliography is available.

Archaeological research has unearthed a certain number of structural elements of the former Acadian village of Grand Pré, and of the Planters' village in Hortonville, and more recently technical elements such an old wooden *aboiteau*.

There are various descriptive inventories of the property and its technical elements. The most recent is: *The Landscape of Grand Pré, Landscape assessment* (2010).

Numerous impact studies relating to the possibilities for the property's evolution in response to management and economic development options have been made in recent years.

ICOMOS considers that the archaeological management of the property's remains has long been disparate between the various excavation sites. An overall and coordinated archaeological policy has been announced (*Strategy for the Management and Conservation of Archaeological Heritage in the Landscape of Grand Pré*, 2010); it must be implemented without delay for the entire property, and it must also apply to the buffer zone and the property's surrounding coastal areas.

Present state of conservation

Management of the marshland's fields is still focused on the property's age-old, intensive, mixed farming practices (cereals, animal pasturing and orchards). It is carried out within the framework of private family holdings and a context of controlled technical modernization that is compatible with the data from the historical land divisions. The marshland's farming activities give an impression of good landscape conservation.

The state of maintenance and conservation of the hydraulic system (dykes, *aboiteaux* and drainage network) and the marshland's paths is good. The hydraulic system was the subject of extensive reinforcement and modernization work between 1950 and 1994, which respected the existing techniques.

The conservation of the monuments and memorial sites at the National Historical Site of Grand Pré is good.

The conservation of the archaeological sites is considered by the State Party as being only 'moderate', both for those that are the responsibility of Parks Canada and those under the responsibility of the Province; the former because of vegetation invasion, and the latter because of pressure from coastal erosion.

Active conservation measures

There is a diverse ensemble of technical conservation measures for the various aspects of the property. These measures are implemented by the authorities in charge of their respective management:

- Land use is under the municipal control of Kings County. As it is privately owned, its conservation is the responsibility of the owners. The Grand Pré property and its land buffer zone have been declared a priority agricultural economic and controlled individual habitat area.
- All the acts and municipal bylaws concerning the conservation of Grand Pré have been grouped together in a common document: *Grand Pré Heritage Conservation District: Plan, Bylaw and Guidelines*.
- The property's hydraulic management and maintenance of the dykes, drainage channels and marshland paths are provided by the *Grand Pré Marsh Body* with funding from the Nova Scotia Ministry for Agriculture, especially for major works.
- The conservation of the memorial monuments and archaeological sites within the National Historic Site of Grand-Pré is provided under the programmes implemented by Parks Canada.
- The property's other archaeological sites, mainly in the marshlands, are not covered by any specific conservation programmes of the provincial supervisory authority, which mainly manages excavation authorisations. The Strategy for the Management and Conservation of Archaeological Heritage in the Landscape of Grand Pré should significantly improve this point.
- The conservation of public roads is provided by the Nova Scotia Department of Transportation and Infrastructure Renewal.

Maintenance

The maintenance measures for the property are intertwined with the property's conservation programmes, of which they form a day-to-day aspect;

they are provided by the various technical services already mentioned.

Effectiveness of conservation measures

ICOMOS considers that the conservation measures for the property are satisfactory and effective, with the exception of the archaeological sites in the marshland, under Provincial responsibility, which are relatively fragile and without any real conservation (2010). Regular monitoring of these sites should be introduced under the Strategy for the Management and Conservation of Archaeological Heritage in the Landscape of Grand Pré and standardized with those under Parks Canada's responsibility. More generally, the property, its buffer zone and environs should be the subject of a coordinated and systematic programme of archaeological excavation, continuing on from the projects announced under the Strategy for the Management and Conservation of Archaeological Heritage in the Landscape of Grand Pré.

The new definition of the buffer zone and the protections applied to it comply with ICOMOS's recommendations.

ICOMOS considers that the state of conservation of the various elements of the property is satisfactory. However, the comprehensive archaeological policy announced for the property must be implemented and should be extended to cover the buffer zone and coastal environs.

Management

Management structures and processes, including traditional management processes

The property benefits from a long-standing and durable management system that includes the various regional and technical aspects already examined above, in direct continuity with its preservation and conservation. These various authorities are the following:

- The Federal *Parks Canada Agency* manages the National Historical Site of Grand Pré, the Horton Landing monument and associated archaeological sites. It acts through its *New Brunswick North Field Unit.*
- The *Nova Scotia Department of Agriculture* participates in the management of the hydraulic system, especially the dykes.
- The *Grand Pré Marsh Body* provides technical management and maintenance of the hydraulic system.
- The Nova Scotia *Department of Tourism, Culture and Heritage* manages the archaeological sites that do not come under the jurisdiction of Parks Canada.
- The *Nova Scotia Department of Transportation and Infrastructure Renewal* manages the public roads.
- The *Municipality of the County of Kings* controls the agricultural land use and construction.
- The not-for-profit association *Société Promotion Grand-Pré* is responsible for visitor services and touristic and cultural promotion of the property.

Coordination of the property's various traditional management bodies was implemented when writing the nomination for inscription on the World Heritage List. It has been taken over by the *Grand Pré World Heritage Site Stewardship Board* which was recently instituted and acts as the overarching authority for the various partners in the property's management. Its composition and its method of operation are set out in the additional documentation supplied by the State Party in February 2012. It will be definitively instituted in the event of the property's inscription. In particular, it is tasked with harmonising the property's management and implementing its conservation. Another of its roles is to inform and educate the public.

Policy framework: management plans and arrangements, including visitor management and presentation

The various areas of the property's management tie in within the framework of the traditional or institutional management that has been in place for many years: agricultural management by the marshland owners and farmers, hydraulic management by the community-based Grand Pré Marsh Body and management of the National Historic Site of Grand Pré by Parks Canada. The latter has a *Management Plan for the National Historic Site of Grand Pré* that corresponds to the application of Federal programmes for the conservation of historic properties, archaeological sites and their landscapes.

The nomination for the World Heritage List was an opportunity to carry out a series of thematic and prospective studies concerning the property's status and future management, and to draw up a framework document: the *Management Plan for the Landscape of Grand Pré*. This is the management plan for the property. It is designed to coordinate the property's protection and conservation. It includes in a coherent document the data from various thematic and sectorial studies, some of which are considerably detailed, including:

- *Strategy for the Management and Conservation of Archaeological Heritage in the Landscape of Grand Pré*.
- *Tourism Strategy and Interpretation Framework for the Landscape of Grand Pré*.
- *Société Promotion Grand Pré Business Plan* and its *2011-2012 action plan.*
- The *Municipal land use plan* for Grand Pré and the *Municipal Planning Strategy*.
- The various *economic, regional and agricultural development plans of* Nova Scotia.

This series of plans and programmes concerning Grand Pré for the short and medium term form a management system that has recently come under the control of a

Memorandum of Understanding signed by the various institutional stakeholders. This document details the way in which the various parties will cooperate in managing the property and it makes provision for the creation of a *Grand Pré World Heritage Site Stewardship Board*. The memorandum is completed by a series of framework documents including a *Memorandum of Understanding on the Governance of the Nominated Property* in the event that the property is inscribed on the List and the associated *Terms of Reference - Grand Pré World Heritage Site Stewardship Board*.

ICOMOS considers that the management plan appropriately defines the aims of the property's management. The management plan should be accompanied by a schedule of current and programmed actions; it should also be coordinated with the Action Plan of the *Société Promotion Grand Pré*.

Risk preparedness

The main risks taken into account by the State Party are the subject of in-depth analysis and technical preparation, especially with regard to coastal erosion and protection of the dykes in the event of major climatic events that may affect them. This refers in particular to the following recent contractual documents:

- *Risk Preparedness Framework for the Landscape of Grand Pré*,
- *Coastal Change Monitoring Plan for the Landscape of Grand Pré*,
- The Federal programme: *Species at Risk*
- It also involves regional and local emergency intervention plans in the event of a disaster under the *Emergency Management Act*.

Involvement of the local communities

The farmland owners are directly responsible for the management of the land and therefore maintaining the property's landscape and rural values.

The *Grand Pré Marsh Body* is a traditional association for the management of the hydraulic systems, formed by the Grand Pré owners, with the assistance of the Nova Scotia Department of Agriculture.

The Municipality of Kings County is highly involved in the property's management and is a direct stakeholder in its conservation policy.

The not-for-profit *Société Promotion Grand Pré* is essentially run by the local population.

The Acadian movement is heavily involved in the communities directly associated with the property's memorial, historical and symbolic values.

ICOMOS considers that the property benefits from an exceptional level of involvement by the local communities and the Acadian community in the property's management and conservation.

Resources, including staffing levels, expertise and training

The various partners in the management already discussed above contribute through their expertise and funding to the property's conservation and management.

- *Parks Canada* provides its expertise at the Federal and international levels in the areas of archaeology, history, architecture, ecology, engineering, heritage protection and conservation. The central Parks Canada Agency and the Atlantic Service Centre provide staff training.
- The *Nova Scotia Department of Agriculture* ensures the maintenance of the Grand Pré dykes. It has a dedicated service for this that includes a supervisor, an engineer, a protection manager and technical staff. It works in consultation and together with the *Grand Pré Marsh Body* staff.
- The *Nova Scotia Department of Tourism, Culture and Heritage* is responsible for the archaeological heritage of local value.
- The *Municipality of the County of Kings* contributes to the property's management through its planning monitoring service and geographic information systems (GIS).
- The *Stewardship Board* has the support of a permanent secretariat, a steward and a consultative technical committee.

The New Brunswick North Field Unit (Parks Canada) has an annual operating budget in excess of CAD500,000; the Société Promotion Grand Pré has an annual consolidated budget of around CAD440,000. The Department of Agriculture allocates around CAD1,000,000 each year to maintaining the region's dykes and marshlands; the allocations are made according to the level of urgency. Standard maintenance of the dykes and marshlands is provided jointly by the Department and the Grand Pré Marsh Body. The latter receives a levy from the marshland farmers; its income is around CAD20,000 a year. Funding for the Stewardship Board's operation will be shared at three levels: Federal, Provincial and Municipal. Special Federal and regional funds provide finance for specific projects on application.

The additional documentation submitted in February 2012 provides details about the general planning for the property's management and conservation operations for the coming three years, and the personnel tasked with their implementation.

ICOMOS considers that the level of expertise of the staff involved in the Landscape of Grand Pré and the funding guarantees are adequate. ICOMOS encourages the State Party to consolidate permanent employment for the property, especially those employed by the Société Promotion Grand Pré and those for the future Stewardship Board.

Effectiveness of current management

The additional information submitted by the State Party in February 2012 provides clarification about the institutions involved and their relationship with each other, notably with regard to the *Société Promotion Grand Pré* responsible for the memorial aspects of the site and Acadian history.

ICOMOS considers the work by the State Party is of high quality for the identification of the property and its definition as a cultural landscape, as well as for the identification of its conservation and management priorities, notably the development of sustainable farming compatible with its landscape and memorial values.

ICOMOS considers that the management system for the property is in place and that it is effective.

6 Monitoring

The property's technical monitoring is provided by the various departments responsible for the property's conservation and management (see conservation and management). A concerted approach is being set in place (2010) that aims to link more closely the provisions for the technical monitoring of the property's various components, which in general have been operating for many years, and the general objectives for the conservation of the property's value, in particular the following:

- Strengthen the link between the protection of the property's values and sustainable agricultural development.
- Enrich knowledge and interpretation of the property for the local population and visitors.
- Encourage shared stewardship within the local community to encourage the protection, interpretation and promotion of the property.

A table of indicators sets out the targets, the authorities in charge of their application and their monitoring frequency which varies between one and five years. Two specialist monitoring programmes have also been introduced:

- Monitoring coastal change.
- Monitoring the state of archaeological sites.

ICOMOS considers that the property's technical monitoring system is satisfactory, but that it would benefit from being expanded to include a regular assessment of changes to farmland and building use.

7 Conclusions

ICOMOS recognizes the Outstanding Universal Value of the Landscape of Grand Pré. In the first place, it is a living cultural landscape of polders that was created by French colonists in the 17th century. They were to give rise through their rural lifestyle, management of their natural environment and peaceful relations with the Mi'kmaq native people, to the Acadian culture, one of the very first to refer explicitly to its North-American origins. The Acadians knew how to develop, using simple and ingenious means, a system of dykes, *aboiteaux* and drainage networks that enabled them to reclaim farmland from the sea in a lasting and effective manner in a region with the world's highest tidal ranges. They made it one of the most fertile areas in the region. More broadly, it is an exceptional testimony to the adaptation of the first European colonists to the conditions offered by the North American Atlantic coast, an experience that was continued by the Planters in the 18th century.

Secondly, Grand Pré is a symbolic landscape and iconic place of remembrance of the *Grand Dérangement* of the Acadians who were dispossessed and dispersed to both shores of the Atlantic in the years 1750-1760. The techniques they implemented and the farming and hydraulic management methods they used have survived to the present day.

Recommendations with respect to inscription
ICOMOS recommends that the Landscape of Grand Pré, Canada, be inscribed on the World Heritage List as a cultural landscape on the basis of **criteria (v) and (vi)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Grand Pré 'marshland' and the remains of the associated old villages constitute a cultural landscape bearing testimony to a remarkable effort, over many centuries, using the polder technique to develop agricultural farmland, in a maritime location with extreme tides. In particular, it demonstrates the permanency of its hydraulic drainage system using dykes and *aboiteaux* and its agricultural use through a community-based management system established by the Acadians and then taken over by the Planters and their modern successors. Grand Pré is also testimony to the history of the Acadians in the 17th and 18th centuries and their deportation.

Grand Pré forms a vast area of polders or *marshlands*, in which the land division and crop farming methods have continued for three centuries. It is the most important example of its type in North America. The farming landscape is complemented by the strip land division method along the coastal area, bearing testimony to 17th century French colonization. The hydraulic system is based on an exemplary ensemble of dykes, *aboiteaux* to evacuate the water, and a drainage network. These techniques and community-based management have continued through to today. The property includes archaeological remains of the villages of Grand Pré and Hortonville that testify to the settlements and lifestyles of the Acadian settlers and their successors. The property

and its landscape include traces of the major pathways that crossed the marshland and organized the adjacent coastal area. The locations of Grand Pré village and Horton Landing have memorial buildings and monuments erected in the 20th century in homage to the Acadian ancestors and their deportation, starting in 1755. The overall property forms the symbolic reference landscape for the Acadian memory and the main site for its commemoration.

Criterion (v): The cultural landscape of Grand Pré bears exceptional testimony to a traditional farming settlement created in the 17th century by the Acadians in a coastal zone with tides that are among the highest in the world. The polderisation used traditional techniques of dykes, *aboiteaux* and a drainage network, as well as a community-based management system still in use today. The resultant rich alluvial soil enabled continuous and sustainable agricultural development.

Criterion (vi): Grand Pré is the iconic place of remembrance of the Acadian diaspora, dispersed by the *Grand Dérangement*, in the second half of the 18th century. Its polder landscape and archaeological remains are testimony to the values of a culture of pioneers able to create their own territory, whilst living in harmony with the native Mi'kmaq people. Its memorial constructions form the centre of the symbolic re-appropriation of the land of their origins by the Acadians, in the 20th century, in a spirit of peace and cultural sharing with the English-speaking community.

Integrity

The conditions of integrity of the material and landscape ensemble formed by the property are met, as well as for the memorial and symbolic values. However, the coastal instability due to the tidal currents makes this integrity fragile in the long term. Also, the possibility of wind farm projects being developed in the maritime and coastal environment could also affect it.

Authenticity

The conditions of authenticity are met for the component material elements of the marshland and its landscapes, and for the hydraulic, regional and agrarian management of the marshland. They are also met for the memorial aspects of the Acadian culture and for the symbolic dimension of these landscapes.

Management and protection requirements

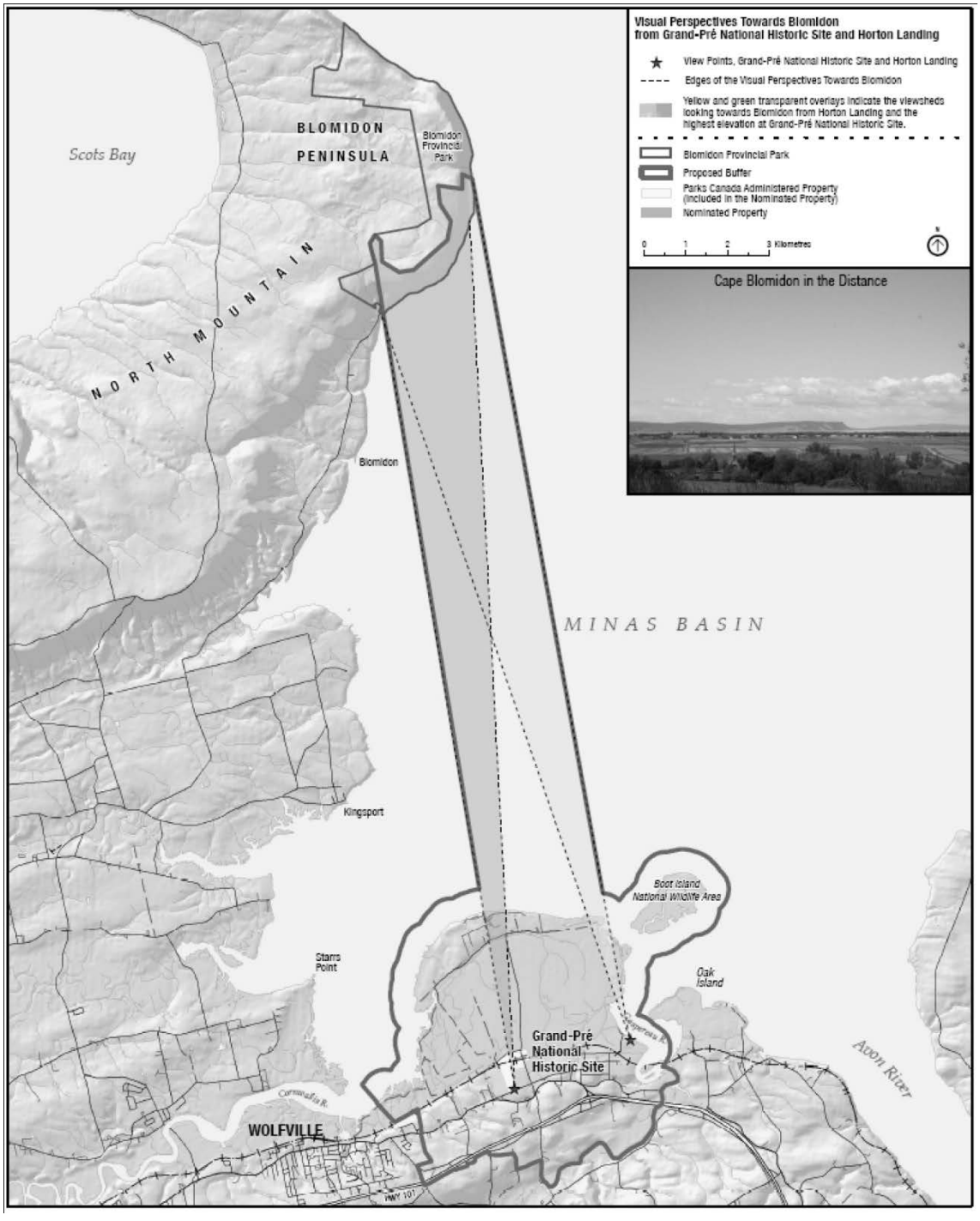
The property's protection measures are appropriate and they are effective because they correspond to clear directions and choices that are well accepted by both the inhabitants and the Acadian diaspora. They are applied to the main place of remembrance by the Federal Government's Parks Canada Agency, and elsewhere by the other stakeholders in the property's practical management: regional technical authorities, the municipality, the Grand Pré Marsh Body and farmers. The maritime component of the buffer zone has been extended to guarantee the visual integrity of the property viewed from the coastal area of the old village of Grand Pré at Horton Landing.

The property's management system is in place and acts effectively. It involves a series of specialist entities, either public, such as the Federal Parks Canada, provincial, or traditional bodies such as the Grand Pré Marsh Body. Overarching coordination of the various stakeholders has been confirmed by the implementation of the Stewardship Board and its personnel, together with a schedule for the implementation of actions programmed in the Management Plan. The property's memorial dimension is handled by the *Société Promotion Grand Pré*.

ICOMOS recommends the State Party give consideration to the following:

- Applying without delay the Archaeological Management Plan announced for the overall property, and consider extending it to the property's buffer zone and surrounding coastal areas;

- Expanding the property's monitoring system with a regular assessment of changes to farmland and building use.



Map showing the revised boundaries of the nominated property

View of the marshland

Aboiteau of the drainage system

Acadian Deportation Cross at Horton Landing

Grand Pré National Historic Site of Canada

Sacral Complex Zadar (Croatia) No 1395

Official name as proposed by the State Party
Sacral Complex on the remains of the Roman Forum in Zadar

Location
Zadar City, Zadar County
Republic of Croatia

Brief description
The Sacral Complex is located in the north-western part of the historic city of Zadar and comprises a variety of historic structures of predominantly religious function, which developed over 1,700 years. On the precinct formerly occupied by the Roman forum and capitol, the earliest Christian structures, an oratory and a sacristy, were built in the 4th and 5th centuries. During the Pre-Romanesque and Romanesque eras, the Church of St Donat and the Cathedral of St Anastasia were added. The complex further comprises the later structures of the Church of St Mary, with its bell tower and capitulary hall, the bishop's palace, the old seminary and the Church of St Elijah.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *group of buildings*.

1 Basic data

Included in the Tentative List
1 February 2005

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
27 January 2011

Background
This is a new nomination.

Consultations
ICOMOS has consulted several independent experts.

Literature consulted (selection)

Evans, H. M. A., *The early medieval archaeology of Croatia: A.D. 600-900*, Oxford: BAR International Series, 1989.

Goss, V.P., *Early Croatian architecture: a study of the Pre-Romanesque*, Duckworth, 1987.

Krautheimer, R, *Ćurčić, S. Early Christian and Byzantine Architecture*, Penguin Books, 1986.

Nicolle, D., *The Fourth Crusade 1202-04, The betrayal of Byzantium*, Osprey Publishing, 2011.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 9 to 12 September 2011.

Additional information requested and received from the State Party
None

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The property presented under the name Sacral Complex on the remains of the Roman Forum in Zadar is 2.13 hectares in size and consists of predominantly religious buildings located above the archaeological remains of the former Roman forum and capitol. The peninsula of the formerly walled historic city of Zadar, developed on a Roman city grid plan, constitutes both the immediate setting and the buffer zone of the property, which covers approximately 53 hectares. The visible remains of the Roman forum, including preserved parts of the original street pavement, fragments of Roman columns and walls as well as other architectural fragments presented in an archaeological park, form part of the nominated property.

The so-called episcopal complex, built between the 4th and the 19th centuries, combines a cathedral and several churches as well as a palace structure, two bell towers and an old seminary. The core of the complex is the cathedral dedicated to St Anastasia.

The structure was originally built in the 5th century and dedicated to St Peter. However, after its destruction during the crusader conquest in 1202 it was rebuilt in its current form in the 13th century. This three nave basilica building has a prominent semi-circular apse and wall paintings in the fresco technique dating to the 13th and 14th centuries. Only the attached sacristy and baptistery retain some earlier architectural structures of the initial Christian complex. In the hexagonal baptistery, initially built in the 5th century, only parts of the walls have been preserved, after air raids during World War II destroyed this part of the complex. A reconstruction following the earlier architectural model was finalized in 1989. However, the sacristy preserves its architectural ground plan, mosaics and walls of the 5th century, although Gothic vaulting replaced the original roofing in the 14th century. The bell tower annexed to the cathedral is a 15th century structure built in a combination of late Gothic and early Renaissance styles. It remained incomplete until, in 1891,

the last two storeys were added, in a design reviving Romanesque architectural language.

The administrative centre of the episcopal complex is the bishop's palace, originally a building of the 5th century but in its contemporary form appearing as renovated during 1829-1832, with no apparent remains from its earlier stages. It is characterized by the main elevation with its neo-Classical proportions and decorative elements, such as plinths, cornices, windows and doors. The most striking building in the complex is probably the Church of St Donat, with its circular ground plan and central cylindrical space rising over two storeys. The church is built of small stones and rubble in a rich mortar (*opus incertum*) with six massive pylons and two pillars opposite the chancel, delineating the circular ground plan. On the basis of C^{14} dating of the beams assumed to have been used originally for the roof and later built into the floor of the gallery, the church is dated to the mid-8th century.

The old seminary was founded for Glagolitic priests and completed in 1748. It is of simple and monumental character, built in regular blocks of roughly carved stones. Its importance to the episcopal complex is demonstrated by its continuous use for educational activities. Two later churches also included in the episcopal complex are the St Elijah Church for the Serbian Orthodox community and the Church of St Mary, which is linked to a Benedictine convent. The Church of St Elijah was originally a small medieval church, sold to the Orthodox Serbs in 1754. At that time a campanile in simple Baroque form was added and in 1773 the medieval church was demolished and a new church was built in late Venetian Baroque style. St Mary's Church was also initially constructed as a small church in pre-Romanesque times and then remodelled and rebuilt in 1091. Some of the 11th century structure remains today, including some of the capitals, although most of the church was rebuilt in 1742-44 before it was once again destroyed in World War II. The present church is largely a facsimile reconstruction carried out in the 1970s.

More important in their historic structure than the Church of St Mary are the bell tower and capitulary hall located to its north. The bell tower, constructed after the victory and peace treaty in Biograd in 1105, remains original for its first two storeys, including early vaulting that rested on two broad crossed belts with a flat rectangular cross-section. The upper storeys of the bell tower are a reconstruction carried out in the years 1438-1453, a very early deliberate facsimile reconstruction of an architectural monument in Europe. The capitulary hall was created as a functional unit along with the bell tower in 1105. Even at present, it mostly survives in its Romanesque layout and architectural elements and is one of the oldest such examples along the Eastern Adriatic coast.

History and development

The history of Zadar stretches back to the 7th century BC when the earliest settlement was established by an Illyrian tribe, the Liburni. However, the historic development most relevant to the nominated property starts in 48 BC when the city was founded under its Roman name of Jadera, with Octavius Augustus as its first patron. Under Roman influence Zadar was the second most important city along the Eastern Adriatic coast, after the city of Salona, which was almost completely destroyed during Avar-Slavonic incursions in the early 7th century.

In the 4th century Zadar was given a new religious core on the site previously occupied by the Roman forum, which integrated a new episcopal centre. Little is known of Zadar's early Christian history although Bishop Donat, who resided here in the 9th century and who was an envoy of the Byzantine Emperor to Charlemagne, was a very significant figure. It is assumed that the monumental rotunda Church of the Holy Trinity, later named St Donat's Church after him, was built during his time. In the 11th century this religious complex was expanded along the eastern edge of the forum, with the construction of the Benedictine Convent and Church of St Mary. These were examples of early Romanesque style which could also be seen at the northern end of the forum in the Cathedral of St Anastasia, consecrated in 1175.

In 1202 the Crusader-Venetian conquest brought a first wave of major destruction to Zadar. The Crusaders looted and razed the city, which afterwards was rebuilt in Romanesque style. Following this event, Zadar entered into a defensive alliance with Pisa, which also affected its architectural styles. Construction and decorative activity continued after Zadar was sold by King Ladilav of Naples to Venice in 1409, to which it belonged until the fall of Venice at the turn of the 19th century. During this period not only the Renaissance-influenced bell tower of the cathedral and the reconstruction of the bell tower of St Mary's Church, but also churches in Venetian Baroque style such as the new St Elijah Church were built. After the fall of Venice, Zadar was ruled by the Kingdom of Austria until 1921, after which it belonged to the Kingdom of Italy. At the beginning of the 20th century a larger city development scheme, the so-called New Waterfront, separated the episcopal complex from the sea by a line of modern seafront buildings.

These and also the historic episcopal complex were very seriously damaged in 1943 and 1944, when, following Allied bombing, about 60% of the historic city was destroyed. This destruction also affected St Anastasia's Cathedral, the baptistery, St Mary's Church and the Benedictine Convent. After 1945 Zadar became part of the Republic of Croatia, a federal unit within Yugoslavia and was again affected by destruction during the Homeland War of 1991-1995. Following the independence of Croatia in 1995, Zadar has remained the seat of the Roman Catholic Archdiocese of Zadar, and most of the religious buildings have retained their religious function, with the sole exception of the rotunda of St Donat's Church, which is used as a concert hall.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The comparative analysis in the nomination dossier argues that the Sacral Complex of Zadar is not really comparable to any other site because of its assemblage character. The nomination dossier therefore restricts the comparative analysis to the individual buildings and architectural expressions of the episcopal complex and the Roman forum, and compares these with similar examples, mostly in the Eastern Adriatic Region.

In this context, the Roman forum is compared to the forums in Doclea (Duklja, Montenegro), Salona, Pula, Poreč (Croatia) and Trieste (Italy). The baptistery of St Anastasia's Cathedral is compared to the baptisteries of similar date in Ravenna, part of the World Heritage Site Early Christian Monuments of Ravenna, Italy (1996, (i), (ii), (iii), (iv)), Spoleto, part of the World Heritage Site Longobards in Italy: Places of Power, Italy (2011, (ii), (iii), (iv)), Poreč, part of the World Heritage Site Episcopal Complex of the Euphrasian Basilica in the Historic Centre of Poreč, Croatia (1997, (ii), (iii), (iv)), and Pula. The Cathedral of St Anastasia is also compared to the World Heritage Site The Cathedral of St James in Šibenik, Croatia (2000, (i), (ii), (iv)).

Although the State Party further suggested that the individual buildings of the ensemble demonstrate Outstanding Universal Value, not all structures have been compared to similar examples elsewhere, either because they are considered incomparable by the State Party, such as St Donat's Church, or no specific reasons have been given, as is the case with the sacristy, the two bell towers, the bishop's palace or the capitulary hall.

ICOMOS considers it questionable to compare buildings that were partly or completely reconstructed with structures that have been handed down in their full material originality, as has been done in the case of the baptistery of St Anastasia and the Church of St Mary. ICOMOS notes that a more complete state of preservation is often considered more important than an earlier initial construction date of a structure that no longer exists in its original materiality.

With regard to the claims of the uniqueness of the Church of St Mary's bell tower, in terms of having the earliest ever cross-ribbed vault in its lower original part, as well as being the first ever deliberate facsimile reconstruction of an architectural monument in Europe, ICOMOS notes that this claim does not seem to be substantiated by existing studies and literature on early ribbed vault architecture or the history of architectural reconstruction, and it cannot be proven without further comparative analysis in a global context.

Overall none of the comparisons put forward demonstrate that any of the individual elements can be said to be without comparators.

What the nomination does not set out clearly is the specific attributes of the overall ensemble. This makes comparison with other properties difficult because of the large variety and time range of the architectural elements presented, which lack any coherent theme, function, or typology.

In this context, the comparison presented in ICOMOS' view does not achieve its aim to underline the special status of the episcopal complex in Zadar.

ICOMOS considers that the comparative analysis does not justify consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The complexity of the episcopal complex on the Roman Forum, which was successively constructed over almost two millennia, constitutes a distinct value, and illustrates the constant presence of human genius and continuity of religious function;
- The monumentality of the Roman Forum, the spatial articulation of the basilica and the excellence of sculptural decorations is evidence of the universality of Roman architecture and is its finest embodiment on the eastern coast of the Adriatic Sea;
- St Anastasia's Cathedral is the largest, most complete and most important Romanesque building on the eastern shores of the Adriatic, in particular the richly ornamented façade with Romanesque portals;
- The bell tower beside St Mary's Church provides evidence of the earliest use of cross ribbed vaulting in European architecture, dating to 1105, and at the same time in its upper part is the first example of facsimile reconstruction in the history of heritage preservation;
- The Church of St Donat of the early 9th century is a unique example of such early medieval constructions, specifically with regard to its size, and its combination of Carolingian and Byzantine influences.

ICOMOS considers that the multiple justifications provided for the different architectural components of the property do not seem to support or relate to a shared coherent theme, function, period or typology, or support the outstanding nature of the overall ensemble. While the theme of continuous religious function does not easily link to the Roman forum and the contemporary and historic use of St Donat's as a museum and concert hall, all other aspects used to support the Outstanding Universal Value of the property are only applicable to individual components, and do not apply to the ensemble. ICOMOS considers that any comparison with other Roman forums shows that the Zadar forum cannot be considered of Outstanding Universal Value, nor can the highlighted component structures of St Donat or the

complex of St Anastasia's Cathedral stand a global comparative analysis with similar structures.

ICOMOS therefore considers that the justification presented is insufficient to illustrate and support any Outstanding Universal Value for the property.

Integrity and authenticity

Integrity

The integrity of the Sacral Complex on the remains of the Roman Forum in Zadar is judged in relation to its completeness and the adequacy of its size, in particular as it relates to its ability to express all necessary elements of the Outstanding Universal Value proposed by the State Party. The nomination dossier presents the argument that the nominated cultural property consists of the sum of all the factors which constitute the totality of the complex and that it therefore unquestionably possesses integrity.

ICOMOS considers that stronger cohesion among the elements presented would enable a more informed judgement regarding the integrity of the complex. At present, ICOMOS can merely comment on what has been presented and in this context the Benedictine Convent was described as part of the episcopal complex nominated but is not included in the property boundaries. It is equally unclear why the existing buildings in the area on top of the former capitol, which has been included in the property, have not been described. ICOMOS further considers that the material remains of several buildings in the Sacral Complex consist of only fragments and limited traces of their initial construction phase, and that it is doubtful that the property nominated can meet the condition of integrity with regard to the illustration of its Pre-Romanesque origin. In addition, ICOMOS notes that the insertion of several 20th century architectural structures adjacent to the historic complex has resulted in its perception as fragmented and equally reduces its integrity.

Although the State Party provides assurances that the property is not currently endangered by adverse effects of development or neglect, ICOMOS considers that the use of the eastern part of the Roman forum as a parking lot reduces at least the visual integrity of the urban setting. ICOMOS notes that increased visitor numbers, likely to occur as a result of the cruise and ferry dock just 400 meters away, may increase pressure to provide additional infrastructure and pose a risk to the continued religious use of the Churches of St. Anastasia, St Mary and St Elijah.

Authenticity

The authenticity of the property is judged in relation to its ability to exhibit the historic context, built form and function, as well as setting and other components in terms of their ability to convey what has been nominated as Outstanding Universal Value. The State Party considers that all the attributes presented truthfully and credibly meet authenticity in that they all form part of the continuity of the episcopal complex. ICOMOS considers that several rather recent material remains of constructions or reconstructions in the 1830s (bishop's palace), 1890s (bell tower), 1970s (church and convent of St. Mary), and 1989 (baptistery of St. Anastasia) cannot provide credible testimony to 17 centuries of continuity as is claimed for the property.

ICOMOS considers that, based on the emphasis on continuous religious usage of the complex presented by the State Party, it is problematic that St Donat's, one of the historic key structures of the complex, lost its religious function in the first half of the 20th century and is now used as a concert hall. ICOMOS notes in particular that recent performances involving heavyweight objects suspended from the vaults and roof structures are likely to affect the status of the historic architecture and may lead to damage or even collapse. ICOMOS recommends abandoning this type of performance to ensure safety for the building and its visitors.

Many of the other key monuments seem to have undergone several rebuilding and expansion phases and cannot provide an authentic illustration of any of the historic architectural styles presented as important for the property. In particular the partial reconstruction of St Anastasia's Cathedral is considered unsuitable both in style and colour. The authenticity of the setting of the episcopal complex is affected by several rather insensitive 20th century architectural insertions and a dominating public car park above the eastern area of the Roman forum.

In conclusion, ICOMOS considers that the conditions of integrity and authenticity have not been met.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i), (ii), (iii) and (iv).

Criterion (i): represent a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that the stratified nature of the complex, which was created over a period of literally two millennia, testifies to the constant presence of human genius, which makes the assemblage unique.

ICOMOS considers that exceptional stratigraphy and continuous development over a long time are not normally considered under this criterion, which is more often used to recognize the most outstanding works of creative impetus, aesthetic movement or skill. ICOMOS notes that the State Party has provided additional explanation as to how this criterion applies to individual buildings, but recalls that criteria should be applicable to the property and not to individual fragments or details. ICOMOS further considers that the episcopal complex nominated neither as a whole nor in its individual components contains expressions of the creative quality and innovative character required to demonstrate this criterion.

ICOMOS considers that this criterion has not been justified.

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the urban planning of the city of Zadar is marked by the interchange of values of Roman city design and that the Church of St Donat was a model for the transfer to Romanesque architecture, in particular in the formation of central polyconchal buildings.

ICOMOS considers that the superimposition of an episcopal complex on a former Roman forum does not in itself constitute an interchange with the values of Roman urban planning and that the nominated property does not include a significant enough section of the Roman street plan to illustrate values related to Roman city design.

With regard to the role of St Donat's Church, ICOMOS considers that a number of earlier examples, including the Cathedral in Aix-la-Chapelle and Hagia Sophia in Istanbul mentioned in the nomination dossier inspired the construction of St. Donat's Church. While this could be considered an application of values from other regions, it is not demonstrated how it could be considered an interchange. Such interchange could be illustrated if St Donat's Church had functioned as a prototype for the quite numerous polyconchal churches built in the region. However, no such evidence is presented in the relevant scientific literature or the nomination dossier. ICOMOS notes that, even if this prototype character could be substantiated by a comprehensive comparative analysis, it would only apply to the Church St Donat and not to the episcopal complex.

ICOMOS considers that this criterion has not been justified.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the totality and spatial complexity of the episcopal complex is an invaluable testimony both to the cultural traditions and civilizations that have passed through, and those still utilizing the complex.

ICOMOS considers that it remains unclear which cultural tradition or civilization is being particularly referenced, since the complex seems to combine testimonies of a variety of historical eras and peoples. ICOMOS considers that the evolution or continuity of a place over time cannot be considered a cultural tradition as recognized under this criterion unless that tradition is very specific to the place. ICOMOS further considers that none of the individual components can be considered an exceptional testimony to a civilization at the time of its initial construction, as all components of the episcopal complex have either changed considerably as a result of several architectural interventions over time, are predominantly reconstructions, or have lost the functional integration that would be required to testify to their role and use in a cultural tradition.

ICOMOS considers that this criterion has not been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the interweaving and permeation of time and space in the components of the Sacral Complex is an outstanding example of a complex ensemble in a unique architectural format. The State Party further states that the baptistery of the cathedral and St Donat's Church are outstanding examples of architectural design and that the bell tower of St Mary's has the first example of a cross ribbed vault and is the first facsimile reconstruction of its kind in Europe.

ICOMOS considers that the episcopal complex combines a variety of incoherent architectural styles and structures and cannot therefore be considered an outstanding architectural ensemble which illustrates a significant stage in human history. As was discussed above, the Church of St. Donat combines inspiration from earlier Carolingian and Byzantine rotundas, but is not a unique type of building related to a significant stage in human history.

ICOMOS considers that this criterion has not been justified.

In conclusion, ICOMOS does not consider that the criteria and Outstanding Universal Value have been demonstrated.

4 Factors affecting the property

Development and Tourism pressures

Although the nomination dossier does not identify any acute development pressures, it is obvious from the documentation provided that tourism constitutes a major economic resource for the historic city and that visitor numbers are likely to further increase. As highlighted in the Management Plan provided, large-scale tourism is already a constant source of pressure and the amount of accommodation provided in the historic core is not sufficient to meet the demand. ICOMOS considers that this situation is likely to create pressure for the development of additional visitor accommodation facilities

on the historic peninsula, which is the proposed buffer zone. It is further noted that inappropriate commercialisation and merchant activities in the vicinity of the complex cause concern.

ICOMOS considers that during peak visiting periods, especially when cruise ships dock just a few hundred metres away, the visitor numbers are likely to affect the religious atmosphere and continuous religious usage of the churches. ICOMOS recommends that the carrying capacity of individual buildings is carefully reviewed, not only in terms of physical visitor impacts, such as humidity, abrasion and vandalism, but also in terms of atmospheric impacts and as a source of noise. Apart from the pedestrian visitors coming by ferry and ship, the vehicular access to the property also constitutes a major source of pressure. The State Party describes that, particularly during the visitor-heavy summer months, heritage sites are turned into parking lots. A detailed traffic plan, adopted in 2002, projects that the western part of the peninsula will be closed to vehicular traffic, except for emergency vehicles. ICOMOS recommends the implementation of this plan at the earliest opportunity and in the same context to carefully consider changing the use of the parking lot on the eastern side of the Roman forum. It is important to utilize this public space in a way that can contribute to the preservation and enhancement of the historic surroundings.

Environmental pressures

In terms of environmental pressures, the nomination dossier concentrates on the air and noise pollution caused by the vehicular traffic in the historic city.

Natural disasters

Like in every historic city the density of the architectural fabric poses a risk that fires, once they start, may easily spread to neighbouring buildings. The location of Zadar is also at high risk of earthquakes and has been marked under category 8 of the Medvedev-Sponheuer-Karnik scale, which indicates that highly destructive earthquakes may occur. One such earthquake is assumed to have occurred in the 6th century AD as suggested by archaeological records. The State Party mentions that all the recent structural consolidations carried out took note of this risk and were implemented following appropriate strategies.

According to the State Party the risk of flooding is low; however, ICOMOS notes that a heavy storm in December 2011 left the forum square flooded for a few days. ICOMOS notes however that this extreme weather did not seem to have had a lasting negative impact on the property.

Impact of climate change

Potential impacts of climate change are considered negligible by the State Party. ICOMOS considers that no immediate threats can be identified but that long-term changes leading to a higher frequency of winter storms may lead to flooding and that Zadar, like any seafront city, may be affected by sea level rises.

ICOMOS considers that the main threats to the property are increased tourism pressures, both with regard to visitor numbers and infrastructure demands, as well as earthquakes.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries of the nominated property are tightly drawn around the buildings that constitute the complex and mostly correspond to the outer walls of the architectural structure or the approximate outer limits of the Roman forum. There are two noteworthy exceptions, areas which seem to have been excluded. The first is the Benedictine Monastery, which in the nomination dossier is presented as constituting part of the Outstanding Universal Value but is not included in the delimited boundaries of the property. Secondly, it seems to be suggested that the archaeological remains of the Roman forum extend further to the east towards the current location of the parking space south of St Mary's, which, according to the virtual reconstructions, held the amphitheatre of the Roman city. ICOMOS considers that, to be consistent with the value statement presented, the Benedictine Convent of St Mary's should have been included within the boundaries and, if the parking space indeed contains Roman archaeological remains, it could be considered appropriate to also include this extension of the forum within the property boundaries following archaeological investigations. In the area of the former Roman capitol, a number of residential buildings are located in the nominated area, but have not been described in the nomination dossier. ICOMOS considers that the rationale for their inclusion has not been made clear.

With regard to the buffer zone, ICOMOS supports the general approach of designating the entire peninsula of the historic city as the buffer zone, which corresponds to the protective decree of the city as a cultural property. However, ICOMOS notes the absence of any buffer zone in the sea and considers that the buffer zone has to be extended into the sea to prevent future developments of expanded landing stages for ferries or cruise ships. ICOMOS further recommends including a narrow coastal strip of the urban areas located around the peninsular bay into the buffer zone in order to protect the visual integrity of both the immediate setting of the Sacral Complex and the wider setting of the historic peninsula.

In conclusion, ICOMOS considers that the boundaries of the nominated property and of its buffer zone are not adequate and would require revisions to contain all relevant components and protect the structural and visual integrity of the property.

Ownership

The church structures and annexed buildings as well as the convent belong to the religious communities, i.e. the Archdiocese of Zadar, the Benedictine Convent of St Mary and the Serbian Orthodox Church. The street spaces and archaeological zones of the Roman forum belong to the city of Zadar. Finally, the residential buildings on the capitol, which at present form part of the property but have not been described in the nomination dossier, belong to private individuals.

Protection

Legal Protection

The historic city of Zadar and its peninsula are designated as a cultural property according to the Law on the Protection and Preservation of Cultural Properties (69/99 and 157/03). It is inscribed on the list of cultural properties of national importance under registration number Z-3409 of 2007. Within this urban monument, individual architectural structures further enjoy the same status as national cultural properties through designation as individual monuments. Within the nominated property these are the Episcopal complex on the (Roman) Forum (Z-759, 2003), the Church of St Mary with Benedictine Convent (Z-741, 2003) and the Church of St Elijah (Z-762, 2003).

Effectiveness of protection measures

The legal protection at national level, as well as the specification in the Spatial Plan of the city of Zadar (2009) provides for constant control by the Ministry of Culture, Directorate for the Protection of Cultural Heritage, Conservation Department in Zadar (KZD). It is responsible for approval of any intended changes or conservation activities to the historic buildings or their environment. Since the entire buffer zone enjoys a protection status as a national monument, the regulations for the property itself and the buffer zone are identical.

The protective measures seem effective for the property and the urban components of the buffer zone presently nominated, and have the capacity to divert potential pressure for expanded visitor infrastructure. However, since the protective decrees do not cover the coastal strip and sea around the historic city, it does not at present legally prevent expansion of the landing facilities along the shore. At present Zadar aims at building a new ferry port at the southern tip of the coastal projection, on the northern end of which the historic city is located, so as to move the road traffic away from the old town (peninsula). Nevertheless, ICOMOS recommends expansion of the legal protection of the buffer zone to include the sea around it and the bay to the north-east of the historic city.

In conclusion, ICOMOS considers that the legal protection in place is adequate for the urban components but needs to be expanded towards the sea.

Conservation

Inventories, recording, research

The most recent records and inventories are held by the Conservation Department in Zadar (KZD), which contains the records on the state of conservation of all listed buildings following article 53 of the Law on the Protection and Preservation of Cultural Properties. The nomination dossier does not provide information on the completeness, regularity or status of these records, but the legal provision requires updates to be recorded at least every five years.

Present state of conservation

The overall state of conservation is acceptable, although several of the nominated structures have been built so recently, that it seems problematic to use the term state of conservation as it is usually applied. St Anastasia's Cathedral was fully consolidated in the 1980s with extensive restoration works, a new roof and the renewal of external facades. The sacristy was renovated at the end of the 1980s and the baptistery is a facsimile reconstruction from the 1980s. The bell tower, mostly built in the 15th century and completed in 1892, is in good condition.

The Church of St. Donat was thoroughly renovated in the 1960s and 1980s, but suffers from rising damp visible on the inner walls. The internal plaster flakes off as a result. The bishop's palace, a structure of the early 19th century renovated between 2008 and 2010 and the seminary, renovated in the 1990s, are in good condition. The Church of St Mary was reconstructed in the 1970s. The bell tower of St Mary's, in its lower storey a 12th century, and in the upper storeys a 15th century structure, has not undergone any major renovation or conservation projects and seems in good condition.

Active Conservation measures

A major programme was completed in 2010 with the renovation of the bishop's palace. At present the only on-going conservation works are confined to the bell tower of St Anastasia's Cathedral and two further projects will be started later this year. These will focus on the conservation and restoration of the wooden gothic stalls in St Anastasia's Cathedral and the conservation and restoration of the mosaics in the sacristy.

Effectiveness of conservation measures

In ICOMOS' view, many of the conservation measures carried out during the last decades have had a tendency to involve measures aimed at beautification and a holistic appearance of the monuments. In several cases these measures could have been more discrete and sensitive to the historic fabric and ICOMOS recommends opting for a more minimalist approach in conservation activities.

In conclusion, ICOMOS considers that the property has been subject to very wide-ranging conservation activities over several decades. ICOMOS recommends that future conservation activities should ideally be minimalistic.

Management

Management structures and processes, including traditional management processes

The management of the property is coordinated by the competent agency of the Ministry of Culture, the Conservation Department in Zadar (KZD). Management Strategies are developed in cooperation with the Archaeological Museum in Zadar, the Chairs of History, Archaeology and Art History at Zadar University, the Croatian Restoration Institute, and the religious institutions who are owners of some of the properties, in particular the Archdiocese of Zadar, the Benedictine Convent of St Mary and the Serbian Orthodox Church.

The Conservation Department in Zadar (KZD) has developed a Management Plan to guide vision, strategies and actions among the partners, and is described below. ICOMOS notes with concern the absence of the urban planning and physical development departments of the municipal administration, which are instrumental partners in all questions related to urban and sea development concerns that may affect the property. ICOMOS further notes that the tourism authorities have also not been included as partners. ICOMOS therefore recommends enlarging the consultations and partnerships of site management activities and actively involving the urban planning and tourism authorities.

Policy framework: management plans and arrangements, including visitor management and presentation

The Management Plan was developed for the purpose of the World Heritage nomination and compiled by the Conservation Department in Zadar (KZD). It analyses in much detail the present situation of the property, including conflicts, risks and dangers and provides a vision, objectives as well as a plan of major actions until 2020. The plan is very helpful for understanding the main challenges the property management face, such as tourism pressures and lack of cooperation between the agencies and institutions involved. In this context ICOMOS considers it surprising that the management and action plan is exclusively limited to planned interventions on the property and does not address the wider management context of tourism activities and industries, spatial development and housing concerns as well as wider strategic and administrative aspects.

ICOMOS recommends expanding the management focus and creating a management body which can include all aspects that affect, both in the short and long-term, the preservation of the property. Visitor management should not only consider the presentation of the nominated components to visitors but equally consider larger visitor movements and flows as well as opportunities for revenue and benefits for the local community.

Risk preparedness

The State Party foresees the preparation of an emergency response plan in the event of natural disasters, which is scheduled to be finalized in 2017. The nomination dossier does not provide any further information on risk preparedness, especially in relation to cultural performances in the historic buildings, which often attract considerable numbers of visitors. ICOMOS considers that a risk preparedness strategy needs to be developed which gives adequate attention to earthquakes, fires and cultural events which attract considerable visitor numbers.

Involvement of the local communities

Despite a total of 5,800 inhabitants living within the property and the buffer zone, the nomination dossier does not describe any active processes of community participation and the management plan describes the inhabitants as users and not necessarily partners. ICOMOS considers that a more community-driven management process, drawing in particular on the religious communities, would be an asset.

Resources, including staffing levels, expertise and training

ICOMOS notes that no specific annual budget is dedicated to the management of the nominated property and recommends that apart from the budgeting of one-off costs for specific restoration projects and other interventions, a continuous annual budget for property management and monitoring be established, to ensure long-term management continuity.

The responsible management authority, the Conservation Department in Zadar (KZD) brings together the professional expertise of architects, art historians, historians and archaeologists. The training of professionals seems adequate for the conservation of the property itself. However, ICOMOS recommends the enlargement of the management initiative to incorporate expertise in the fields of urban planning and tourism development planning.

Effectiveness of current management

The management presented seems effective in respect to the immediate maintenance and management of the historic buildings. However, to incorporate the wider context that affects the preservation of the nominated property, including tourism pressures, traffic, spatial development and risk preparedness, the management initiative needs to be enlarged to include additional partners, and risk preparedness strategies need to be developed.

In conclusion, ICOMOS considers that additional partners are required to expand the management processes to the wider context affecting the property,

including tourism and spatial development. ICOMOS further considers that risk preparedness strategies need to be developed.

6 Monitoring

The monitoring system presented contains a set of eight indicators on a rather general level. These are the state of conservation of pavements, archaeological remains, buildings and artefacts, especially timber, liturgical furniture and wall paintings, the number of visitors to the old city and the number of visitors to buildings with admissions.

ICOMOS considers that these indicators are too general and not adequate to measure the quality of site preservation and management. They are, furthermore, largely inadequate to assess risks and challenges that may emerge, or to assess the appropriateness of current management objectives. ICOMOS considers that the monitoring system proposed is inadequate and requires revision.

ICOMOS recommends that the monitoring system and indicators proposed should be revised to allow for anticipation of threats or challenges and adequate monitoring of the property.

7 Conclusions

The nomination dossier of the Sacral Complex on the remains of the Roman Forum in Zadar presents a variety of religious structures located on and integrating the remains of the Roman forum. ICOMOS considers that what is presented lacks a coherent theme or approach that could be considered a conceptual unit in terms of the justification of Outstanding Universal Value. The mere communality of being religious structures in the same physical vicinity, built over 19 centuries, does not seem sufficient to demonstrate any of the criteria proposed.

ICOMOS is further concerned by the recent date of many parts or even complete components of the nominated property. A majority of the buildings nominated have been subject to large-scale renovations and partial reconstructions during the past decades, with some buildings, such as St Mary's Church, being predominantly facsimile reconstructions. ICOMOS considers that on the basis of the information in the nomination dossier in this respect, it seems impossible to meet the criterion of authenticity and integrity for the ensemble of structures proposed.

In summary ICOMOS considers that on the basis of the nomination dossier and its own studies and analysis, the nominated property has not demonstrated Outstanding Universal Value through meeting any of the criteria nor has it satisfied the conditions of authenticity and integrity.

ICOMOS considers that if the State Party wished to pursue further the possibility of nominating the Sacral Complex in Zadar, it would need to provide much more substantial evidence and justification as to how the Complex might be seen to be exceptional in relation to other religious complexes and precisely how it might convey Outstanding Universal Value. Such a justification would need to be based on a thorough and detailed comparative analysis that considers the overall complex in relation to other religious complexes in its own geo-cultural region and probably further afield, and on a thorough analysis of the authenticity of the complex in relation to its potential Outstanding Universal Value.

In terms of detail, ICOMOS notes that the St Mary Benedictine Convent, although proposed as part of the Outstanding Universal Value, is not currently included in the property boundaries and recommends expanding the legal protection of the buffer zone to include the sea around it and the bay to the north-east of the historic city. ICOMOS considers that several of the conservation and rehabilitation projects carried out in the past were quite extensive and recommends consideration of more discrete approaches that are sensitive to the remaining historic fabric for any future conservation activities.

In terms of site management, ICOMOS considers that, while the Management Plan submitted and the activities of the Conservation Department in Zadar (KZD) address well the current challenges to the physical structures of the religious buildings, the management system needs to be expanded to take into account the wider context of the site's management, most predominantly including tourism pressures and larger visitor management concerns as well as spatial development considerations. ICOMOS therefore recommends expanding the management focus and creating a management body which can include all aspects that affect, in both the short and long-term, the preservation of the property. In this context ICOMOS further recommends that the monitoring system and indicators are strengthened to allow for anticipation of any potential threats or challenges and adequate monitoring of the property.

Recommendations with respect to inscription

ICOMOS recommends that the examination of the nomination of the Sacral Complex on the remains of the Roman Forum in Zadar, Croatia, to the World Heritage List be **deferred** in order to allow the State Party to:

- Consider whether it is possible to review the justification for the nomination on the basis of more substantial evidence to support the idea that the Sacral Complex could be considered exceptional as an ensemble related to the way it developed over time;

- Support such a review by a detailed comparative analysis that compares the ensemble with other religious ensembles, including both those inscribed on the World Heritage List and others, to

demonstrate that the Sacral Complex has no comparators.

ICOMOS considers that any revised nomination would need to be considered by an expert mission to the site.

ICOMOS further recommends that any future nomination should give attention to the following:

- Reviewing the visitor management concept to incorporate larger visitor flows in the historic city and review the carrying capacity of individual buildings, not only in terms of physical visitor impacts, such as humidity, abrasion and vandalism, but also in terms of their atmospheric impacts;

- Expanding the partnership established for the management of the site to include the relevant authorities responsible for tourism and spatial planning in the historic city;

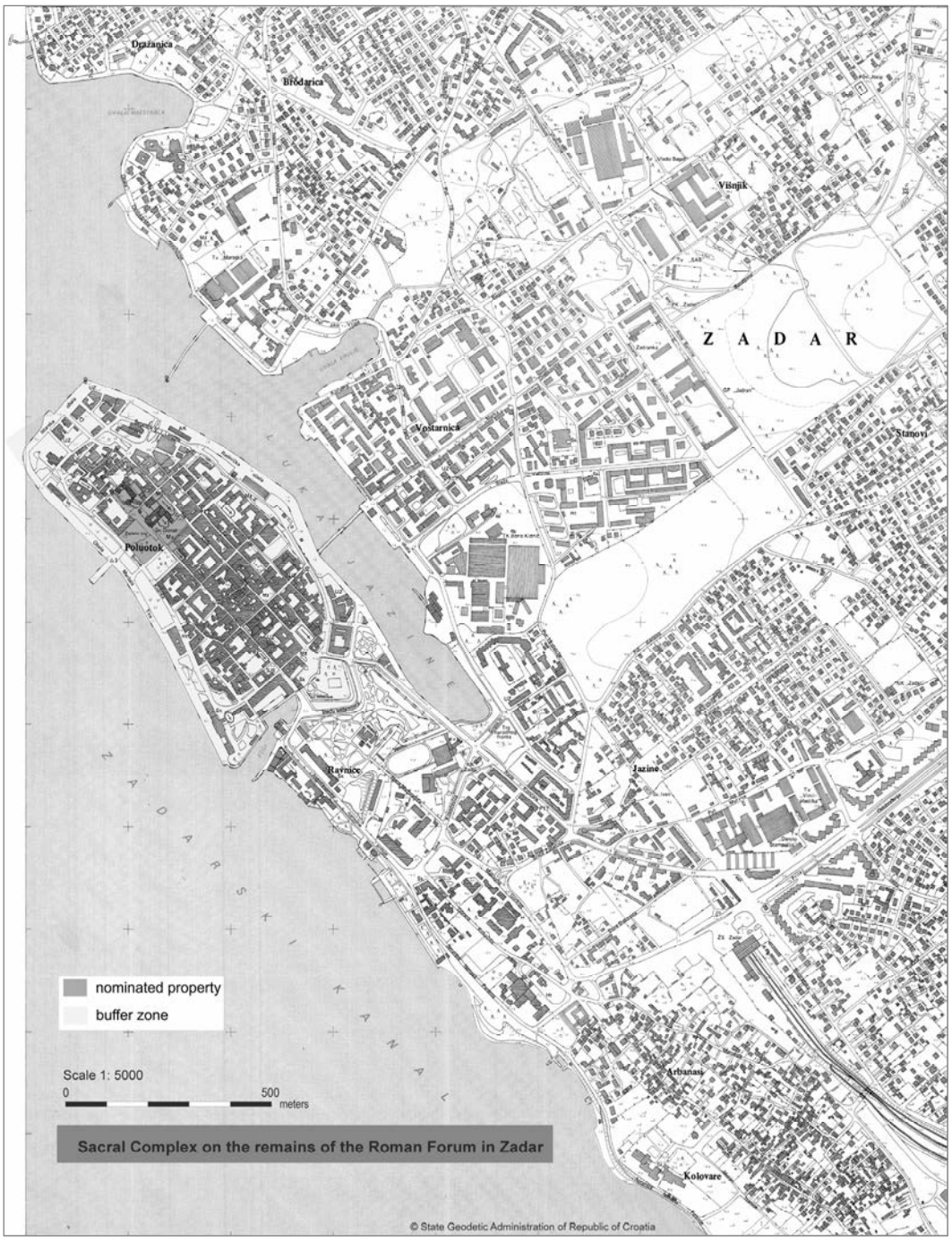
- Implementing the traffic exclusion plans for the western part of the historic city and re-utilizing the public space east of the Roman forum in a way that can contribute to the preservation and enhancement of the historic surroundings;

- Expanding the buffer zone to protect not only the immediate setting of the Sacral Complex but also the wider setting of the historic peninsula, in particular through inclusion of the urban components along the shores of the peninsula bay;

- Developing a conservation plan based on an approach of minimalistic intervention;

- Developing a risk preparedness strategy, which gives adequate attention to earthquakes, fires and cultural events which attract considerable visitor numbers;

- Revising the monitoring system and indicators proposed, to allow for anticipation of threats or challenges and adequate monitoring of the property.



Map showing the boundaries of the nominated property

General view of the nominated property

Aerial view of the remains of the Roman forum and the Episcopal complex

The Episcopal complex

Church of St. Mary and the Benedictine convent

Nord-Pas de Calais Mining Basin (France)
No 1360

Official name as proposed by the State Party
Nord-Pas de Calais Mining Basin

Location
Nord-Pas de Calais Region
Nord and Pas-de-Calais Departments
France

Brief description
The Nord-Pas de Calais Mining Basin corresponds to the French part of the northwest European coal seam. On a broad open plain, it extends along some 120 km, through the two administrative departments of Nord and Pas-de-Calais. It presents a remarkable cultural landscape in terms of its continuity and homogeneity. It provides an important and well-preserved example of the mining and industrial landscapes created following three centuries of coal extraction from the 18th to the 20th centuries, as evidenced by the pit heads and their equipment, a dense and diversified worker habitat, the urban planning of mining towns, slag heaps, etc. Significant human, economic and cultural values are associated with the mines' history, in terms of everyday activity, social events and accidents.

Category of property
In terms of categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, this is a serial nomination of 109 *monuments, ensembles* and *sites*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (January 2008), the property is also nominated as a *cultural landscape*, in the *organically evolved landscape* category and the *continuing landscape* subcategory.

1 Basic data

Included in the Tentative List
1 February 2002

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
25 January 2010

Background
This is a new nomination.

Consultations
ICOMOS consulted the TICCIH and several independent experts.

Comments on the assessment of this cultural landscape were received from IUCN on 1st February 2012.

The information was carefully considered by ICOMOS in reaching the final decision and recommendation in March 2012.

Literature consulted (selection)

Bergeron, L., « Les villages ouvriers comme éléments du patrimoine de l'industrie », *Patrimoine de l'industrie - Industrial Patrimony,* TICCIH, 2001.

Centre historique minier, *10 mars 1906, La catastrophe des mines de Courrières…*, Lewarde, 2007.

Hughes, S., *The International Collieries*, *Thematic Study*, ICOMOS and TICCIH, 2003.

Mattei, B., *Révoltes et mythes du mineur…*, Seyssel, 1987.

Woronoff, D., *Histoire de l'industrie en France du XVIe siècle à nos jours*, Paris, 1998.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 19 to 23 September 2010. A further mission took place on site from 17 to 19 September 2011.

Additional information requested and received from the State Party
In its letter dated 28 January 2011, ICOMOS requested additional information from the State Party concerning:

- the possible presence of any industrial components incidental to the actual coal extraction (coke plant, power plants, etc.);
- the State Party's long-term vision regarding pumping out the many old pits given the soil subsidence.

The State Party replied on 25 February 2011 with additional documentation that is incorporated into the present assessment report.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
At the continental end of the North European Coal Seam, the Nord-Pas de Calais Mining Basin extends along some 120 km. It forms a strip of land lying roughly east-west, that is no wider than about twelve kilometres and covering an area of approximately 120,000 hectares. It straddles the two administrative departments of Nord and Pas-de-Calais. The main cities are Valenciennes, Douai, Lens and Béthune.

Inventory and typological approach

The nominated serial property includes 109 separate sites (or components), grouped within 13 regional sectors corresponding to the former mining companies. The ensemble includes a total of 353 remarkable objects forming the mining landscape. They are described by sector and then discussed by theme in the nomination dossier. The fact that a single inventory object can cover several uses or different built structures explains the high number of objects in the typology. For the property's definition, the reference is the number of inventoried objects per section.

Section No, mining company name	No of sites or components	Number of objects
1- Anzin	1 to 20	87
2- Aniche	21 to 33	44
3- Escarpelle	34 to 37	8
4- Ostricourt	38 to 40	10
5- Dourges	41 to 49	37
6- Courrières	50 to 57	21
7- Lens	58 to 69	52
8- Liévin	70 to 76	13
9- Béthune	77 to 87	29
10- Vicoigne-Noeux-Drocourt	88 to 91	22
11- Bruay	92 to 100	21
12- Marles	101 to 105	5
13- Ligny-Auchy	106 to 109	4

The remarkable sites and objects have been defined within the context of a systematic inventory approach to the mining heritage of the Nord-Pas de Calais Basin. It also involved studies by experts and symposia to analyse and identify both the objects and the living and evolving cultural landscapes. The types of objects are:

- The *pits* (17): A pit includes all the surface facilities or *pit head*, the associated shaft or shafts and related underground infrastructure. The earliest surviving elements date from 1850, the period of the Basin's industrial development. Since that date, all the major periods of extraction and construction techniques are represented within the pits. In addition, four pits have been designated by the State Party as "major sites of remembrance"; Gohelle, Oignies, Arenberg, and Lewarde, the current Mining Industry Historical Centre.
- The *headgear* (21): These are large metal or concrete frames that support the lift systems over a mine shaft for the men and the extracted ore. They form a tall and spectacular monumental structure that is typical of a mining landscape.
- The *slag heaps* (51): These are hillocks of spoil from the coal mine, as extraction advances. They have sometimes taken on very considerable proportions, such as the twin slag heaps at pit 11-19 in Lens which have a footprint of 90 hectares and exceed 140 metres in height. The slag heaps symbolize the landscape identity of the Mining Basin. Their visual impact is all the greater as the surrounding landscape is a uniform plain. The slag heaps adopted as part of the property form a selection of the most representative and/or provide the greatest integrity.
- The coal transport infrastructure or '*cavaliers*' (of which there are 14 covering a total distance of 54 km): Mining led to the development of very dense coal handling and heavy transport networks, including railways and waterways. They contributed to shaping the region and landscapes in the Mining Basin. The sections of *'cavaliers'* form a link between the property's various components.
- The railway stations (3): In a coal-mining region, they are a specific regional structure related to heavy transport and they are a major site in any mining town. The Fresnes-sur-Escaut, Lens, and Douvrin stations have been selected.
- The subsided mine ponds (5): It was in the first half of the 20th century that ponds appeared where mines had subsided, a visible consequence of the intense subterranean exploitation. They contribute to the industrial landscape.
- The workers' estates (*mining villages*) and social habitat (124): The *mining villages* are groups of workers' houses in mining regions, with repetitive façades generally in brick, along regular and symmetrical alignments on straight paved roads. Resulting from the owner paternalism of the 19th century and the desire to control the mining population, the estates are a major testimony to the urban and social transformations delivered by industrialization. Their design reflects the confrontation between different currents of social thinking and new ideologies in the 19th century. Under the influence of architects and entrepreneurs, they have taken many forms and have evolved throughout the history of the mines. Still very numerous today in the Nord-Pas de Calais Mining Basin (almost 600), those included have been the subject of a rigorous selection based on their significance, integrity and authenticity. The property displays a vast constructive typology ranging from the traditional *mining village* to detached housing estates, garden cities and tenement buildings.
- The schools (46): In all periods, mining companies built schools, vocational training centres, domestic science schools for girls, etc. These initiatives were an adjunct to the social provision of worker housing, while also answering the specific training needs for the mine and the owners' education projects for the families. State and Catholic schools were added to this initial arrangement and gradually took over throughout the 20th century.
- Religious buildings (26): Many places of worship were built by the companies to encourage religious practice, good moral conduct and provide a framework for the social practices of the miners and their families. They were also intended to stem the early dechristianisation of mine workers and the rise of socialist and then Marxist ideas. Symbols of spiritual elevation, but also of order and morality, the religious buildings are built with care and an obvious concern for monumentality. The projects were often entrusted to renowned architects.

- Health facilities (24): One of the most important heritage assets inherited from mining operations are the medical establishments. The creation of benevolent funds by the companies, as early as the start of the 19th century, laid the bases for workers' welfare cover. These funds opened numerous hospitals, dispensaries, pharmacies, maternity clinics, milk depots, etc., for the miners and their families.
- Community, cultural and sports facilities (6): These are community halls and sports facilities associated with the development of cultural activities within the mine's social (musical societies) and sports (gymnastics and football) environments, from as early as the end of the 19th century, as part of the companies' social policies.
- Monuments and places of commemoration (10): The mine workers' life included dramatic events specific to this industry, such as the Courrières disaster (1906, almost 1,100 deaths), that added to the monuments and places of commemoration as part of the nation's history.
- Buildings for the mine's socio-economic life (5): These are the "grand offices" of the coal-mining companies and trade union and workers' cooperative premises.
- The owners' and senior manager's houses (18): The managers' and engineers' houses were located within the vicinity of the mine. The owners and the most senior management had residences or *châteaux*, inside fenced parks, a little further away from both the mine pit head and the urban centres. These buildings also incorporated management functions: prestigious offices, board rooms, salons, etc. The architectural and monumental concern taken over them was commensurate with that accorded to the churches, as these buildings had directly to reflect the status of the companies.
- Town halls (2): Those included are Carvin and Bruay-La-Buissière; they reflect a municipal form of architecture that is typical of the Mining Basin.
- Other facilities (3): These include the Auchy-les-Mines railway halt, a signalling box in Chabaud-Latour and a silo.

In its 2011 additional documentation sent in February 2011, the State Party explains why the industrial facilities traditionally associated with coal mines are virtually no longer represented in the Basin's landscape (wash troughs, coke plants, pellet and briquette plants, electricity power plants, etc.). There were already very few such installations in the Basin's history, as it was essentially focussed on extraction, and they were the first facilities to be demolished or to undergo post-industrial conversions.

Landscape approach

Additionally, the 13 *sectors* form the same number of regional ensembles of which the outstanding components are the *components* and the *objects* previously inventoried. They are presented as so many coherent living and evolving cultural landscapes. A systematic method was adopted to define them. The historic context of the origins of the mining company holding the concession is first examined. The landscape context is then detailed, as the physical backdrop to the mining operations that were overlaid on the site. The latter is approached from the history of the site's exploitation and the description of the evolution of its landscapes under the influence of the mining industry's growth. In each case, the landscape places are named, illustrated and the component parts indicated.

History and development

The beginnings of coal extraction (18th century –1870s)

Until the early 18th century, there was little interest in the use of hard coal in the north of France, but the increasing scarcity of timber led to a change. The first mining companies appeared in the Valenciennes region, including Anzin which was to have a brilliant future. Extraction remained shallow and by traditional methods.

The geopolitical conditions changed at the end of the Napoleonic Empire (1815), and resulted in France losing its coal and steel resources located in what is today Belgium. The example of the British industrial revolution was behind the drive to find coal seams in France. The extraction pits in the Valenciennes region experienced rapid expansion. The vast extension of the coal basin westwards (Pas-de-Calais Department) was discovered in the 1840s. The region's coal potential took on national importance.

Numerous mining companies were founded during the Second Empire (1850s and 1860s) and they grew steadily after 1870. The scale of equipment, buildings and infrastructure changed completely, marking the starting point for the heritage and landscapes that comprise the current property. With access to canals and railways linking it to the Paris region, the Nord-Pas de Calais Basin became the leading mining basin in France.

From the intensive exploitation by the companies to the Second World War (1880s – 1939)

In 1880, the Basin's total output was close to 8 million tonnes. It grew steadily and, on the eve of the First World War, accounted for one third of France's production. The difficult working conditions of the Nord-Pas de Calais miner were described by Émile Zola (*Germinal,* 1885). This novel became emblematic of industrial Europe at the end of the 19th century. The Basin was then a major centre for the dissemination of worker unionisation and socialist ideals, together with a paternalistic style of management that was also emblematic. The mine's development was not without difficulty or danger, neither on a day-to-day level or the infamous "firedamp explosions" specific to coal mining, able to blast in a single instant a whole series of underground galleries. Several disasters have marked the Basin's life and history, including the March 1906 Courrières disaster, referred to above, and its 1,099 victims. This is one of the most tragic events in mining history worldwide. After the event, the miners went on a major strike to protest against their working conditions. They all marched under the red flag of the Paris Commune, expressing the particularly strained employment relations with the coal-mine bosses.

Durant the 1914-1918 War, the Basin was cut in two by the Front. The occupied eastern section was flooded when the invasion occurred; it suffered lasting damage that then required lengthy reconstruction after the War. The western section, where extraction continued, started up again more quickly and was used intensively to revive the national economy.

In 1930, the Nord-Pas de Calais Basin reached its peak output of 35 million tonnes, ranking it as one of the leading coal-production regions in Europe. There was a huge need for labour. Almost 75,000 foreign miners, especially Polish, contributed to the workforce. The increasing technical difficulties surrounding the extraction and the 1930s Depression led to a drop in production and yield. Financial problems started to appear, followed by the first company mergers. A “Coal-mining Group” was created to spread the contracts, develop sales, encourage mergers and help modernize the mines.

On the eve of the Second World War, 18 coal extraction companies operated in the Basin, but eight of these accounted for three quarters of the output. At that time, the Basin accounted for 60% of national production and 40% of coal consumption in France. Output climbed back up to 32 million tonnes in 1939. However, the Nord-Pas de Calais Basin had some of the most unfavourable operating conditions in Europe, which explains its relatively high extraction costs. Nonetheless, the diversity of its coal grades and its closeness to Paris and industrial regions meant it enjoyed an extensive and diverse client base.

From the Second World War to nationalization and production revival (1940-1960)

During the French Campaign of 1940, the rapid advance of the German troops only had a marginal effect on the mining industrial heritage, and the occupier was quick to ensure production resumed. This period was marked by the exodus triggered by the invasion, then the 1941 strike. The production facilities by and large came through the war unscathed.

After the Liberation (1945), both the recent past of the coal companies’ willing or forced collaboration with the occupier and the energy requirements for the reconstruction effort demanded a compete reorganization. With a centralized controlling political power all the coal mines in the Nord-Pas de Calais Basin were nationalized in 1946 as “Charbonnages de France”.

A “national coal battle” was launched under difficult extraction conditions. The miners’ work was particularly arduous, especially since they were subject to food rationing like the rest of the French population. These conditions, combined with the start of the Cold War between the former Allies, led to a powerful miners’ strike (1947-48) that was harshly repressed. However, the resumption of work in French mines, including Nord-Pas de Calais, is emblematic and marks a turning point in the history of Western Europe, definitively anchored in the Atlantic Bloc and focused on the building of European Union. The ECSC (European Coal and Steel Community) treaty between France, Germany, Italy and the Benelux countries (1951) was the concrete affirmation of this aspiration, and the issue of coal played a fundamental part.

With the rapid economic growth in the 1950s, production increased and the miners’ material situation improved. Labour was again in heavy demand, leading to a new wave of migration, this time from the Mediterranean countries. In 1952, the Basin’s output was again back to 30 million tonnes a year.

Decline and closure of the pits (1960-1990)

Despite French industry’s need for coal at the start of the “Glorious Thirty” (1945-1975), the Basin’s production stagnated because of the difficulties associated with the coal’s extraction and signs of depletion in many mines. Extraction costs rose, as did the need for investment that Charbonnages de France found increasingly difficult to raise. A decline in mining that nobody wanted to mention became apparent. This was a period of deteriorating balance sheets, and deficits starting from 1960. The situation was in part masked by the nationalization and the various commitments made by the State to the miners. It was also becoming preferable to choose other forms of energy: oil, natural gas or electricity. Coal markets declined and clients turned towards better quality imported coal. Just as France changed its political regime (start of the Fifth Republic) and signed a peace treaty in Algeria, the 1963 miners’ strike, whilst very well-supported, contributed to the end of an era in the Mining Basin.

The 1960s was a period of controlled decline. The strong French economy meant young adults could find other forms of employment, often less arduous and more enriching. In 1966, the Basin still employed a total of around 65,000 workers, of whom almost 20% were of Moroccan origin. The economic and financial situation started to deteriorate even faster from 1967. The strikes in 1968 and then in 1971 marked both a leap in the numbers of workers and inevitable milestones in the decline of coal extraction.

It then became clear to experts that the Mining Basin could probably no longer continue to operate beyond 1980 to 1985. Aware of this situation, the various leaders (company, unions and public powers) negotiated the gradual closure and a vast redundancy plan for the miners. This managed downsizing was only momentarily slowed by the 1970s’ oil crisis. The Oignies pit was the last to close at the end of December 1990. The final figures: the Nord-Pas de Calais coal basin dug 852 mine shafts, extracted 2.4 billion tonnes of coal and left behind 326 slag heaps.

In the 1980s, the Mining Basin was an economically devastated region with very high unemployment, while the better trained young people left. Attempts at industrial reconversion were limited, other than in Valenciennes, which had traditionally been more diversified. This

situation, combined with the management of the coal mines by a single State-owned company, explains why the mining landscape has been so well preserved compared with other major European mining regions.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The State Party examines properties already inscribed on the World Heritage List, the Tentative Lists of State Parties and other coal mining sites in Europe and around the world. Its comparative analysis is based on the property's definition and the importance of its landscape dimension.

It is difficult to grasp and define a large-scale mining heritage. Two different approaches can be adopted. The first, conventional, starts by compiling a detailed inventory of what exists but risks being a simple accumulation of sites, constructions and artefacts, right through to detailing the industrial and mining equipment and infrastructure. It can lead to a 'collection' approach, and risks the museumisation of the property in the way it is managed. The second, while not ignoring the importance of the inventory, views the mining heritage as a global and dynamic notion, which it is essential to situate at a broader scale and within an on-going evolution. This leads to overarching approaches and the central notion of living and evolving mining landscapes, where the involvement of the past in the present finds its place, including the difficult economic and social transition following the mines' closure.

The State Party considers the Nord-Pas de Calais Mining Basin to be the largest in France, compared with those in Lorraine (Longwy), the Loire (Saint-Étienne), and Saône-et-Loire (Blanzy). The extent, density and homogeneity of the components of the mining landscape are far greater in Nord-Pas de Calais than anywhere else in France.

The State Party compares the Nord-Pas de Calais Mining Basin to the following properties already inscribed on the World Heritage List:

- Metal ore and other types of mines or quarries: the Wieliczka Salt Mine, Poland (1978, criterion (iv)); Røros Mining Town and the Circumference, Norway (1980, 2010, criteria (iii), (iv) and (v)); Mines of Rammelsberg, Historic Town of Goslar and Upper Harz Water Management System, Germany (1992, 2010, criteria (i), (ii), (iii) and (iv)); Humberstone and Santa Laura Saltpetre Works, Chile (2005, criteria (ii), (iii) and (iv));
- Coal and steel sites: Ironbridge Gorge, United Kingdom (1986, criteria (i), (ii), (iv) and (vi)); Völklingen Ironworks, Germany (1994, criteria (ii) and (iv)); Zollverein Coal Mine Industrial Complex in Essen, Germany (2001, criteria (ii) and (iii));
- Worker housing sites: Crespi d'Adda, Italy (1995, criteria (iv) and (v)); Saltaire (2001, criteria (ii) and (iv)), and New Lanark (2001, criteria (ii), (iv) and (vi)) in the United Kingdom;
- Industrial cultural landscapes: Blaenavon Industrial Landscape, United Kingdom (2000, criteria (iii) and (iv)); Mining Area of the Great Copper Mountain in Falun, Sweden (2001, criteria (ii), (iii) and (v)); Derwent Valley Mills (2001, criteria (ii) and (iv)), Cornwall and West Devon Mining Landscape in the United Kingdom (2006, criteria (ii), (iii) and (iv)); Sewell Mining Town, Chile (2006, criterion (ii)).

The State Party also examined various mining or industrial sites on the Tentative Lists, such as:

- Mining and Cultural Landscape in Germany;
- The Industrial Complexes in Ostrava in the Czech Republic;
- The Gold Route in Parati and its Landscape, Brazil;
- The Namaqualand Copper Mining Landscape in South Africa;
- Mining Historical Heritage in Spain;
- The Major Mining Sites of Wallonia, Belgium, which are an immediate extension of the Nord-Pas de Calais Basin and provide significant mining and social similarities. However, because of their different history and the nature of the heritage conserved, often monumental in nature, the Belgian analytical and descriptive approach differs from the French approach of an evolving cultural landscape.

The State Party examined other major coal-mining sites in Europe and the world. While residual technical components are generally well identified, the other components defining the structure of mining landscapes are, in general, less clearly identifiable. Several of these basins have undergone industrial diversification and reconversion that are not found in Nord-Pas de Calais. The mining and industrial infrastructure has often been extensively dismantled in the contemporary era. This essentially concerns the following countries and basins:

- In the United Kingdom: the North-East, South Wales, Midlands, Yorkshire, Lancashire and Clyde (Scotland);
- In Germany: the Ruhr;
- In Poland and the Czech Republic: the Silesian Basin;
- In Ukraine: the Donbass Basin, still active;
- In the United States: the Pennsylvania Basins provide larger and still open landscapes;
- In Japan: the Sorachi Mining Basin (Hokkaido Island) provides a relatively complete landscape but in an area that is smaller than that of the Nord-Pas de Calais Mining Basin.

ICOMOS considers that the comparative analysis presented is very complete. It leads to the conclusion that the Nord-Pas de Calais Mining Basin firstly differs from adjacent national and regional sites by its exceptional extent and specific landscape qualities. It then differs from the sites already inscribed on the World Heritage List,

those on the Tentative List and other similar large coal-mining basins in terms of the large-scale presence of a mono-extractive industry, enabled by the geological continuity of the subsoil. All facets and all periods of the coal-mining industry, both technical and social, are present, from the 1850s to the end of the 20th century. This chronological continuity of the testimony is strengthened by several events of national or European importance (Courrières disaster, dissemination of socialist ideas, major strikes, impact of the World Wars, nationalization and the building of the European Union.

ICOMOS considers that the comparative analysis appropriately justifies the selection of the components of the series and that it convincingly illustrates the notion of a living and evolving cultural landscape.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of the Outstanding Universal Value
The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Covering an area 120 kilometres long, the Nord-Pas de Calais Mining Basin provides geological continuity and large-scale regional unity that provide information about the development of its mining history.
- The Basin experienced a continuous mono-industrial occupation of coal mining over almost three centuries. This has resulted in extensive changes to the natural environment and formed characteristic and well preserved landscapes.
- The continuous large-scale coal mining, particularly intense from the middle of the 19th century to the end of the 20th century, has produced very complete material testimonies of technical, industrial, architectural, urban and social orders.
- Coal extraction created new human settlements, caused migration and developed cultures that subsequently became part of the landscape.
- The Basin's technical components are still sufficiently numerous to provide testimony, over 120 kilometres, of a continuous and remarkable ensemble of mining units, each with its own traits. They form a succession of landscapes testifying to the mining activity. Their structure and visual patterns are unique.
- The Nord-Pas de Calais Mining Basin is notable for the exceptional abundance and diversity of the built environment of worker housing and community infrastructure. It also provides testimony to the dissemination of solidarity and social ideals among mining workers.
- The Nord-Pas de Calais Mining Basin is a perfect illustration of the changes wrought by industrialization on the technical, social, cultural, landscape and environmental planes.

ICOMOS considers that this justification is adequate. The property provides complete and detailed testimony to the regional, technical, economic and social development of the human activity of coal extraction in the industrial era. Its landscape values are expressed through the number and diversity of its individual constituent components, almost all related to coal extraction; they are legible at the extraction, pit level and also through the presence of landscape ensembles and characteristic horizons. The diversity and the completeness of these various levels of the property's perception provide a unique and exceptional testimony.

Integrity and authenticity

Integrity

The integrity of the mining, industrial and social testimony, in terms of its various dimensions, is not borne specifically or totally by any one of the 17 sites, which justifies the serial approach.

This is a *cultural and evolving landscape* where the various strata of the history of the Mining Basin are well represented. Many components remain, within the sites, providing testimony to its first industrial era, from 1850 to 1914. The prior artisanal or proto-industrial periods are not present, but this is a general characteristic feature of this type of property that has been active until a very recent time. ICOMOS also notes that the strictly industrial testimony of the serial property, in the sense of its major technical installations and factories traditionally associated with coal extraction: wash plants, coke plants, pellet plants, thermal power plants, etc., were almost all destroyed in the period of the abandonment of coal mining. There were fewer of these and above all they were less diverse than in other coal basins, but they nonetheless numbered in their tens in Nord-Pas de Calais. The integrity of the material testimony therefore focuses on the mining and social aspects from the end of the 19th century up until the period when the mines were closed, but not or only marginally on the directly associated mining history.

The integrity of the landscape has continuously evolved over three centuries, whilst retaining considerable unity. The Mining Basin is built across a region that was initially rural, with many natural features that form the backdrop to the variety in its landscape. Building on these local conditions, the many modes of spatial occupation by the large number of companies explain the diversity of each of the pits and the diversity of their urban environments. However, the mono-activity of this mining industry over the long term and the low rate of reconversion of the abandoned industrial facilities provide strong territorial unity to the serial property. Its various facets express the wealth and variations around a central testimony: the mechanized extraction of coal by considerable human forces. Passing through the Mining Basin offers as many different atmospheres and landscape variants as specific factors brought to light.

ICOMOS considers that the diversity and the number of components that make up the property, and the many additional aspects of its landscapes express a good level of technical, territorial, architectural and urban integrity. The integrity of the industrial testimony to coal extraction is, however, clearly much weaker. This unequal integrity in the material testimonies nonetheless still enables a satisfactory expression of the property's economic and social values. In practice, the landscape integrity can be satisfactorily read on three levels: the technical object or building, the intermediate level of the coal extraction pit, worker estate or local territory, and lastly the more expansive view of the horizons that meet the visitor's eye.

ICOMOS considers that the series' components have been chosen with care and method for their individual quality, the value and wealth of their testimonies, and their participation in perfectly described landscape ensembles. In terms of their integrity, the serial approach to the property nominated for the World Heritage List is justified.

Authenticity

The First World War caused considerable destruction to the eastern and central part of the Mining Basin. The Second World War caused exceptional wear to its equipment. In both cases, there was a period of reconstruction and modernization that saw the renewal of the built structures and the pits' technical equipment. However, this occurred within the context of operational continuity, often in similar forms and frequently using material already employed in the 19th century, such as brick. Steel tended to replace iron. Reinforced concrete is the main new addition, used fairly widely in the 1920s; it therefore constitutes a particular construction trait. These changes, which would in any event have occurred through innovation and modernization specific to the industrial world, are also signatures of these periods and contribute to the overall authenticity of the testimony.

Also, the quantity and diversity of the preserved documentation (see conservation, archives) enables a detailed analysis of the evolutions and changes to the Mining Basin's heritage. The evolving landscape is therefore fully documented and its study is based on objective knowledge of material data for the various periods.

Part of the housing ensembles, urban structures and public buildings were rebuilt after the First World War. The approach taken was to "rebuilt as it was", in an attempt to eradicate painful memories of the war's devastation. More broadly, the dwellings underwent an improvement to their sanitation and comfort. Later changes made by the owners have sometimes affected the authenticity of some streets or districts. The care taken with the selection of the property's components has minimized this aspect.

The public buildings reconstructed after the wars have almost always retained their original function. Recent uses are generally compatible with the conservation of their architectural authenticity.

The remaining industrial buildings and technical equipment are authentic, even if some have suffered from having been abandoned since the 1980s, and from inadequate restoration.

ICOMOS considers that the authenticity should be considered at the level of the property's various types of components (the 109 components) and at the level of each of the associated landscapes. Owing to a rigorous selection of these components, the conditions of authenticity are generally good. However, they suffer from occasional gaps in the housing and potential threats to the landscape from economic development.

ICOMOS considers that the conditions of integrity and authenticity have overall been met.

Criteria under which the property is proposed

The property is nominated on the basis of cultural criteria (ii), (iv) and (vi).

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the Nord-Pas de Calais Mining Basin is testimony to a considerable exchange of influences, over approximately a century, concerning the development of worker housing linked to large industrial companies and at the scale of a cultural area specific to northwest Europe. As a fully-fledged participant in the search for the model worker city, from the middle of the 19th century to the 1960s, the Mining Basin is particularly representative of the period's movement of ideas among industrialists and architects. These exchanges found numerous applications in the Nord-Pas de Calais Mining Basin, both in time and space, from the passage through stages from terraced housing to detached dwellings with gardens, through to the structuring of this habitat in garden cities, urban districts and even autonomous ideal cities. One of the characteristics of the Nord-Pas de Calais Mining Basin is the exceptional density of the evidence of this flow of ideas, practices and experiments concerning worker housing.

ICOMOS considers that the nominated property provides remarkable and highly diversified testimony to the exchange of ideas relative to the design of worker housing and urban planning linked to large mining companies from the middle of the 19th century to the 1970s, from *mining villages* to separate estates, garden cities to urban districts. The mining landscapes provide testimony to the dissemination of industrial coal-mining techniques and methods. Finally, it reflects international human migration organized by the large companies.

ICOMOS considers that this criterion has been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that Nord-Pas de Calais Mining Basin provides an eminent example of a type of construction or architectural ensemble evolving towards the emergence of a complex landscape that provides an exceptional illustration of a significant period of the history of industrial Europe, from the end of the 18th century to the middle of the 20th century. Because of the large-scale exploitation of underground coal resources, a new type of human settlement appeared, featuring a close association between the extractive technical components, working spaces, transport infrastructure and public and private living spaces. They constituted a rapid and massive urbanization process reflecting a step-change in the history of traditional urbanization, governed exclusively by a productive rationale requiring specific facilities for a substantial human labour force. New elements structuring the landscape appeared specific to mining operations (headgear, slag heaps, mining villages, subsidence ponds, etc.). These landscapes are testimony to the core of the industrialization process in Europe at this period.

ICOMOS considers that the Nord-Pas de Calais Basin provides an eminent example of the development of underground coal mining by large industrial companies from the middle of the 19th century to the end of the 20th century. They mobilized an extensive and organized workforce, structured physical space through urban development and specific industrial structures, of which the series of living and evolving mining landscapes, well preserved in terms of their diversity, density and scope, provide exceptional testimony today.

ICOMOS considers that this criterion has been justified.

Criterion (vi): be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;

This criterion is justified by the State Party on the grounds that the Mining Basin is closely associated with the description of workers' conditions in Continental Europe, notably starting from a novel by Émile Zola, *Germinal* (1885), which, inspired by the 1884 strike, described the life of miners in the Nord-Pas de Calais region and the bitterness of the conflict between capitalism and labour. More broadly, the Basin provides a remarkable example of worker solidarity, the dissemination of trade unionism and socialist ideas.

The Courrières pit disaster on 10 March 1906, led to a vast solidarity movement. In terms of its extent and the number of victims, it is a major event in the history of the mining industry, widely reported in France and internationally. An undeniable turning point in mining safety and worker history, this event revealed the particularly harsh working conditions in mines and the ever-present danger in the galleries. Safety regulations and research took on a completely new level of importance in Europe and North America.

ICOMOS considers that the social, technical and cultural events associated with the history of the Mining Basin have had international repercussions. They are an exceptional illustration of the danger of mine-working and the history of its major disasters, such as Courrières. They bear testimony to the social and technical conditions of coal-mining operations. They represent a major symbolic site of worker's conditions and their solidarity, from 1850 to 1990. They are testimony to the dissemination of worker unionism and socialist ideals.

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the serial approach is justified and that the selection of components for the series is adequate.

In conclusion, ICOMOS considers that the nominated property meets criteria (ii), (iv) and (vi) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes

The components that express the property's Outstanding Universal Value should be considered from the point of view of the constituent elements and from the point of view of the successive landscapes they collectively provide, forming a correlated organic ensemble.

- The property includes physical components linked to the landscape: the mine slag heaps, farmland, subsidence ponds, etc.;
- The industrial mining heritage is comprised of: the mine pit heads, the associated buildings and industrial facilities, the residual technical equipment, such as the headgear and machines, etc.;
- It provides transport infrastructure or '*cavaliers*' (railways, canals, conveyors, etc);
- It includes worker housing and specific urban development: *mining villages*, garden cities, detached housing, tenement buildings, worker districts and estates, engineers houses, etc.;
- It includes monumental and architectural components: churches, schools, manager's *châteaux*, company head offices, worker union headquarters, stations, town halls, hospitals and clinics, community halls, sports facilities, etc.;
- It has places of remembrance and celebration of the Basin's history and its miners, notably the four pits declared as "grand sites of remembrance".
- All these components are grouped in a unique series of thirteen contiguous landscape zones that are

characteristic of the mono-activity of industrial coal extraction from the 18th to the 20th century.

4 Factors affecting the property

Development pressures

After the cessation of mining, the Nord-Pas de Calais Mining Basin had to consider its economic reconversion. While, on the whole, few major industrial projects were undertaken, there was a general movement to appropriate the abandoned mining facilities. The former mining sites accounted for a considerable amount of property, sometimes in the heart of built-up areas. They may become real challengesin terms of the development of large economic, commercial or urban projects. The property aspect of the mining heritage is sometimes little or poorly understood by the local stakeholders, even though this state of mind is tending towards greater recognition.

ICOMOS considers that there are contrasting situations in the Nord-Pas de Calais Mining Basin. While some zones have adopted a development dynamic that is respectful of the heritage environment, others appear to be more fragile and, in certain cases, the quality of the mining landscape may be affected by poorly managed economic or urban development.

Tourism pressures

Tourism activity is mainly limited to visits to the four main sites of remembrance and mine museums. The number of visitors is perfectly compatible with their relative capacities. A marked increase in tourism and its diversification to include discovery circuits is fully compatible with the property, as this is one of the aims of its development.

ICOMOS considers that there is no particular pressure from tourism or its growth.

Environmental pressures

By its very nature underground mining causes extensive geological and environmental damage, whatever the mining techniques used and the precautions taken. For many years, there was the phenomenon of the “black country” caused by coal dust pollution, no longer extant today as a result of the cessation of mining activities. The main residual consequence relates to the areas of soil subsidence, the consequences of which are a weakening of the built environment and the evident rise in the water table. This sometimes results in the collapse of buildings and the creation of ponds and even lakes in some instances. Systematic pumping must be constantly maintained when the areas of subsidence involve urban areas or transport infrastructure.

ICOMOS considers that the subsidence due to underground mining operations and water table levels are phenomena that are technically under control today, but their long-term management remains a major issue.

Natural disasters

There are few natural risks in the region. Tectonically, northern France is not a region located on any fault line. Earthquakes are of low amplitude and are not noticed by the population. However, there is a risk of mine gallery shoring being weakened in the event of an earthquake.

Impact of climate change

Tornadoes or exceptional storm events that may be related to climate change have so far not affected the property.

ICOMOS considers that poorly managed urban development pressure could affect certain landscape aspects of the property.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The property is comprised of a series of 109 individual territorial components, each clearly defined on maps following survey boundaries. The total surface area of the nominated property is 3,943 hectares. It involves 87 municipalities and includes around 100,000 people within its boundaries.

The buffer zone has a surface area of 18,804 hectares; it concerns 124 municipalities and has a population of around 712,000. It incorporates all the components that form the property and systematically includes the boundaries stipulated for historic monuments and, where applicable, protected natural sites. It also includes components of the industrial mining heritage of lesser value, but these enhance the overall significance and express the territorial and landscape continuity of the Mining Basin. It protects the property’s sightlines from the main access routes.

ICOMOS considers that the boundaries of the serial property and of its buffer zones are adequate. They justify the notion of a living and evolving cultural landscape.

Ownership

Since the 1946 nationalization, a large part of the real estate components, industrial buildings and technical objects are still publicly owned. However, the winding up and end of mining concessions in the 1990s led to the breakup and redistribution of the land and buildings within the property, often passing to a multitude of entities established under public law and specific to the State Party (State Party itself, State bodies, municipalities, departments, inter-municipal associations, public law companies, local and regional public entities, etc.), and to

private companies and individual owners. The same applies to the urban sections of the property where all the types of housing ownership available under French law co-exist, from public ownership to individual private ownership, "mixed" housing companies (public authorities operating under private law), real estate companies established under private law, etc.

ICOMOS considers that the situation regarding the ownership of the property's component parts is complex, in terms of its fragmentation and the multiplicity of owners. However, the latter are all clearly identified as are the legal frameworks under which they exercise their ownership rights. Public control of the ownership of many of the components is assured, as is the State Party's capacity to intervene with respect to all other forms of ownership.

Protection

Legal protection

Protection of the serial property is provided by national laws, regional, departmental and local orders and administrative regulations concerning the following points:

1) Protection of the individual cultural components
The general framework is the *Historic Monuments Act* (1913, updated in 2007). It is implemented by orders listing a property as an historic monument (*MH*) or its inscription on the *Additional inventory of historic monuments* (*ISMH*). An order refers to real estate property; it may concern a building or a machine, sometimes several buildings or facilities, sometimes a component of a building. It only partially covers the notion of component or object. Orders concerning the serial property's components were generally issued between 1992 and 2009, some earlier. The listing procedure was undertaken for three buildings in 2011.

Type of property	*MH* listing	*ISMH* listing
Pit	3	13
Company offices		2
Headgear	5	16
Community & sporting facilities		2
Public buildings		13
Monuments		9
Religious buildings	3	8
Stations – transport		2
Dwellings and estates	1	5

2) Territorial and landscape protection of the heritage
A *ZPPAUP* (*Area of Protected Urban and Rural Architectural Heritage*) is a framework for legal action at the regional level. It is the result of an agreement negotiated between the State Party's services and the local stakeholders to publish cultural protection regulations adapted to a given region. It is also used as a tool for management and shared supervision in agreement with the regional development plans (point 5). In this instance, it focuses on the living and evolving cultural landscape of the mines. Three *ZPPAUP* agreements have been signed and implemented (at the end of 2009) in Béthune, Carvin and Valenciennes. The work undertaken will be pursued under the framework of a new legal structure called *AVAP* (*Areas for the Enhancement of Architecture and Cultural Heritage*).

A submission for listing the property under the protection of the 1930 Act is scheduled for 2012-2015.

3) The protection of natural areas
This aspect is covered by the following legislation:

- At the European level, the Directive 92/43 of 1992 which established the Natura 2000 network;
- At the national level, the 1976 *Protection of Nature Act*, updated in 1985 (*ENS or sensitive natural areas*), the 1995 *Environmental Protection Act* and the 2005 *Environmental Charter* (Constitutional Law).

All these acts, orders and regulations form the *Environmental Code*. Within the scope of the property, eight types of protective measures are applicable for around sixty application cases in the form of specific protected areas.

4) The *Mining Code*
The disused mining facilities, whatever their current ownership, continue to be governed by the French *Mining Code* that deals with issues of residual safety and underground access. More generally, it deals with measures covering the public authorities' management of material issues in the post-mining period.

5) Regional consistency
Consistency of the various aspects of the property's protection is provided by regional administrative tools enabling consultative management between the public and private stakeholders in the context of the public regulations of the *Urban planning Code*. This refers to the *SCOT* (*Master Plan for Regional Consistency*) covering several municipalities, and the *PLU* (*Local urban planning schedule*) at the municipal level. Within the context of the property:

- *SCOT*: Three have been completed and one is currently being drawn up; they are now being harmonized to ensure the mining heritage and its landscapes are taken into account in a homogeneous and consistent manner in regulations.
- *PLU*: There will eventually be around one hundred.

Under the existing urban planning codes and Local urban planning schedules, municipalities issue building and construction work permits.

6) The *Heritage Charter*
This represents the final effort to ensure regulatory consistency by the national, regional and local public services, the private owners and citizen associations. It

was drawn up as part of the process involved in creating the dossier for the property's nomination for inscription on the World Heritage List, and is designed to steer all cross-authority questions for the property's management (see management). It was adopted by the partners in November 2009 and officially published in September 2010, under the title of *Heritage Charter for the Unified Mining Basin*. This will be the reference document for the property's protection.

Traditional protection

Traditional protection concerns the ownership and recognition of the property's values by the local population a large part of which is made up of miners' families and their descendants. This is expressed through a living worker culture and an on-going deep homage to the victims of the Courrières disaster, a tangible memorial to French and immigrant miners. It is also expressed through the inhabitants of the workers' estates' attachment to their homes.

Effectiveness of protection measures

ICOMOS considers that within a complex legal, regulatory and regional arsenal, the Historic Monuments legislation is a coherent and relatively simple body of legislation which, with the protection of cultural landscapes, forms the core of the protection. This complexity does, however, have dual merit: none of the aspects of the protection is overlooked and it applies continuously to the property's components and to their buffer zones. Also, the State Party is aware of these difficulties: one area of its effort is aimed at making the protection homogeneous, applicable to the entire property and comprehensible to the parties involved. ICOMOS encourages this approach, notably through the Heritage Charter.

ICOMOS considers that the protective measures for the property are adequate.

Conservation

Inventories, recording, research

Numerous local, regional and national institutions have archival centres concerning the property: the Historic Centre for Mining in Lewarde, the Scarpe-Escaut Regional Natural Park, actions by the Lens-Liévin Art and History Society, the CPIE (Permanent Centre for Environmental Initiatives (CPIE) – Slagheap Chain, National Labour Archives in Roubaix, the Departmental Archives in Nord and Pas-de-Calais, the Regional Department of Cultural Action, Charbonnages de France Archives, etc.

The lead-up to the property's nomination has been a lengthy process, based on an exhaustive and detailed inventory by the *Mining Basin Mission*. It is based on scientific symposia attended by a range of academic and professional experts. The Mission was preceded by a series of entities and specialist programmes which had been overseeing the "post-mines" period since the 1970s.

Present state of conservation

The inventory and studies carried out between 2000 and 2009, along with the surveys of the municipalities allowed an in-depth census of the mining heritage components and a precise state of their conservation to be drawn up. These situations vary from good to fairly good, especially for housing and public buildings, to situations of less consistent conservation for the abandoned industrial sites. Their state varies according to the specific history of each pit, from the start of mine closures in the 1970s to 1990. The most damaged, converted or quite simply abandoned mining and industrial sites have not been retained within the scope of the property. They may however appear within the buffer zones as components of secondary significance.

Particular attention has been paid to the analysis of the state of conservation of the landscape visual axes, from the main road access routes to the various components of the property. The four major sites of mining remembrance form the most complete ensembles and landscapes. The slag heaps selected are considered the most intact.

Knowledge of the state of conservation of the property's component parts is grouped in the systematic inventory database where it is classified by type and by municipality. The assessment of their state of conservation is used to define the medium- and long-term conservation policies.

Overall, ICOMOS considers that all the components forming the serial property are in a good state of conservation.

Active conservation measures

The many conservation measures are grouped under thematic action programmes for the pit heads, slag heaps, transport components and the miners' housing estates.

The built and architectural heritage is under the responsibility of its owners. The public sites are incorporated into the systematic supervision of their state of conservation and programmed actions, the importance and level of funding for which vary according to their protection situation. Sites classified as Historic Monuments receive funding from the State; the others receive funding from the region or municipality.

The most characteristic landscape components, such as the slag heaps or headgear, most noteworthy public buildings and churches, and finally the social housing in the worker estates are the subject of significant restoration or enhancement campaigns, several of which are currently in progress. The privately owned sites may apply for public funding on the basis of similar criteria. The various regional programmes and the Heritage Charter schedule actions and harmonize conservation at the level of the property.

Maintenance

Maintenance measures are the responsibility of the institutions, associations and private owners who manage the components or objects that make up the property. However, given the large size of some of them (pits, headgear, private railway lines etc.), the question of long-term maintenance funding remains unanswered.

Effectiveness of conservation measures

ICOMOS considers that the conservation measures taken or planned are adequate on a technical level. However, they seem often to be at the level of a project rather than actions actually undertaken. The actions need to be programmed more precisely and the funding clearly indicated, given that several of the municipalities have substantial community expenses but limited financial resources, or even high levels of debt. Therefore, an overarching conservation programme with a medium-term calendar, indicating the financially consolidated actions and those yet to be consolidated, would be useful for a good overall view of the conservation measures. In some cases, the restorations undertaken seem somewhat excessive and tend to over-interpret the objects.

In conclusion, ICOMOS considers that the property's state of conservation is overall satisfactory. It would be desirable to develop a financially consolidated overarching conservation programme for the medium term.

Management

Management structures and processes, including traditional management processes

The *Nord-Pas de Calais Mining Basin Mission,* created in 2000, is a public structure tasked with technical work for the entire Mining Basin on behalf of the various local and regional authorities and the State which established it. It provides an executive structure across all authorities for the conservation, management and supervision of the property and its landscapes. It provides a tool for studying or implementing the various urban restructuring programmes, housing restoration, social, economic and ecological actions. It also provides promotion and communication. Lastly, it is the body that writes the Management Plan.

The Mining Basin *Conference of Regional Authorities* will be the policy body for the overarching management of the property. It will provide the general orientation, coordinate the stakeholders, and monitor the property's overall conservation and communication at the level of the Basin. It will be co-chaired by the President of the Regional Council and the Region's Prefect. It will oversee compliance with the *Heritage Charter*, discuss the compatibility and consistency between projects and will encourage the design of joint actions. It is supported by an association structure created for the citizens: the *Mining Basin Association*. October 2011 is the date announced for the establishment of the Conference in the temporary form of a consultation commission.

Most of the individual sites are managed or used by a single institution: either a not-for-profit association, an authority or a delegated private manager. Specialist institutions of a property-wide nature are:

- The Lewarde Historic Centre for Mining,
- The Scape-Escaut Regional Natural Park,
- Lens-Liévin Art and History Society,
- The Environment Centre – Slag Heap Chain, etc.

ICOMOS considers that the official notification of the creation of the *Conference of Regional Authorities* must be confirmed and that, within this context, its institutional and technical links with the la *Mining Basin Mission* and the *Mining Basin Association* must be clarified.

Policy framework: management plans and arrangements, including visitor management and presentation

For the property as a whole, the following plans apply:

- The heritage development plan was made official by all the partners in 2006;
- It is extended by the Heritage Charter adopted in 2009;
- The various plans, charters and sectorial and thematic management measures apply, in part or in full, to form the Management Plan. In particular, the latter includes a contractual section with local stakeholders and owners through a series of framework agreements.

The plans covering the overall Mining Basin are:

- The State-Region Project Contract (2007-2013);
- The Regional Development Directive;
- The Regional Development and Sustainable Development Directive, under the Grenelle II Act;
- The scheduled management of the consequences of the post-mining period through a public technical bureau.

The main thematic plans are:

- The specific programmes of the urban municipalities and inter-municipal structures, notably for the restoration of the social housing;
- Cycleways and greenways;
- The Regional master plan for the sustainable development of tourism and leisure activities;
- The departmental plans for walk itineraries;
- The programmes associated with the ZPPAUP and PLU (see protection);
- The municipal cultural action programmes.

Under the general context of the Plan for heritage development and the Heritage Charter, under the technical supervision of the Mining Basin Mission, three sector management plans were officially published in

2011 for the pit heads, private railway lines, slag heaps and for four miners' housing estates.

Risk preparedness

The main risks are soil subsidence as a result of the mining operations, and the associated rise in the water table. After *Charbonnages de France*, control of this situation was taken over by a State scientific and technical entity: the *BRGM* (*Geological and Mining Research Bureau*). The *National Commission for Mining Risks* also has a policy role. Together, they apply the Mining Code and monitor mining risks through local prevention and monitoring plans. The regional branch is the (*Regional Consultation Authority*).

A pumping network to maintain the level of the water table below the subsided areas has been installed: the *Water Pumping Stations*. Following the request by ICOMOS, additional information was provided about the artificial maintenance of the water table levels. A major impact study is currently being completed to assess the pumping, its risks and the possibility of flooding (2008-2012). It will create a precise map of the risks. Known results show that there is a risk for only nine of the property's 109 components. Eight workers' housing estates could experience flooding of less than 50 cm of water. The annual cost of pumping is around €430,000.

Involvement of the local communities

The local communities have participated in each stage in the serial property's definition and they are kept regularly informed of the project's progress.

The *Mining Basin Association* is responsible for relations with the local population, and the dissemination of the property's values and commitments for its protection through citizen behaviour expressed in particular through the Heritage Charter.

Resources, including staffing levels, expertise and training

The financial resources form an important aspect of the nominated property. However, a distinction must be made between the sums provided under the general support policy for the closure of mining activity, at times considerable sums, and budget lines applied for the property's conservation. The two are, however, closely interconnected and cannot be separated, such as for housing restoration, industrial reconversion programmes, securing the safety of old mines, management of the geological impacts, etc. These programmes have been financed at all levels: European structural funds, State Party, region, the state-owned enterprise Charbonnages de France, departments, etc.

These general expenses for the entire mining zone, far more extensive than the property itself, but concerning it, are estimated at €3.9 billion since 1990. They will continue at much lower levels because of the end of large socio-economic operations, but the amounts remain significant nonetheless, notably through the State-Region Project Contract (2007-2013): €86 million including a major urban regeneration programme much of which is within the property. Added to this are various sources of European funding for the current period (2007-2013), totalling €70 million, a large part of which is designated for treating abandoned former industrial spaces and mines. European funding is also allocated for the environment and risk prevention and regional development projects.

Contractual regional and departmental funding exists also for global actions without it being possible to know what sums are allocated for the property and its conservation.

In terms of human resources, the types of personnel present in the property's various management and enhancement authorities are:

- Municipal employees with expertise in management, tourism, culture, environment, technical maintenance work, social integration, etc.;
- Personnel of the regional or Mining Basin public authorities: engineers, town planners, heritage curators, communication specialists, etc.;
- Personnel in tourist bureaus: tourism experts, guides, etc.;
- Personnel employed in museums, parks and promotional centres: museographers, guides, lecturers, etc.;
- Hotel and restaurant staff;
- Private companies contracted for delegated management;
- Association personnel and volunteers.

The overarching Mining Basin Mission has 18 permanent staff.

The State Party also provides a table of regional training courses in culture, heritage and tourism.

Effectiveness of the current management

ICOMOS considers that the management of the serial property has involved considerable resources, but that up until now in the context of general public policies concerning areas and topics that largely exceed its geographic boundaries and heritage definition, while nonetheless having contributed decisively to its conservation. It is necessary, under the Management Plan, to analyse better the sums actually allocated to the property's conservation and management, and to provide a summary table of the current or future actions, with precise dates for their implementation. It is also necessary to rapidly carry out a detailed survey of the personnel working on the property's conservation and management and their qualifications, in order to draw up a policy for human resources and training requirements.

ICOMOS considers that the property's management system is overall adequate. However, its specific human and financial resources need to be clarified and confirmed. The official announcement of the *Conference*

of Regional Authorities, as an overarching policy authority for the property's management and monitoring, needs to be confirmed. A summary of the current and future conservation actions and a schedule for their implementation are needed.

6 Monitoring

Work on the inventory of the components and objects enabled the creation of a detailed database that is appropriate for the property's heritage monitoring on the basis of the standard criteria applied under the regulations of the State Party's Ministry of Culture, notably through its Regional Department of Cultural Action. Specific indices have been defined for monitoring the slag heaps and renovating the habitat areas under contractual arrangements with the owner organizations. It will in particular include social monitoring of the property's conservation.

Since 2010, and following work on new indicators, global and systematic monitoring of the state of conservation of the main categories of attributes has been implemented. In particular, it includes:

- A landscape observatory in the form of an experimental programme with the Scarpe-Escaut Natural Regional Park in cooperation with the Nord and Pas-de-Calais departments' *CAUE* (*Architecture, Urban planning and Environment Councils*), within the context of the municipal PLU;
- An ecological and landscape inventory of the old railway lines in the Mining Basin.

The overall responsibility for monitoring lies with the public structure, the *Mining Basin Mission*.

The work on new indicators and monitoring the consequences of mining must be continued.

ICOMOS considers that the documentation needed for monitoring has been compiled and is functional. However, planning monitoring operations, at the level of the overall property, and implementing the new indicators announced are needed.

7 Conclusions

ICOMOS recognises the Outstanding Universal Value of the living and evolving cultural landscapes provided by the 109 components forming the serial property Nord-Pas de Calais Mining Basin, as well as its exceptional place in the social history and events which mark the mining industry.

Recommendations with respect to the inscription

ICOMOS recommends that the Nord-Pas de Calais Mining Basin, France, be inscribed on the World Heritage List as a cultural landscape on the basis of **criteria (ii), (iv) and (vi)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Nord-Pas de Calais Mining Basin corresponds to the French part of the northwest European coal seam. On a broad open plain, it extends some 120 km, through the two administrative departments of Nord and Pas-de-Calais. It presents a remarkable cultural landscape in terms of its continuity and homogeneity. It provides an important and well preserved example of coal mining and its associated urban planning throughout the two centuries of intensive coal extraction from the end of the 18th century to the last quarter of the 20th century, through industrial methods involving a great many workers. This succession of landscapes resulting from the virtually mono-industry of coal extraction includes: physical and geographic components (slag heaps, farmland, mining subsidence ponds and woods), a mining industrial heritage (pit heads, residual industrial buildings and headgear), vestiges of transport equipment, the so-called *'cavaliers',* (canals, railways, conveyors), worker housing and characteristic urban planning (*mining villages*, garden cities, detached housing estates and tenement buildings), monumental and architectural components testifying to community life (churches, schools, managers' *châteaux*, company head offices, worker union premises, stations, town halls, hospitals and clinics, community halls and sports facilities), and finally places of remembrance and celebration of the Basin's history and its miners.

Criterion (ii): The Nord-Pas de Calais Mining Basin provides exceptional testimony to the exchange of ideas and influences regarding the extraction methods used for underground coal seams, the design of worker housing and urban planning, as well as the international human migration that accompanied the industrialization of Europe.

Criterion (iv): The living and evolving mining landscapes of the Nord-Pas de Calais Basin provide an eminent example of the large-scale development of coal mining in the 19th and 20th centuries, by large industrial companies and their considerable workforce. This is a space structured by urban planning, specific industrial structures and the physical vestiges of coal extraction (slag heaps and subsidence).

Criterion (vi): The social, technical and cultural events associated with the history of the Mining Basin had international repercussions. They are a unique and exceptional illustration of the danger of mine-working and of the history of its major disasters (Courrières). They are testimony to the evolution of the social and technical conditions of coal extraction. They represent a

major symbolic place of the workers' condition and their solidarity, from the 1850s to 1990. They are testimony to the dissemination of the ideals of worker unionism and socialism.

Integrity

The diversity and the number of components that make up the property, and the many additional aspects of its landscapes express a good level of technical, territorial, architectural and urban integrity. The integrity of the industrial testimony to coal extraction is, however, much weaker. This unequal integrity in the material testimonies nonetheless still enables a satisfactory expression of the property's economic and social values. In practice, the integrity can be satisfactorily read on three levels: the technical object or building, the intermediate level of the coal extraction pit, worker estate or local territory, and, lastly, the more expansive view of the landscapes and horizons that meet the visitor's eye.

Authenticity

The property's authenticity should be considered at the level of its 109 components and at the level of each of the associated landscapes. Owing to a rigorous selection of these components, the conditions of authenticity are generally good. However, they suffer from occasional gaps in the housing, that it would be a good idea to remedy, and potential threats to the landscape from economic development.

Management and protection requirements

Within a complex legal, regulatory and regional arsenal, the Historic Monuments legislation forms a coherent body of legislation which, together with the protection of cultural landscapes, forms the core of the protection. This complexity does, however, have dual merit: none of the aspects of the protection is overlooked and it applies continuously to the property's components and to their buffer zones. All these provisions have been compiled in a *Unified Mining Basin Heritage Charter* that governs all the property's public and private partners.

The property, comprised of 109 sites, has an operational management system and an overarching technical organization, the *Mining Basin Mission*, which has produced an inventory and the high quality selection of the property's components and associated landscapes. However, the implementation of an overarching policy authority, the *Conference of Regional Authorities,* needs to be confirmed and institutionally established, and the human and financial resources allocated for the property's conservation and its landscapes to be sustained.

The *Management Plan* and the *Heritage Charter* attempt to assemble in a coherent ensemble the many regulatory texts, the many regional works provisions and the sector plans concerning the serial property's management and its conservation.

ICOMOS recommends that the State Party give consideration to the following:

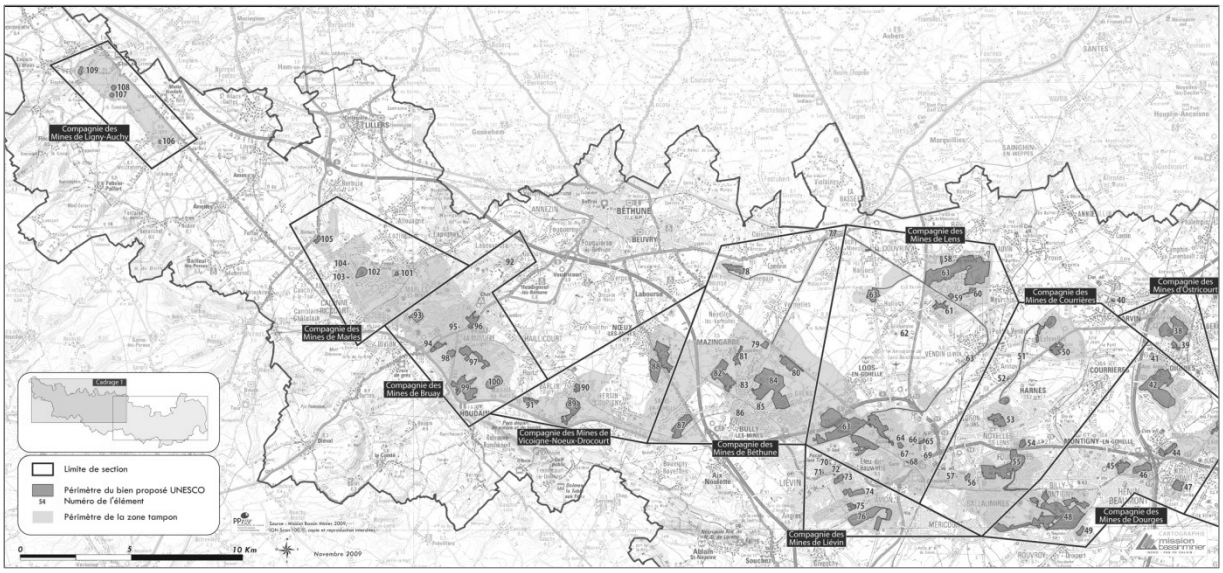
- The ensemble of protection regulations grouped together in the Heritage Charter being very complex, it is necessary to write a version that is as comprehensible as possible for the stakeholders in the field to make it applicable;

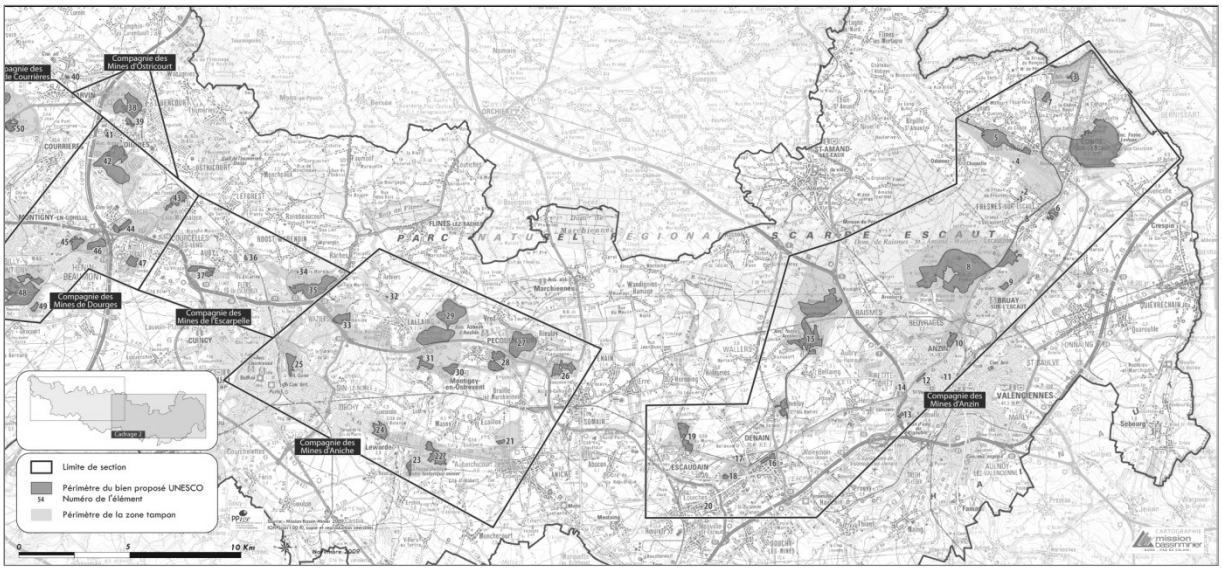
- Including a summary programme of the conservation actions planned for the short and medium term for the entire serial property in the Management Plan, together with information about their financial consolidation and implementation schedule;

- Confirming the official publication of the *Conference of regional Authorities* as the overarching policy management authority and indicate its institutional and technical links with the *Mining Basin Mission* and the *Mining Basin Association;*

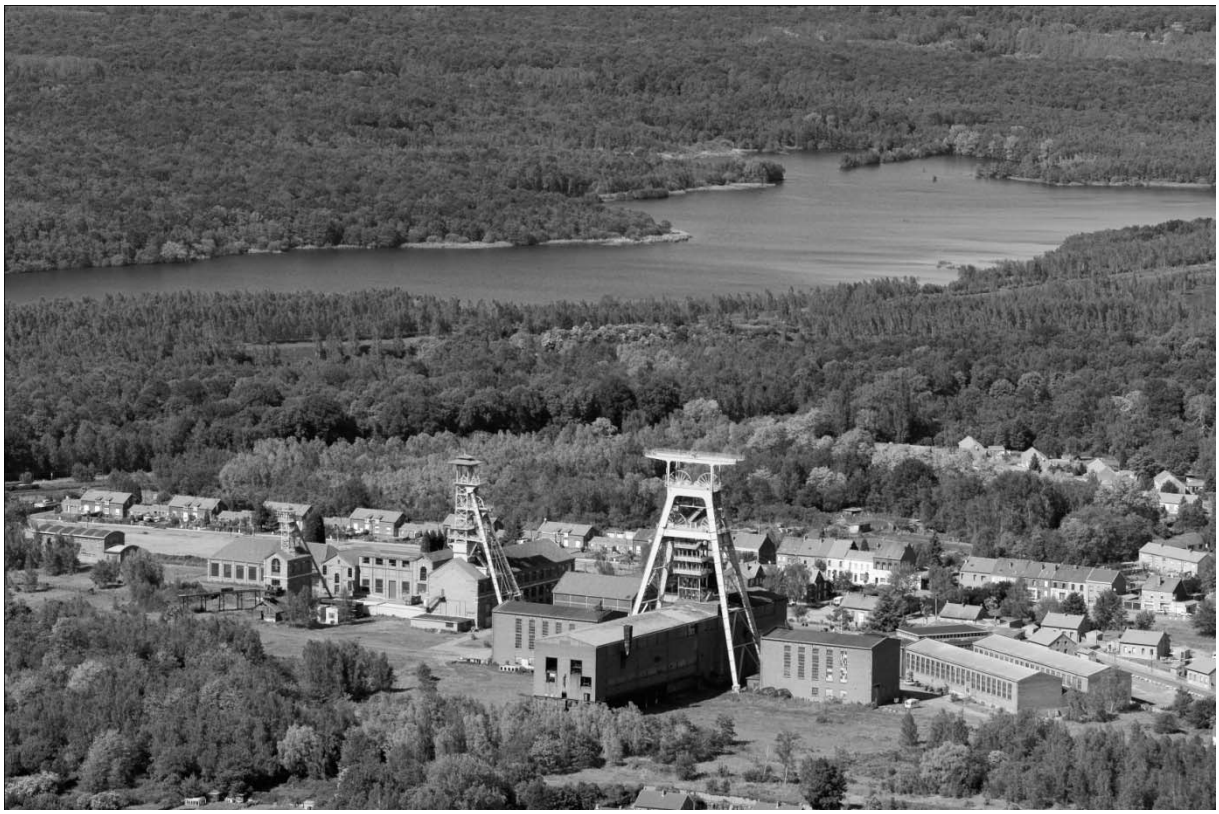
- Rapidly performing a detailed survey of the personnel working on the property's conservation and management and their qualifications, in order to draw up a policy for human resources and training requirements;

- Scheduling monitoring actions and implement the new indicators announced.





Maps showing the boundaries of the nominated properties



Anzin mining company – Arenberg pit in Wallers and subsidence pond

Marles mining company – Panoramic view of Auchel slag heap n°14 in Marles-les-Mines

Aniche mining company - Worker estates of Sainte-Marie, Lemay and Pecquencourt

General view of pit n°11-19 of the Lens mining company

Courrières mining company – Social housing of pit n°24 below slag heap 98 in Estevelles

Liévin coal-mining company – school of estate n°16 in Liévin

Schwetzingen (Germany) No 1281

Official name as proposed by the State Party
Schwetzingen: A Prince Elector's Summer Residence

Location
State of Baden-Württemberg
Administrative Region of Karlsruhe
European Metropolitan Region of Rhein-Neckar
Germany

Brief description
The Palatine Prince-Electors built the Schwetzingen summer residence in the 18th century. Retaining an older core, the ensemble is arranged along a main axis. The castle and its outbuildings are in the Baroque style; it has one of the oldest Italian-style theatres. Designed in several stages, its gardens express a synthesis of Baroque geometric styles, Rococo influences and the English-style of landscape garden; they include an important ensemble of picturesque follies and statues. In the tradition of the grand princely residences of the time, Schwetzingen expresses the values of the Enlightenment, notably with regard to music, opera and theatre.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *group of buildings*.

1 Identification

Included in the Tentative List
20 September 1999

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
24 January 2007
28 January 2010

Background
The property was submitted for examination by the 33rd session of the World Heritage Committee (Seville, 2009). ICOMOS recommended not inscribing the property on the List. The State Party withdrew the nomination before its examination by the 33rd session of the World Heritage Committee (33COM 8B.24).

Consultations
ICOMOS consulted its International Scientific Committee on cultural landscapes and numerous independent experts.

Literature consulted (selection)

Claus Reisinger, *Der Schlossgarten zu Schwetzingen*, Heidelberg, 1987.

Enge, T. O., *L'architecture des jardins en Europe, 1450-1800*, Paris, 1994.

Carl Ludwig Fuchs et Claus Reisinger, *Schloss und Garten zuSchwetzingen,* Worms, 2001.

Mosser, M., *Histoire des jardins de la Renaissance à nos jours*, Paris, 2002.

Hartmut Troll, Andreas Förderer et Uta Smitt, *Schwetzingen Palace Gardens*, Munich/Berlin, 2008.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 15 to 17 August 2011.

Additional information requested and received from the State Party
None

Date of ICOMOS approval of the report
14 March 2012

2 The property

Description
Schwetzingen was mainly built in the 18th century on an older nucleus (see History and Development). It is located 18 km south of Mannheim and 12 km west of Heidelberg. The overall design of the ensemble is based on an east-west axis traversing the castle from one side to the other. The urban approach avenue, the castle and the gardens are arranged around this axis, with a relatively high degree of overall symmetry, without this being complete or systematic, especially when one moves away from the main direction. It is an application of the overall principle implemented at Versailles, and Schwetzingen is sometimes referred to as the Rhineland Versailles.

To the east, the main access axis to the castle contributed to the restructuring of the small town, forming an avenue lined with villas and houses as well as the castle outbuildings. The general stylistic inspiration of this eastern part of the property is Baroque, being part of the same programme of construction as the castle. Karl-Theodor Avenue leads to an elongated square in front of the castle entrance which is flanked by two single-storey guardrooms. The main courtyard of the castle is accessed via a bridge over the Leimbach River. On the town side, the Palace has a very open U-shaped plan, which surrounds the main courtyard on three sides.

The core of the Palace lies on the axis of this perspective; it corresponds to the old 16th and 17th century castle, which was considerably modified in the 18th century so as to integrate it into the new ensemble. It forms the nodal point of the east–west axis, between the town and the gardens. It is almost square in plan around a small central courtyard that opens onto the main courtyard and the garden. It dominates the complex with its four storeys and the two partially symmetrical towers on the eastern side; the façade facing the gardens is flanked by two square towers. The interior was reorganised in the 18th century; it includes paintings and stucco work. The tapestries and the Biedermeier furniture on the first floor were installed in the early 19th century.

On the town side, the castle is flanked by two symmetrical L-shaped wings that border the main courtyard. They have two storeys and have gabled side entrances. The southern branch is considerably longer and has a second large wing, turned towards the town. A third, smaller wing is oriented towards the garden and its orangery. These different elements, which considerably extend the building around the original castle, correspond to the 18th century extension and embellishments. The roofs are similar, in the Mansard style and covered in slate. The exterior facades are rendered in a pale ochre colour whilst the rustication of the older parts stands out beneath the colour.

On the garden side there are two crescent-shaped buildings (1748–50), which were initially planned as an orangery; they partly surround the large circular parterre. They have large semi-circular arched French windows whereas the castle's other openings are rectangular.

To the north-west stands the theatre, opened in 1753, which is also used for opera. It is of the "Italian" type, in Rococo style, with a horseshoe-plan auditorium with two levels of balconies. The dominant blue-grey-white decoration is Neo-Classical. The machinery was improved in the 19th century.

Viewed from the Palace, the garden is visually structured by a main westward perspective that ends at a large pool. The first and oldest garden begins with the large circular parterre, or *Zirkel*, and extends along the main axis. It was designed in the mid-18th century by the Elector Karl-Theodor as an essential component of his summer residence. It is a symmetrical and rigorously geometrical garden. It is structured around the Arion Fountain in the centre of the large circular parterre. The latter is typical of the Baroque style; it is traversed by two large tree-lined avenues in the form of a cross, and two smaller diagonals. The *Zirkel* and the vine-covered pergolas structure the space. Statues, stone urns, and obelisks are placed at regular intervals. This Baroque style garden is extended to the north by the rectangular parterre of the old orangery and to the south by the nursery and the orchard, also rectangular in plan.

The second garden, which was created later, is arranged in landscaped groves in the English style. It extends the first garden to the west and north-west, with broad avenues and 'natural' canals. The groves are more geometrical in their organisation along the axial avenue. The pool closes the main perspective by crossing it at right-angles. The English garden includes an arboretum. It is surrounded, more particularly to the west, beyond the main pond, and to the north, by wooded areas, pools, and canals.

The groves have themes that are generally illuminated by small or large follies, statuary, and planting arrangements. Designed in the 1760s to 1770s by the landscape architect Nicolas de Pigage, the buildings illustrate in a picturesque style themes of exotic inspiration or drawn from ancient mythology, notably:

- The *Temple of Apollo*, which is circular in the form of an arcaded pavilion; a dome sits on top of twelve Corinthian columns;
- The *Temple of Mercury*, a central-plan structure, with rusticated facing on an artificial rock;
- The *Temple of Minerva*, of Roman type, rectangular and with Corinthian columns;
- The *Temple of Botany*, circular in plan, on a podium and roofed with a slate cupola;
- The *Mosque* is surmounted by a dome and flanked by two minarets connected by a quarter-circle wall to which is attached an elongated cloister together with pavilions with oval domes and surrounded by a 'Turkish' garden; the style evokes Ottoman architecture and Byzantine art while retaining elements of western classical style; its interior contains Islamic decoration;
- The *Bath House* is a square single-storey building inspired by the Petit Trianon at Versailles. The central salon has an octagonal dome; it is decorated with Neo-Classical paintings and it has its own private garden with a fountain and a grotto with picturesque decoration.

The garden still has its complete collection of 280 statues collected in the 18th century by the Elector Princes. For conservation reasons, these are all copies. The statuary is very varied: it includes sculptures specially made for Schwetzingen and others from, for example, Lunéville Castle in Lorraine.

History and development

A baronial castle stood here in the 14th century; a small enclosure with a keep located on an island in the Leimbach River. It was converted into a residential palace by the Elector Palatine in the 16th century.

Ravaged after the Thirty Years' War, it was rebuilt. In 1689, during the Palatinate War, a fire again ruined the castle. Prince-Elector Johann Wilhelm immediately began rebuilding, and it was completed in 1701. From 1711 to 1713, the construction of the commons on the town side gave the main courtyard its present shape.

In the reign of Karl Philip (1716–42) the Palace was already a summer residence. The gardens were enlarged

and redesigned based on geometric Baroque principles; an orangery was installed at their edge.

The Elector Karl-Theodor (1742–99) enlarged and reorganised Schwetzingen Palace as the main summer residence. He commissioned Pigage to build an Italian theatre (1753) and reception rooms south of the original core. The courtyards and dwellings were refurbished and new annexes were built on the town side. The old orangery was replaced by two crescent-shaped buildings surrounding a circular parterre, the starting point for the pleasure gardens. The latter were redesigned and enlarged under the direction of Johann Ludwig Pétri, in parallel with the Palace's restructuring. Baroque in style, they include a move towards the Rococo, with their *curving walks*. There was considerable activity at the summer residences of the Prince-Elector, illustrating the wealth and inventiveness of the Age of the Enlightenment in the Rhineland, notably in the areas of music, opera and theatre. The child prodigy Mozart visited the Palace.

Extensive work was performed in the park in the 1760s under the direction of Nicolas de Pigage who undertook a vast programme to build follies and a garden theatre, organised statuary, planting arrangements, etc.

In 1777, Karl Theodor inherited Bavaria and left his Rhineland residences and moved to Munich, followed by his court and orchestra. The cultural influence of Schwetzingen that had reached its golden age began to decline. One last change was made at the palatial residence with the addition of a landscape garden, of English inspiration; it was designed around 1780 by Friedrich Ludwig von Sckell.

In 1803, as part of Napoleon's political reorganisation of the Rhineland region, this part of the Palatinate was annexed to the Baden region and ceased to exist as an autonomous principality. Schwetzingen became a garrison town and no more than a seat of local power, even if in 1833 the town was granted its own charter.

During the first half of the 19th century, the garden was maintained for the House of Baden by the master gardener Johann Michael Zeyher, who reorganised many elements of the garden according to the tastes of the time. There was a tendency to get rid of the Baroque elements and return to a more natural appearance, along with a growing interest in botany and plant species.

The castle then entered a period of partial abandonment, only to be rediscovered in the early 20th century, mainly after World War I. It was opened to the public in 1918. The castle's interior decoration and furnishing was undertaken at this time.

The question of restoring the castle garden in the Baroque spirit of its creators was only raised properly from 1930 onwards, as part of a programme of pruning, cleaning, and replanting the parterres.

The post-World War II period saw the start of a project for the restoration of the castle; and then the re-composition of the gardens was envisaged in line with the dual creation of the 18th century: Baroque-Rococo and landscape garden. It was carried out in the early 1970s, in a systematic and rigorous approach made possible by the quality of the preserved documentation, notably Pigage and von Sckell's plans. The statues were replaced with copies and the gardens regained a structure similar to their original appearance. Work on the castle structures was finally carried out from 1975 to 1982 and restoration of the interiors from 1984 to 1991. Work on regenerating the gardens continues to the present day, where their period character and methodical approach is used as a model for the restoration of 18th century gardens in Germany.

ICOMOS notes the change in perspective between the first nomination, inscribed within the context of a Masonic interpretation of cultural values, and the present inscription which focuses on the musical arts and theatre at princely courts in the 18th century.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The comparative analysis evokes a series of similar properties, formed by royal or princely residences in 18th century Europe, with a particular focus on summer residences. They all include a palatial ensemble developed in close association with the gardens; sometimes, the entrance is extended by an urban approach avenue. The garden design and styles of this period are examined, between the dominant Baroque, developed from the model of Versailles, and the later adoption of landscape gardens in the English style. The construction of follies in parks is also examined in this study. The architecture of the buildings and follies, decoration and statuary and, lastly, authenticity are equally taken into consideration.

Twenty-six properties are examined, eleven of which have already been inscribed on the World Heritage List. These are, in Germany, the Castles of Augustusburg and Falkenlust at Brühl (1984, criteria (ii) and (iv)), Palaces and Parks of Potsdam and Berlin (1990, criteria (i), (ii) and (iv)), especially *Sans-souci*, and the Garden Kingdom of Dessau-Wörlitz (2000, criteria (ii) and (iv)). To these should be added, again in Germany, other palatial ensembles dating from the same period or nearly, such as the Würzburg Residence with the Court Gardens and Residence Square (1981, criteria (i) and (iv)), as well as a property shared with Poland, dating from a little later but presenting similarities: Muskauer Park / Park Mużakowski (2004, criteria (i) and (iv)).

The analysis continues with references to properties in other European countries inscribed on the World Heritage List for similar values as those proposed for this property. In first place is *Versailles,* which served as a model for

Schwetzingen and extensively in Europe (France, 1979, criteria (i), (ii) and (vi)), Palace and Gardens of Schönbrunn, another major European reference (Austria, 1996, criteria (i) and (iv)), Aranjuez Cultural Landscape (Spain, 2001, criteria (ii) and (iv)), 18th-Century Royal Palace at Caserta with the Park, the Aqueduct of Vanvitelli, and the San Leucio Complex (Italy 1997, criteria (i), (ii), (iii) and (iv)), Royal Domain of Drottningholm (Sweden, 1991, criteria (iv)), Lednice-Valtice Cultural Landscape (Czech Republic, 1996, criteria (i), (ii) and (iv)), and Blenheim Palace (United Kingdom, 1987, criteria (ii), (iv)).

ICOMOS considers that a significant broadening of the comparison could be made to include properties offering similarities with Schwetzingen, on one basis or another, for example, Historic Centre of Český Krumlov (Czech Republic, 1992, criterion (iv)) organised around a castle converted into a Baroque chateau with the addition of a garden, the Bellaire summer palace, a winter riding school, and a unique Baroque theatre of 1766; also in the Czech Republic, Gardens and Castle at Kroměříž (1998, criteria (ii) and (iv)), Litomyšl Castle (1999, criteria (ii) and (iv)); in Russia, Historic Centre of Saint Petersburg and Related Groups of Monuments, in particular the Summer Palace of which the urban articulation is a reference (1990, criteria (i), (ii), (iv) and (vi)); in France, Palace and Park of Fontainebleau (1981, criteria (ii) and (iv)); in Italy, Villa d'Este, Tivoli (2001, criteria (i), (ii), (ii), (iv) and (vi)); and in Austria, City of Graz – Historic Centre and Schloss Eggenberg (1999, criteria (ii) and (iv)), etc.

Outside the Word Heritage List, the comparative analysis mentions numerous similar palatial ensembles of the 18th century in Germany, with their gardens, buildings and use as a princely summer residence. In the same region of Baden-Württemberg, the list includes *Favorite* Palace and gardens in Rastatt, *Solitude* Palace in Stuttgart, the Ludwigsburg palatial ensemble and *Nymphenburg* ensembles in Munich, *Schönbusch* in Aschaffenburg, Ansbach Gardens, the Hermitage in Bayreuth, the *Veitshöchheim* ensemble in Bavaria, *Wilhelmshöhe* Palace and gardens in Cassel, the Royal Gardens of *Herrenhausen* in Hanover, *Ludwigslust* Palace and gardens in Mecklenburg, and the *Pillnitz* ensemble in Dresden. The international comparison refers to *Peterhof* Palace in Saint Petersburg (Russia), *Het Loo* Palace and gardens (Netherlands), *Castle Howard* (United Kingdom), and *Bel-Œil* Castle (Belgium).

The comparisons made reveal that the fact of the summer residence of the Prince-Elector being preserved started in the 18th century, by his departure for Munich, and then by a much reduced princely use with the emergence of the regional state of Baden-Württemberg in the early 19th century. It escaped the transformations and adaptations that generally occurred elsewhere, both in the buildings and the gardens. The concept of summer residence and the authenticity of its conservation in Schwetzingen are emphasised as a major feature contributing to its uniqueness. Summer residences were often transformed in the 19th century; additionally, they do not have any well-developed urban link, as in Schwetzingen, nor, right from their beginnings, as complete an ensemble of functions. Schwetzingen gardens are also presented as having greater authenticity and integrity than elsewhere, following their painstaking reconstruction. The large circular parterre at the start of the garden, or *Zirkel*, encircled by the new orangery in two symmetrical crescents forms an elegant ensemble, a Baroque work of art virtually without equal. The assemblage of gardens, with their many picturesque monuments and unique collection of statues illustrate a synthesis, considered perfect and unique, between the geometric Baroque style and the English-style landscape garden. The property also has a series of remarkable architectural and technological elements, all in an excellent state of conservation: a unique Baroque Italian theatre, a pumping station, authentic lighting components, etc. The garden follies are also highly original and are well preserved, notably the pleasure pavilion or Bath House, the Mosque and its cloister, the Temple of Mercury, etc.

ICOMOS considers that the comparative analysis, together with several additional comments, is sufficiently detailed to allow a reasonable assessment of the Schwetzingen palatial ensemble. The first point that becomes clear from this extensive overview is that palatial ensembles and gardens from the Baroque era of the European Age of Enlightenment and the transition towards the English-style landscape garden are already recognised and well represented on the World Heritage List.

The main arguments put forward are based on the state of integrity and exceptional authenticity of Schwetzingen, compared with other properties, both at a general level (the main central axis, the synthesis between the Baroque and landscape gardens and the castle's urban entrance) and for its various and most outstanding components (the circular parterre and its built environment, the Rococo theatre, the garden theatre, the garden follies, statuary and technical components, such as the pumps), as well as the quality of their inter-relationship.

Furthermore, the State Party has changed the underlying approach compared with the first proposal for inscription with regard to the cultural history associated with the property, to set aside the argument of the illustration of a Masonic ideal, effectively not very convincing, and focus on a more artistic and aesthetic approach to the values of the Age of the Enlightenment as represented through music, opera and theatre.

All these aspects are addressed with care by the State Party and Schwetzingen undeniably belongs to the group of significant palaces of the Age of Enlightenment, conveying its cultural and social values. The state of conservation and authenticity both of the ensemble and its individual components are excellent.

Nonetheless, ICOMOS considers that the comparative analysis struggles to demonstrate in what way the

nominated property is different from others and in what way it is unique or exceptional.

It is indeed a very well restored 18th century garden landscape that conforms with its original state, combining in a remarkable manner Baroque values with those of the landscape garden. Other gardens cited already illustrate these values, sometimes far more exceptionally. The Schwetzingen garden is enhanced with interesting and picturesque follies and a fine collection of statues, but it is not really unique or even exceptional. Similar comments might be made for other components of the property, such as the large round parterre and the Rococo theatre. These components or types of construction are already well recognised in ensembles that are significantly more remarkable.

The property is organised around a main central axis, a characteristic trait of the period, well identified in this case; but other "major axes" are considerably grander or more imposing, and its enhancement by the use of pools is fairly limited at Schwetzingen. A similar comment might apply to the architectural ensemble: although well planned and of fine Baroque proportions, for example the orangery, in certain sections, such as the original Medieval central core, in part reworked, the fabric is not of an architectural and stylistic level that is really exceptional; and the urban boulevard that extends the axis towards the town suffers from comparison with those of other large royal or imperial residences. Additionally, while the concept of an 18th century princely summer residence is appropriately illustrated by the property, again, other recognised ensembles present these characteristics, and it is not definite that this concept alone justifies a sufficient structural or stylistic difference to express a truly unique or even exceptional character.

The arguments surrounding the cultural, musical and theatrical life in particular are undeniable. They especially demonstrate the apogee of the court of the Prince-Elector Karl Theodor in Schwetzingen, right at the heart of the Age of the Enlightenment; but he left the Palatinate in favour of Bavaria. The child prodigy Mozart, artists, men of letters and scientists of the Enlightenment passed through or stayed in Schwetzingen, but they also did so at many other princely courts; remarkable concerts, operas and plays were presented there, but without any cultural facts of any truly unique or exceptional importance being associated with the property on its own.

ICOMOS considers that the comparative analysis is of a good level; however, it shows that properties with similar values to those of Schwetzingen are already inscribed on the World Heritage List.

ICOMOS considers that the comparative analysis does not justify consideration of this property for the World Heritage List.

Justification of the Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The palace, gardens and urban part of Schwetzingen constitute the most authentic and the most complete example of an 18th century palatial summer residence.
- Life and activity at the Schwetzingen court was unique, especially in the fields of music and opera for which it paved the way for the reform in Germany in line with the spirit of the Enlightenment.
- The many interactions between the architecture, garden art, statuary and garden follies form a perfect synthesis making it one of the most exceptional gardens in 18th century Europe. It is also one of the few successful encounters between the two main styles of the period: the Baroque garden and the English-style landscape garden.
- It is a unique property in terms of the absolutely complete inventory of buildings and statues of the second half of the 18th century, in a state of perfect conservation. It includes unique and authentic components, such as the large circular parterre, the oldest Italian-style theatre and hydraulic pumps.
- It has for many years been a model of a garden conserved in its initial historic layout and which is today used as a benchmark. Its catalogues and its documentation are exemplary, right down to the smallest components.

ICOMOS does not challenge most of the arguments put forward by the State Party, but their expression and their assessment are at times excessive, notably in the assertion of their unique character and their level exceeding those of other properties already recognised (see Comparative analysis). The differences in value are slim, and not always as clearly in favour of the nominated property as is asserted. The proposed syntheses, both for the architectural components and the design of the garden are indeed of great value, but without achieving a truly exceptional level. Despite being presented as complete, there are gaps (limited role of ponds in the central axis, the Palace's Rococo theatre is indeed old and authentic but it lacks a monumental façade, etc.) or at a true architectural level (restructured Medieval core and annexes to the urban entrance of limited interest) to be able to assert that this is an ensemble of outstanding universal value. The landscape garden environment is of no notable interest and the ensemble does not manage to create a truly exceptional cultural landscape. With regard to the differentiating concepts put forward: the unique character of the summer residence, the dialogue between the Baroque and English-style gardens, the exceptional state of conservation of the overall property and the role of Schwetzingen in the history of German language opera are all willingly recognised and they may be quoted as exemplars, but essentially at a national and regional level. ICOMOS considers these justification arguments do not fully demonstrate outstanding universal value.

Integrity and authenticity

Integrity

The complex formed by the summer residence of the Prince-Elector is in every respect similar in appearance to what it was at the end of the 18th century. The buildings, the perspectives that organise the space, and the structure and composition of the gardens conform to what they were at that period.

Through a complex history and a long period of abandonment, the Baroque and Rococo aspects of the gardens in particular underwent several phases of regeneration in the 20th century, especially since the 1970s. They have regained the wealth and complexity of their original layouts, which had been carried out in three main phases in the 18th century. The proposed restoration is exhaustive and provides an ensemble that conforms to the original.

The integrity of the central part of the castle should be viewed within the context of its 18th century restructuring, which retained some surviving older elements, displaying rather disparate styles on some of the facades (the east entrance in particular).

The integrity of the landscaped environment of the Palace residence disappears relatively abruptly on the town side, beyond the buildings immediately bordering the avenue. The perspective is cut in the east by the railway line. The secondary axis in the northerly direction, which is part of the nominated property, has been altered by high buildings.

ICOMOS considers that the material integrity of the property has been suitably restored and regenerated, notably in respect of the gardens. The integrity of the built components is adequate so far as the layout of the buildings, the composition of the residence, and the overall quality of the conservation of the buildings and their interiors are concerned. However, it is to a certain extent limited because of the mixed architectural nature of the castle and the landscape surrounding the easterly and northerly axial perspectives.

Authenticity

The buildings that form the palace have been well conserved and have a good level of authenticity. They are a good expression of a summer residence of a grand Rhineland prince in the Age of the Enlightenment, especially the orangery, Rococo Italian theatre, courtyards, and the predominantly Baroque architecture.

The restoration work has involved the interior decoration of the Palace, including the Baroque theatre and the furnishings of the park follies, as well as the technical components of the canal. The Temple of Mercury and the iron arches of the pergola of the grand parterre combine both conservation and restoration.

Almost all the many statues, vases, and sculpted decorations in the park (280) were replaced with copies between 1965 and 1995, because of accelerating climate-induced damage. Most of the originals are on display in the orangery.

In the early 19th century, the Baroque garden underwent an extensive change following the application of the botanical ideas of J.-M. Zeyher, which reflected the spirit of the day. Baroque refinement was abandoned, new species were planted and the lines were simplified. The park was more neglected after this, the gardens became overgrown. The initial harmony between the Baroque garden and the landscape garden disappeared at that time. In the 20th century, following a general rediscovery of Baroque art, the extensive regeneration of this ensemble, profoundly altered from its original design, was undertaken (see History). A definitive and ambitious renovation-regeneration plan was implemented in the early 1970s, based on the 18th century documentation. It took around thirty years to complete, and it has since been extended by various restoration projects on the follies, and a carefully thought out systematic return of old plant species. A scientific approach has been developed to ensure scrupulous compliance with the original historical data, well-known in this instance, but which is not always the case. Today, this is a reference site for restoration, in the spirit of a strict return to the designs implemented in the 18th century.

ICOMOS wishes to emphasise the remarkable efforts made at Schwetzingen, clearly evidenced in the documentation in the new nomination, to ensure the attentive and scrupulous regeneration of the gardens based on the historic documentation from the 18th century. Nonetheless, the question of the substantial restoration-regeneration of a garden complex, after a century and a half of a different type of horticultural development and planting management, raises a fundamental question of authenticity. It is more appropriate in this case to refer to a faithful reconstruction of the original rather than the conservation of authenticity.

ICOMOS considers that the conditions of integrity and authenticity are fulfilled, while noting the character of the faithful reconstruction of the gardens in the 20th century rather than the conservation of authenticity in the strict sense of the word.

Criteria under which the inscription is proposed

The property is nominated on the basis of cultural criteria (iii) and (iv).

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that Schwetzingen provides exceptional testimony, unique in Europe, of the tradition of palatial summer residences, especially with relation to musical

practices, notably the evolution of German opera under the influence of the Enlightenment.

ICOMOS considers that the distinctive character of the summer palace provided by Schwetzingen compared with other similar properties is not sufficiently exceptional in this instance to justify this criterion. The same applies to the testimony provided by the lifestyles and the cultural practices of music, opera and theatre in the Age of the Enlightenment in German princely palaces.

ICOMOS considers that this criterion has not been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that Schwetzingen is the best preserved of summer residences, in all its functions. The complex has numerous 18th century components and decoration of exceptional value. Since its completion, it has been voluntarily conserved with great care, both in terms of its architecture and garden landscapes, making it a memorial to its cultural traditions. These practices were before their time, anticipating modern policies for the conservation of monuments. It represents the most complete synthesis in Europe of the two great garden styles of the day: Baroque and English landscape.

ICOMOS considers that the construction methods of palaces and the design of their accompanying gardens in the 18th century are present in other palaces inscribed on the World Heritage List. The property is testimony to Baroque architectural values and the design of gardens shared by royal or princely residences that are not strictly or uniquely exclusive to the category of summer residences, but that are nonetheless undeniable international references.

The level achieved by the current restoration–reconstitution of the gardens and buildings is excellent. Its deliberate and longstanding scientific work on old documents is remarkable. The restoration, notably of the gardens, has taken on an exemplary role over the years, becoming part of a significantly broader current of research on the conservation of Baroque garden heritage in Western Europe and discussions on the options for their conservation. This cannot in itself justify outstanding universal value.

ICOMOS considers that this criterion has not been justified.

ICOMOS does not consider that the criteria and the Outstanding Universal Value have been demonstrated.

4 Factors affecting the property

Development pressures

The State Party believes that overall there is no activity within the environment of the property that may affect its integrity or its authenticity. Nonetheless, ICOMOS notes that urban pressure does exist, as demonstrated by several of the inappropriate buildings in the vicinity of the secondary northerly axis of the property.

Tourism pressures

The number of visitors fully corresponds to the property's capacity: between 30,000 and 40,000 a year for the Palace and between 360,000 and 580,000 for the gardens. The Palace interior can only be visited by guided tour. The Palace, notably the theatre, is also used for cultural events.

Environmental pressures

There are not really any pressures of this type.

Natural disasters

A low seismic risk is indicated and the risk of flooding is negligible. As for all complexes of this type, a risk of fire does exist.

Impact of climate change

Increasingly violent storms and the possibility of exceptional winds could be a threat to the garden's trees.

ICOMOS considers that there is no major threat to the property. Attention to solid control of urban development should, however, be maintained in the vicinity of the property.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries of the nominated property correspond to the Palace, urban extensions, and all the gardens as they were in around 1800.

The surface area of the nominated property is 78.23ha; it includes a population of 620.

The surface area of the buffer zone has been extended compared with the first nomination in accordance with the recommendation made by ICOMOS to include a residual part of the old hunting park in the southwest, and to include a large urban area to the south and southeast. It covers an area of 471.54 hectares and includes a population of 9,725.

ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate.

Ownership

The Palace and the gardens belong to the government of the Baden-Württemberg Region, together with three buildings and two plots of land with the hydraulic components. The other parts, notably property and land along the avenue east of the property belong to the Municipality of Schwetzingen.

Protection

Legal protection

The Palace and the gardens are statutorily protected as a Historic Monument of Special Significance (Section 12 of the Protection of Monuments Act of Baden-Württemberg). The Palace and the gardens and part of the town come under the protection of Section 19 of that Act.

The buffer zone is protected by its status as a zone surrounding an historic monument (Section 13, § 3 of the same Act). Additional protection is afforded in the plans for building development based on the Federal Building Code.

The area of the Palace and its gardens and the rural space bordering it to the west are designated as a Landscape Conservation Area (Section 29 of the Nature Conservation Act of Baden-Württemberg).

Traditional protection

The interest in the property and the knowledge of its values on the part of the local and regional population are demonstrated by the number of visitors to the Palace and the castle and the importance of the cultural events held there.

Effectiveness of protection measures

The protection measures are effective.

ICOMOS considers that the legal protection in place is adequate.

Conservation

Inventories, archives, research

Since the detailed inventory compiled in 1795, which was used as the basis for the restoration-regeneration of the gardens in the 1970s, those responsible for the management of Schwetzingen have developed and nurtured a long tradition of documenting and studying the Palace ensemble. There have been a considerable number of scientific publications about the Palace, the gardens, and the history of the property since the 1930s. Detailed documentation exists about the work carried out since the 1970s. Systematic photographic documentation has been undertaken since 2006.

Present state of conservation

Both the Palace and the gardens and the buildings they encompass are in an excellent state of conservation. Since the 1930s, they have undergone scientifically-based restorations.

Active conservation measures

From 1964 to the end of the 2000's, there were several campaigns for the maintenance, restoration, and reconstruction identical to the original of the various parts of the gardens and the buildings. The many sculptures in the park have been replaced with copies to protect the originals.

The restoration of the 'Baroque embroidery' parterres was based on scientific research renowned for its quality. Period gardening techniques, original species and original materials are promoted.

Maintenance

The whole property undergoes continuous maintenance and surveillance by the Palace staff and by the specialist municipal services.

Effectiveness of conservation measures

The current conservation measures are effective.

ICOMOS considers that the state of conservation and the measures guaranteeing it are satisfactory.

Management

Management structures and processes, including traditional management processes

All the various parties involved in the property's management are brought together in the *Steering Group for the Administration of Schwetzingen.* It is chaired by the Baden-Württemberg Ministry of Finance (Stuttgart), the property owner. Its members are:

- the Ministry of Finance of Baden-Württemberg (Stuttgart),
- the Karlsruhe Regional Council: Bureau 26 Monument Conservation and Bureau 56 Nature Conservation and Landscape Management,
- the Municipality of Schwetzingen is represented by the Mayor, the Department of Cultural Affairs and the Planning Department, Monument Service,
- The Baden-Württemberg State Office for Monument Conservation (Esslingen),
- the Baden-Württemberg State Agency for Property Assets and Construction (Stuttgart), Baden-Württemberg Castles and Gardens Department (Mannheim office).

Coordination for the execution of conservation work, management and usage of the property is provided by a permanent *Working Party,* grouping together the various technical services involved in the *Steering Group for the Administration of Schwetzingen*. The *Steering Group* and the *Working Group* together form the structure for the

property's management and they have joint administrative and public relations services of their own.

Policy framework: management plans and arrangements, including visitor management and presentation

The Management Plan brings together and coordinates all the existing plans issued by the various authorities in charge of the property and its immediate environment. Its object is to provide a common, interagency, and cooperative vision of the management systems that have already been in place for many years, and to identify the main thrusts and priorities for medium- and long-term management. An initial management plan was established and approved in 2006. It has been revised and replaced by a new eight-year plan (2009-2017).

The Management Plan includes a section devoted to the conservation of the gardens and the management of planting for which the Schwetzingen Palace Administration is responsible. It also includes a section devoted to the management of the buildings.

The Management Plan ties in with municipal programmes for the conservation of cultural heritage, the management of the town's heritage buildings, the sustainable development of the town, and the presentation and promotion of the property and tourism.

It includes a detailed tourism facilities and information programme, together with a diverse cultural programme and a charter for the good use of the buildings and gardens by the service that organises visits and by cultural stakeholders. The castle is on the Castles Road and the Mozart Network. A music festival is held each year in Schwetzingen, in honour of its musical past

Risk preparedness

The Palace ensemble is under constant fire surveillance. In the event of an accident, it is included in the public safety action plans, at the level of coordination between the Schwetzingen Administration for the Palace and its outbuildings, the Municipality, and the decentralised regional civil protection authorities.

Involvement of the local communities

The municipal administration is a long-standing and important partner in the management and cultural use of the Palace ensemble.

Resources, including staffing levels, expertise and training

The State of Baden-Württemberg and the city provide an annual budget of 2,000,000 euros for the administration of the Palace, 800,000 euros for building maintenance, and 700,000 euros for cultural activities. A total of more than 100 million euros has been allocated since 1960 for the restoration of the Palace complex, in particular for the restoration-regeneration of the gardens.

The personnel involved directly in the conservation of the property belong to the regional services in charge of the Palace ensemble and the city. They cover the full range of professional skills required for the application of the conservation section of the management plan.

Effectiveness of the current management

The property's management system has been in place for many years. It implements effective management for the conservation of the monuments, the conservation of the gardens, and maintenance of the tourism facilities and cultural life of the castle. The principles and distribution of the actions are set out in the Management Plan currently being implemented.

ICOMOS considers that the management system for the property is adequate.

6 Monitoring

Monitoring is based on extensive documentation dating back to the castle's origins and its development in the 18th century, as already mentioned. This documentation allows for rigorous comparative monitoring of the buildings and the gardens. The monitoring is based on the principle of three annual inspections of the exterior appearance, state of the buildings and state of the gardens. Although announced as being exemplary and at the very top of the best international standards, the monitoring indicators for the property's various components are not presented.

ICOMOS considers that the monitoring of the property is effective, but that it would be useful to know what indicators are used.

7 Conclusions

Schwetzingen Castle and gardens are a fine example of a large 18th century palatial residence. The building restructured around a late medieval core is fundamentally Baroque, adopting the principle of a large organising axis shared by the palace, gardens and the urban entrance. It includes significant cultural facilities, such as one of the first Rococo theatres, and technology for the castle's hydraulics.

The development of the gardens is an harmonious illustration of an initial Baroque stage of geometric inspiration with an evolution towards the Rococo, followed by a second stage with an English-style landscape garden. The gardens are the most interesting part of the complex; they are richly embellished with follies and extensive statuary. Today, they are presented in a version faithfully reconstructed with plantings and groves designed in the 18th century, and they provide an important contribution to the history of gardens in Europe, among many other examples, several of which are already

inscribed on the World Heritage List because of their unique or exceptional nature.

ICOMOS has noted that the theme of Masonic influence in the first nomination has been abandoned. Effectively, it was too imprecise and insufficiently backed up by specific elements. The new nomination basically relies on the notion of a summer residence and its completeness, the quality, harmony and authenticity of its gardens, and finally on the role of Schwetzingen in the musical and artistic life of the 18th century.

Regarding the first point, ICOMOS considers that the concept of perfectly conserved summer residence, as a differentiating factor with regard to other similar princely palaces, is not sufficient in itself to justify outstanding universal value, especially since a certain number of the property's components are not in themselves sufficiently remarkable or sufficiently unique.

Regarding the second point, the State Party has made a considerable effort to document the issue of the plant species and botanical ideas that governed the garden's design, as well as to explain its demanding restoration approach and work. The question of the substantial restoration-regeneration of a garden complex, such as that carried out at Schwetzingen, after a century and a half of a different type of horticultural development and planting management, raises a fundamental question of authenticity. The management of authenticity option adopted here is without doubt exemplary and has become a benchmark, but this is just one option among others and cannot in itself justify outstanding universal value.

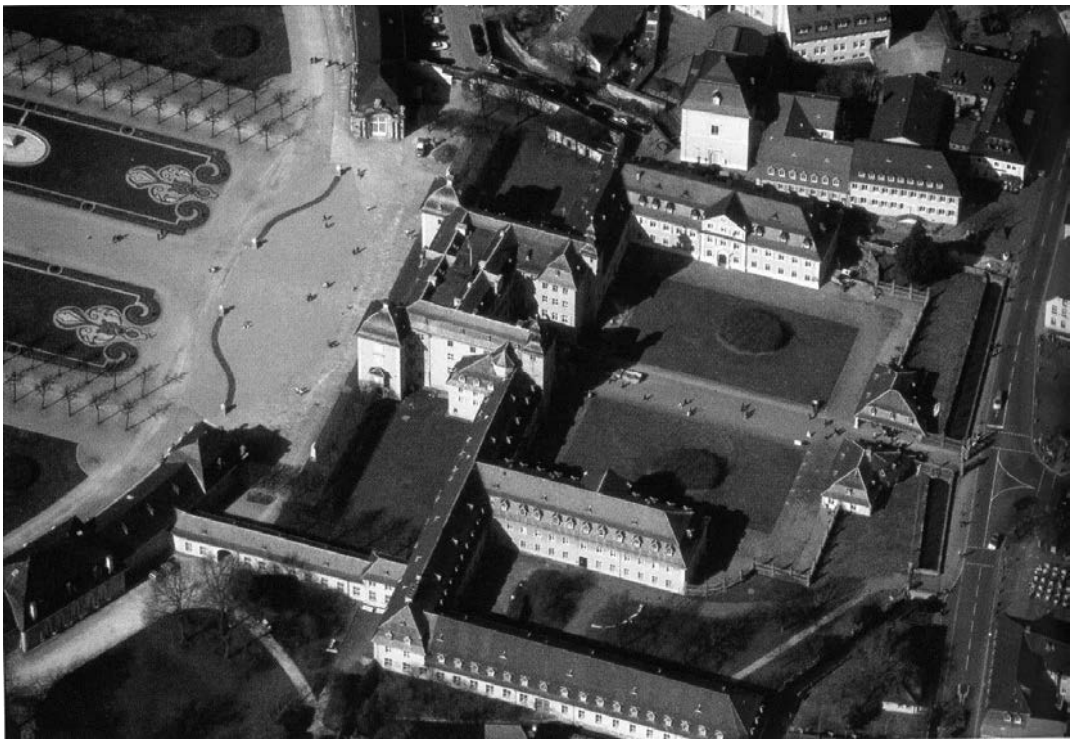
Regarding the third point, the Schwetzingen palatial complex is characteristic of 18th century princely representations and lifestyles and illustrates the dissemination of Enlightenment culture in Europe, important here in the areas of music, opera and theatre. This is patently a complex of high value at the national and European levels; however, it does not achieve outstanding universal value in areas already well represented on the World Heritage List.

Recommendations with respect to inscription

ICOMOS recommends that Schwetzingen: A Prince Elector's Summer Residence, Germany, should **not be inscribed** on the World Heritage List.

Map showing the boundaries of the nominated property

Aerial view of the nominated property



View of the castle’s ensemble from the north

The Rococo theatre

The Temple of Apollo

Margravial Opera House Bayreuth (Germany)
No 1379

Official name as proposed by the State Party
Margravial Opera House Bayreuth

Location
Free State of Bavaria
Administrative District of Upper Franconia
Germany

Brief description
The 18th century Margravial Opera House in Bayreuth is a masterwork of Baroque theatre architecture, commissioned by Margravine Wilhelmine, wife of Frederick, Margrave of Brandenburg-Beyreuth, as a venue for *opera seria*. The bell-shaped auditorium of tiered loges built of wood lined with decoratively painted canvas was designed by the then leading European theatre architect Giuseppe Galli Bibiena. It survives as the only entirely preserved example of court opera house architecture where Baroque court opera culture and acoustics can be authentically experienced. As an independent court opera house it foreshadowed the large public theatres of the 19th century.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *monument*.

1 Basic data

Included in the Tentative List
20 September 1999

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
1 February 2010

Background
This is a new nomination.

Consultations
ICOMOS has consulted several independent experts.

Literature consulted (selection)

Kaldor, A., *Opera Houses of Europe*, Antique Collectors' Club, UK & USA, 1996.

Ertug, A., Forsyth, M, and Sachsse, R., *Palaces of Music: Opera Houses of Europe*, AE Limited Edition, USA, 2010.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 13 to 14 September 2011.

Additional information requested and received from the State Party
ICOMOS sent a letter to the State Party on 22 September 2011 and the State Party provided information on 24 October 2011 on the property´s current conservation status, works to be undertaken between 2010 and 2014, transformation or additions to the building, impacts of adjustments to contemporary uses, regulations of visitors, participation of local authorities and other stakeholders. The information has been incorporated below. A further letter was sent on 5 December 2011 asking the State Party to consider shortening the name of the nominated property to 'Margravial Opera House Bayreuth'. A response was received from the State Party on 18 January 2012 agreeing to this proposal.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The Opera House built 1745-50 faces west across a carefully contrived open space to create an urban focal point between existing buildings. The property boundary is formed by the outer peripheral walls of the theatre and covers 0.19 ha. The building is 71.5 metres long, 30.8 metres wide and 26.2 metres high. The monumental entrance façade design by the Italian architect of the Opera House interior, Giuseppe Galli Bibiena was not used; instead a design by Bayreuth's French court architect Joseph Saint-Pierre was built. The stone façade has giant-order Corinthian columns on the first floor above a rusticated stone ground floor with three arched doors beneath a cantilevered balcony. A balustrade supporting full-size figures runs along the top of the façade in front of a hipped mansard roof. Entrance is via a low vestibule to the full height foyer where the Margrave´s arrival was celebrated. Here twin flights of stairs lead up to the Court Loge (Box). The upward progress of the ruling couple could be observed by the audience from three concave tiers of balustraded galleries on either side, which match the height of the loges (boxes) within the auditorium and accommodated the staircases for the audience in the corners. These galleries continue as corridors around the auditorium. From the corridors there is access to the passageways leading to the rear of the loges.

The auditorium´s bell-shaped ground plan lined with three tiers of loges is typical of Italian opera houses of the period. Together with the seating in the stalls on the floor of the auditorium, the opera house can accommodate an audience of around 500. A balustraded balcony accessible from the ground floor runs around the auditorium and gives access to the Court Loge. The distance from the original front edge of the stage to the rear wall of the Court Loge is around 22 metres. The span of the roofing structure was a considerable engineering feat at the time.

Within the building's shell the auditorium and proscenium arch were constructed as a building within a building. The tiers of loges are encased in a half-timbered structure, and supported by the ceiling beams of the galleries. The interior of the building consists solely of wood, but the rear walls of the loges and the coffered ceiling are covered in canvas to avoid cracks and achieve improved acoustics.

The heavy half-timbered wall between the corridors and the loges contributes to the environment and sound insulation of the auditorium from the corridors running along the outer walls. The parquet flooring on the ground floor is a replacement, dating from 1935, of an older wooden floor, which was probably predated by flagstones. The Court Loge rises to the height of two tiers and is emphasised by Corinthian columns, as are the proscenium and the trumpeters' loges. The lower loges are ornamented with laughing heads adorned with baskets of fruits and flowers. In contrast to this, the loges of the upper tiers are more simply ornamented.

The balustraded central bay of the Court Loge forms a triumphal arch with the bays on each side also accentuated by Corinthian columns with spiral garlands. It is crowned by a baldachin carrying the Brandenburg heraldic eagle. The three loges above are emphasized by caryatids on the supports and balustrades. Above are rocailles over the side bays and a centrally-placed cartouche with a dedication to the Margraves. The stuccoed stove recesses in the Court Loge were installed in the second half of the 18th century in order to heat the loge, since it quickly became evident that heating the building would be a problem (traditionally concerts were held during the cold months of the year). The red eagle of the Margraves of Brandenburg appears in the centre of the coffered ceiling with the heart-shaped shield of the Hohenzollern.

The proscenium loges were converted into stage exits in 1935. Due to this intervention the balustraded trumpeters' loges have a greater emphasis today. Forming diagonal splays to the proscenium, they housed trumpeters and drummers who announced the Margrave´s entrance. Spirally garlanded Corinthian columns frame the proscenium arch, echoing the treatment of the Court Loge and emphasising the relationship between the stage action and the watching princely couple. Up until the late 18th century the stage portal opened up fully and created a direct spatial connection between the auditorium and the stage, and the audience and the theatrical action.

Depicted on the centre of the auditorium ceiling is a view of the heavens. The illusion is assisted by an enormous painted trompe l'oeil entablature. As a prince of peace and active supporter of the arts, it was Apollo whom Margrave Frederick chose as his iconological model. In the sculptural programme on the façade of the opera building, Athena, goddess of wisdom in war and peace, is at his side representing the Margravine.

ICOMOS notes that the balustrade motif serves to integrate the proceedings on the stage with the Court society in the auditorium to form an artistic whole, the audience itself becoming part of the theatre. The motif is continued in the illusionist perspectives, creating an exceptional three-dimensional effect.

Since the 19th century stage renovation and 20th century restoration works, the area behind the proscenium meets the needs of a modern theatre company.

The buffer zone covers 4.22 ha and comprises the area bounded by the Old Castle to the West, the Opernstrasse and the Münzgasse to the North, the bend in the Münzgasse to the East, and the Badstrasse as far as the Sternplatz to the South.

History and development

The patron of the Margravial Opera House was Margravine Wilhelmine, wife of Frederick, Margrave of Brandenburg-Bayreuth. Begun in 1745, the building was sufficiently complete to accommodate celebrations for their daughter's wedding in 1748. However the exterior was not completed until 1750. The building functioned as the Court Opera House for only 25 years, and was subsequently used only sporadically as a performance venue. During the French occupation 1806-1810 the property was used for storage and all stage scenery and props were lost. Between 1810 and the 1860´s the stage was altered and gas lighting was installed. The theatre was closed from 1883 to 1887 due to fire safety requirements. The works then undertaken were the insertion of smoke dampers in the roof, connecting galleries between the loges and tier passageways, stone spiral staircases to the side of the vestibule and new door openings in the entrance area as well as fire-proof treatment to curtains and backdrops. From 1919 to 1930 restoration works and electrification were carried out.

In 1935 the Bavarian Department of Palaces undertook a restoration programme aimed at reinstating the historic condition. Performances continued to be held and an electric heating system was installed. While works to the loge structure and foyer rooms were carried out in the 1935 program according to conservation principles, increased use of the building and modifications to accommodate the demands of a modern venue prevailed from 1960-1963 onwards. The stage equipment´ s renewal led to the loss of the last examples of machinery from the 18th and 19th centuries. Installation

and use of a heating system caused damage to decorative elements. The 1935-6 program included reduction of the stage opening and installation of an iron fireproof curtain between stage and auditorium, conversion of the proscenium loges to exits and alterations to the orchestra pit. The canvas lining was extensively stabilised, and later insertions in the foyer area were removed.

During the 1970s an air conditioning system was installed, the façade was cleaned, the staircase from the Court Loge to the mezzanine hall was reconstructed and the foyer was remodelled. The stabilisation of the stage architrave and restoration of the loge including its decorative painting were undertaken between 1977 and 1981.

In 2010 the theatre was closed for investigation preceding an extensive conservation program planned to begin in 2013.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The comparative analysis considers the most important European theatres of the 16th-18th centuries and a review of those built by the famous Galli Bibiena family. The nomination dossier makes comparisons within the following framework:

- Early theatres based on antique theatre structures: the Teatro Olimpico of Vicenza (1580) listed as World Heritage; Teatro Olimpico of Sabbioneta (1589) also World Heritage listed and Teatro Farnese of Parma (1601-1628).

- *Teatro pubblico:* the public loge theatres of the Baroque: Teatro della Pergola of Florence; Teatro Argentina of Rome; Teatru Manoel of Valletta; Teatro San Carlo of Naples; Teatro Regio, Torino and La Fenice of Venice.

- Theatre rooms integrated into palace complexes or urban surroundings: Palace Theatre in Gotha, Germany; Palace Theatre of Caserta, listed as World Heritage within the 18th-century Caserta Royal; Schlosstheater in Český Krumlov listed as World Heritage within the Historic Centre of Český Krumlov; Palace Theatre of Ludwigsburg in Germany; Theatre in the Potsdam New Palace, listed as World Heritage within Palaces and Parks of Potsdam and Berlin; Versailles Opéra Royal listed within the World Heritage Palace and Park of Versailles; and Gripsholm Palace Theatre, Sweden.

- Independent, free-standing opera houses of the early 18th century: Margravial Theatre of Erlangen, Germany; Berlin Royal Opera House; Old Residenz Theatre (Cuvilliés Theatre), Munich; Schwetzingen Palace Theatre (on Germany's Tentative List and nominated in 2011 within Schwetzingen: A Prince Elector's Summer Residence) and Drottningholm Palace Theatre listed as World Heritage within the Royal Domain of Drottningholm in Sweden.

- The court ceremonial theatre designed by the Galli Bibienas as a merging of stepped theatre and loge theatre; Vienna Grosses Hoftheater, Opéra de Nancy (1708); Teatro Filarmonico in Verona; Teatro Alibert, Rome; Mannheim Opera House; Großes Hoftheater am Zwinger in Dresden; Teatro Comunale (Nuovo Teatro Pubblico) in Bologna; Teatro Scientifico of Mantua, a part of the Mantua and Sabbioneta World Heritage inscription; Teatro dei Quattro Cavalieri of Pavia and Lugo, Teatro Rosso.

- Ephemeral ceremonial architecture of the 18th century: the decorative design at the church of Trinità dei Monti and the Spanish Steps in honour of King Louis XIV, Rome 1687.

The analysis includes 18th century theatres destroyed or radically altered by fire: Naples´ San Carlo, London´s Covent Garden and Venice´s La Fenice. Also included are Milan´s La Scala and Dresden´s Opera both bombed in the 1940s.

It is concluded in the nomination dossier that no independent court theatre building is currently inscribed on the World Heritage List. The only cases are part of listed larger complexes as mentioned above. A table listing all the important opera houses destroyed by fire supports the finding that very few historic theatres have survived today. The comparative analysis shows that the nominated opera house represents a specific point in the development of this type of building, being a court opera house located not within a palace but as an urban element in the public space as were later public theatres. It is argued in the nomination dossier that the property, as the earliest original surviving example of this type of building, foreshadowed the great opera theatres of the 19th century. It is explained that the interior form of tiered loges around the auditorium follows that introduced into 17th century theatrical architecture to accommodate the privileges of Italian society as patrons of the opera. Prior to this innovation, theatres had stepped, concentric seating as in the Teatro Olimpico, Vicenza in the classical mode of the Renaissance. The nominated property is now the earliest surviving intact example of this form. The Margrave's Opera House has the further distinction of being directly connected to a princely family of the 18th century ruling class whose exploits were often portrayed in the opera productions known as *opera seria*. The plot of the *opera seria* was typically set at court and revolved around emotions and their surmounting by means of virtue. While the Margravine's brother Frederick II had built the Berlin Royal Opera House which formed the model for hers, it was almost completely destroyed by fire in 1843, and although subsequently rebuilt has undergone many changes.

The exceptional qualities of the nominated property including the interior architectural decoration and its relationship to courtly self-representation and 18th century ceremonial culture are not specifically argued in the comparative analysis, but ICOMOS considers that these are well described in the nomination dossier.

ICOMOS considers that the Margravial Opera House, described as *"an exquisite jewel of an opera house"* by Andras Kaldor (1996), as a well preserved, architecturally decorated ceremonial Baroque space, authentically conveys the courtly theatrical and ceremonial culture of the 18th century, which otherwise can only be reconstructed by means of written and visual sources. The retention of the original materials of the auditorium means that the original acoustics of an 18th century opera house can still be appreciated today.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value for the following reasons: It is today the most important and best preserved example of court opera house architecture and of the Baroque opera culture.

- It is the only performance venue worldwide where *opera seria* is experienced as a formal expression of the political system of absolutism in all its authenticity.
- It not only served as a means of self-representation and for the passive enjoyment of music, Margravine Wilhelmine, sister of Prussian King Frederick II, was herself a highly talented composer, artistic director and stage director, performing on her own stage.
- It testifies to the intimate connection of theatre with 18th century Central European music culture developed from the competition between courts and cities with musical interests.
- The loge structure with half timbered construction in wood and painted canvas is an example of the ephemeral architecture which played an outstanding role in Baroque court ceremonies.
- It is an outstanding exponent of a genre which was one of the three key building types for courtly self-representation.
- As a model example of court opera house, it is a key work within the development of theatre architecture, between the early Italian theatres that looked to the Antiquity and the 19th century large bourgeois opera houses.
- It demonstrates a new building type of the opera house within the public space thus marking a unique moment in the history of architecture.
- As a unique surviving, colourfully decorated ceremonial space of the Baroque, it conveys with extraordinary authenticity the courtly theatre and ceremonial culture of the 18th century, which otherwise can only be traced in written and visual sources.
- It is today the most important testament in Europe to a lost cultural form, which in its supraregional structure was one of the foremost phenomena of the period as a whole.
- It is the sole surviving example of this genre.

ICOMOS considers that the theatre is a masterwork of Baroque court theatre architecture by Giuseppe Galli Bibiena in terms of its tiered loge form and acoustic, decorative and iconological properties. It marks a specific point in the development of opera houses, being a court opera house located not within a palace but as an urban element in the public space, foreshadowing the great public opera houses of the 19th century.

Integrity and authenticity

Integrity

The streetscape and surroundings retain the 18th-century forms. The façade retains its original appearance excepting the doors in the side bays inserted as emergency exits 1887, which did not disturb the overall appearance. The side elevations also preserve their original form.

Due to the sandstone employed, the extremely weathered sculptures on the attic storey balustrade were replaced by casts in 1936 and 1959/60, the originals being relocated to museums.

The stone surfaces have received minimal stone replacement. The stage door and the ramp on the rear elevation have been retained. Also original is the 18th century roof construction.

The layout, form and capacity of the opera house have been largely unchanged. While the foyer´s walls retained their original shape, its interior spaces were transformed. Cloakrooms and toilets were built around the edges of the ground floor. The hall on the main floor, according to documents, originally extended over two floors. In place of a small side room, a flight of stone steps was inserted in 1887 as an emergency fire exit, and the original main timber stairs were removed in 1935. These were later reconstructed.

The corridors around the loge structure retain their original appearance but now accommodate the electricity installation. This fragile loge structure made from wood and canvas has been well preserved. All wooden elements are original, as is the painted canvas covering. The decoration and stucco sculptures have not been altered to date.

The auditorium´s 18th century painted surfaces are preserved. Investigations on the loge seating show that the ageing original colouration is clearly identifiable. Ninety percent of the Baroque painting has been retained. Later retouching and over painting will be removed during the currently planned restoration program.

The orchestra pit, proscenium and stage floor have been altered several times. The stage opening was reduced in the 19th century and again in 1936 for performance and fire safety reasons. However the original portal can still be seen and still provides the original overwhelming spatial unity of the stage and loge seating areas. On the stage the view up into the original roof beam structure is retained. During the planned restoration program, it is aimed to reinstate the original size of the stage opening, the original form of the proscenium and stage and possibly the orchestra pit.

The stage machinery renewed in the 1960s had been renovated in the late 18th century and altered in the 19th century. Research demonstrates that this machinery could be reconstructed. Some old designs and fragments of backdrops still exist although the original stage sets disappeared in the early 19th century.

The essence of this grand Baroque Opera House has been retained through the persistence of most of its original physical attributes. The restoration program intends to recover some of the lost elements on the basis of the large amount of written documentation and research done on the Opera House.

ICOMOS considers that the elements necessary to express Outstanding Universal Value are included within the property as one sole building and are in good condition. No adverse effects are expected to occur and an overall conservation and restoration plan has been approved by the State Party.

Authenticity

Most of the building and the decorative programme of the loge theatre remain unchanged. Adaptations were due to regulations for fire safety in public buildings and requirements in line with the contemporary use of theatres. The large scale restoration from 1935 was undertaken in accordance with conservation standards and it attempted to restore the property to its original state. In spite of changes to the stage area, the highly unified Baroque work can still be appreciated.

The survival of the interior materials of wood and canvas enable the opera house's original acoustic quality to still be appreciated, and testifies to the authenticity of the property as an 18th century opera house.

The retention of the original fabric is the most important aim of the property's planned restoration program. The existing fabric will be safeguarded to the highest professional standards. Based on the existing documentation and findings, reconstruction of the original stage opening, the proscenium stage and the foyer hall are planned.

ICOMOS considers that the high degree of authenticity is not focused merely on the main attributes of the theatre. The materials still display the structure and craftsmanship of the original craft technology; the preserved parts of the wooden construction bear traces of its original preparation; the painted canvas covers are original, and locksmith elements such as handles, hinges, locks and nails are also original.

ICOMOS considers that the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i), (iii) and (iv).

Criterion (i): represent a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that the Margravial Opera House is the most important and best preserved example of an 18th century court opera building in Europe, and a testament to European musical culture. The Opera House was commissioned by one of the most remarkable women of the 18th century and designed by Giuseppe Galli Bibiena, the most renowned theatre architect, responsible for shaping the development of theatrical scenery with the invention of the *scena per angolo*. No other theatre by this architect has completely survived. Thus, the court opera building as the last example of a prominent building genre can only be properly studied in Bayreuth.

The original loge structure with its painted decoration shows the sophisticated art of spatial arrangement linked to the *opera seria* as a typical Baroque expression. The whole room was designed and furnished so that it could be turned into a unified ceremonial space, appropriate for other court festivities such as pageants and dances.

The auditorium with its high percentage of original architectural fabric and painting is a singular Baroque example of its genre. The building still retains its original function as a lively performance venue for musical theatre being a unique, authentic example of court music and ceremonial culture. Due to its historical construction from wood and canvas, it permits the unique experience of the original acoustics. In this way it offers a complete insight into the past. Its original form can be entirely experienced within the unchanged 18th century urban context.

ICOMOS considers that the justification of this criterion is as a masterwork of Baroque court theatre architecture by Giuseppe Galli Bibiena in terms of its tiered loge form and acoustic, decorative and iconological properties.

ICOMOS considers that this criterion has been demonstrated.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the Margravial Opera House is today the only performance venue where the Baroque opera culture and *opera seria´s* relationship to Absolutism may be authentically experienced. The Opera House thus represents the only building in Europe that still exhibits the performance context belonging to Baroque *opera seria*, still offering a vivid authentic testimony to this once highly significant genre.

In a unique way, it represents the building type of the Baroque court opera house at its highest ceremonial level of development. This applies to the form and to the appearance of its stuccoed, carved and painted decorative programme.

ICOMOS considers that the stuccoed, carved and painted decorative programme of the Opera House bears exceptional testimony to Baroque court ceremonial culture in relation to *opera seria.* But ICOMOS does not consider that this constitutes sufficient justification of criterion (iii).

ICOMOS considers that this criterion has not been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the Margravial Opera House´s loge structure built in wood with illusionistic painted canvas represents the ephemeral ceremonial architecture tradition with Baroque decorative techniques that was employed for pageants, firework displays, funerals and other prominent elements for princely self-representation, a European wide architectural genre no longer surviving in its original form. These features are only currently present in engravings and paintings so this loge structure offers a unique view of ephemeral ceremonial architecture created for a historic moment. Since the stage and stalls could be combined on a single level for larger festivities, it offered the opportunity for the unique staging of princely self-representation during the absolutist era.

Within the development of opera houses since the first solid Renaissance theatres such as Vicenza's Teatro Olimpico onwards, the Margravial Opera House represents the high point of court self-representational requirements, as an exemplary model of Absolutism ´s opera architecture. It allows us to experience the most important aspect of the 18th century's theatre architecture.

The Margravial Opera House is one of the first independent opera houses with a prestigious exterior architectural design inspired by the Berlin Opera House designed by Knobelsdorff. As the surviving example of its kind, it demonstrates the then new building type of the opera house within the public space, whereas older court opera houses had largely been integrated into palace buildings.

ICOMOS considers that the Opera House is an outstanding example of a Baroque court theatre. It marks a specific point in the development of opera houses, being a court opera house located not within a palace but as an urban element in the public space, foreshadowing the great public opera houses of the 19th century.

ICOMOS considers that this criterion has been demonstrated.

In conclusion, ICOMOS considers that the nominated property meets criteria (i) and (iv) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes
The attributes carrying the Outstanding Universal Value of the property are:

- Location in its original 18th century public urban space;
- The 18th century Baroque façade;
- The original 18th century roof structure spanning 25 metres;
- The internal layout and design of ceremonial foyer, tiered loge theatre and stage area including all existing original materials and decoration.

4 Factors affecting the property

Development Pressures

The property is not affected by development. Its extensive buffer zone ensures the preservation of its surroundings.

Tourism pressures

Tourist visits as well as use, number and timing of events have been studied and ICOMOS notes that new regulations will be applied after reopening.

ICOMOS considers that a key decision has been to terminate winter operation of the theatre and reduce activities in the theatre.

Environmental pressures

Pollution from traffic is negligible due to restrictions in the immediate vicinity. The sandstone facades are monitored for the corrosive effects of atmospheric pollutants and are cleaned in the course of building maintenance.

The technical facilities are antiquated and are currently being constantly maintained at great expense. Most of the antiquated stage and air conditioning technology will have to be dismantled and replaced with the latest technical facilities. Winter productions have been discontinued to reduce pressure on the property from the need for heating.

Natural disasters

Storms, thunderstorms, heavy rainfall, flooding, hail and snow represent a fundamental danger for the building. Facades and roofs are continuously monitored and maintained.

According to the Bavarian Palaces Department's general fire protection regulations, the property has a smoke alarm system and fire extinguishers fitted. An external engineering company was commissioned to produce a conservation-sensitive fire protection plan. The installation of new safety and stage machinery systems will be carried out in a conservation sensitive a manner.

Impact of climate change

No impact from climate change has been noted in the nomination dossier.

ICOMOS considers that the main potential threats to the property are due to severe weather events, antiquated technical systems and the impact of visitors and use on the interior of the property, and are for the moment duly controlled. ICOMOS considers that these threats need ongoing monitoring and all necessary preventative measures should be incorporated in the planned restoration project.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundary of the nominated property is the exterior perimeter of the theatre walls. This includes all the elements expressing the Outstanding Universal Value of the property.

The buffer zone comprises the area bounded by the Old Castle to the West, the Opernstrasse and the Münzgasse to the North, the bend in the Münzgasse to the east, and the Badstrasse as far as the Sternplatz to the south. The boundaries of the buffer zone are well delineated and include the immediate setting and views to the property.

ICOMOS considers that the boundaries of the property and its buffer zone are adequate.

Ownership

The property is owned by the State of Bavaria.

Protection

Legal Protection

The nominated property is protected at State level by the Bavarian Law for the Protection and Preservation of Monuments (1973, 2007). It is also protected by inclusion on the List of Monuments of Bayreuth under the Bayreuth City Civic Statutes and Ordinances.

ICOMOS notes that the property is covered by the Federal Building Code.

The buffer zone has been agreed and established with local authorities and its historic buildings are included in the Bayreuth Monuments List.

Effectiveness of protection measures

The property is protected by Bavarian State law as well as legal instruments of the City of Bayreuth. The inclusion of planning and systematic control by the City authorities does not allow any inappropriate development of the nominated area and buffer zone which would affect their values, integrity and authenticity.

ICOMOS considers that the legal protection in place is appropriate and effective.

Conservation

Inventories, recording, research

A large amount of multidisciplinary research has been done and is continuously enriched as a base for decisions and interventions.

Present state of conservation

The property is in a good overall state of conservation. All parts of the building are well protected against weather effects. The roof covering was renovated and sealed on numerous occasions. The sculptures on the attic storey's balustrade are casts of extant originals damaged by weathering. Measures against rain and pigeon damage protect all façades. The foyer, anterooms and stage are in good condition. The structure and fire protection systems conform to regulatory requirements, although the latter need updating.

The Auditorium aside from minor retouching and residues from the wood preservative treatment has its paintings intact. Few loose paint layers are detectable in the surfaces from the 18th century. The wooden loge

interior with its decorative ornamentation is exceptionally well preserved. Original painted surfaces have survived almost unaltered.

Active Conservation measures

In response to ICOMOS request for information on the conservation works planned for 2010-2014, the State Party provided the following information:

In 2009, theatre operations were discontinued due to safety concerns regarding technical facilities.

The comprehensive restoration plan 2010-2014 has official approval and funds allocated. Scientific investigations and damage mapping were carried out to prepare the plan. Structural repairs and maintenance will focus on structural engineering and building energy management as well as safety measures, addressing long-term protection. Works will mainly affect the attic space, the fire wall along the proscenium arch and the foyer.

Restoration of the Auditorium's 18th century paintings will be undertaken. General impermeability will be improved.

Operational rooms in the backstage area will be renovated in accordance with modern standards. The stage opening will be enlarged and restored to its original size to recover the original, unified ceremonial space of auditorium and stage.

Fire safety measures proposed include maintenance of fire escapes and emergency exits and installation of a fire alarm system. A sprinkler system will be installed above the stage as a fire protection measure. Due to the auditorium's value and its delicate paintings a water mist fire protection system will be installed in the attic space above it.

The electrical and stage equipment will be completely renovated to the latest standards. The stage equipment will be replaced to comply with current safety standards and occupational regulations. Heating, ventilation and sanitary systems will be renovated, replacing and reducing older installations.

Works will start in early 2013, with estimated completion in late 2016 and re-opening in 2017. Additional projects planned for 2016 deal with presentation. In terms of conception and technical execution relevant interventions are debated in joint discussions with experts, including ICOMOS. Guidelines for sensitive use have been developed and also for stabilising the environment and efficient technical facilities as well as for fire prevention. It has been defined that the use of the property will be limited to a museum function and summer performances only will be staged between the months of May and October.

Effectiveness of conservation measures

ICOMOS considers that the conservation measures planned, funding and skilled personnel are appropriate to preserve the property's value, authenticity and integrity. However ICOMOS would urge caution in relation to the proposal to reduce permeability due to possible adverse impacts on joinery and paintwork if the building becomes unable to 'breathe'.

ICOMOS considers that special attention is needed to ensure that all interventions planned are done according to the abundant documentation and research in the hands of Bavarian authorities and valid conservation principles, under strict supervision by the correspondent technical bodies.

Management

Management structures and processes, including traditional management processes

The Management authority is the Bavarian Palaces Department. Implementation of the Management Plan is guaranteed by a steering group including the Bavarian Palaces Department; the City of Bayreuth; the Upper Franconia regional government; the Bavarian State Ministry for Science, Research and Arts; the Bavarian State Office for the Preservation of Monuments and Historic Buildings, and ICOMOS Germany.

Policy framework: management plans and arrangements, including visitor management and presentation

The Management Plan concluded in 2009 was agreed with all organisations involved. According to the State Party its aims are to:

- Stipulate the strategies, objectives, main instruments and measures for the sustainable protection and continuous care of the Margravial Opera House in Bayreuth, in order to guarantee the site's preservation in accordance with World Heritage requirements, which will be carried forward, developed and regularly updated in collaboration with all parties involved.
- Serve as a planning instrument both for the Free State of Bavaria (as owner) and for the City of Bayreuth (as the location of the Margravial Opera House) and thus record the significant development plans and their effects on the area nominated for World Heritage listing.
- Document the collaboration between the various specialised institutions which ensure the preservation and protection of the site, and are committed to its future preservation by means of the proposed conservation measures.

As a result of research, experience and consultations the impact of visitors and events has been regulated by the Bavarian Department of Palaces. Effective measures have been established to control the number of visitors and frequency of events which will be exclusively limited

to the summer period after the restoration program is concluded. Nevertheless, ICOMOS considers that these aspects should be included within a Visitors Management Plan within the General Management Plan.

Risk preparedness

The nomination dossier does not report a risk preparedness plan as such but the Management Plan presented includes an analysis of risks and measures taken or foreseen. The Bavarian Palaces Department coordinates the minimisation of any potential risk.

Involvement of the local communities

No direct involvement of local communities is described in the nomination dossier. The City of Bayreuth is included in the steering group.

Resources, including staffing levels, expertise and training

The Bavarian Department of Palaces has specialised officers and staff in the fields of conservation and restoration with many years of experience dealing with valuable historic sites. Among them, a buildings officer, a museum officer and a conservator are all responsible for the Margravial Opera House together with an officer in charge of general conservation and historic buildings research issues. A site manager responsible for World Heritage issues takes care of all issues relating to World Heritage for those sites already listed, and for the Margravial Opera House.

At the Bayreuth Office of the Department, staff members responsible for the Margravial Opera House include the Head; administrative assistants for events, the shop, accounts, tours and public relations, and the Head of Technology. At the Bayreuth State Building Office maintenance and conservation are undertaken by a director of construction, a chief building consultant, a senior architectural technician and an architectural technician. On site staff at the Opera House include the Steward, the Opera House Manager, three further staff members dealing with events, tours, shop, housekeeping, 1 cleaner and half time internal and external caretakers.

Effectiveness of current management

ICOMOS considers that the property is well managed overall.

In conclusion, ICOMOS considers that the management system for the property is adequate and effective. However ICOMOS recommends that a risk preparedness plan and visitor management plan be included in the Management Plan.

6 Monitoring

The key monitoring indicators reported by State Party are:

- Civic landscape and buffer zone, continuously monitored by the Building Control Office;
- Tourism development, annual monitoring by the City of Bayreuth's Culture Department;
- Visitor development and tourism, continuously monitored by the City of Bayreuth's Culture Department;
- Condition of the building fabric; fire protection, public venue regulations and stage, continuously monitored by the Bayreuth State Building Office, Bavarian Palaces Department and experts as part of the maintenance programme;
- Lightning protection, annually monitored by the Bayreuth State Building Office with the Bavarian State Trade Institute;
- Electrical systems, annually monitored by the Bavarian State Trade Institute;
- Environment monitoring, continuously undertaken by the Restoration Centre, Bayreuth State Building Office and experts.

Monitoring is performed by different entities but the Bavarian Palaces Department, as the management authority, collects all relevant information. It also checks compliance with the Management Plan's objectives and reports to the Bavarian State Ministry for Science, Research and the Arts.

ICOMOS understands that monitoring includes checking the preservation of attributes and the existence of threats but the nomination dossier does not explicitly state this. The nomination dossier does not clarify how often the Palaces Department reports to the Bavarian State Ministry for Science, Research and the Arts.

In conclusion, ICOMOS considers that monitoring measures are adequate. However, ICOMOS recommends that key indicators be directly related to attributes and potential threats. ICOMOS also recommends that the periodicity of reporting to the Ministry of Science, Research and Arts be specified in the Management Plan.

7 Conclusions

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List. The nominated property meets criteria (i) and (iv), and conditions of integrity and authenticity. Outstanding Universal Value has been demonstrated. The legal protection in place is adequate and effective.

The overall conservation measures planned are appropriate to preserve the property's value, authenticity

and integrity. The management system is effective and assisted by a qualified steering committee. The main potential threats due to technical systems as well as to the impact of visitors and use inside the property, are duly controlled and currently subject to revision but the management plan does not include risk preparedness and a visitor management plan as such.

There is enough stable funding allocated and skilled personnel in charge. Monitoring measures are correct but the direct relation of key indicators with attributes and potential threats is not explicit and the reporting periodicity to the Ministry of Science, Research and Arts is not stated.

Recommendations with respect to inscription
ICOMOS recommends that Margravial Opera House Bayreuth, Germany, be inscribed on the World Heritage List on the basis of **criteria (i) and (iv)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The 18th century Margravial Opera House in Bayreuth is a masterwork of Baroque theatre architecture, commissioned by Margravine Wilhelmine of Brandenburg as a venue for *opera seria* over which the princely couple ceremonially presided. The bell-shaped auditorium of tiered loges built of wood and lined with decoratively painted canvas was designed by the then leading European theatre architect Giuseppe Galli Bibiena.

The sandstone façade designed by court architect Joseph Saint Pierre provides a focal point within the urban public space that was particularly planned for the building. As an independent court opera house rather than part of a palace complex, it marks a key point in opera house design, foreshadowing the large public theatres of the 19th century. Today it survives as the only entirely preserved example of court opera house architecture where Baroque court opera culture and acoustics can be authentically experienced. The attributes carrying Outstanding Universal Value are its location in the original 18th century public urban space; the 18th century Baroque façade; the original 18th century roof structure spanning 25 metres; the internal layout and design of the ceremonial foyer, tiered loge theatre and stage area including all existing original materials and decoration.

Criterion (i): The Margravial Opera House is a masterwork of Baroque court theatre architecture by Giuseppe Galli Bibiena in terms of its tiered loge form and acoustic, decorative and iconological properties.

Criterion (iv): The Margravial Opera House is an outstanding example of a Baroque court theatre. It marks a specific point in the development of opera houses, being a court opera house located not within a palace but as an urban element in the public space, foreshadowing the great public opera houses of the 19th century.

Integrity

The elements necessary to express outstanding universal value are included within the property as one sole building and are intact and in good condition. No adverse effects are expected to occur and an overall conservation and restoration plan has been approved by the State Party.

Authenticity

Most of the building and the decorative programme of the loge theatre remain unchanged. Adaptations were due to regulations for fire safety in public buildings and requirements in line with the contemporary use of theatres. The highly unified Baroque work can still be appreciated. The survival of the interior materials of wood and canvas enable the opera house's original acoustic quality to still be appreciated, and testifies to the authenticity of the property as an 18th century opera house.

Management and protection requirements

The nominated property is protected at State level by the Bavarian Law for the Protection and Preservation of Monuments (1973, 2007). It is also protected by inclusion on the List of Monuments of Bayreuth under the Bayreuth City Civic Statutes and Ordinances. The buffer zone has been agreed and established with local authorities and its historic buildings are included in the Bayreuth Monuments List.

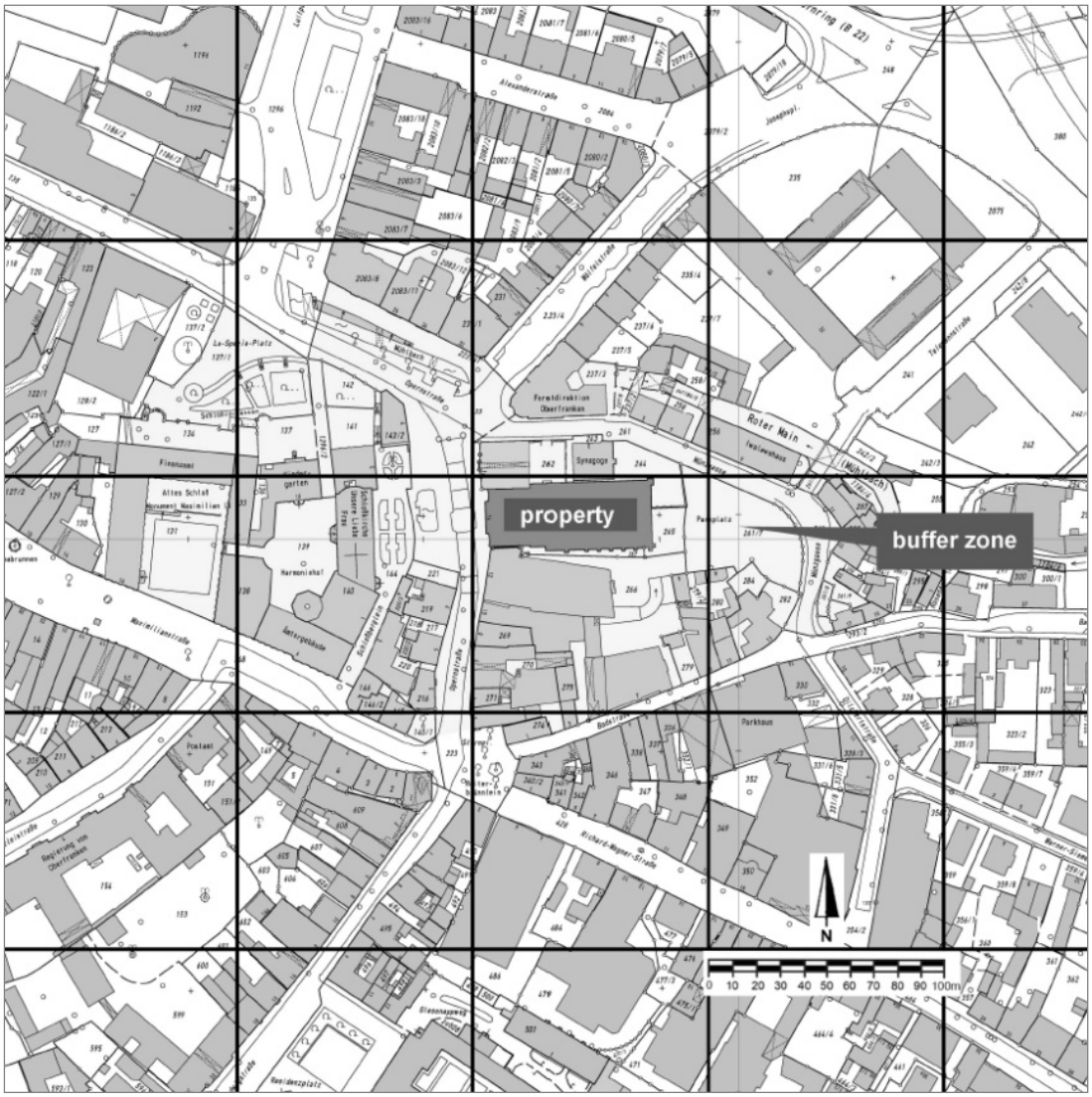
The Management authority is the Bavarian Palaces Department. Implementation of the Management Plan is guaranteed by a steering group including the Bavarian Palaces Department; the City of Bayreuth; the Upper Franconia regional government; the Bavarian State Ministry for Science, Research and Arts; the Bavarian State Office for the Preservation of Monuments and Historic Buildings, and ICOMOS Germany. As a result of research, experience and consultations the impact of visitors and events has been regulated by the Bavarian Department of Palaces. Effective measures have been established to control the number of visitors and frequency of events which will be exclusively limited to the summer period after the restoration program is concluded.

ICOMOS recommends that the State Party give consideration to the following:

- Ensuring that all interventions planned are done according to the abundant documentation and research in the hands of Bavarian authorities and valid conservation principles, under strict supervision by the correspondent technical bodies;

- Including a Risk Preparedness Plan and a Visitor Management Plan as such within the existing Management Plan;

- Explicitly establishing the direct relation of key indicators to attributes and potential threats and clarify the periodicity of monitoring reporting to the Ministry of Science, Research and Arts.



Map showing the boundaries of the nominated property

General view of the nominated property

Foyer with access to staircase

View from the stage

View of the painted ceiling

The Vineyard Landscape of Langhe-Roero and Monferrato (Italy) No 1390

Official name as proposed by the State Party
The Vineyard Landscape of Piedmont: Langhe-Roero and Monferrato

Location
The nominated serial property is located in the Piedmont region. It is comprised of nine separate components in the Alessandria, Asti and Cuneo provinces:

1. *Freisa* covers three municipalities in Alessandria province,
2. *Barbera* covers seven municipalities in Alessandria province,
3. *Asti Spumante* covers five municipalities in Cuneo province and five in Asti province,
4. *Loazzolo* covers four municipalities in Asti province and two in Cuneo province,
5. *Moscato* covers five municipalities in Alessandria province and eight in Asti province,
6. *Barbaresco* covers two municipalities in Cuneo province,
7. *Barolo* covers seven municipalities in Cuneo province,
8. *Dolcetto di Dogliani* covers eight municipalities in Cuneo province,
9. *Grignolino* covers eight municipalities in Alessandria province and eleven in Asti province.

Brief description
The vineyard landscapes of the Langhe-Roero and Monferrato regions in Piedmont cover nine distinct wine growing areas. They provide significant visual similarities in terms of their carefully cultivated hillsides, and their different soil types, land division and the many types of building dotted across and structuring the landscape. These include hilltop villages, Romanesque chapels, castles, diverse vernacular vineyard buildings, etc. The vineyards are notable for their use of different grape varieties, often native, such as *Nebbiolo* used to make the famous *Barbaresco* and *Barolo* wines. The serial property presents itself as a particularly harmonious rural landscape ensemble, well conserved and aesthetically subtle. It claims to be emblematic of Mediterranean winegrowing through the ages.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of nine *ensembles*.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (January 2008), paragraph 47, it is also a *cultural landscape*.

1 Basic data

Included in the Tentative List
1 June 2006

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
21 January 2011

Background
This is a new nomination.

Consultations
ICOMOS consulted its International Scientific Committee on Cultural Landscapes and several independent experts.

Literature consulted (selection)

Étude thématique sur les paysages culturels viticoles dans le cadre de la Convention du Patrimoine mondial de l'UNESCO, ICOMOS, 2004-2005.

Luginbülh Y. et al., *Paysage méditerranéen,* catalogue de l'exposition organisée pour l'Exposition Universelle de Séville de 1992, Milan 1992.

Pigeat J.-P., *Les paysages de la vigne*. Solar, Paris 2000.

Patrimoine et paysages culturels, actes du Séminaire international, Saint-Emilion - Bordeaux 2001.

Johnson H. et Robinson F., *L'Atlas mondial du vin*, Paris 5ème éd. 2002.

Landscapes of Vines and Wines: Heritage implication… International Symposium Fontevraud – Val de Loire, 2004.

Peyrussie E. et al., *Quelques territoires viticoles dans le monde et leurs spécificités*, Paris 2005.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 1 to 6 October 2011.

Additional information requested and received from the State Party
ICOMOS sent a letter to the State Party requesting additional information on 12 September 2011, asking it to:

- Clarify the relevance of the property's boundaries relative to the integrity needed for the most complete expression possible of its value, and the changes to its definition since the State Party's draft proposal for the Tentative List;
- Supplement the comparative analysis notably for the potential justification of criterion (ii), with regard to the property's "long term" history and for the specific geological and climatic elements that characterise it;

- Detail the progress made with the various management components of the overarching Association, the Landscape Protection Act and coordination for the application of the many texts governing the property's protection.

The State Party replied on 24 October 2011 with additional documentation that is incorporated into the present evaluation report.

ICOMOS sent a second letter to the State Party on 14 December 2011 asking it to:

- Strengthen the analysis of the ties between the property's various attributes that define the specificity of its winegrowing and viniculture;
- Strengthen the analysis comparing the vineyards and wines produced in the property with the world's great wine growing areas and the international market for grand wines.

The State Party replied on 27 February 2011 with additional documentation that is incorporated into the present evaluation report.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The serial property nominated for inscription on the World Heritage List comprises nine separate components. It is located in the southern section of Piedmont, between the Po River in the north and the Ligurian Apennines in the south, across a wide region of hills rising no higher than 600m in altitude, framed by shallow valleys.

The soil is mainly comprised of sedimentary rock from the tertiary period, although this does not preclude many local geological particularities, including sandstone, sand, clay, limestone, marl, etc. Overall, the soil has low organic content but is rich in mineral elements.

The hydrological system is formed by the Tanaro River Basin and its many small tributaries. The climate is relatively dry year-round, cold in winter and relatively hot in summer, making for good grape-growing conditions. Combined with the soil data, the hydrology is also favourable for winegrowing.

With a relatively homogeneous tonality of landscape, the property nonetheless covers a great diversity in its composition and in its winegrowing and winemaking particularities. The landscape analysis is based on the generally dominant occupation of vines within a simultaneously natural and cultural context. The former is represented by hilltop woods, hazelnut copses, cane hedges, damp valleys, small streams, etc. The latter is characterised by extensive, very early human settlement that was often led by grape-growing, winemaking and its sale. The landscape is dotted with farms and villages, often perched on high ground, and occasional larger towns acting as economic centres, castles, Romanesque churches and ancient monastic buildings. The many roads, often very old, generally follow the lines of the hills.

The vineyard plots have generally remained small to medium in size, handed down through family tradition. The moderate slope of the land has generally not required crop terracing, except in section No 4 of Loazzolo. The vines are planted aligned in rows following the contour lines. The Piedmont vineyard landscape is notable for its harmonious proportions, its nuances and its well preserved rural atmosphere. The vineyards are renowned for their controlled appellations that represent more than 40% of the total vines grown within the property and in some instances up to 70%.

The diversity of winegrowing and winemaking systems derives from local combinations of soil, climate, altitude and use of diverse grape varieties. Alongside the well-known Malmsey and white Muscat, the Piedmont vineyards include grape varieties specific to the region: Freisa, Grignolino, Barbera, Nebbiolo, Dolcetto, Arneis, Cortese, etc. These native grape varieties form the main characteristic of the Piedmont vineyards. They make for vineyards that are well acclimatised to the local natural conditions and numerous winemaking possibilities. As a result, the Piedmont Langhe-Roero and Monferrato regions provide a broad range of wines, some of which are internationally renowned. The best *crus* are recognised and the most famous are protected under the *DOCG* (*Denominazione di Origine Controllata e Garantita*) label, and the *DOC* (*Denominazione di Origine Controllata*) label for the others. The controlled appellations comply with precise rules that involve low-intensity farming and codified winemaking and cellaring designed to guarantee the quality of the overall process. The serial property includes a total of eight DOCG and 21 DOC appellations, the most famous of which are *Asti Spumante*, a sparkling white Muscat that is one of the biggest selling Italian wines, *Barolo*, a red varietal based on the Nebbiolo vine and sometimes referred to as 'royal wine', and *Barbaresco* another grand wine also made from Nebbiolo, etc. The buffer zones incorporate two DOCG and five DOC appellations. There are also other local wines in the property and its buffer zones but which are not covered by any specific label of origin.

Various elements contribute to the Piedmont vineyard landscape:

- The land divisions and its diversifications depending on the property component; these sometimes date back to very early times (Roman land division and the Middle Ages), but its current forms were above all determined in the 18th century;
- The network of Roman roads, followed by medieval hilltop paths;
- The hilltop villages, often dating from the medieval era, with at times exceptional village outlooks within the vineyards, such as Barbaresco (6), Vignale Monferrato (9) and Albugnano (1);

- The Romanesque chapels (44 are mentioned in the region, but only 5 appear within the property, especially its part 1);
- Castles and strongholds (a great many are mentioned in the region, but only 4 or 5 are inside the property, especially in part 7);
- Traditional architecture in the vineyards: family farms, villas, small-scale vernacular architecture, etc.;
- A series of wine cellars, including the old underground cellars called “infernot”, and the traditional cellars associated with winemaking houses called “ciabot”; these facilities are often used for storing wine in the towns (Canelli, Alba, etc.);
- The typology of continuous rows of vines often running parallel with the contour lines;
- The aesthetic effects of the colours of the seasons.

A series of ethnological and anthropological elements also contribute to the property’s definition, especially the socio-technical wine production systems. This includes numerous aesthetic and representational elements. Architecture and decoration specific to the wine region have been promoted, together with religious representations associated with wine and its symbols.

The property has the particularity of being comprised of nine separate parts, each attached to a different wine, many of which are derived from local grape varieties specific to the Piedmont region. Each of the zones bears the name of its associated wine or grape variety.

Part 1: Freisa

This area is characterised by the cultivation of the vine of the same name and Malvasia, using low-intensity methods. It is one of the serial property’s smallest wine appellations. It is bounded by hilltop roads and forms a vast amphitheatre. The vines are grown on the gentler slopes, while the steeper ground is wooded. The vines, planted alongside fruit trees and cereal fields, form a multi-coloured mosaic of small fields. The historic town of Albugnano and small villages are perched on the high ground. The main components of the built heritage include Romanesque chapels and the monastic complex of Santa Maria di Vezzolano. The hilltop site is clearly visible from the surroundings.

Part 2: Barbera

This appellation area is the preferred site for one of Italy’s most important red wines: Barbera, derived from a grape variety that originated in the region, Nebbiolo. The landscape is relatively composite, formed of vines and woods on the slopes, small valleys with green meadows, etc. The dominant atmosphere is rural, bucolic even, with the magnificent russet hues in the vineyards in autumn. Settlement is concentrated in several villages and dispersed as farms andisolated houses. Nonetheless, the main villages are mostly located outside the nominated area, except Castelnuovo Calcea and Vinchio. The historic wine market town of Nizza Monferrato is in the buffer zone.

Part 3: Asti Spumante

This area, at the centre of the series, is the most extensive after area 9. The whitish soil, mixed with limestone, sandstone and marl, is particularly good for growing white Muscat (Moscato). Derived from the Champagne method, winemaking here produces an internationally renowned sparkling wine, Asti Spumante. This part of the property presents itself as a broad undulating plateau with hills ranging between 100 and 300 metres in altitude. The homogeneous and continuous landscape is essentially comprised of vines, the older mixed farming having tended to disappear for economic and social reasons. It does however retain some notable hazelnut orchards. Urban skylines are visible in the distance, with their bell towers. With the exception of the winemakers’ village of Calosso, the villages and, above all, the ancient market town of Canelli that historically played a part in the *spumante* winemaking system lie outside the nominated property, within a vast buffer zone. Canelli is nonetheless presented as one of the major sites for Piedmont cellar architecture, and as a provider of local expertise. In particular, the village includes emblematic Asti Spumante wine merchants, in premises generally dating from the 19th century.

Part 4: Loazzolo

This area is located to the immediate south of the Asti Spumante zone, from which it differs by having a higher altitude, more marked relief and different geology comprised of relatively hard rock. It is one of the rare places in the serial property where the steep slopes require dry-stone terracing and the use of mules. The area has a relatively low density of vines, and a very broken up land division dispersed within an ensemble of meadows and woods. Wine production focuses on *Passito*, a sweet wine made from late harvest white Muscat. Winegrowing here is not as easy and is difficult to mechanise, making it easy to understand why production tends to focus on this more expensive type of wine than Asti Spumante, a well-known but mid-range wine. This part of the nominated property includes the remarkable old villages of Cessole and Loazzolo, and several typical farms. It is separated from zone 3 by a valley which includes the municipalities of Canelli and San Stefano Belbo, the modern urban nature of which would have jarred with the property’s rural aesthetic.

Part 5: Moscato

This is the third largest zone in size and a large part of it is under white Muscat vines used to make sparkling wine and the sweet *Passito* wine. Its vineyards are planted with grape varieties originating locally, such as Barbera, Brachetto, Cortese and Freisa, but Muscat is generally dominant. The soil is a homogeneous mix of clay marl, sandstone and sedimentary sands. Like most of the property’s areas, this section is a hilly plateau with at times steep slopes and deep valleys. The composition of the landscape is largely vineyards with a few oak and chestnut woods, and hazelnut groves. The habitat includes many buildings connected with farming or viticulture, often with fine architecture. This is a very

consistent zone with internal roads that afford fine views over an organised and neat countryside. One of the major architectural components of this area is Fontanile Church, at the centre of a hilltop village.

Part 6: Barbaresco

This is the smallest nominated area within the series, not far from Asti Spumante. It is identified by its visual boundaries, between Tanaro Valley and a hill line close to 600 metres in altitude. The main grape variety grown in this area is Nebbiolo, on clay and marl soils, or sandstone that has high water retention. Other crops are rare. The wines from this region, like those from the following one, use the typologies applied in France to identify the best vines, using the "cru" and "grand cru" labels; however, the area also produces blended wines of a lesser quality. It includes the village of Barbaresco and the medieval section of Nieve with its castle; however, the larger part of this village lies in the buffer zone.

Part 7: Barolo

This vineyard forms the most emblematic part of the Piedmont vineyards, in terms of the international reputation of its wine based on the Nebbiolo grape. The region also produces the Italian *eau de vie*, Grappa. Here, the property forms a sort of basin around the village of Barolo. The landscape is essentially formed of neat vine fields, together with a few fields of cereal crops and woods on the steeper slopes. The habitat is comprised of medieval villages with their central castle and a circular stronghold arrangement; it includes several wine-related buildings often noteworthy for their architecture. The village of Grinzane Cavour, well known for its castle that housed one of the founders of the Italian nation, and also a promoter of the modern wine growing industry based along French lines in the Piedmont region, has been placed in the buffer zone. The environment of this municipality was not considered sufficiently attuned to the landscape aesthetic adopted for the composition of the serial property, as it tends more to reflect a changing suburban landscape. The castle houses a wine tasting and winegrowing cultural centre.

Part 8: Dolcetto di Dogliani

This is the southernmost area of all the vineyards, and it is largely given over to the local red variety Dolcetto di Dogliani, more commonly referred to as *Dolcetto*. It is notable for having fewer vines that the other Piedmont vineyards and they are generally located on the hilltops, alternating with meadows and hazelnut orchards. The foot of the hills is steeper and wooded, sometimes even forming white rocky escarpments cantilevered over the river below. The only village in this part of the property is Clavesana, perched on a hill, while the traditional winemaking buildings are scattered throughout the region.

Part 9: Grignolino

This is the largest part of the property, in the north of the Piedmont vineyards. It is also the region where the proportion of vineyards is lowest compared to the other areas. It is planted with the native Grignolino variety and a small proportion of Freisa. The area on which the Grignolino variety is grown forms the boundary for this part of the property. The landscape is fundamentally rural and fairly homogeneous, with gentler hills than in the other areas. It is dominated by mixed farming combining grapes and cereal crops. Several wooded areas complete the rural landscape. Six large villages lie entirely or partially inside this section of the property, while several others have been left immediately outside its boundary, in the buffer zone. The historic urban cores are generally at the top of hills, as seen in the fortified villages of Vignale Monferrato and Montemagno.

In its February 2012 reply, the State Party provided additional information about the winegrowing (size, spacing, etc.) and the winemaking techniques used in the various vineyards. It reiterated the diversity as a function of the soil types, altitudes, grape varieties and winemaking methods. It then details its description of the technical premises and architecture required to make and cellar the wine.

ICOMOS considers that two main and complementary principles have informed the definition of the serial property within the vast Piedmont wine region. The first is the selection of winemaking areas based on the dominant and at times exclusive planting of a so-called native variety and the associated winemaking producing a controlled appellation wine. Within these appellation areas, at times very extensive, the second selection principle is the identification of the vineyard and rural landscapes, the quality, wealth of heritage and harmony of which are undeniable. This orientation raises two questions that are discussed throughout this evaluation. The first refers to "native grape variety", the definition of the term, the use made of it to form the property boundary, etc. The second question concerns the integration (or rather the limited integration) of the built and urban components expressing the property's intangible values (winemaking expertise, commercialisation of wine, popular traditions, etc.) into the landscapes defined. From this point of view the nomination dossier includes many details, but it also contributes historic elements for which the effective material link with the property is not clear, or descriptions of material attributes that are difficult to locate and many of which do not seem to relate to the property itself. An inventory method combined with precise scientific mapping of the property's attributes is essential to make the nomination dossier comprehensible and coherent with the property's definition.

The State Party's replies to ICOMOS' questions underscore the fact that there is a discrepancy between the elements that truly convey the values of the overall socio-technical system of vines and wine in Piedmont, very clearly explained in the additional documentation, and the proposed boundaries. Further exploration of the presentation provided by the additional documentation concerning the built components associated with winemaking, and not just the vines and their close by buildings, underscores the discrepancy between the current definition of the property's boundaries and its

heritage inventory (many essential winemaking and cellaring components lie outside the property's boundaries).

History and development

The region has been continuously occupied since the Neolithic; wild grape vines grew in the region at that time, as they did across the entire Mediterranean Basin.

Vine domestication through species selection by humans started in the Middle East, probably in the 4th millennium BCE, accompanied by grape winemaking. Vines and winemaking spread throughout protohistoric periods around the Mediterranean rim, in Greece in particular, then to the coasts of the western Mediterranean, in Etruria (today's Tuscany and north Latium). While the presence of Greek vines is reported in *Massalia* (Marseille) in the 6th century BCE, their influence on the Piedmont hinterland remains hypothetical. Vine pollen has been found within the area of the property dating from the 5th century BCE. This was a period when Piedmont was a place of contact and trade between the Etruscans and the Celts. Etruscan and Celtic wine-related words are still found in the local dialect.

In the Roman period, vine growing was organised in large vineyards across the Italian Peninsula, as witnessed in the rural land division organised around large holdings (villas) and small villages, and the communication channels between them. The nominated property bears various traces of this. A winegrowing and winemaking socio-technical system was established, at the same level of the Empire. A large number of wine amphorae have been found in the region. New grape varieties were introduced at this time, referred to by Pliny the Elder in his "Natural History", in particular the ancestor of the *Nebbiolo* variety. Pliny mentions the Piedmont region as being one of the most favourable for growing vines in ancient Italy; Strabo mentions its barrels.

The landscapes and the agricultural management in the region of the property underwent change in the Middle Ages, especially under the authority of the bishops and monasteries. Evidence of the importance of wine growing in the domains of the Bishop of Asti dates from the 11th century. In the region of Monferrato, vast ecclesiastical winegrowing domains were established. There are numerous testimonies to this: Romanesque churches, castles, elements of farms, etc. remain today in the property and its buffer zone, forming important landscape elements. The structure of the hilltop villages and small towns on the plain, specifically devoted to trade, gradually became established. Urban settlements, the "new towns", together with the castles, marked the rising seigneurial power in the 12th and 13th centuries. These various strongholds provided a place of refuge for winegrowing peasants; the production and cellaring of wine became established there. Some farms were also fortified by the peasants. There are many traces of these phenomena in the property and its buffer zone.

Starting in the 14th century, later during the Renaissance, the wealthy middle classes tended to take over the winegrowing lands, and even more so winemaking and its trading. The urban centres grew in importance, as did the development of roads in addition to the small hill village pathways. This was a period of collective enrichment and economic development. Piedmont wine production grew and diversified; it was codified by municipal bylaws and was refined. The names of the various varieties of grapes selected appeared for the first time: Nebbiolo, Barbesino, Lambrusca, etc. A complex land ownership and social structure was then in place, distributing the vineyards between numerous owners, title-holders and stakeholders: the church, monasteries, lords, urban middle class, farmers, peasants, etc. The current vineyards bear witness to the land ownership and landscape heritage from this period, as seen for example in engravings from the 16th century showing rural themes.

The middle classes involved in wine trading and rich winegrowers opted for more sophisticated and comfortable styles of housing in the 16th and 17th centuries. These were grouped in villages around earlier castles, or in small towns on the edge of the vineyards. The houses were organised around underground cellars ("infernot"). Architectural styles based on an aggregation of external influences became more defined. Vineyard slopes were sometimes levelled, and planting in regular and ordered rows following the slope became codified. It was a period when treatises on wine growing and winemaking were printed, notably in the Piedmont region.

In the 18th century, rising population and the region's enrichment encouraged the construction of farms within the vineyards, as well as the breakup of the former large religious domains. The increase in production also required the installation of winemaking facilities closer to the vineyards during harvesting. A form of intensive multi-cropping continued, notably among the smaller landholders and farmers. The Savoy dynasty undertook a vast regional land survey with a view to taxing vines (1713); the roads were improved. Baroque elements appeared in urban buildings. Following the reacquisition of properties encouraged by the government, aristocratic villas appeared in the countryside, sometimes alongside older farmhouses. They marked the emergence of a rural gentry in Piedmont. Vineyards and wine production became the target of property speculation and economic investment. Wine drinking became an acceptable part of social custom, especially in northern Italy, stimulating the market.

In the 19th century, the vineyards in the Langhe-Roero and Monferrato regions continued to be developed and expanded, right up to the present day. At the same time, especially in Monferrato, the ownership structure of vineyards continued to be broken up into smaller and smaller family-owned holdings. Wine production increased by nearly 40% between 1835 and 1864, reaching 3,800,000 hectolitres. The commercial market for wine grew. Winemaking production focused on quality, and the presence of a landowning aristocracy linked to the political

regime in the Kingdom of Piedmont-Sardinia encouraged the introduction of the French model of winegrowing and winemaking, notably under the impetus of the family of the statesman, Cavour. French oenologists contributed to improving the technical management of the vineyards. Winemaking and aging were also improved; some adopted the practice of "crus" and "climates" specific to French winegrowing in the Bordeaux and Burgundy regions. The Champagne method of winemaking was successfully applied to muscat grapes in the Asti and Canelli regions, in the 1860s, resulting in the creation of "spumante", a sweet sparkling wine with the specific fragrance of the Muscat variety.

The last part of the 19th century saw the *phylloxera* calamity that ravaged the Piedmont vineyards, like all others in Europe, but a little later than in France. Replanting by grafting to American rootstock provided the Piedmont vineyards with an opportunity to perform a major classification and selection of rootstock based on indigenous "terroirs", in order to rebuild quality vineyards. The Barbera, Dolcetto, Nebbiolo, Freisa, Bonarda and Grignolino grape varieties were stabilised and described as characteristic of the various regions of the Piedmont vineyards at this time. This period also ushered in a scientific dimension, evidenced by the creation of an experimental oenological station (1872).

This effort to regenerate the Piedmont vineyards paid off at the end of the 19th century, and in the 20th, with national recognition, through the Italian Unity, then the international distribution of the best *crus* and recognition of their excellence. *Barbaresco* and *Barolo* reds took their place at the top of the global wine hierarchy. *Asti spumante* became a popular and festive wine with its reputation reaching far beyond Italian borders; it sold particularly well in North and South America. The towns became major centres of the wine trade; 'fermenting rooms', large cellars where wine is stored in barrels, were built, etc.; representative architecture appeared for the largest wine houses, neo-gothic for example. Joint initiatives appeared in the early 20th century to protect the quality of Piedmont vineyards and to provide differentiation from ordinary wines. A cooperative movement was set in place to group together and improve smallholders' production. Diversification appeared with vermouths in Canelli and Asti, produced by large commercial wine and spirits companies.

The 1930s Depression affected the Piedmont vineyards; prices collapsed and the trend towards expanding vineyard surface area and quantity reversed with a new focus on the best vineyards and more severe pruning practices. Based on the French model of *Appellations d'origine contrôlée* or controlled appellations, a system for standardising winegrowing and winemaking was introduced after the Second World War. These are the "DOC" used in Italian vineyards, with *Barolo* and *Barbaresco* in first place. Delimited areas were introduced, the quantities produced per hectare controlled and winemaking and cellaring codified. A hierarchy of controlled appellation wines appeared in Italy in 1992, with the top being the "DOCG" label for the highest quality wines. From this point of view, the Piedmont vineyards are one of the most important in Italy. Today, its wine production accounts for a little over 1,200,000 hectolitres of controlled appellation red wines and nearly 850,000 hectolitres of controlled appellation white wines.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The State Party first takes into consideration the vineyard landscapes already inscribed on the World Heritage List, those on the Tentative Lists as well as those referred to in the ICOMOS thematic study.

The first are the Jurisdiction de Saint-Emilion (France, 1999, criteria (iii) and (iv)), Alto Douro Wine Region (Portugal, 2001, criteria (iii), (iv) and (v)), Tokaj Wine Region Historic Cultural Landscape (Hungary, 2002, criteria (iii) and (v)), and Lavaux, Vineyard Terraces (Switzerland, 2007, (iii), (iv) and (v)). Other properties on the World Heritage List with a winemaking dimension within other elements are also taken into consideration: Val d'Orcia (Italy, 2005, criteria (iv) and (vi)), Upper Middle Rhine Valley (Germany, 2002, criteria (ii), (iv) and (v)), Costiera Amalfitana (Italy, 1997, criteria (ii), (iv) and (v)), Portovenere, Cinque Terre, and the Islands (Palmaria, Tino and Tinetto) (Italy, 1997, criteria (ii), (iv) and (v)), Landscape of the Pico Island Vineyard Culture (Portugal, 2004, (iii) and (v)). The vineyards in Tuscany (Italy), Rioja (Spain), South Africa and Alsace (France) are also mentioned.

The formative aspects of the vineyard landscape are in particular examined, the associated human settlements and climatic environments. The cultural landscapes of Langhe-Roero and Monferrato do not come under the category of "heroic" vineyard landscapes but rather in the category of gentler hillside vineyards of which it is a very harmonious example, with a rich diversity of built and structural components illustrating a particularly long and rich social history of vineyards and winemaking. The typology of these locations, notably the hilltop villages, differs from the other properties. The Piedmont vineyards have a much older history that that of the other vineyards, the origins of which date at best from Roman times. Here, Greek, Etruscan and Celtic influences intermingle and mutually enrich each other, from the period of high antiquity onwards. Lastly, the range of native grape varieties and the wines produced are unique.

The additional documentation explores further the comparison between the wines produced in the Piedmont vineyards with those produced worldwide, notably in France. It highlights the great variety of production, ranging from prestigious wines to more large-scale production but with an excellent price-to-quality ratio on the international markets.

ICOMOS considers that the landscape originality of the nominated vineyards is based on their gentle and balanced hillside dimension, in considerable harmony with the built heritage. The State Party claims a sort of archetypal Mediterranean vineyard landscape of which the values are foremost of an aesthetic nature. It is interesting to compare this concept with other vineyards, beginning with Italian vineyards, but it is ambiguous. The wealth of the Langhe-Roero and Monferrato landscape, with its hilltop villages and diverse built heritage, is certain; but it would seem that this is a relatively common characteristic of European Mediterranean landscapes. The argument of mixed crops as an original local feature is, from this point of view, revealing, given the widespread nature of this landscape aspect.

ICOMOS considers that one of the essential criteria for defining the property is based on the notion of native grape varieties, related to the land, climate and wines associated with them. The wines produced are very diverse, reflecting the range of grape varieties, soils and winegrowing and winemaking techniques employed. They correspond to a wide variety of domestic and international markets, ranging from renowned grand wines, to those produced in bulk and widely distributed. The value of the Langhe-Roero and Monferrato region vineyards is certain, but it is highly variable and changes markedly from one vineyard to another. From this point of view, the Nebbiolo grape and the associated Barbaresco and Barolo wines would seem very convincing, but other grape-wine associations are far less so. The question of the number of vineyards presented remains open at this stage, given their genuine value and what they could contribute to a potential Outstanding Value for the ensemble. The rationale that led to the selection of the sites forming the series is somewhat unclear. The fact that certain vineyards have been selected and others not is neither fully explained nor justified. It is not clear why all the nominated sites would be needed for the justification of Outstanding Universal Value nor in what way they contribute individually.

ICOMOS considers that the choice of sites must be justified as well as the way in which each contributes significantly to the potential Outstanding Universal Value of the ensemble.

Furthermore, the use of the concept of native rootstock is attractive, but it is ambiguous as a value specific to the nominated property. Many great vineyards have rootstock that can be described as native, such as Tokaj, most great French vineyards, etc. Conversely, “Moscato” is a white Muscat variety which is grown in a great many vineyards and in a great many varieties in the Mediterranean world and it would seem wrong to qualify this variety as a Piedmont native.

For these various reasons, ICOMOS considers that the comparative analysis does not justify the selection of the series components as currently defined. Some variety–land–winemaking connections do, however, demonstrate true outstanding meaning at an international level, and they may justify a more limited series.

ICOMOS considers that the comparative analysis does not justify consideration of this property for the World Heritage List at this stage.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Italy is one of the oldest wine-producing regions, at the meeting place of numerous influences starting as early as the protohistoric era and high antiquity. Piedmont typifies this meeting of influences in winegrowing and winemaking terms, notably between Etruscans, Greeks and Celts. The vineyards then underwent remarkable development under the Romans. It is one of the oldest continuously operating wine areas in the world.
- It is an exceptional and emblematic landscape of harmonious hillside vineyards providing numerous aesthetic subtleties. It is testimony to a long-standing relationship between humans and their environment.
- The serial property includes a great diversity of native grape varieties enabling the production of numerous original and unique wines of considerable renown. It is testimony to the great diversity of winegrowing and winemaking possibilities.
- The property contains a very great diversity of built components, well integrated into the landscapes, and bearing testimony to winemaking and commercial expertise, to the diversity of social structures and cultural exchanges throughout its long history. The property expresses a quintessential form of winemaking culture.

ICOMOS considers that the arguments put forward express important qualities of the winemaking region of Langhe-Roero and Monferrato. The hillside vineyard landscapes of this very old wine-producing region have a markedly richer historic heritage than many others, and they have an undeniable aesthetic quality. The property expresses a variety of social and cultural structures, changing slowly throughout the history of the vineyards and for which many testimonies remain. These values are also associated with the presence of local grape varieties capable of producing several internationally renowned wines (Barolo and Barbaresco). However, these characteristics can apply to a great many European Mediterranean wine-growing areas. Also, a certain number of points remain poorly explained or poorly factored into the definition of the serial property as it has been nominated for inscription. For example, it seems relatively improbable that the influence of the Greeks from *Massalia* on the Piedmont region had as important an effect on winemaking development as claimed. The influence of the Celts on the Mediterranean world is a relatively general historical factor, which of course is present here but no more so than elsewhere. The notion

of native grape varieties, which is not specific to the nominated property, involves a complex question the application of which is somewhat wrong here and for which the scale of values seems very open. The diversity of the property's winegrowing and winemaking is certain, but not all the vineyards presented in the nominated series provide in themselves a significant contribution to what could be a potential Outstanding Universal Value for the ensemble.

For the moment, the built and urban elements that express the property's very great social and intangible wealth are mostly not incorporated within the property's boundaries.

ICOMOS considers that the focus placed on the landscape diversity and the winegrowing and winemaking diversity to justify the series is not fully convincing; it is both too broad and incomplete. Consideration must be given to reviewing the application of the series' selection criteria and of its constituent components, to demonstrate in what way each of the sites contributes significantly to the potential Outstanding Universal Value. Consideration should also be given to revising the site boundaries to include the main attributes.

Integrity and authenticity

Integrity

For the State Party, this is a sufficient selection of landscapes that, taken together, present the outstanding qualities and different forms of winemaking in the Langhe-Roero and Monferrato region. The structure of the landscapes forms a very homogeneous ensemble, with hillside vineyards, their natural environment, hilltop villages and dispersed farms, the monumental church and castle components, and lastly the urban developments on the plains. The landscape integrity is twofold: it represents the continuity of agricultural activity throughout the centuries and the building up of layers of human activity that have been laid continuously one on top of the other while undergoing transformation.

The choice of the zones making up the series was made on the basis of an analysis of the grape varieties and associated winemaking processes. This relationship between remarkable landscapes deeply redolent with meaning and an exceptional array of grape varieties and wines is the basis of the property's integrity and gives it its Outstanding Universal Value.

It is also a landscape ensemble with functional structures that have been handed down and reproduced throughout the ages, with considerable permanency, and which are still active today. The region is considered as having integrity because it is fully intelligible and functional. It is also a landscape with remarkable visual unity and aesthetic quality, providing unique and uninterrupted panoramas.

ICOMOS considers that the quality of the Piedmont vineyard landscape is undeniable, but variable in terms of its winegrowing and winemaking meaning. It is one of the most complete vineyard areas in terms of its many aesthetic and historical components. However, the man-made elements relative to winemaking, urban development and history are too often outside the property boundaries, in buffer zones, or even further afield. The integrity is therefore not entirely satisfactory from two points of view: 1) the definition of the series itself as it is not fully justified, and 2) the definition of each of the sites.

Authenticity

Abundant and diverse documentation bears testimony to the authenticity of the landscape and man-made components proposed for the serial property. In particular, this refers to the archives held by the owners of the wine houses bearing witness to the transmission of expertise and customs through the centuries. The ensemble is testimony to diverse and authentic winegrowing and winemaking practices.

The land has been used for grape growing since antiquity, as attested by Pliny the Elder and Strabo during the Roman Empire. The collections of maps and plans provide thorough knowledge of the geographic and agrarian structure of the vineyards, and their transformations over time. The various stages in the social organisation of winegrowing and winemaking provide both a characteristic historic dimension of the property and the mark of a living evolving landscape.

The oldest built structures date from the Middle Ages (10^{th} to 14^{th} centuries). Like for the more recent constructions, the heritage study has proven their authenticity: Romanesque churches, monastic buildings, forts and castles, farms and cellars, etc. The hilltop villages and the network of roads and pathways have retained satisfactory structural and architectural authenticity. The conditions of authenticity of the vineyard vernacular architecture are satisfactory.

The Piedmont vineyard landscape is undoubtedly one of the most harmonious and most consistent with the ideal of a "scenic" rural and vineyard landscape, accentuated by the gently hilly environment that provides many harmonious vistas and panoramas. The vineyard stakeholders are today aware of these aesthetic values that could be called perceived authenticity. The only reservation comes from the presence of several built elements dating from the second half of the 20^{th} century, generally for public or wine industry purposes, which jar somewhat with the surrounding landscape.

ICOMOS considers that the property meets the conditions of authenticity. The cultural, landscape and aesthetic values are expressed in a true and credible manner.

ICOMOS considers that the conditions of integrity have not been met and that the conditions of authenticity have been met.

Criteria under which the inscription is proposed

The property is nominated on the basis of cultural criteria (ii), (iii) et (v).

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

In the heart of the Mediterranean world, the Piedmont wine area and its region have formed a crossroads for peoples since high antiquity. In winegrowing terms, the result has been a process of development and selection of numerous native grape varieties and considerable diversity in wine production, in accordance with the use of the land. The great diversity and great quality of Piedmont wines have been built up over the course of major historical eras. In antiquity, it was a place of exchange between Mediterranean and Celtic civilisations that have left traces even in the vocabulary, then the adoption of wine growing organised by the Romans. The medieval world led to many cultural changes and successive sociological adaptations to winegrowing. The modern era provided many technical treatises and studies on the quality of the wines in relation to the land. Later, notably under the influence of the statesman, Cavour, the influence of French oenologists ushered in a new period of diversification and qualitative improvement. During the *phylloxera* crisis, the Piedmont vineyards played a significant scientific role. In the 20th century, the Piedmont grape varieties and methods in their own turn played an influential role for many new vineyards (California, South Africa and Australia).

ICOMOS considers that the Piedmont vineyards indeed benefit from a rich history of cultural exchange, in the heart of European winegrowing and throughout numerous periods. In antiquity, the region was an important place of cultural exchange followed by the adoption of Roman wine production. In the Middle Ages, the organisation of the vineyards was subject to monastic and then feudal influence. The modern era and the 19th century have been marked by the influence of French winegrowing and winemaking models, and by the Piedmont's early adoption of scientific winegrowing. In the 20th century, the best Piedmont *crus* reached the top level of the international hierarchy of grand wines, and its winegrowing and winemaking techniques influenced many non-European countries as they established their own wine industries. However, the choice of sites is not fully justified and the definition of each does not suitably highlight the attributes liable to support this criterion.

ICOMOS considers that this criterion has not been justified at this stage.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

The cultural landscape of the Piedmont vineyards provides exceptional living testimony of European winegrowing and winemaking traditions through the presence of the different strata of a very long history. Today, it includes traces of its evolution since antiquity. The Roman period defined the land division (*centuriation*), systematically organised its use and installed a communication network. The structure of land use was then reformed during the medieval period, giving rise to a system of share-farming, a new land division and organisation focused either on monasteries and religious orders, or around castles and small hilltop villages, then "new towns" and networks of small forts. Onto these old foundations, many testimonies of which remain today (castles, churches, villages, farms, cellars, etc.), it was finally the 18th century that restructured the bulk of the cultural landscape as it is seen today. The new rural gentry's buildings, often in Baroque style, were added to the landscape at this time.

ICOMOS considers that an ancient and living cultural tradition is undeniably present in the Piedmont vineyards, bearing testimony to a great diversity of periods and successive adaptations of the socio-technical winegrowing and winemaking system to its economic and cultural environment. However, these built and landscape testimonies do not stop at the end of the 18th century or at the nominated property boundaries. Furthermore, a precise number of material components must be clearly identified within the serial property in order to be able to judge the integrity of the cultural tradition presented and its meanings. Too many elements referred to in the nomination dossier do not concern the serial property, but rather the area outside it: Roman roads, castles, religious buildings, warehouses and cellars, trading firms, etc.

ICOMOS considers that this criterion has not been justified at this stage.

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

The components of the Langhe-Roero and Monferrato hillside vineyard ensemble represent an exceptional example of the interaction between Man and his environment. Throughout the centuries, vines, farms and traditional forms of rural life have become intertwined, within a rural and natural environment, to form a traditional cultural landscape each component of which expresses the human determination to optimize forms, dimensions and functions to the needs of winegrowing. The ensemble forms a cultural winegrowing landscape typical of Piedmont, aesthetically very homogeneous but

expressing many nuances specific to each of the components in the series, their physical (geology, morphology, hydrology, etc.) and cultural (farming techniques, socio-economic systems, built environment and architecture, etc.) traits.

The soil has various compositions and, throughout a lengthy historic process, the winegrowers have selected an ensemble of native grape varieties well suited to these soils. This fundamental fact, combined with the region's microclimates and hydrology, has led to diverse types of red and white wines, and progressively led to the very highest quality. This is a reflection of the exceptional expertise arising from long winegrowing and winemaking traditions; it is recognised by the international wine market and expresses a high degree of refinement in the relationship established by humans with their natural environment.

ICOMOS considers that the Langhe-Roero and Monferrato living winegrowing cultural landscape does indeed represent an important example of Man's interaction with his environment, over a very long period of historic evolution. The wine growing landscape is testimony to a definite aesthetic quality reflected in the harmony between the vineyards and the many built elements expressing the various layers of its history, between the gentle hillside vineyards and the hilltop villages, between the refined autumnal colours, the castles and old churches. It also presents an original selection of grape varieties adapted to the land with its variety of soil types and climates, that also reflects winemaking expertise that has gradually evolved and known how to adapt winegrowing and winemaking models taken from the best foreign sources. However, ICOMOS questions these two points that need to be linked in the analysis of the property's value, each not being sufficient in itself to justify the Outstanding Universal Value. Indeed, scenic vineyard landscapes, presenting a harmonious blend of vines and an associated rich built heritage are relatively numerous in Europe. A certain number have already been inscribed on the World Heritage List (see comparative analysis). The argument of the adaptation of the grape varieties to their soil and climate in order to express a very high degree of expertise in the making and conserving of wine is essential to give the full meaning to the landscape and historical value of each of the property's components. A remarkable value of this expertise is shown in the case of the Nebbiolo grape variety, in fact classifiable as native, and the associated Barolo and Barbaresco wines. This is much less evident for the other components of the property.

ICOMOS considers that this criterion has not been justified at this stage.

ICOMOS considers that the serial approach has not been justified in terms of the application of the selection criteria and the choice of sites.

In conclusion, ICOMOS does not consider that the criteria and Outstanding Universal Value have been justified at this stage.

4 Factors affecting the property

Development pressures

Habitat pressure in the various parts of the property is mentioned by the State Party as being overall well regulated and under control. There is demand, notably for holiday homes, but it has up until now been channelled towards restoration in keeping with the existing stock and considered up until now as an added value in terms of the real estate.

There is pressure on the renovation and modernisation of the actual winegrowing and winemaking operations. Extensions that run counter to the surrounding aesthetic appeared in the 1960s and 1970s, such as at Barolo with a modern hangar-shaped wine storage facility that jars completely with its environment.

It is in the buffer zones that the construction process is most in evidence. It is the industrial and commercial buildings that are the most visible, especially along roads and roundabouts.

Economic development has also caused several difficulties in the wine industry's viability. Zones 1 (Freisa) and 9 (Grignolino) are suffering from an ageing winegrower population; zone 4 (Loazzolo) is experiencing difficulties linked to the winegrowing practices on hillsides and terraces where mechanisation is difficult. The associative organisation of the profession does, however, help limit the economic effects by encouraging exports. On the other hand, the abandonment of those plots not under vines could eventually have a certain impact on the landscape, notably in those areas where mixed farming is the norm.

Tourism pressures

Tourism in the property is mainly cultural and oenological. The places with the highest tourist traffic are the castles, museums and commercial "caves". There are approximately 130,000 tourists a year. The most widespread tourist accommodation includes: B&Bs or farm accommodation, and hotels, often traditional, in the small neighbouring towns. The State Party does not consider that there is any particular threat from tourism and that the available infrastructure can cope with any significant increase, for example in the event of inscription on the World Heritage List.

Environmental pressures

Atmospheric pollution readings are low.

Soil erosion may occasionally affect some parts of the property, but it is a long-standing phenomenon that is well managed by the site stakeholders. More generally,

the rows of vines planted along the contour lines in the plots, and their drainage systems, are a technical response to this question.

Natural disasters

The vines and grapes are fragile and can be affected by certain exceptional climatic events, such as hail, or endemic diseases, as was the case with *phylloxera* at the end of the 19th century. The Piedmont vineyards also suffered in the 2000s from *flavescence dorée*, and the most heavily affected rootstock was destroyed.

Earthquake risk is considered relatively low. There is no risk of flooding given the hilltop location of the property. There is a degree of fire risk in the villages and woods in summer.

Impact of climate change

The effects of climate change are so far not noticeable in the property and its main climatic and hydrological characteristics. The region remains under both Mediterranean and continental influences, resulting in dry summers and relatively cold winters. Increased summer drought could eventually occur together with more extreme climate events, such as violent storms, tornadoes, etc.

ICOMOS considers that the main factors liable to affect the property are the development of "modern" winemaking or other commercial buildings that are incompatible with the values of the traditional building stock, over-hasty restorations of vernacular properties, the abandonment of non-winegrowing farmland in the areas where mixed farming is still important, and the presence of the vine disease *flavescence dorée.* Building pressure also affects several towns and villages in the buffer zones, which may have an impact on the visual quality of some parts of the property.

ICOMOS considers that the main threats to the property are inappropriate buildings, the abandonment of non-winegrowing farmland, and the presence of the disease *flavescence dorée*.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The nominated property has nine separate components within three distinct buffer zones:

Site name	*Surface area (ha)*	*Buffer zone (ha)*
1-Freisa	947	A = 9,599
2-Barbera	2,224	C = 144,608
3-Asti Spumante	5,723	C
4-Loazzolo	1,995	C
5-Moscato	5,165	C
6-Barbaresco	893	C
7-Barolo	3,056	C
8-Dolcetto di Dogliani	2,503	C
9-Grignolino	7,961	B = 31,187
Total	30,476	184,447

The overall property has a population of around 186,600, and the buffer zones around 270,000 (2009).

The property boundaries generally follow lines of communication, hilltops or the lower boundaries of the vineyards. They are based on the criteria of continuity of the vineyard landscape, its visual limits, and tend to exclude the presence of elements that could undermine the authenticity or perceived integrity.

ICOMOS understands the rationale and the coherence of the boundaries proposed by the State Party, but, as indicated at various points throughout this report, it overlooks important attributes supporting the property's historic value and the expression of its winemaking and commercial expertise, which is often located in the buffer zones.

The current buffer zones seem to be sufficiently large in light of the nominated property's sites; they would in all likelihood need to be adapted following a redefinition of the property's components.

ICOMOS considers that the property's boundaries need to be revised, to include the main attributes linked to the property's historic value and to take appropriately into account the winegrowing, winemaking and commercial expertise. The buffer zones need to be modified following the serial property's redefinition and the boundaries of each of the sites.

Ownership

The property covers 74 different municipalities. It consists essentially of small and medium-sized private farm holdings and private individually owned habitations. There are also public properties owned by the State Party, the regional government and municipalities, such as the road network, public buildings, community urban areas, a certain number of monuments, etc.; there are also ecclesiastical land and built properties. No ownership statistics are provided but the majority of property is owned under private law by families.

Protection

The property is protected at the national, regional, provincial and municipal levels by provisions that are often interdependent. The same applies to European environmental law and protection of the landscapes. The various levels of legislation affect various areas: monuments, sites, nature, building and habitat regulations, and control of economic activities, agricultural ones in particular. The concept of landscape

protection defines a level of consolidation and harmonisation of existing tools.

Legal protection

At the overarching level, all aspects of the protection of the cultural properties and protection of the landscapes are consolidated in the *Cultural Heritage and Landscape Code* (Decree No 42 of 22 January 2004). Under the responsibility of the Ministry for Cultural Heritage and its regional agencies, it defines the responsibilities of the regional and local public authorities and the application procedures; it coordinates and simplifies the prior protection legislation for the monumental and landscape components, and brings it into compliance with the *European Landscape Convention*. In the case of a specific landscape property, such as this, the Code becomes a contractual framework for the various public authorities responsible for the conservation and monitoring policy (see conservation).

The property is also protected at the national level by:

- Law No 357 of 1997, and its amendments (2002 and 2003), regarding the conservation of natural and semi-natural habitats, fauna and flora by creating protection zones under the so-called SCI (Sites of Community Importance) statute or the so-called SPA (Special Protection Zone) statute;
- The various regulations and decisions which, since 1967, concern wines protected by the *DOC* (*Denominazione di Origine Controllata*), *DOCG* (*Denominazione di Origine Controllata e Garantita*) label and regional VQPRD (*Vino di Qualità Prodotto in Regione Determinata*) label (see description).

More specifically in the Piedmont region:

- Regional Law 20/1989, as modified by Law 32/2008, on the protection of cultural, environmental and landscape sites;
- Law No 14/2008 regulations for the promotion and conservation of landscapes;
- Law 56/1977, regarding land protection and usage;
- Law 20/1999, as modified by Law 37/1980 regulations concerning wine-producing districts and wine roads;
- Law 16/2000 for the defence and development of the economy in hill regions;
- Law 47/1995 regulations and protection of biotopes complemented by Law 19/2009 on biodiversity.

Effectiveness of protection measures

ICOMOS considers that the protection measures for the property are adequate and well suited to the protection of the landscapes, despite the initial complexity of the texts and levels of protection. ICOMOS nonetheless expresses two reservations regarding:

- The effective application of the measures by all the municipalities (see conservation);
- The need to provide a nominative list of the buildings protected individually under the title of historic monument within the property and within the buffer zone.

ICOMOS considers that the legal protection and protection measures for the property are appropriate, but that they must be applied by all the municipalities concerned. A list of the elements protected as historic monuments is needed with a breakdown between the property and its buffer zone.

Conservation

Inventories, recording, research

There is a very large and diversified body of archival documentation already mentioned (authenticity); it is both publicly and privately owned; it is held in numerous public archives, libraries, museums, etc. (region, provinces, municipalities, universities, foundations, etc.), and at-times considerable private collections (descendants of large estates, wine merchants, etc.).

The historic monuments and protected sites are listed and described in the national historic heritage database (BDIS) and a regional database of Piedmont rural habitat (*Cascine del Pemonte*). These are shared tools used to aid conservation and monitoring.

The numerous research projects carried out in recent years include:

- The programmes of the Ministry of Culture and Heritage and academic historical or heritage research;
- Social and economic research by universities and development agencies;
- Research by public bodies in charge of environmental protection;
- Research by institutes specialising in winegrowing and winemaking scientific research, and work by associations for plant health protection for the grape vines, etc.

Most of this work is published and accessible.

Present state of conservation

There is no precise inventory of the property's state of conservation, broken down by conservation topic. In its stead, a somewhat unclear map is provided regarding the cultural, landscape and environmental protection.

The long practice of working with grape vines to produce appellation wines has resulted in maintaining a satisfactory state of conservation of the rural landscape. The building policy has more or less been respected for the abundant heritage of monuments, religious buildings and vernacular constructions. The structure of the hilltop

villages has overall been well conserved, without too many modern alterations; those that do exist (modern wineries, winemaking and public buildings) follow compatibility programmes to ensure their facades blend with the environment. The traditional road network, sometimes dating from very ancient times, has also been conserved whilst at the same time being modernised. The overall perceived result is very satisfactory, underscoring the credibility of the property's presentation as one of the reference landscapes of Mediterranean hillside wine areas. The relative healthiness of the national and international markets for Piedmont wines underpins the profitability of landholdings and so the long-term conservation of the property's landscape values.

The quality of the natural environment is guaranteed by the presence of natural parks and Special Protected Areas (SPA) within the property's territory.

Active conservation measures

The conservation measures for the nominated property are based on legal thematic summaries such as the *Cultural Heritage and Landscape Code* and regional implementation laws specific to an area (see protection). This legal framework enables the implementation of regional and provincial action plans to programme the various aspects of the conservation of cultural heritage and its environments and landscapes. The following plans are currently implemented or in the process of being implemented in the Piedmont region:

- Regional Landscape Plan (PPR),
- Regional Territorial Plan (PTR) and Coordinated Provincial Territorial Plan (PTCP),
- Hydrogeological Management Plan (PAI, 2001) and the Water Management Plan (PTA).

In this institutional framework, the conservation of the nominated serial property has led to the signing of an *Agreement Act* (February 2008) between the Ministry of Culture and Heritage, the Piedmont Region, Alessandria, Asti and Cuneo provinces and the municipalities. It defines the property and the general objectives for its conservation.

All planned work on listed built heritage requires the prior authorisation of the Regional Council and the Ministry of Architectural Heritage and Landscape.

The effective conservation measures for the vineyard landscapes and their built or natural environments are explained locally and applied in the *General Municipal Planning Rules* (PRGC) or the *Town Planning rules*.

In addition to their supporting the *Agreement Act*, the property's municipalities work together under an *Association* of municipalities, to coordinate the nominated property's conservation measures (see management). This results in the implementation of specific programmes, such as repairing the facades of buildings made of concrete or other modern materials using colours and textures that are more in keeping with the property's values.

The conservation of the actual vines is supported by professional associations and research centres within the framework of standards specified by the controlled appellations. They organise joint parasite and disease eradication programmes, such as the planned measures for combatting *flavescence dorée*. Economic support is also organised with the regional authorities.

Maintenance

Each of the vineyards is maintained by its owner or rights-holder, within the framework of regulatory measures for the production of appellation wines and plant health protection measures implemented jointly by the vineyards. This involves regular and on-going work to ensure the conservation of the vineyards, soil, drainage and access ways.

Building maintenance is performed satisfactorily by the public or private owners or rights-holders. Emergency maintenance work is performed by the public authorities following any major climatic events.

Effectiveness of the conservation measures

The municipalities' town planning rules have so far only been adopted by around 20 of the 74 municipalities. It is announced as being in progress for the others (January 2011).

The *Regional Landscape Plan* is declared as having priority by the State Party; however, it is not directly binding on the municipalities. It is incentivising for access to subsidies through its implementation in the form of thematic studies. It is estimated that 80% of the municipalities concerned with the property are fully engaged in the process; most of the remaining municipalities have declared the process is in progress (membership of the *Association* and ratification of the *Agreement Act*). On the other hand, only 30% of the municipalities in the buffer zones have signalled their support (September 2011).

The practical consequences are strict controls over habitations inside the property, authorising restructuring of the existing building stock for habitation in accordance with a guide to provisions, but no new construction, and architecturally controlled buildings for professional winemaking or public use.

ICOMOS considers that the property is in a satisfactory overall state of conservation and that the general dynamic of the stakeholders is good. However, the recommended conservation measures and local town planning rules must be adopted by all the property's municipalities.

Management

Management structures and processes, including traditional management processes

There are many and varied partners in the property's management. For the public institutions, the main ones are:

- The Ministry of Culture and Heritage and its regional agency;
- At the regional level: the Region itself coordinates regional development through its Environment, Agriculture, Culture and Tourism departments, and regional planning and construction; it is also involved in conservation through the Cultural Heritage and Landscape Protection Department, and the Architecture and Landscape Heritage Department;
- The Regional Planning, Economic and Social Development and Culture departments of Alessandria, Asti and Cuneo provinces;
- The property municipalities and local development agencies.

The professional, association and private stakeholders are in particular:

- The winemaking and traditional agriculture associations; the general professional associations for farming, merchants and artisans; the chambers of commerce;
- The individual farmers, winegrowers and winemakers; the cooperative production bodies and the large wine houses; industries and commerce enterprises associated with winegrowing;
- Hotel and tourism infrastructure companies and shops; tourist offices;
- Stakeholders in oenological culture, museums, heritage guides, etc.; owners of cultural sites (castles, cellars or historic wineries, etc.);
- Specialist cultural associations and structures; environmental protection associations;
- Dioceses and church representatives.

The provisional structure for the overarching management became the *Association* in February 2011. Its missions are mainly to monitor the implementation of the Management Plan, regularly bring together the various partners, establish the management documents and launch their implementation, ensure coordination with the Ministry and the Region's specialist operational services, manage communication and information about the property, and ensure external relations for the property's management. For the time being, the presidency of the *Association* is provided by the provincial presidents. It has a *Management Committee*, a *Scientific Committee* and a *General Assembly* open to all partners in the property's management. Its headquarters are in Asti and it has two regional offices in Alessandria and Cuneo.

Policy framework: management plans and arrangements, including visitor management and presentation

The 2008 inter-municipal *Agreement Act*, established under the dual responsibility of the Ministry of Culture and Heritage and the Piedmont Region, has resulted in a general framework for a conservation and management organisation designed for the property. In particular, it has enabled the property's management and conservation plan to be written. Initially a shared working tool, the *Agreement Act* is a charter of engagement for the municipalities to apply the Management and Conservation Plan.

The *Management Plan* consolidates in a single document the various sector plans, both current and pending, notably those already examined for the property's landscape conservation. It coordinates these in a *Protection and Conservation Plan*; it sets itself the goal of providing the stakeholders with the appropriate information and tools and reinforcing best practices. It is contractual, notably for the municipalities, and it is planned to extend it to cover the entire buffer zone.

The Management Plan includes a *Property Knowledge Plan* which is similar to an inventory in the form of a database and a geographic information system. It will be used to steer the property's conservation and monitoring. It is a tool shared by researchers, conservators and managers; it is documentary by nature and its themes are open and intended to be further diversified.

The Management Plan also includes an *Economic Development Plan* to promote agriculture and viticulture, and a *Communication Plan*, to inform the population and promote tourism and knowledge about the property.

These various thematic plans and actions result in the 85 Management Plan actions. They are broken down by property zone and presented in the form of an action sheet; they are assessed in terms of global cost, and implementation timeframes are planned, generally ranging from 12 to 24 months. Some programmes span several years.

The Management Plan also performs a detailed analysis of the tourism possibilities in terms of accommodation and cultural activities. In addition, Piedmont has a strategic plan (2008) that aims to improve regional tourism management. The two documents note that, for the property, tourism numbers are well below its infrastructure potential.

Risk preparedness

The State Party and the Piedmont Region have various risk forecasting and monitoring tools together with local and provincial structures to cope with any disaster. In particular, this involves a forest fire prevention and management plan, flood risk control programmes, and civil protection plans. These regional and provincial

plans rely at the local level on cooperation with various local authorities, their technical services and security and emergency services.

Involvement of the local communities

The local communities are in the forefront of the property's management and conservation, for both the cultural and landscape aspects. This in particular refers to the involvement of the winegrowers for maintaining and managing the property's landscape, and the municipalities that control building and renovation permits.

Overall, the local population responded very positively to the process for compiling the dossier to present the property for inscription on the World Heritage List.

Resources, including staffing levels, expertise and training

The amounts quoted for the forecasted cost of the Management Plan actions come to more than ten million euros. However, other than the conservation of historic villages, a major 3.5 million euro programme carried out from 2008 to 2010, the implementation dates are generally not given and the forecasted budgets do not always seem to have been consolidated.

The staffing levels for the property's management and conservation service, and the breakdown of their expertise, are not explicitly detailed. On the one hand, the winegrowers and farmers, the landscape's 'gardeners', number several thousand. On the other, the professional expertise for the property's management and conservation lies with the regional services of the Ministry of Culture and Heritage, the regional office staff and the local landscape observatory staff instituted in support of the property's nomination for inscription on the World Heritage List. Their staff and specialists cover the many fields of the property's complex conservation; they provide technical and scientific support for the restoration work done by the local communities.

There is a list of several conservation courses covering complementary topics within the vicinity of the property and more broadly in the Piedmont region, notably at universities. The Italian Ministry of Culture also provides significant national support to train conservation specialists, of international renown.

The professional organisations and technical advisors in the competent administrations are able to disseminate knowledge to and ensure on-going training for winegrowers. In particular, they rely on top level agronomic, winegrowing and oenological research structures.

Effectiveness of the current management

ICOMOS considers that the property's management is in place and functional, based on the various professional groups already mentioned: winegrowers and winemakers, cultural stakeholders, building conservation stakeholders via restoration work on the existing building stock, etc. The *Association* coordinates the actions of the property's stakeholders. Although this entity has been instituted its material and human resources are not specified.

ICOMOS notes that while around 60% of the Management Plan actions announced are stated as "under development", and even if implementation timeframes are given, there are no specific dates for practically any of them. The same applies to the financial consolidation for there appears to be no certainty for a good many actions. Finally, the number of architectural and landscape conservation actions remains limited in this somewhat anomalous ensemble, even if some are considerable programmes, such as the protection of the villages. ICOMOS feels it would be important to:

- Rank the Management Plan actions by order of priority for the explicit benefit of the property's conservation;
- Provide implementation dates for the scheduled and financially consolidated actions; clearly separate them from those actions still in the draft or examination stage and not yet funded.

ICOMOS recommends documenting the number of staff and technicians effectively employed for the property, by major sector of activity, in order to assess whether this needs to be strengthened and to define training needs.

ICOMOS considers that the property's management system is adequate overall, but that it is necessary to specify the material and human resources of the overarching management *Association* and training needs, to rank more clearly the Management Plan actions for the conservation of the property and its landscapes, to specify which Management Plan actions are financially consolidated and provide a schedule of dates.

6 Monitoring

The property has long benefited from several regular monitoring systems, by public or semi-public institutions, in the various areas of its traditional management (agriculture, nature, monuments, habitat, etc.); others, such as the landscape monitoring, are more recent:

- In cooperation with the competent regional services, the *Winegrowing Observatory* monitors technical and plant health questions for winegrowers and winemakers;
- Listed monuments and vernacular heritage is monitored by the local services of the Ministry of Culture and by the Region's heritage services; in particular they use the shared tools of the national historic heritage database (BDIS) and Piedmont rural habitat database (*Cascine del Pemonte);*

- The other urban and rural building stock is monitored by the municipal services through the implementation of local town planning and development rules, in partnership with the regional services of the Ministry of Culture;
- Three landscape observatories have been established for the actual property in Monferrato Casalese, Monferrato e Astigiano and Langhe-Roero; they work with the Euro-Mediterranean Landscape Observatory network;
- The Piedmont region provides monitoring in the following areas: geomorphology, hydraulic resources, and land use via a geographic information system (SITAD);
- The regional environmental agency monitors climatic and environmental factors; the state of conservation of the natural heritage is regularly assessed by specialist entities, such as the Institute for ligneous plants and the Regional agency for the protection of nature;
- The Forest and environment institute provides educational and forestry monitoring.

The property's overall monitoring was also recently redefined with the implementation of a series of indicators to provide a tool to be shared by the property's various stakeholders. The *Association* is responsible for their proper performance and for the results being included in the property's future conservation and management policy. These indicators are divided into broad categories, in accordance with the inventory and assessment operations, and usually performed annually:

- Environmental components:
  - Number of protected species,
  - Natural, ecological and biodiversity value of environments,
  - Surface areas under vines;
- Historic and cultural components:
  - Historic evolution of the vineyards (baseline 1884),
  - Use of native grape varieties,
  - Vine and wine-related cultural events and festivals,
  - Number of professional training courses and sessions;
- Landscape components:
  - Panoramic viewpoints,
  - Conservation and requalification projects with landscape consequences.

ICOMOS considers that the monitoring system is technically in place but that its effective coordination by the overarching management *Association* needs to be confirmed. The proposed framework of indicators is coherent, but it needs to be augmented with a section on monitoring tourism and permanent cultural activities within the property.

ICOMOS considers that the monitoring system is overall appropriate, but that it needs to be complemented with the integration of monitoring indicators for tourism and permanent cultural activities; its effective implementation within the overarching property management *Association* needs to be confirmed.

7 Conclusions

ICOMOS recognises the value of the Langhe-Roero and Monferrato vineyard landscapes. They are notable for the presence of numerous testimonies of a long and rich history related to continuous winegrowing through the millennia. These testimonies are at once monumental and vernacular, religious and civil, urban, defensive, plus roads, almost all related to needs surrounding winegrowing, wine production and cellaring, throughout many successive historic periods. These built testimonies are also part of a winegrowing landscape typical of hillside Mediterranean regions that they enrich with their many historical, technical and social meanings. However, many important monumental attributes (castles, churches, monastic buildings, etc.) and testimonies of winemaking expertise (cellars, wineries, wine houses, etc.) lie outside the nominated property. The boundaries are therefore too poorly defined to reflect an ensemble with sufficient integrity, directly incorporating a sufficient and coherent number of significant attributes of its diverse values.

Also, in order to affirm that the Langhe-Roero and Monferrato Vineyard Landscape, formed by a very large ensemble of nine vineyard areas (more than 30,000 hectares), potentially has Outstanding Universal Value, two directions are put forward by the State Party. The first presents the emblematic and unique character of the nominated winemaking landscape within Mediterranean and worldwide vineyards, in terms of its completeness, the wealth of its historic evidence, its age, subtle diversity and remarkable aesthetic qualities. The second is based on the concept of native grape varieties associated with a given *terroir* and quality winemaking. These assertions seem somewhat hasty, and would require a more thorough analysis in terms of the definition of the selection criteria and a more rigorous application in choosing the sites and their boundaries. While this argument appears justified, for example, for the very old local *Nebbiolo* variety, the origin of undeniably *grand crus* in red wine, it is less evident in other cases, some of which have been too rapidly raised to the same level, such as white Muscat that is found in close genetic forms across the entire Mediterranean Basin. As for the "spumante", it is only one of the dozens of adaptations, albeit early and rather successful, of the Champagne method. The same applies to several "landscape-grape variety-*cru*" associations presented in the property, undoubtedly resulting in original and interesting wines, produced in elegant and ancient landscapes, but falling within the average range of dozens of other *crus* in Italy and even more so at the European level.

ICOMOS considers that the property has undeniable potential, but that the Outstanding Universal Value has not yet been fully demonstrated because of the property's definition. On the one hand, it is incomplete because it focuses solely on the vineyards' aesthetic aspects and

omits important built components (monuments which have played a role in winegrowing and winemaking history, expertise represented by the cellars and wine houses in the urban environment, etc.). On the other, it offers a vast collection of landscapes, undeniably of high quality, but relatively similar and insufficiently critically assessed for their intrinsic winegrowing and winemaking value; it is not possible to assert that these are elements contributing significantly to the potential Outstanding Universal Value of the ensemble.

Recommendations with respect to the inscription

ICOMOS recommends that the examination of the nomination of the Vineyard Landscape of Piedmont: Langhe-Roero and Monferrato, Italy, to the World Heritage List be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- Review the application of the selection criteria of the sites and the choice of the series' components, taking into account the central notion of a native grape variety associated with a *terroir* and a *grand cru* of truly exceptional value and to demonstrate in what way each site significantly contributes to the potential Outstanding Universal Value of the ensemble;

- Review the boundary of each of the sites making up the series as a function of an approach that better integrates all the material elements testifying to the winemaking and wine cellaring values;

- Review the buffer zones as a function of the property's redefinition;

- Draw up a precise inventory of the monuments and sites covered by national or regional historic heritage listing within the property and an inventory of the vernacular heritage; the maps need to be completed in a way that these elements are easily identifiable by name;

- Ensure the conservation measures recommended in the *Agreement Act* and local town planning rules are adopted by all the municipalities in the property;

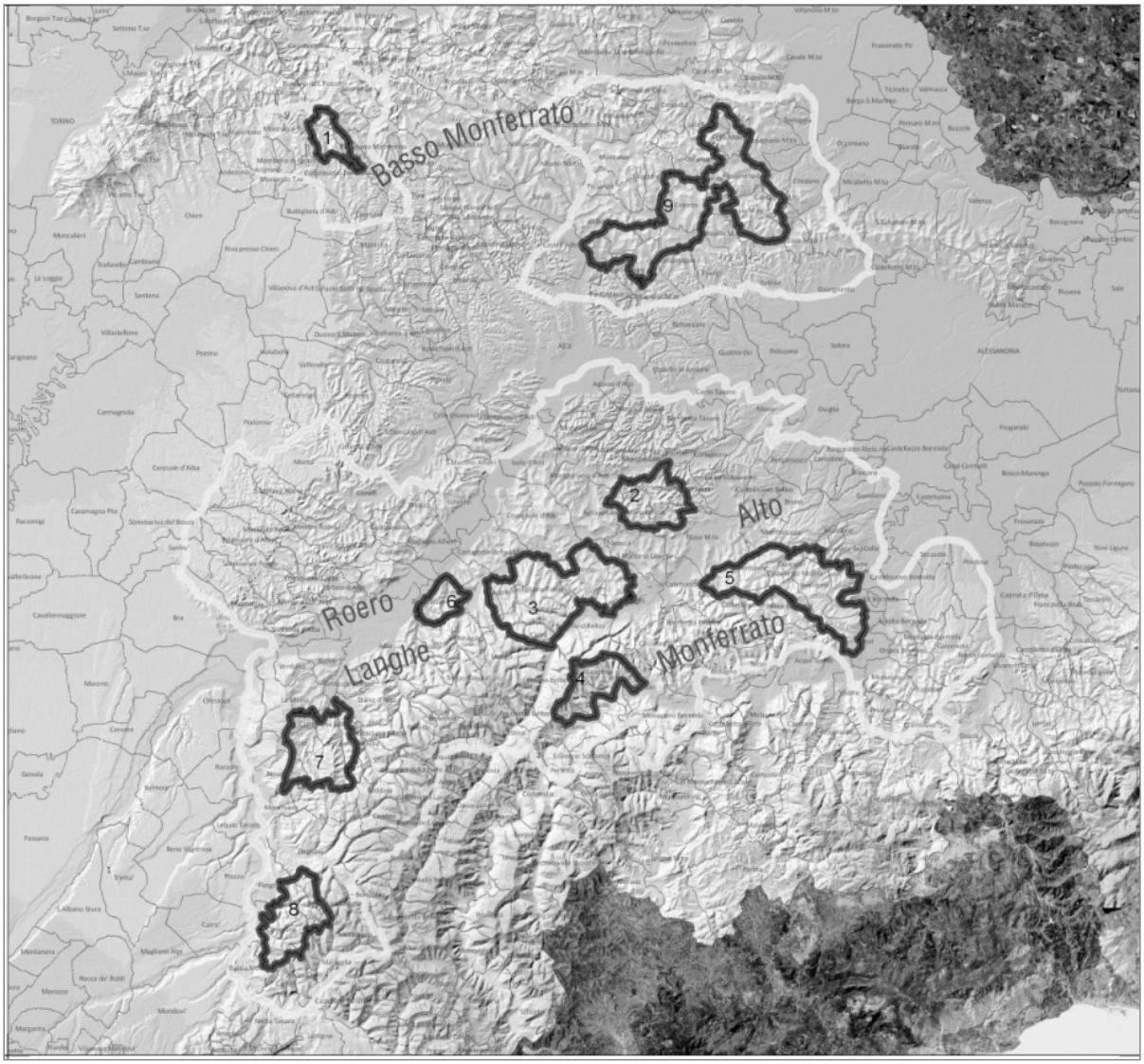
- Specify the material and human resources of the property's overarching management *Association*, and more broadly all the staff employed for the property's management, stating their sectors of activity and any training requirements;

- Rank the Management Plan actions by order of priority for the explicit benefit of the property's conservation; provide precise implementation schedules for those actions for which finance has been consolidated;

- Confirm that monitoring is effectively coordinated by the property's overarching management *Association*;

- Supplement the property's monitoring plan indexes with a group covering tourism and permanent cultural activities.

ICOMOS considers that any revised nomination would need to be considered by an expert mission to the site.



Map showing the boundaries of the nominated properties

Landscape near Loazzolo

Fontanile

Barolo castle

Cellars in Calosso

Archaeo-astronomical site of Kokino (Former Yugoslav Republic of Macedonia)
No 1374

Official name as proposed by the State Party
Archaeo-astronomical site - Kokino

Location
Staro Nagoričane Municipality
Kumanavo region
Former Yugoslav Republic of Macedonia

Brief description
The rocky peak of Tatićev Kamen Hill, near the village of Kokino, has been used by successive regional Bronze Age cultures (20^{th}-14^{th} centuries BC) as a sanctuary, possibly linked to the observation of celestial bodies. The peak area includes a set of four stone seats ("thrones") placed in a row and a terrace enabling the observation of the rising of the sun and moon, to the east and south-east, with the tops of the rocks acting as a horizon including various "markers" of important positions. Circular pits are located in the platforms close to the peak; they contain many votive offerings bearing witness to several successive cults, possibly associated with the archaeo-astronomical use of the site.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, the property nominated is a *group of buildings.*

1 Basic data

Included in the Tentative List
30 January 2009.

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
31 January 2011.

Background
This is a new nomination.

Consultations
ICOMOS consulted the International Astronomy History Commission of the International Astronomical Union (IAU) and several independent experts.

Literature consulted (selection)

C. Ruggles and M. Cotte, *Heritage sites of Astronomy and Archeoastronomy in the context of the UNESCO World Heritage Convention*, ICOMOS and IAU Thematic Study, June 2010.

O. Kuzmanovska-Barandovska and J. Stankovski, Role of the Astronomical Alignments in the Rituals of the Peak Sanctuary Kokino, *Journal of the Astronomical History and Heritage*, 2011.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 11 to 15 September 2011.

Additional information requested and received from the State Party
A letter was sent to the State Party on 6 October 2011 requesting that it should:

- Provide details about the definition of the property by providing a comprehensive overview of the scientific articles provided in the annex, together with maps and plans complete with captions;
- Make the comparative study more thorough.

The State Party replied on 2 November 2011, sending a revised text for two chapters of the nomination dossier, and the present evaluation has taken this revised text into consideration.

Date of ICOMOS approval of this report
14 March 2012.

2 The property

Description
The property is located in a mountainous region in the centre of the Balkan peninsula, in the north-east of the Former Yugoslav Republic of Macedonia, not far from the border. It consists of the peak of the volcanic hill Tatićev Kamen (1013 m) and its immediate surroundings. It bears the name of the nearest village: Kokino. The definition of the property is based on the peak sanctuary used during the Bronze Age. It is composed of the central ritual platform and the serrated rocks forming the horizon to the east, along with the platforms of the northern slope.

From a geological viewpoint, the hill consists of volcanic lava which became petrified in the eruptive channel, forming vertical seams. The property consists of the rocky peak and its surroundings; it takes the form of a volcanic cone which is undergoing erosion, in the midst of a landscape of plateaux and hills. Seen from the south or from the north, it is saddle-shaped. The altitude is between 1013 m and 910 m; the dimensions are roughly 120 metres from east to west, and 50 metres from north to south.

The peak platform consists of the upper terrace. It is an open space which corresponds to the hollow in the peak saddle; about fifty metres long and about fifteen metres wide, it is located between two rocky outcrops. The western rocky area is included in the ritual space, which

includes four spectacular “thrones” placed in a row, facing to the east. The eastern rocky area forms the limit of the ritual space, and the tops of the rocks form a serrated horizon when observed from the terrace.

Archaeological elements

The peak terrace and the terraces of the north slope have yielded many Bronze Age finds. There are no traces of habitation, which confirms the ritual function of the peak, possibly in connection with archaeo-astronomical use. Various archaeological excavations have been conducted since the discovery of the site in 2001, mainly in three zones: the upper platform, the northern terraces, and the southern and south-eastern terraces.

The property includes several circular pits with ritual functions, some of which are hollowed out of the rock, while others are formed of regularly arranged blocks, or have a mixed structure. Some of the pits are oval in shape. The diameters range from 30 cm to 1.40 m, and depths range from 40 cm to around 1 m. They contained votive objects, covered by large stones. The excavations also uncovered remains of dry-stone terrace walls, with a general east-west orientation, situated on parallel levels. The alignments also included aligned mounds.

The archaeological material from the upper platform and northern terraces is, in almost all cases, from the ritual pits. It consists mainly of pottery from the Early Bronze Age (20^{th}-17^{th} centuries BC) and Middle Bronze Age (17th-14th centuries BC). It also includes polished stone axes, hand grinders, moulds for bronze, loom weights and clay figurines and motifs. The site also contains finds from the LateBronze Age (14^{th}-11^{th} centuries BC), including pottery whose decoration differs from that of the earlier pottery. These finds attest to the presence of different cults. It is asserted that the site had a ritual observatory function, but this claim is backed up by only limited evidence, including a pottery sherd bearing a motif appearing to show a sun above an undulating line which could possibly symbolise a mountain.

The southern and south-eastern terraces, in buffer zone no. 1, contain Iron Age finds (8^{th} and 7^{th} centuries BC), in the form of pottery and other finds bearing witness to human presence. There is however no obvious link with any archaeo-astronomical usage of the peak sanctuary.

Astronomical elements

The archaeo-astronomical component of the property consists of the circulation terrace of the peak and the serrated rocks of the eastern horizon. The difference in level is about 19 m. The “thrones” of the peak terrace are natural arrangements of rocks which may have been altered by man, but this has not been proven. The site allows observation of the serrations on the horizon and the observation, by means of “markers” of notable sunrises or moonrises, and even the rising of stars. Some may have been modified by man, but this has not been proven. A set of eight cuttings or major astronomical markers has been taken as evidence that regular observations were made during the Bronze Age. The cuttings form two groups linked to two undulations in the ridge (Annexes 4.24 and 4.25). Five markers are on the main undulation to the east; three are on the south-eastern undulation; the hollow in between could also have been used for equinoxes. Other natural notches on the horizon should also however be mentioned, in view of the unevenness of the rocky ridge.

The ensemble taken together could be considered a large fixed instrument for observing the rising of celestial bodies on the horizon, and analysing their properties: extreme solar positions of the summer and winter solstices, rising of the full moon in midwinter and midsummer, equinoxial position of the rising of the sun in the spring and autumn, calendar applications, rising of stars, etc. The establishment of a lunar calendar and its periodic cycle of 19 years would have been possible from the archaeo-astronomical site of Kokino. This cycle was known at the time to the Babylonians. A rock in front of the northern platform has manmade notches. In the view of certain archaeo-astronomers, they could be indications of the heliacal rising of Aldebaran during the Late Bronze Age, in relation to the spring equinox. This is a practice which was already known to the Egyptians, with Syrius, for predicting the flooding of the Nile. The instrument may also have enabled the determination of a festival to mark the end of the harvests.

A geometrical plan of the “instrument” is provided in the annex (document 4.24). In addition to the thrones, two special points for the observation of the serrated horizon are proposed, to the south and near to them: a “ritual position” and a “shaman’s position”. But this document is not itself presented, or discussed in the nomination dossier. However, the mathematical data obtained from this proposed “instrument” are used as evidence for the astronomical use of the property during the Bronze Age. Furthermore, the baselines defining the alignments (distance between the marker or foresight and the observing point or backsight) are at the most 70 m-80 m in length. The astronomical data are presented as being sufficiently accurate to determine the astronomical dating of the site to around 1800 BC, that is the Bronze Age, as indicated by the archaeological finds.

Buffer zones

The topographical and archaeological elements in the vicinity of the property define two buffer zones:

- To the east and the south-east, three levels of terraces were occupied in the Iron Age, with no link to the former sanctuary and its postulated astronomical use; they form buffer zone no. 1;
- To the north and the north-west, the slopes of the hill are relatively gentle, and they constitute buffer zone no. 2; this zone also includes the steep slopes to the south-west and south of the peak.

ICOMOS considers that the detailed description of the rocky horizon and thrones must include a scientific study

of possible intentional human interventions which may have complemented the original natural dispositions. The validity of the archaeo-astronomical claims, and the material evidence provided by the dossier and the complementary information, will be examined in Section 3 of this evaluation.

History and development

Since Neolithic times, the peoples of the Mediterranean and Balkans have frequently used mountain peaks as places of spirituality, probably in connection with the observation of the sky, the sun and the moon, but in conditions which are often difficult to determine precisely.

The earliest archaeological evidence found at Kokino shows an initial human presence during the Early Bronze Age and then in the Middle Bronze Age (20th-14th centuries BC). These finds, and in particular the pottery, belong to the very widespread Danube-Balkans culture, which corresponds to the long-term settlement of sedentary agricultural populations in the region. The excavations of the upper plateau and the northern terraces indicate that at that time this was a site with cultural functions, whose rites seem to be connected with the sun, the moon and fertility. The Late Bronze Age finds (14th-11th centuries BC) are also plentiful. They are closely related to the Pelince – Gradište culture, but they also show links with other regional groups such as those of Ulanci and Southern Moravia.

Some specialists claim to have identified up to three different types of cults or symbolic manifestations associated with the sanctuary, during the various Bronze Age periods. The use of the site seems to have been continuous, or at least relatively regular, over a period of roughly a millennium.

The southern and south-eastern terraces have provided ceramic evidence which once again provides evidence for human presence during the Iron Age (8th and 7th centuries BC). The evidence suggests a human settlement in the shelter of the mountain, but with no apparent connection to the sanctuary. At this period, the site seems to have lost its ritual functions.

The property and its surroundings also include some finds attesting to human occupation of a relatively limited nature during the Ottoman period.

The archaeological site was discovered in 2001. It was then excavated and studied under the responsibility of the Museum of Kumanovo and the University of Skopje, by various teams of archaeologists and astronomers.

The site is today frequented by walkers, and by enthusiasts attracted to a site considered to be propitious for meditation, or for forms of neospiritualism linked to its supposed archaeo-astronomic values.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

Several observation sites offer archaeo-astronomical possibilities similar to those of Kokino, at various prehistoric or ancient periods. They enable the observation of the positions of the sunrise or moonrise. As far as properties already inscribed on the World Heritage List are concerned, the State Party particularly mentions: Newgrange in the Archaeological Ensemble of the Bend of the Boyne, Ireland (1993, criteria (i), (iii) and (iv)), Stonehenge, United Kingdom (1986, criteria (i), (ii) and (iii)), Heart of Neolithic Orkney, United Kingdom (1999, criteria (i), (ii), (iii) and (iv)), Prehistoric Sites and Decorated Caves of the Vézère Valley, France (1979, criteria (i) and (iii)), Megalithic Temples of Malta, Malta (1980, criterion (iv)), Sammallahdenmäki, Finland (1999, criteria (iii) and (iv)), Abu Simbel, Egypt (1979, criteria (i), (iii) and (vi)), Pyramids of Giza, Egypt (1979, criteria (i), (iii) and (vi)), Ancient Thebes with its Necropolis, Egypt (1979, criteria (i), (iii) and (vi)), Sulaiman-Too Sacred Mountain, Kyrgyzstan (2009, criteria (iii) and (vi)), Dengfeng in "The Centre of Heaven and Earth", China (2010, criteria (iii) and (iv)), Cahokia Mounts, United States (1982, criteria (iii) and (iv)), and finally Teotihuacan, Mexico (1987, criteria (i), (ii), (iii), (iv) and (vi)), etc. It also refers to other sites on the tentative lists of several State Parties.

The above properties illustrate situations which express links between man and his celestial environment, related in particular to observation of sunrises and moonrises, and the symbols and cults associated with the sun and moon in the protohistoric and ancient periods.

In terms of archaeo-astronomical structures for the observation of solstices, using horizon markers seen from a fixed observing point, the sites of Chankillo in Peru (350–100 BC) and the Pnyx in Athens (4th century BC) are the most similar, but they belong to later periods or to other cultural spheres. The site of Taosi in China (21st century BC) has a similar structure, but with a semi-circular rammed-earth wall with pillars acting as markers of celestial events.

Other prehistoric sites from the Late Neolithic and Bronze Age have megalithic alignments related to the observation of solstices and equinoxes, particularly on the Atlantic coast of Europe. They demonstrate the importance of the observation of the sun and moon, linked to the establishment of calendar markers, and the associated presence of cultural or religious manifestations. These places of celestial observation may be considered to be sanctuaries, and the case of Kokino is exemplary from this viewpoint, because of its numerous finds of a votive character found directly on the archaeo-astronomical site.

In regional terms, South-Eastern Europe and the Eastern Mediterranean have a certain number of Bronze Age sanctuaries at elevated positions, which could

potentially be of archaeo-astronomical significance. They may be compared with Kokino, particularly those of the Minoan civilisation. In Crete, the sanctuary sites at the peaks of Iuktas (Early Bronze Age), and of Atsipadhes Korakias and Traostalos (Early Bronze Age and Middle Bronze Age) are close to Kokino in chronological terms. They include a terrace at the peak and spatial markers in the rock which could have been used for observing the sun and the moon. But although the Minoan civilisation considered these peaks to be sacred, this was because they symbolised natural terrestrial elements rather than because of any possible sun or moon cult. The Minoan civilisation was however familiar with equinox- and solstice-related orientations, and this can be seen in the orientation of its palaces, as at Knossos.

In Bulgaria, the archaeological sites of Kabile (Early and Middle Bronze Age) and Harman Kaya (Early Bronze Age) have some similarities with Kokino, particularly with regard to the possibility of observations of the sun and moon using marker cuttings in the rock. At Kabile, an engraved image is illuminated by the rising sun during the equinoxes, as is the case with the thrones at Kokino. The Kokino site however forms a far more comprehensive ensemble, bearing direct testimony to the sacred practices associated with the sanctuary over a long period. It also includes unique vestiges from the Late Bronze Age.

ICOMOS considers that the properties mentioned are related to very different traditions and periods, and in many cases bear no relation whatsoever to the nominated property. A distinction should have been drawn from the outset between the following: built sites, where human intention is clearly established; natural sites where archaeological finds provide the only explicit evidence of human activities; and mixed sites, i.e. places where natural arrangements are accompanied by manmade works of which there is clear evidence. Kokino at the moment belongs in the second category, as evidence of human intervention dictated by astronomic requirements has not yet been furnished. Furthermore, another distinction should be drawn between places modified by man using certain astronomical data, and sites which were in fact used for observations on a regular basis.

Furthermore, the arguments put forward are generally based on the Hawkins-Thom paradigm (established in the 1960s), which has today been largely discredited, about astronomical skills claimed to have been acquired as early as the Bronze Age. It seems in fact that the concept of the equinox was mastered only at a later date, and more generally that the approaches adopted are excessively interpretative and insufficiently rooted in indisputable archaeological evidence. ICOMOS considers that it is essential to study the nominated property in the light of today's international archaeo-astronomy, which leaves far less open to interpretation.

ICOMOS considers that the comparative analysis does not justify consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Kokino is a unique celestial observation site, which was closely associated with a sanctuary during the whole of the Bronze Age.
- Bronze Age populations developed, in south-eastern Europe and particularly in the Balkans, a specific perception of the heavens, and their symbolic and religious interpretation.
- Kokino reflects an important transition in the observation of the heavens, by the setting up of a technical space enabling regular observations for calendar-related purposes.
- The property was in continuous use during the various phases of the Bronze Age in south-eastern Europe, representing a period of around a millennium.

ICOMOS considers that the property is a peak sanctuary, which was regularly used over a long period during the different phases of the Bronze Age. The excavated circular pits and their votive offerings prove this, while there are no traces of habitation. Beyond this, however, the archaeo-astronomical elements linked to the sanctuary mainly seem to be matters of interpretation.

Integrity and authenticity

Integrity

The State Party indicates that all the elements of the Bronze Age sanctuary, its archaeo-astronomical components and archaeological elements are contained within the boundaries of the property. They are well preserved, and there has been no notable alteration to them, as the site was discovered relatively recently (2001) and a series of scientifically controlled excavations was immediately carried out.

The system enabling the observation of the sunrises and the full moon is complete and intact, and is formed by the group of thrones and the line of the rocky horizon. The horizon has suffered some limited rockfalls; the thrones have been slightly damaged by visitors. The integrity of the archaeo-astronomical elements is complemented by that of the terraces and the circular pits containing votive items from the solar and lunar cults practised in the sanctuary during the various phases of the Bronze Age.

The archaeological material uncovered by the excavation of the circular pits with votive contents is sufficiently substantial to fully establish the chronology of the site's use as a sanctuary. The same is true of the retaining walls

of the terraces and the walls which mark the different spaces of the site.

Authenticity

The property is situated in a mountainous region where some limited resettlement occurred after the Bronze Age. The Iron Age settlement was at a different location. Settlement which took place during historic periods has been limited, and has resulted in no physical interventions on the prehistoric sanctuary. The sanctuary was only recently discovered. The buried remains have survived in a good state of preservation, protected by natural elements. All the constituent parts are therefore authentic.

ICOMOS is not questioning the existence of a peak sanctuary regularly used at various periods during the Bronze Age, but ICOMOS has doubts about the integrity and authenticity of an archaeo-astronomical observatory linked to the sanctuary, with observational capacities and activities of the kind which are claimed in the Kokino nomination, for the following reasons:

The observing points
The whole of the nomination dossier suggests that the thrones are in a privileged position for the observation of sunrises and moonrises, but the analysis of the possible alignments (diagram in document 4.24) shows a single direction of observation from the thrones, described as "ritual position of the sun", whose significance is rather unclear. This direction has no evident astronomical properties. The thrones are not on the two main solar alignments of the summer and winter solstices, which determine the nearby position for full moon observations.

To overcome this drawback, an annex document is provided showing a geometric reconstruction of the possible observation point of the main celestial phenomena referred to, based on a selection of serrations on the eastern rocky horizon. This choice of position markers does indeed enable the appearance of a point which is common to the two main solstice axes, called the "shaman's position", which is clearly to the south of the thrones. To this is added another intermediate point termed the "ritual position". These two positions, which should *a priori* be considered remarkable, are indicated neither on the maps nor in the archaeological records of the excavation of the peak platform, even though the excavation was systematic. They show relatively uniform distributions of natural or man-made elements, but no one thing which could tie into a marking of these points by users of the site during the Bronze Age.

The astronomical markers of the eastern rocky ridge
The natural serrations in the ridge seem to be numerous and have a quite diverse range of shapes. The nomination dossier refers to eight such irregularities (annex document 4.25). Although certain markers are clearly visible, others are rather tenuous, for example the one supposed to indicate the summer solstice, an essential piece of information which was certainly known during the Bronze Age. Furthermore, two other points work against the claim that this is an archaeo-astronomical observatory of a unique nature: 1) Other notches could have been selected as astronomical markers on the eastern horizon, providing other possible observation points, in the absence of explicit archaeological finds, and other alignments. 2) No proof has been provided that the markers were modified by prehistoric man, and this means that the identification of astronomical usage is not certain.

Astronomical data taken as proof of it being an outstanding archaeo-astronomical observatory
This data seems to consist of a selection of alignments taken from a far wider range of possible alignments offered by the natural site (see above). ICOMOS notes that this selection is not based on any solidly established archaeological grounds. It is a hypothetical interpretation of a high degree of precision (less than one arc second), but which turns out to be clearly illusory if allowance is made for the natural irregularities of the markers, the absence of a clearly identified observing point, and the relatively short baseline for defining the alignments: less than 100 metres, whereas for other comparable sites the baseline distance is close to 1 kilometre (Chimney Rock, United States). The same applies to the astronomical dating of the site, for which the margin of uncertainty is very great, which renders it of little significance.

The combined use of the observatory and sanctuary, the cults
There is no doubt that several cults succeeded each other at various periods of the Bronze Age at Kokino, and this is borne out by the relatively substantial amount of votive finds in the circular pits. ICOMOS notes however that very few elements can be explicitly linked to the stars (see Description), apart from one particular pottery sherd. Two apparently man-made lines on a rock are moreover referred to, and significant astronomical properties are immediately attributed to them (star rise markers). This is very insubstantial, and is hardly convincing in view of the complexity of the serrations on the eastern horizon, and the number of stars of a clearly visible magnitude in the zodiacal region. ICOMOS therefore considers that the conditions of integrity for the proposed outstanding universal value have not been met.

In conclusion, ICOMOS considers that, whilst the Kokino site does indeed offer a natural possibility for the observation and marking of sunrises and moonrises, which is nothing exceptional in itself, there is no proof that it has been used with the degree of skill and precision claimed by the nomination dossier. The conditions of integrity and authenticity of an archaeo-astronomical observatory linked to a sanctuary, of a universal and outstanding value, have not been demonstrated, and it seems that they would be impossible to demonstrate.

ICOMOS considers that the conditions of integrity and authenticity have not been met.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (iii) and (iv).

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the archaeological and astronomical site of Kokino provides a unique illustration of a combination of extremely precise observations of the heavens with ritual practices. The practices were continuous throughout the whole of the Bronze Age (20^{th}-11^{th} centuries BC). This close association makes Kokino a prehistoric sanctuary which enables a profound understanding of the Bronze Age in south-eastern Europe, particularly with regard to observational astronomy skills and the knowledge of various sun and moon cults during this prehistoric period. The site constituted a meeting place and a place of regular exchange for various Bronze Age cultures. It is once again being used as a spiritual centre today.

ICOMOS considers that while proof has indeed been provided of the existence of a sanctuary during the different Bronze Age periods, its association with sun or moon cults, linked to an archaeo-astronomical observation site, has not been demonstrated.

ICOMOS considers that this criterion has not been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history.

This criterion is justified by the State Party on the grounds that that Kokino constitutes a complete and well-preserved site for celestial observation, and was amongst the first such sites ever intentionally constructed by man. It enables the observation of sunrises and full moon rises as a result of a relatively precise knowledge of equinoxes and solstices. It also enables mastery of a lunar calendar in the Bronze Age, thus enabling the planning of agriculture by accurate anticipation of the beginning of the seasons.

The circular pits and their use to receive votive offerings are directly associated with the archaeo-astronomical elements used for observation of the heavens, bearing testimony to the organisation of the sanctuary of Kokino over a long period of time.

ICOMOS considers that this criterion has not been demonstrated; no archaeological evidence has been provided that an observatory was in fact used at the level of completeness and precision asserted by the State Party.

ICOMOS considers that this criterion has not been justified.

ICOMOS does not consider that the criteria and Outstanding Universal Value have been demonstrated.

4 Factors affecting the property

Development pressures

The property is in a mountainous zone well away from habitation. The village at the foot of the mountain has a population of only 50 people. The site is not favourable for farming or for any use such as quarrying.

Tourism pressures

Over the last few years, the site has been visited by groups of tourists, sometimes in large numbers. The site is freely accessible, and the presence of visitors could slowly affect the integrity of the site, particularly the rock thrones and the observation horizon markers.

Environmental pressures

The rock cuttings forming markers are being affected by the climate and by vegetation; their deterioration could become more severe in the future.

Natural disasters

The State Party states that the property is not situated in a seismic zone. This seems to be incorrect, as the town of Skopje, barely 50 km from the property, was almost completely destroyed by an earthquake in 1963.

Impact of climate change

Climate change does not seem to have had any perceptible impact on the property up to now.

ICOMOS considers that the main threat to the property is that of completely free and uncontrolled tourist visits. It seems that the State Party has not given sufficient consideration to the seismic risk, both in terms of its past effects and its possible future impact.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone
The surface area of the property is 1.817 ha. Buffer zone no. 1 has an area of 1.425 ha and buffer zone no. 2 has an area of 3.771 ha.

ICOMOS notes that the property boundary corresponds solely to the Bronze Age sanctuary, which is acceptable.

ICOMOS considers that the buffer zone could be enlarged in order to:

- Consider a possible larger extension of the protohistoric areas than those already identified,

- Extend the protection of the property to include an overall landscape zone, while making allowance for the present and future numbers of tourist visits to the site (roads, car parks, access paths, tourist reception, etc.) and traditional or future agricultural uses.

ICOMOS considers that the boundaries of the nominated property are adequate, but that the buffer zone could be enlarged.

Ownership

The property is owned by the Former Yugoslav Republic of Macedonia.

The right of ownership is exercised by the Ministry of Culture, and the manager of the property is the National Institution Museum of Kumanovo, in accordance with governmental decision no. 42/2009, published on 17 March 2009.

Protection

Legal Protection

In 2008, the property was declared as national cultural heritage under the denomination of "cultural landscape of Kokino". In 2010 it was granted a new status as a national monument of outstanding value under the designation "Archaeo-astronomical site of Kokino'".

Legal protection was first exercised by temporary legal protection of the cultural landscape formed by the property. It was then implemented in a specific decree promulgated on 27 January 2010 (51-615/1) concerning the archaeological and astronomical site of Kokino, in application of the following texts:

- The Constitution of the Former Yugoslav Republic of Macedonia (article 56-1),
- The Law of Cultural Heritage Protection: no. 20/2004, articles 30, 39 and 41, completed by the legal text 115/2007,
- The Law of General Administrative Procedure, no.110/2008.

The decree defines the property and its two buffer zones as currently presented in the nomination dossier; it stipulates the general measures for the protection of the property and the buffer zones.

A second decree, published in January 2010, defines the procedure for the inscription of the property on the World Heritage List and instructs the Cultural Heritage Protection Office of the Ministry of Culture to implement this procedure.

The entities in charge of applying the protection measures, leaving aside the responsibilities of the Parliament and the Government, are:

- The Ministry of Culture, acting through the Cultural Heritage Protection Office,
- The National Cultural Heritage Council, which carries out coordination and provides scientific and professional advice,
- The National Museum of Kumanovo.

Effectiveness of protection measures

ICOMOS considers that a set of complementary texts exist which contribute to the protection of the material elements forming the property.

However, the change in the legal definition of the property from a "cultural landscape" to a "site" raises questions about the changes which have occurred between the two successive protection regimes; ICOMOS considers that it is important to maintain the landscape protection dimension, particularly by means of a significantly enlarged buffer zone (see "Boundaries" above).

The second decree, adopted one year before the official submission of the nomination to the World Heritage Centre, is more of a ratification of the application process than an organisation of the nomination; the quality of the dossier has clearly suffered as a result.

ICOMOS considers that the legal protection in place is adequate, but that a strengthening of the protection of the landscape of the property would be useful, particularly by means of an extension of the buffer zones.

Conservation

Inventories, recording, research

The property has been regularly excavated since its discovery in 2001, under the control of the National Museum of Kumanovo. A set of documents, consisting of plans, archaeological records and scientific articles, has thus been established. The excavations have concentrated on the peak area of the site, and in particular the upper platform and the platforms of the northern slope.

There is no topographic and descriptive inventory of the archaeo-astronomical parts of the property, including an analysis of identifiable human interventions for purposes of celestial observation. Analysts of these attributes have up to now concentrated on the calculations of alignments which appear the most important in their opinion, amongst many other possibilities, and on hypothetical astronomical, ritual and social interpretations linked to the alignments.

Present state of conservation

The state of conservation of the property seems to be satisfactory as regards the archaeological remains uncovered. It is impossible to determine whether this is the case for the archaeo-astronomical elements, in view of their nature as rocks exposed to weathering and telluric

events, and also in view of the lack of an inventory or systematic study of these elements.

Several research programmes have been, and are being, carried out as part of the property management plan:

- The archaeological excavation programmes carried out by the National Museum of Kumanovo since 2001; the most recent one ended in 2010;
- The archaeological, astronomical and geological study of the site, via the "Pyraichmes" programme in 2002;
- The archaeo-astronomical programme of Kokino and other megalithic sites in the former Yugoslav Republic of Macedonia, since 2003;
- The international "Megalithic Observatory Kokino" programme in 2007.

Active Conservation measures

Following the recent discovery of the remains of a long retaining wall for the northern terrace (45 m), a programme for the restoration of the wall and the ritual pits associated with the wall has been implemented and completed by the National Heritage Conservation Centre (autumn 2011).

Maintenance

There are no particular maintenance arrangements for a property of this type.

Effectiveness of conservation measures

The only action undertaken up to now concerns the large terrace retaining wall uncovered by the excavations, and the works are more a matter of restoration rather than conservation. ICOMOS would point out in this respect the need to ensure that interventions are kept to a strict minimum, and that great care should be taken to ensure there is no excessive interpretation of the remains uncovered by the excavations.

Kokino is a recently discovered archaeological site, and the works carried out up to now have mainly consisted of research using conventional excavations and research relating to astronomical interpretations.

ICOMOS considers that the conservation policy should be oriented more towards a systematic descriptive inventory of the property and better interdisciplinary understanding of its components. The values of the site should be reviewed in the light of current international scientific standards.

ICOMOS recommends the establishment of a conservation programme, which should include a systematic descriptive inventory of the site, a more detailed analysis of the threats to conservation of each of the site's components and a monitoring policy. It would be useful to take into account the impact of tourism and the environmental and landscape conservation of the property.

Management

Management structures and processes,
including traditional management processes

Mention is made of a considerable number of institutions and bodies which are said to take an interest in furthering knowledge about the property and/or to participate in its management:

- Three ministries (Culture, Transport, Education & Science, Environment & Territorial Planning);
- Scientific Institutions (Cultural Heritage Protection Office, National Heritage Conservation Centre, University of Skopje, National Association of Archaeologists, Young People's Cultural Centre, and the Planetarium of Skopje);
- Nearby municipalities (Kumanovo, Staro Nagoričane);
- Tourism agencies.

The main authority in charge of the property at the present time is the National Museum of Kumanovo, which has coordinated and compiled archaeological research and interpretation of the site since its discovery. It has acted in conjunction with the Ministry of Culture and the Cultural Heritage Protection Office.

It is announced that a Kokino Foundation will be established at some point in the future, but this is referred to in a very general way, with no definition of its mission or structure.

ICOMOS considers that for all effective purposes, the manager of the site is the Museum of Kumanavo.

Policy framework: management plans and
arrangements, including visitor management
and presentation

A Management Plan for the site is included in the annex of the nomination dossier. It defines general objectives and has a prospective approach to management problems. For the purpose of drawing up the plan, it is mentioned that workshops were held with the participation of inhabitants of the village of Kokino, and that two conferences on tourism were held (2006-2007). Other than very general considerations, no reference is made to concrete results or specific projects having emerged from the working groups. It seems moreover that their activity did not continue after 2007.

The management plan however includes important observations, such as the lack of a local territorial plan, which it states needs to be established as a matter of urgency with the municipalities, particularly as regards tourism infrastructures. It also indicates the necessity of organising visitor circulation on the site, and providing visitor information. It stresses the importance of the environmental protection of the property and its surroundings.

No tourist reception facilities have been put in place up to now. Tourists are merely provided with a traditional

access path and a very succinct information panel at the foot of the hill. The number of visitors is unclear, as the information provided in the nomination dossier is contradictory. An annual celebration of a neo-spiritual type is held, linked to reinterpretations of the past role attributed to the site. A small exhibition of the archaeological artefacts of the property exists at the Museum of Kumanovo.

The Management Plan states that tourism will become important in the future, and indicates that it will be necessary to regulate development issues (reception, catering, facilities, car parks, access paths, information, etc.) in relation with other territorial, communal or regional development plans.

ICOMOS considers that the proposed Management Plan is at present merely a statement of intent. It indicates, in general terms, the questions which are raised, and the directions which should be developed in order to answer the questions satisfactorily. These general orientations are acceptable, and in most cases relevant, for identifying the present and future difficulties of site management. However, as it stands today, the plan contains no operational part. It is therefore a matter of urgency to develop specific projects, have them validated by the competent authorities, consolidate them in financial terms, and define both the persons responsible and the schedule for carrying them out.

ICOMOS wishes to draw the State Party's attention to the neo-spiritual reappropriations of the property which may be made by certain groups, through inaccurate reinterpretations of the prehistoric cultural values of the site. A tourism management policy which is clearly defined and practically organised should be sufficient to keep this risk under control.

Risk preparedness

This point has not yet been considered by the State Party. The level of risk would seem to be low.

Involvement of the local communities

The municipality of Staro Nagoričane and the inhabitants of the hamlet of Kokino are sometimes mentioned, but up to now they have not played any active role in the management of the property.

Resources, including staffing levels, expertise and training

Up to now, most of the funding earmarked for the property has been allocated to the excavations and to the Museum, with the rest going to promotional and communication activities.

The scientific team is coordinated by the National Museum of Kumanovo and by the Planetarium of the Young People's Centre of Skopje. It comprises a strong local team (12 archaeologists, 1 ethnologist, 6 archaeo-astronomers, 1 architect, 1 geologist, 3 surveyors and 4 curators) along with various associated experts (2 archaeologists, 1 ethnologist, 2 archaeo-astronomers, 1 historian).

Effectiveness of current management

ICOMOS considers that the management plan for the property, which was only recently discovered, is only just being put in place. The Management Plan is only a statement of intent at this stage, and the authority in charge of managing the site, particularly with regard to tourism development, has not yet been determined.

ICOMOS recommends the establishment of an effective management system, and of an effective overarching management authority, and the development of the management plan.

6 Monitoring

The monitoring of the property is defined by the annual inspection of the seven zones of the property which are considered to carry the main components of its value:

- The upper platform for the rock markers of the eastern horizon, the megalithic thrones, and observing point no. 1;
- The lower platform of the northern terrace for observing point no. 2, the circular pits with votive deposits, the remains of constructions, and the terrace retaining wall.

All the hierarchical levels, from Parliament to the Museum of Kumanovo, are mentioned as being responsible for monitoring, and, up to now, the publications of local researchers are considered to constitute the reports monitoring the state of conservation.

ICOMOS recommends that a genuine monitoring policy should be defined, and the officials in charge of its implementation identified. Monitoring is not the same thing as research, and it requires as a starting point the drawing up of a detailed descriptive inventory of the property.

7 Conclusions

ICOMOS considers that the property at Kokino is an important and well-preserved example of a peak sanctuary used throughout the Bronze Age. On this basis, it is indisputably of major national and regional interest. The natural site also presents possibilities of archaeo-astronomical observations, and the hypothesis that it was used by Bronze Age man for this purpose is reasonable. However, no archaeological proof has been provided of permanent astronomical use, based on the sophisticated knowledge of astronomical shamans, directly linked to the rites and cults of the sanctuary. These are interpretative hypotheses based on

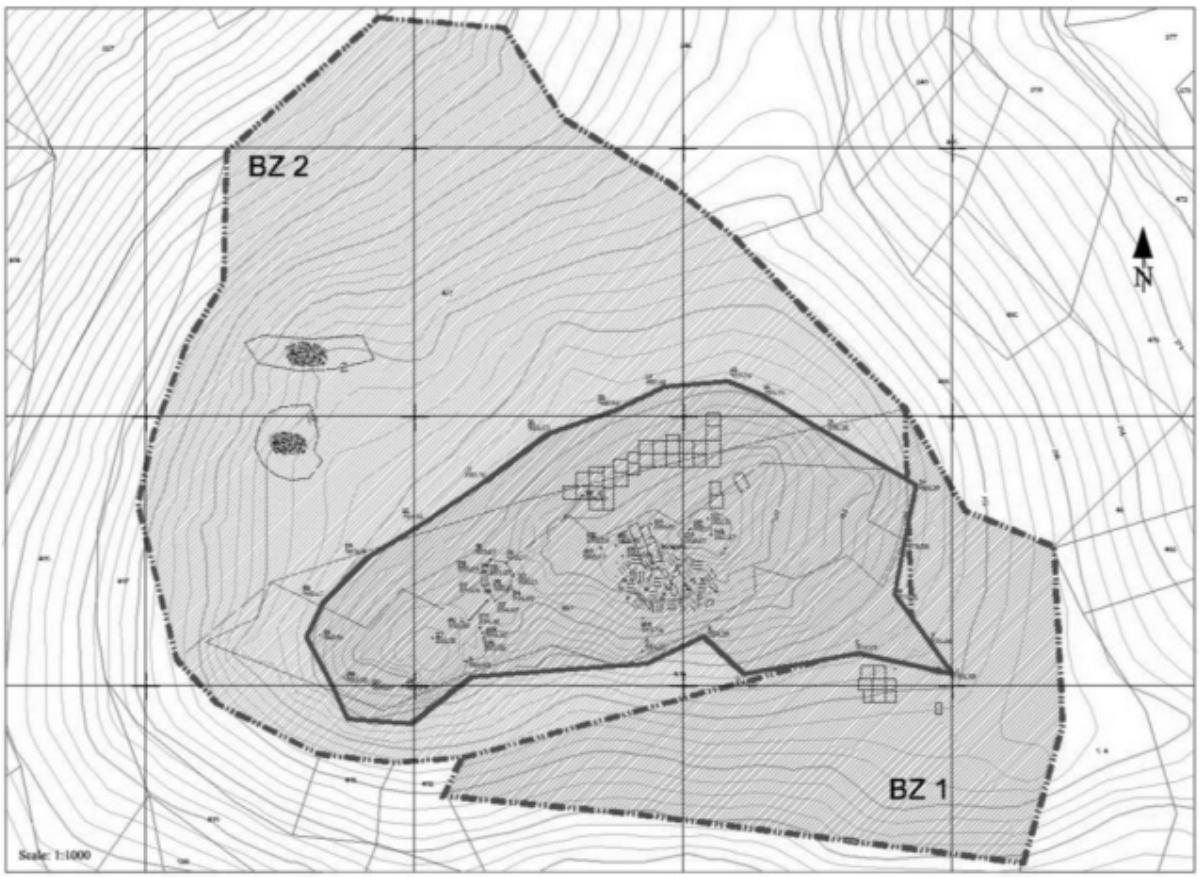
paradigms which were accepted in the past, but which have today been called into question by international archaeo-astronomical research. Outstanding Universal Value on the basis claimed has not been demonstrated, and the property does not meet the proposed criteria.

At present there is no clearly established conservation policy or management policy for the property, and there isn't even an overarching authority in charge of all questions arising in the practical management of the site. Whilst the management plan well recognises the potential problems at the site and its conservation, the plan itself is merely a statement of intent.

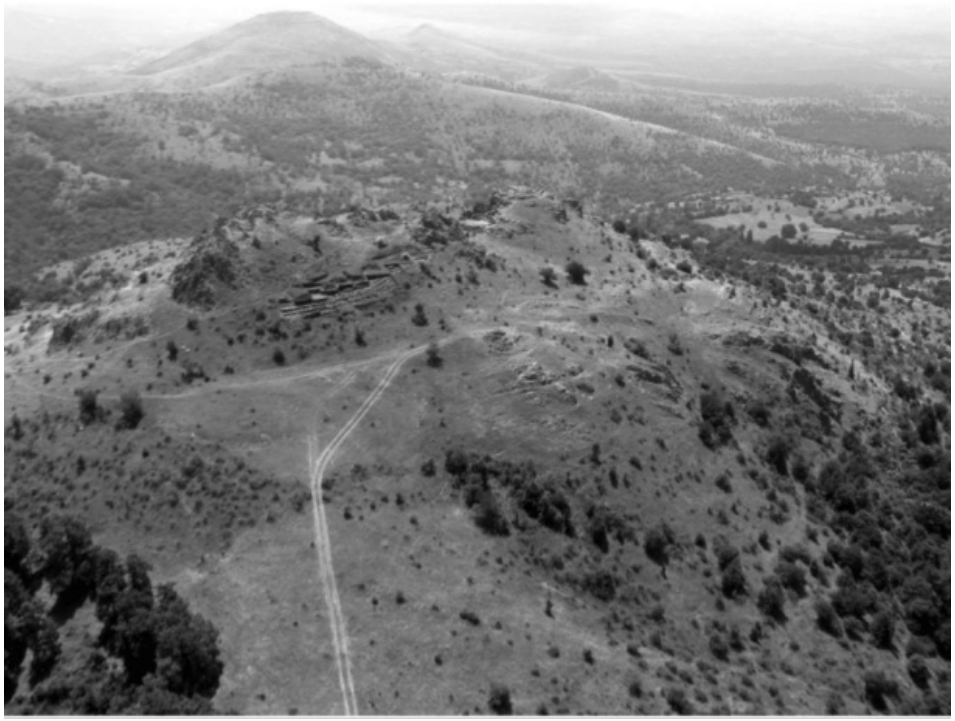
ICOMOS considers it is essential to adopt an international approach to the study of the site, in the light of current standards of archaeo-astronomy as set out by the IAU and ICOMOS.

Recommendations with respect to inscription

ICOMOS recommends that the Archaeo-astronomical site - Kokino, Former Yugoslav Republic of Macedonia, should **not be inscribed** on the World Heritage List.



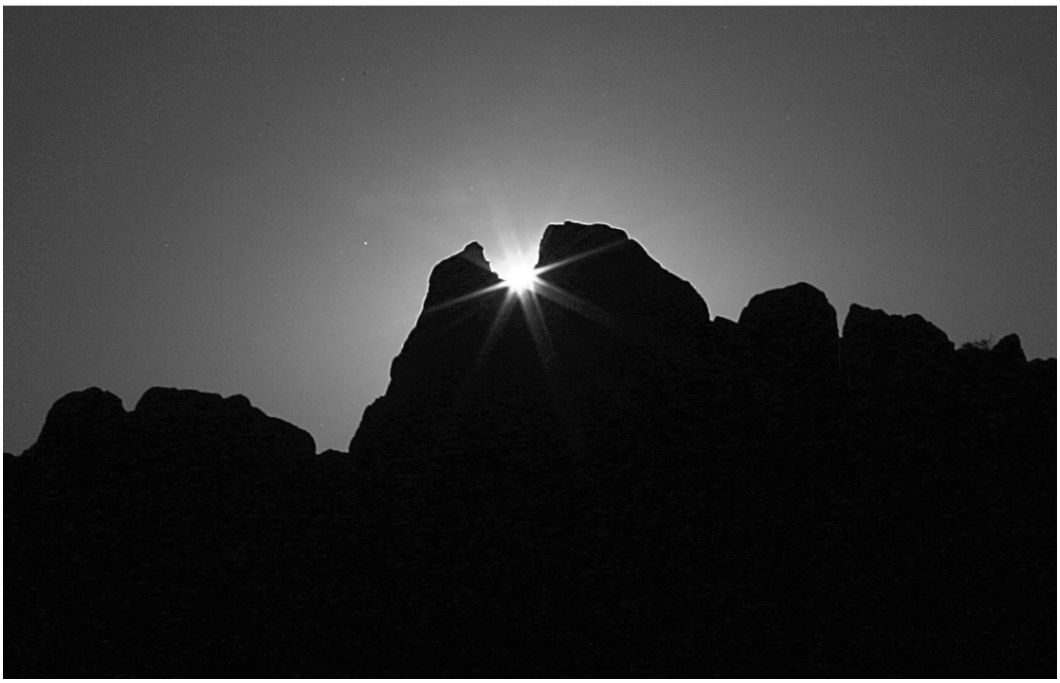
Map showing the boundaries of the nominated property



General view of the site from the north

Excavations in the upper platform – stone construction

The stone thrones



Sunrise in a rock cutting or « marquer »

Elvas and its Fortifications (Portugal) No 1367

Official name as proposed by the State Party
The Garrison Border Town of Elvas and its Fortifications

Location
District of Portalegre - Alentejo
Portugal

Brief description
Guarding the key border crossing between Portugal's capital Lisbon and Spain's capital Madrid, in an undulating, riverine landscape the Garrison Town of Elvas was fortified extensively from the 17th to the 19th centuries to become the largest bulwarked dry ditch system in the world.

The town was surrounded by outlying forts built on surrounding hills to accommodate the changing needs of defensive warfare, and supplied with water by the 7km long Amoreira Aqueduct.

Within the walls, the town contains extensive barracks and other military buidlings as well as churches and monasteries.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *group of buildings.*

1 Basic data

Included in the Tentative List
26 November 2004

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
20 December 2010

Background
This is a new nomination.

Consultations
ICOMOS has consulted its International Scientific Committee on Fortifications and Military Heritage and Historic Towns and Villages and several independent experts.

Literature consulted (selection)

Broeze, F. (ed.), *Brides of the Sea; Port Cities of Asia from the 16th-20th Centuries*, Kensington, NSW, Australia, New South Wales University Press, 1989.

Hoppen, A., *The Fortification of Malta by the Order of St. John 1530-1798*, Malta, Mireva Publications, 1999.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 12 to 16 September 2011.

Additional information requested and received from the State Party
A letter was sent to the State Party on 13 September 2011 requesting clarification on the remnants of other elements of the Lines of Elvas, protection of views between the fortifications, the function of the Transition Zone, involvement of residents and risk preparedness. A response was received on 22 October 2011 and the information has been incorporated into the relevant sections below. A second letter was sent to the State Party on 12 December 2011 requesting extension of the nominated property boundary and buffer zone; timetable for the designation of the whole nominated property as a National Monument; extension of the management system to contain explicit controls; timetable for the setting up of the Office for the Fortifications of Elvas and implementation of the management plan. A response was received on 10 February 2012 and the information has been incorporated into the relevant sections below.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The nominated property includes seven components: the Historic Centre (125.4311 ha), the Amoreira Aqueduct (0.8148 ha), the Fort of Santa Luzia (19.4216 ha) and the covered way linking it to the Historic Centre (0.29 ha), the Fort of Graça (11.2544 ha), and the Fortlets of São Mamede (7.9608ha), São Pedro (1.9843 ha) and São Domingos (12.1989 ha). Together these total 179.3559 ha and they are linked and surrounded by a buffer zone of 608 ha.

Historic Centre: Stronghold of Elvas

Castle and medieval walls
Elvas developed within three successive consecutive walls, expanding to the south from the early medieval period to the 16th century and contains churches and monasteries as well as military buildings. The Castle is located on the highest point in the north of the city. Remains of the first medieval Arab wall (c.10th century) can be seen in various places. The second medieval wall extended the city in a broad arc to the south. The wall and four of its turrets abutting houses are visible at various points as one ascends Rua do Cano. The third

wall, the Fernandina wall was built in the 14th century during the reigns of King Alphonso IV and King Fernando but little remains of this as it was mostly demolished and the materials reused to build the bulwarked fortifications more or less along the same line, in the major fortification works of the Portuguese War of Restoration period (1641-68).

Bulwarked fortifications
The bulwarked fortifications begun in 1643 as seen today comprise twelve fronts inserted in an irregular polygon, roughly describing a broad segment of a circle centred at the castle, with a maximum radius of 965 m. The bulwarks are battered, surrounded by a dry ditch and counterscarp and further protected by a number of ravelins. The fortifications were designed by the Dutch Jesuit Cosmander, based on the treatise of fortification engineer Samuel Marolois, whose work together with that of Simon Stevin and Adam Fritach launched the Dutch school of fortification worldwide. Cosmander applied the geometric theory of Marolois to the irregular topography of Elvas, to produce a defensive system considered a masterpiece of its time.

Military buildings
Many new buildings were constructed for military purposes and several existing buildings were adapted concurrently with the bulwarked fortification of the town. These included the barracks of São João da Corujeira (1695-7), today known as the Engineers' Barracks; the Barracks of Rua dos Quartéis (1656) now used as craft workshops; the Barracks of the Artillerymen (post-1659) also known as the Veterans Barracks, and following the 'Fantastic' war the Casarão Barracks (1767). The Guildhall was also used as barracks. Convents adapted to house military regiments include São Domingos, which housed the Fortification School of the Jesuit College and São Paulo, which housed the Military Court and Detention Centre. The Military Hospital was constructed at the bulwark of São João de Deus. At the time of the Battle of the Lines of Elvas (1659) the hospital could receive up to 350 patients. It is now part of the Hotel São João de Deus together with the former Army Auditor-General's Office. The Trem warehouse (1694-1715) was one of the main ordnance centres in Portugal, built to house repair, storage and manufacture of military equipment. The Military Prison was housed there in the 19th century. Today it is occupied by the Elvas Agricultural College. The former Military Bakery opened in 1869, one of two outside Lisbon, the other being at Porto. It housed four animal-powered mills and one windmill, six ovens, the chimneys of which are still visible on the roof; barracks and stables. An 18th century building in Rua dos Quartéis, which today houses the Municipal Market was originally the Pontoon Store where bridge making equipment for the Guadiana River crossing was kept. In the 19th century it was used as theatre and then a cinema. The 17th century War Council building in Rua Pereira de Abreu today houses educational services and the Portuguese Red Cross offices. The Command Headquarters building in Rua Martim Mendes retained its function until the last quarter of the 20th century when the last regiments left Elvas. Powder magazines include the round Conceição, the rectangular Santa Barbara and the Round Powder-magazine near the Old Gate bulwark, as well as eleven that form part of the bulwarks.

Religious buildings
Enclosed within the line of the third wall are a number of important buildings described in Annex VII to the nomination dossier. These include churches that were formerly mosques prior to the Christian conquest of 1228 and the Church of S. Domingos, once part of a convent complex which was converted to barracks in the 19th century and altered many times. In the 16th century the urban layout of the town was modified and a new square created – the Praça Nova, now the Praça da República, on the edge of which was constructed the Guildhall. North of the Praça the cathedral, now known as Nossa Senhora da Assunção was begun in 1517 on the site of an earlier 14th century church. Later churches include the church and hospital of Misericordia, which now houses the Museum of Contemporary Art. The 18th century Church of Senhor Jesus da Piedade is located outside the gates of the city where the fair of S. Matthew is held, and is the destination of one of Alentejo's major pilgrimages held 20-23 September each year.

Amoreira Aqueduct

The aqueduct (built 1529-1622) is 7,504 m long and brought water from the Amoreira springs to the west of the town to the town fountain (*Fonte da Vila*) and later to the Fortress Cistern. Constructed in rendered brick and stone rubble masonry, the aqueduct consists largely of arches arranged in up to four tiers across the valley of São Francisco with an underground section reaching 6 m in depth.

Fort of Santa Luzia and the covered way

This fort was built 1641-1648 on a prominence 410 m to the south-east of the stronghold of Elvas in order to pre-empt any siege. It was connected to the town by a covered way, the line of which is now crossed by the trunk road that connects Elvas to the border. The fort is essentially rectangular, with four projecting pointed bulwarks in each corner. There are two ravelins, one to the east and one to the south, a salient to the west, and all enclosed within the dry ditch and counterscarp. Mantraps are located outside the counterscarp glacis in the areas between the salients. The Military Museum is located in the former store and barracks. In the centre of the fort at the second level is the military governor's house topped by a light and ventilation turret. From here can be viewed the whole surrounding area of the fort.

Fort of Graça

By the second half of the 18th century the effective range of cannon had increased to the extent that it was necessary to build another pre-emptive fort on the prominence of Monte da Graça, 1,063 m to the north. Begun in 1763, this fort is a major piece of military architecture comprising three lines of defence with two

main ditches. The design is attributed to the Count of Lippe and based on the first Vauban system. The upper fort is essentially square in plan with four projecting pointed bulwarks in each corner. There are four redans, one to each side between the bulwarks. To the north is the tenaille with two bulwarks at its north-west and north-east corners and four ravelins. Built into these are barracks and powder magazines. North of the tenaille front is another ravelin. All are enclosed within the first main dry ditch and counterscarp. A long hornwork stretches beyond this with the Horneveque ravelin in front of it to the north on lower ground. Mantraps are located outside the counterscarp glacis. The octagonal military governor's house is located in the centre of the upper fort within the second ditch.

At the beginning of the 19th century, in anticipation of French invasions, four further pre-emptive fortlets were built at key commanding points, one of which (São Francisco) near the convent of São Francisco was subsequently demolished to make way for the town's cemetery. A map of c.1661 of the 1659 Battle Lines of Elvas (Fig. 2.a.1.2.24, p.74) shows the bulwarked stronghold of Elvas, the Fort of Santa Luzia and the Amoreira Aqueduct enclosed within an outer fortified line including other forts at points along it, and a small fort or fortlet along the line of the aqueduct. This fortlet may have been an earlier version of the Fortlet of São Francisco.

Fortlet of São Mamede

Built on a hillock to the south-east of the Fort of Santa Luzia, this Fortlet controlled the unseen hillside to the south-east. The enclosing wall had embrasures in the section facing Spain. It is surrounded by a ditch and contains a barrack or guardhouse, powder magazine and storage warehouse.

Fortlet of São Pedro

This fortlet is located on a hillock to the south of the town and controlled the approach from that direction. It contains a powder magazine, the remains of a barrack, guardhouse and storage. The west flank is a rocky slope but the other sides are protected by a ditch.

Fortlet of São Domingos

Also known as the Fortlet of Piedade, this fortlet was built to the west of the town near the Aqueduct of Amoreira to protect it from the western approach. It is surrounded by a ditch.

Buffer Zone

The surrounding buffer zone comprises Protected Spaces included in the Urban Perimeter, the National Agricultural and Ecological Reserves and the Cultural Spaces (Planning Charter of the Municipal Master Plan).

History and development

During the Islamic period Elvas was part of Al-Garb al-Andalus, the main towns of which were Badajoz and Merida. It was not until its conquest by Don Sancho II in 1228 that it became important to the king of Portugal as a frontier town. Located in a rich agricultural area, it received many Christian religious foundations during the 13th and 14th centuries. The Fernandina wall built to enclose the expansion of this period had an imposing assembly of 22 towers flanking eleven gates. The Convent of S. Paulo was founded in 1418; by 1422 the population of Elvas was 8,500. In 1437 Elvas had 14 inns and a hospice. Proposals for the Amoreira Aqueduct were promoted under Francisco Arruda in 1537. The 16th century was the great building period, when Elvas was elevated to the status of City and Bishopric and many new churches and convents were established. In 1527 the population was approximately 7,664 but by 1620 the population had reached between 15,000 and 20,000 inhabitants.

However it was from the time of the restoration of Portuguese independence in 1640 that the great fortification scheme seen today began to take shape. Profound changes in systems of fortification were required to counter the developments in modern artillery and warfare from the 17th century onwards. The vertical Fernandina wall was now considered vulnerable to anticipated attacks from Spain and was consequently rebuilt to the latest and most sophisticated fortification design then available. Within the walls military establishments proliferated as described above, turning it into an enormous barrack. Consequently the importance of the Amoreira Aqueduct completed in 1622 as far as the Fonte da Vila had increased greatly, and it was extended to supply a new, extremely large cistern 58 m long, 5 m wide and 8 m high; the Fortress Cistern. New religious foundations were established. Others were rebuilt and many houses were built for the nobility. The new bulwarked fortification works and the Fort of Santa Luzia were sufficiently in place in time for the great Battle of the Lines of Elvas of 1659, which is regularly commemorated in Elvas today and recorded in the c.1661 map and illustrations. It is explained in the nomination dossier that in the context of the European political-military process which established Portuguese independence, the area in permanent conflict in the majority of the wars was the North Alentejo, where Elvas is situated. From 1166 to 1808 there were 16 major incidents of war of which the Battle of the Lines of Elvas, on 14 January 1659, during the War of Restoration (1641-1668), was the most important, because of the military resources involved – approximately 11,000 men on the Portuguese side and 14,000 on the Spanish – and also because of its significance in the country's independence vis-à-vis Spain. It was for these reasons that Elvas became known as the "key to the kingdom" in the 17th century, where it was necessary to build a "very strong gate" to protect the small country from enemy invasions. Subsequent developments in war technology of the 18th century resulting in longer range artillery required the building of the Fort of Graça to the north of the town. By 1798, the fortifications were being criticised due to a lack of protection to the west, and for the fact that its large size meant that Portugal would be hard put to provide a large enough garrison to man it adequately. Elvas received four new fortlets as described above in an attempt to remedy the criticisms. Further changes in military techniques, with siege warfare giving

way to open battle and more mobile artillery due to road building characterised the Peninsular War of the early 19th Century. However by 1857 a Portuguese report considered the Elvas fortifications to be out of date. The city lost strategic importance, and population. The size of the garrison was reduced after the Peninsular War and by 1864 the population of Elvas was 10,271. The strategic importance of the town was further downgraded after World War I and one after another military units left Elvas, until the Command HQ was finally disbanded in the last quarter of the 20th century.

Urban expansion began to take place outside the walls from the second half of the 20th century, with the construction of social housing at Boa-Fe and new houses and neighbourhoods to the south around the Fortlet of São Pedro. A luxury hotel, the *Pousada*, located between the town and the Fortlet of São Pedro, which was the first of its kind in Portugal, had opened in 1942 and a viaduct connecting the bulwark of São João de Deus and the Redan of Cascalho was constructed in 1949.

During the period of the military regime of the Second Republic (1933-1974), repair and conservation works were carried out to almost the entire length of the bulwarked fortification, the forts, the Fortlet of São Pedro and the castle, including some conjectural restoration to earlier periods at the castle and Fort of Graça. Since then conservation works carried out by the Municipality have generally covered removal of vegetation, repointing, repair of plasterwork, consolidation of masonry, reconstruction of latrines and sentry boxes, and lighting installations. More extensive work was carried out at the forts of Santa Luzia and Graça.

The nominated fortifications and the Amoreira Aqueduct have been classified as National Monuments by decree since 1906.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

Fortifications are a major theme in world history; a major feature of the ebb and flow of competition between peoples for land and resources and a symbol of the desire for autonomy by discrete communities since prehistoric times. Consequently there are already many examples on the World Heritage List and the Tentative Lists, most of which are in Europe. This nomination focuses on the importance of Elvas in the development of the science of fortifications as the bulwarked dry-ditched type, and its size and spread over the landscape as a fortified garrison town. These qualities can be easily perceived due to the lack of surrounding development.

As an example in Europe, Elvas is considered in the context of the disruptions in the balance of power within the Holy Roman Empire of 17th century Europe, and Portugal's struggle for independence. In the wider world, Elvas is considered in the context of the period of European exploration and colonisation from the 16th century.

With regard to comparisons within Portugal the nomination dossier refers to the survey of all the border castles undertaken during the reign of D. Manuel I (1495-1521) and the subsequent massive work carried out on the bulwarked fortifications at the main points of entry - Elvas, Almeida and Valença. The ranking of Elvas as the most important of these in terms of architectural importance is shown in Fig. 3.a.7 (p. 408 of the nomination dossier). Within the immediate region, Elvas was compared with examples in Spain and France in the extensive comparative study (Annex I to the nomination dossier) resulting from a World Summit conference of international experts on military bulwarked architecture (Elvas 2007).

The characteristics considered for comparison purposes in the study were:

a) fitting into the framework of the concept of the architectonic typology in question;
b) constituting a good and exceptional example of this typology, with a degree of conceptual purity that fits the framework of any theoretically elaborated fortification system;
c) a degree of integrity that evidences the outstanding universal value inherent in criterion (iv);
d) a degree of authenticity that rebuts any scientific or ethical doubts;
e) the dimension of the fortifications are adequate for comparison in terms of the integrity and authenticity and to establish a starting scale as a basis for comparison;
f) possession of a noteworthy historic/ symbolic heritage, in consequence of its military and political function over time.

The fortified historic centre of Elvas was compared with fourteen examples considered comparable in terms of parameters such as scale (involving a similar perimeter and number of bulwarks), history and date, composition, type of fortification system, state of conservation and strategic function. These include examples on the World Heritage List, Tentative Lists, and others not listed, in Europe, America and Asia. It was found that there were no comparable fortifications in Africa and Oceania.

ICOMOS notes that the World Heritage listed Portuguese forts in Africa such as Mazagan, Morocco (2004, criteria (ii), (iv)), and Fort Jesus, Mombasa, Kenya (2011, criteria (ii), (v)), do not compare in terms of the above parameters such as scale, composition and strategic function.

ICOMOS also notes that examples of Portuguese or Spanish redevelopment or expansion of significant pre-existing (12th-13th C) Muslim fortifications such as at Granada and Badajoz in Spain and Lagos in southern Portugal do not compare in scale with that at Elvas or are less intact.

The examples considered in the comparative analysis include Komárno-Komárom (Slovakia and Hungary, Tentative List); San Fernando de Figueres (Spain); Suomenlinna (Finland, WH List 1991, criterion (iv)); Briançon (France, WH List 2008 as part of the Fortifications of Vauban, criteria (i), (ii), (iv)); Naarden (Netherlands); Fenestrelle (Italy); Valletta (Malta, WH List 1980, criteria (i), (vi)); Terezin (Czech Republic, Tentative List); Petrovaradin (Serbia); San Juan in Puerto Rico (USA, WH List 1983, criterion (vi)); Cartagena de Indias (Columbia, WH List 1984, criteria (iv), (vi)); Salvador de Bahia (Brazil, WH List 1985, criteria (iv), (vi)); Fort William (India) and Galle (Sri Lanka, WH List 1988, criterion (iv)). It was found that only Valletta has larger dimensions. In terms of being the best extant evidence of the Old Dutch method of fortification in the world, the property was compared with six examples (Naaden, Bourtange, Heusden, Hulst, Nieuwpoort and Willemstad), and Galle in Sri Lanka and concluded that none were as complete, authentic and on the same scale as the fortifications of the historic centre of Elvas.

ICOMOS notes that in fact Elvas is a rare example of an inland field entrenchment. Valetta and Galle are located on peninsulas surrounded by sea and therefore not directly comparable with the dry ditch system necessary at Elvas. Others are mountain fortresses or located on riverine or sea peninsulas. Galle is considered the best example of a fortified town built by Europeans in South and South-East Asia (according to the World Heritage inscription). This would suggest that comparison with other Portuguese forts in India such as Fort S. Angelo at Cannanore, or Dutch forts such as Batavia in Indonesia is not required. However while the nomination dossier refers to the large number of fortifications that Portugal built around the world, it does not claim that these or any other European colonial forts derived from Elvas. The fortification system used depended on which engineers were involved, and that while the general type of system can be recognised in each case (such as Old Dutch, Italian or Vauban etc.), the routes of diffusion of the science and technology of fortifications and defence systems are not easy to trace.

The State Party states that there are no similar examples to compare with the Fort of Santa Luzia because its design applied the fortification geometry to the topographical situation in such a way as to defend against attack from the enemy, while at the same time allowing, should the fort be taken, that it could in turn be overpowered by artillery fire from the bulwarks of the fortified town to its north. So it is designed as an outwork as much as a stand-alone fort.

The design of the Fort of Graça had similarly to adapt to this strategic requirement, and the vertical arrangement of the functions of the central redoubt, with seven floors from the cistern to the roof terrace of the Governor's house, was also extremely unusual. This arrangement further developed that of Santa Luzia, which also has a central redoubt and Governor's house; a feature not found in any other major contemporary forts or citadels. Comparisons supporting this conclusion are made with Spanish examples included in the Bulwarked Frontier Fortifications of Spain added to the Tentative List in 1998 such as San Fernando de Figueres, Ciudadela de Jaca, Ciudadela de Pamplona, Fuerte de la Concepcion; the 12 fort complexes in the World Heritage Listed Fortifications of Vauban (2008, criteria (i), (ii) and (iv)); Fort William, India and the US examples Fort Stanwix, Fort Ticonderoga and Fort Duquesne. The design had the objective of making the best use of the available space, protecting the cistern and the powder magazine and crowned by the Governor's house, from where defensive operations could easily be overseen.

Elvas was compared with ten other fortified cities of the 17th and 18th centuries in order to clarify its 'garrison town' aspect (Suomenlinna, San Fernando de Figueres, Petrovaradin, Fort William, Palmanova, Neuf-Brisach, Terezin, Arras, Besançon and Fenestrelle), and found to be the most completely blended civil and military town, wholly autonomous in logistical terms, whereas others had a military sector set apart or no relationship with the urban sector. In Elvas the inhabitants were considered part of the military.

Overall it was concluded that besides the actual fortifications, the town of Elvas continues to exude the ambience of the enormous war fortress that it was in former times, due to the large number of buildings with a military function that have now been rehabilitated for their original or similar functions.

In terms of the intact military landscape, Elvas was compared with the City of Luxembourg (World Heritage List 1994, criterion (iv)) and found to be far more intact, since there was a major dismantlement of casemate batteries, barracks and underground defences at Luxembourg following the Treaty of London in 1867. Comparison of Elvas with similar military landscapes within the 12 groups of fortified buildings and sites included in the Fortifications of Vauban World Heritage nomination showed that Besancon and Longwy are much less intact; the intramural spaces of Briançon, Mont-Louis and Villefranche-de-Conflent are not comparable in size; Neuf-Brisach was a purpose-built military town, and Saint-Martin-de-Ré is a coastal fortification. Le Quesnoy, outside the 12 is far less intact and the system is only partly the dry ditch type. The Elvas complex was also considered more intact than the World Heritage listed fortified towns of San Juan in Puerto Rico, Cartagena de las Indias and São Salvador da Bahia, and Petrovaradin in Serbia. It was concluded that in terms of the bulwarked enclosure, almost all sites have suffered substantial losses due to the need for urban expansion and modernisation and have usually retained only the citadels and forts. In contrast, the field entrenchment of Elvas is intact, including the ditches and glacis of the historic centre and with minimal encroachment in the areas between the historic centre, forts and fortlets.

ICOMOS notes that the comparative analysis has been undertaken with properties bearing similar values to

those of the Garrison Border Town of Elvas and its Fortifications, inscribed or not on the World Heritage List and at national, regional and international level.

ICOMOS considers that Elvas is an outstanding demonstration of Portugal's desire for land and autonomy, representing the universal aspirations of European nation states in the 16th-17th centuries.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Elvas is the largest complex of dry-ditched bulwarked land fortifications in the world still surviving to-day;
- The bulwarked fortifications of the Historic Centre are the best extant evidence of the Old Dutch Method of fortification in the world;
- The forts of Santa Luzia and Graça are outstanding examples of military architecture;
- Elvas was designed as a frontier garrison town with the resulting architectural, urban and social consequences;
- The design of the fortifications and defence system brought together military theory and practice from experts in different parts of Europe;
- A thousand years of fortification created a whole landscape that remains intact and well conserved, even outside the ramparts, to an unparalleled extent, and has not been affected by urban expansion.

ICOMOS considers that this justification is appropriate but needs to be supplemented by reference to its stage in human history in relation to criterion (iv).

Integrity and authenticity

Integrity

The State Party states that the components of the nominated property were selected to convey the extent and significance of the nominated property. They are all part of the Elvas fortification system. Of the total number of bulwarked fortifications built, only one (São Francisco Fortlet) has disappeared, which was of similar size to the other three. Apart from the construction of the viaduct between the bulwark of São João de Deus and the redan of Cascalho which required removal of a small part of the curtain parapet, there has been no change. The three double gates remain in use. All the other units are intact and in a good general state of conservation, partly due to their continual use in the various functions they served until the present. Even the medieval fortifications still exist in part and can still be seen in many places. The property overall is dominant in the landscape and can still be seen as a strong and symbolic presence in the territory. In response to ICOMOS' request for clarification, the State Party provided a map and photographs showing positions of the elements marked on the c. 1661 map of the Battle of the Lines of Elvas which are well outside the property and buffer zone, and no longer exist in any perceptible form. The ruined fortlet of São Francisco was given to the Municipality by the Ministry of Defence for clearance and use as a cemetery from 1848. The municipal cemetery now completely covers the former site of the fortlet of São Francisco.

ICOMOS considers that all elements necessary to express the Outstanding Universal Value of the property are included within the property boundary as documented in the State Party's response received on 10 February 2012 to ICOMOS' letter dated 12 December 2011.

ICOMOS considers that there has been minimal impact from new construction either within the historic centre or outside the walls. A number of buildings are unoccupied and are closed up against squatters and vandalism, and are subject to encroachment by vegetation. In particular the Fort of Graça, being relatively isolated and unused is vulnerable to vandalism. However there are efforts underway to find new uses for these places. The visual integrity of the nominated property is retained overall, but a new commercial development blue in colour, while not impacting on views between elements of the property in terms of its height, is a very unfortunate intrusion in the urban landscape. It is outside the buffer zone, but is located in the area between the Fort of Santa Luzia and the bulwarked fortifications of the historic centre. A number of telecommunication and other similar antennas/masts are also unfortunate intrusions. In particular there is one near the castle, and one located between São Pedro and Santa Luzia which blocks the view between these forts.

ICOMOS considers that views of the fortifications from a distance and between each other are extremely important to the overall integrity of the property and its setting. It is also extremely important to control the visual impact of any new development, such that it harmonises with the urban fabric. ICOMOS notes that the visual integrity of the property will be protected in future by the buffer zone as documented in the State Party's response received on 10 February 2012 to ICOMOS' letter dated 12 December 2011.

Authenticity

The large collection of original plans and drawings, military reports, photographs and descriptions testify to the authenticity of the property. It is noted in the nomination dossier that before 1974 conservation works tended to involve reconstruction guided by tradition and the surviving remains, and is sometimes conjectural, with a number of mistakes made. It is stated that the works to the Castle can be seen as documenting a stage in the history of restoration in Portugal that was divorced from European standards at the time. An example is the

entrance (town) gate, considered to be a fanciful reconstruction and the 1971-2 work to the Fort of Graça involving a new parapet to the bridge over the inner ditch. However overall, the form and materials of the fortifications are still in virtually the same state as when they were rendered obsolete in the 19th century. The urban expansion of the 20th century did not encroach on the landscape setting of the field entrenchment. The military and religious buildings have largely retained their function or another appropriate use until the present.

ICOMOS notes that the authenticity of the setting is impacted by the number of cars parked within the historic centre, in spite of the new underground car park recently constructed by the Municipality. Household and other television antennas are being replaced by cable currently being installed.

In conclusion, ICOMOS considers that the conditions of integrity and authenticity have been met but are fragile because of the impact of the new commercial development mentioned above and the large communication masts.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (i), (ii) and (iv).

Criterion (i): represent a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that the Dutch Jesuit Cosmander applied Samuel Marolois' maxims and fortification tables to an irregular hilly context to create the best example of the Dutch School of fortification worldwide still surviving today. The Fort of Santa Luzia is a functional adaption of geometric military architecture which maximized the military effectiveness of the territorial defensive system to which it belongs. The Fort of Graça perfected the overlay design enabling maximisation of location and available space. Its excellence of design and construction was recognised at the end of the 18th century by experienced European military men.

ICOMOS considers that while the fortifications were recognised as a masterpiece of fortifications, they cannot be said to be a masterpiece of human creative genius. They are adaptations of existing systems, rather than a totally new creation.

ICOMOS considers that this criterion has not been justified.

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that a thousand years of fortification created a whole landscape that remains intact and well conserved, even outside the ramparts, to an unparalleled extent, and has not been affected by urban expansion.

One of the most important peculiarities of Elvas is that it was designed as a frontier garrison town with the resulting architectural, urban and social consequences.

ICOMOS considers that the military landscape of Elvas and its fortifications represent developments in military architecture and technology drawn from Dutch, Italian French and English military theory and practice over half a millennium, which led to the creation of an outstanding garrison town and defensive system. However the State Party does not claim that Elvas influenced the design of subsequent forts in Portuguese or other territories, so this criterion is not fully justified in that respect.

ICOMOS considers that this criterion has not been demonstrated.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that Elvas is the largest complex of dry-ditched bulwarked land fortifications in the world still surviving to-day.

The bulwarked fortifications of the Historic Centre are the best extant evidence of the Old Dutch Method of fortification in the world. The Fort of Santa Luzia is a functional adaption of geometric military architecture which maximized the military effectiveness of the territorial defensive system to which it belongs. The Fort of Graça perfected the overlay design enabling maximisation of location and available space. Its excellence of design and construction was recognised at the end of the 18th century by experienced European military men.

ICOMOS considers that except for the first sentence, the justification given repeats that given for criterion (i) and does not sufficiently address criterion (iv).

ICOMOS considers that the justification needs to relate to a significant stage in human history: the War of the Restoration (1641-1668) which established Portuguese independent sovereignty in a power play deriving indirectly from the Thirty Years War, one of the most destructive conflicts in European history.

ICOMOS considers that the justification could be stated as:
Elvas is an outstanding example of the dry-ditched bulwarked defence system which developed in response to disruptions in the balance of power within the Holy Roman Empire of 17th century Europe. Elvas can thus be seen as representing the universal aspirations of European nation states in the 16th-17th centuries for autonomy and land.

ICOMOS considers that this criterion has been demonstrated.

ICOMOS considers that the nominated property meets criterion (iv) and conditions of authenticity and integrity, but these are under threat, and that Outstanding Universal Value has been demonstrated.

Description of the attributes
The attributes carrying the Outstanding Universal Value of the property are:

- The historic centre, its castle; remnant walls; civil and religious buildings which demonstrate the development of Elvas as three successive walled towns;
- The bulwarked fortifications of the town and the outlying Fort of Santa Luzia, Fort of Graça and fortlets of São Mamede, Pedro and Domingos which demonstrate the evolution of the Old Dutch system of fortification into an outstanding dry-ditch defence system;
- The military buildings demonstrating Elvas as a garrison town;
- The Amoreira Aqueduct, a key feature enabling the stronghold to withstand lengthy siege;
- The military landscape of Elvas and the visual and functional relationship between its fortifications, representing developments in military architecture and technology drawn from Dutch, Italian French and English military theory and practice over half a millennium.

4 Factors affecting the property

Development pressures

The State party states that there are no projects planned that will impact on the property. In the past there has been pressure from population growth within the walls of the historic centre, and since the 1960s urban development has expanded outside them to the south and in pockets to the east and west. However this has not encroached on the glacis and ditches of the fortifications, and has not been built to such a height as to obscure the views between the fortifications. Development is controlled by the Urbanisation Plan. A consequence of urban expansion outside the walls has been the depopulation of the historic centre and consequent unoccupied dwellings and loss of vitality there. Agricultural use of the surrounding land continues for traditional crops including olives and cereals. There are no mining industries within the region.

ICOMOS considers that attention is needed to use and maintenance of the unoccupied dwellings in the historic centre.

ICOMOS notes that contrary to the information given above, a 5 storey commercial development located between the Fort of Santa Luzia and the historic centre has a negative impact on the property.

Tourism pressures

Tourism numbers have fluctuated in the years between 2000 and 2007, but records at the municipal tourist office indicate an increase over the past few years from 19,361 in 2005 to 28,875 in 2007. There were 5,049 visitors to the castle in 2007. Elvas has a large accommodation capacity in the regional context, with available hotels recording occupancy rates of 20% to 70%. There is extensive car-parking capacity within the town, with daily occupancy rates averaging 76% in free areas and 27.3% in paid spaces, and there is also adequate parking space at the Forts of Santa Luzia and Graça. The State Party considers there is little pressure from tourism, and dispersal of visitors has been achieved by the opening of new museums: the Military Museum opened in the former Casarão barracks in 2001, the Municipal Museum of Photography in 2003 and the Museum of Contemporary Art in 2007.

ICOMOS notes that the Military Museum run by the army in the former Casarão barracks receives about 2,000 visitors. At present interpretative information is presented only in Portuguese but an English version is under consideration. The Military Museum run by the Municipality in the Fort of Santa Luzia presents the story of the fortified town of Elvas using collections owned by the army. Interpretation is trilingual.

Environmental pressures

The State Party states that there are no known sources of deterioration of the environment in general or directly involving the fortifications, either at present or in the history of the region.

Natural disasters

The State Party states that there are no known natural disasters that could threaten the property, either at present or in the history of the region.

Impact of climate change

In response to ICOMOS' request for information, the State party advised that no impacts from climate change are expected.

ICOMOS considers that the main threat to the property is depopulation of the historic centre and a lack of functions for unoccupied buildings including the Fort of Graça, creating potential for lack of maintenance and vandalism. There is also evidence of inadequate control on development between the Fort of Santa Luzia and the bulwarked fortifications of Elvas' historic centre.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries of the property cover the individually nominated components and include the entire glacis of the bulwarked town and the Fort of Santa Luzia as documented in the State Party's response received on 10 February 2012 to ICOMOS' letter dated 12 December 2011. They include the bulwarked fortifications of Elvas historic centre, the Amoreira Aqueduct, the Forts of Santa Lucia and Graça, and the fortlets of São Mamede, Pedro and Domingos.

The buffer zone has been defined by the State Party as the boundary around the Protected Spaces in the Urban Perimeter, the National Agricultural and Ecological Reserves and the Cultural Spaces designated in the Planning Charter of the Municipal Master Plan. This provides a buffer zone that does not include any of the urban development outside the walls, except for the *Pousada* between Elvas and the fortlet of São Pedro. This total area is defined in the nomination dossier as SICA, meaning the Fortifications of Elvas and its surrounding area.

ICOMOS notes that the map (Fig. 1.e.4a) shows that urban development intrudes between the Fort of Graça and Elvas to the north-east, and envelops the fortlet of São Pedro, intruding between São Pedro and São Domingos to the west and between São Pedro and Santa Luzia to the east. It is noted in the nomination dossier that there has been a tendency for scattered occupation with buildings and industry around the base of the hill of Fort Graça.

ICOMOS also notes that a new commercial development of 7 storeys has been permitted in the area between Fort Santa Luzia and the bulwarks of Elvas' historic centre, not covered by the buffer zone. The construction has currently reached 5 storeys and is partly blue in colour. The current construction does not impede the view between the fort and fortifications, but is incongruous in the urban context. Consideration needs to be given as to how it can be made to blend in.

In response to ICOMOS' letter of 12 December 2011 on this issue, the State Party has enlarged the buffer zone to encompass all the proposed property as documented in its response received on 10 February 2012. The buffer zone now covers the views between the various components, except for the direct view line between the Fortlet of São Domingos and the Fort of Graça.

ICOMOS considers that the property boundaries are adequate. Since the buffer zone does not cover the direct view line between the Fortlet of São Domingos and the Fort of Graça, it is important that there be explicit controls in the management system to protect this.

Ownership

The main elements comprising the complex of the fortifications of Elvas are owned by the Portuguese Government and administered by the Ministry of National Defence, except for the Castle and Amoreira Aqueduct which are maintained by the Institute for the Management of Architectural and Archaeological Heritage (IGESPAR), and the Fort of Santa Luzia, now housing the Military Museum which is the responsibility of the Municipality of Elvas. The Municipality owns a number of notable buildings inside the walls, including the City Hall. Private owners include the Church, the Santa Casa da Misericordia, the *Pousada* chain company, educational institutions, social support institutions, and the owners of commercial business venues and private dwellings. Issues in relation to private owners concern the absence of owner occupiers and the high number of low-rental properties resulting in degradation and lack of maintenance. Within the walls there are 5,013 buildings containing 7,339 homes.

Protection

Legal Protection

All the nominated fortifications and the Amoreira Aqueduct are classified as National Monuments by decree (1906; 1910), with surrounding protection areas extending 75 m. The Aqueduct is also protected as a Special Protection Area, as are the Churches of Nossa Senhora da Assunção, S. Pedro, S. Dominic, and S. Francisco (SPAs are shown on the map Fig. 1.e.14). These places are further protected by Law No. 107/2001 which controls works and changes of land use and property rights and is administered by the Ministry of Culture through the Institute for the Management of Architectural and Archaeological Heritage (IGESPAR).

It is stated in the nomination dossier that extensive intermediate areas are currently without legal protection. In Section 4.b.1 it is stated that the fortifications and associated military buildings should be classified in their entirety as a National Monument, and the whole intramural area should be designated at the very least as a "site of public interest", because the fortifications themselves cannot be separated from the urban network of military sites and the valuable civil and religious architecture that so often served a military function. The nomination states that all ditches, the covered way and glacis of the bulwarked fortifications should be declared *non aedificandi*, and that this proposal will be presented by the Municipality as part of the present application (for World Heritage inscription). In addition, the area of the buffer zone is protected by various protection regimes arising from national polices.

So while currently most of the property and part of the buffer zone are covered by the Municipal Master Plan which ensures that no new buildings are permitted, nor any physical modifications or changes of use without the necessary municipal license, it is proposed in the nomination dossier (Section 5.c) that the various bodies

involved in protection regimes will be formally coordinated through classifying the whole complex of fortifications including complementary elements dispersed within the intramural area as a national monument so as to become subject as an entirety to the National Law No. 107/2001 on Cultural Heritage. As well it is proposed that a Special Protection Area will be declared for the whole area within the nominated buffer zone boundary that is the Surrounding Integrated Protected Area (SICA).

In its response received on 10 February 2012 to ICOMOS' letter of 12 December 2011 requesting a timetable for the proposed designation of the whole nominated property as a National Monument, the State Party advised that this would occur by the end of 2012. As well it is proposed that the entire buffer zone will be declared a Special Protection Zone by the end of 2012. This whole area including the property will then be managed by the Municipality with input from the Ministry of Culture through IGESPAR.

In response to ICOMOS' request for clarification regarding the Transition Zone mentioned in the Management Plan, the State Party stated that in the current version of the Elvas Municipal Master Plan, the height limit in the area immediately surrounding the fortifications (outside the actual *non aedificandi* zone) is 10 m or 3 storeys. In areas where this doesn't apply between the bulwarked fortifications of Elvas' historic centre and the forts and fortlets, and between the forts and fortlets themselves, land use and height are controlled by regulations. Therefore in the Revised Municipal Master Plan, there will be a Transition Zone surrounding the buffer zone, in which the system of views will be studied and heights limited to 5 storeys in view corridors and 7 storeys elsewhere within the Transition Zone.

In its response received on 10 February 2012, the State Party advised that within the buffer zone, the Municipal Master Plan will control land use transformation and the height of development at 7 to 10 metres (2 to 3 storeys), depending on location.

Effectiveness of protection measures

ICOMOS considers that the current construction of the inappropriate development between the Fort of Santa Luzia and Elvas' historic centre indicates that the protection measures in place at present are not sufficient to protect vulnerable areas.

ICOMOS considers that the legal protection in place is not sufficient. ICOMOS considers that legal protection will be adequate once it is covering the whole nominated property including the intramural area as a National Monument and the enlarged buffer zone as a Special Protection Area. Guidelines on appropriate design are required for the urban area both within and outside the walls and should be part of the Municipal Master Plan.

Conservation

Inventories, recording, research

Military surveys and maps, drawing and reports record the fortifications of Elvas in detail. Notable military buildings are recorded on the plan (Fig. 1.e.8) in the nomination dossier and religious buildings are recorded on the plan (Fig. 1.e.14) in the nomination dossier. An article on the Civil and Religious Architectural Heritage of Elvas is appended as Annex VII to Volume II of the nomination dossier. There is no other evidence of an inventory of buildings and sites. A considerable number of research publications are listed in the Bibliography. Records relating to the site are held at the Urban Institute for Housing and Rehabilitation.

ICOMOS considers that a detailed inventory of historic urban features and structures should form part of the Management Plan as a basis for conservation and monitoring, and be incorporated in the Elvas Municipal Master Plan.

Present state of conservation

Conservation works since 1974 have followed the principle of minimal intervention and have largely involved cleaning and consolidation. At the Fort of Santa Luzia a major project was carried out by the Municipality in 1998-9. This included constructing a car park and the covered way was rehabilitated, allowing for the fort to again be circumambulated. The buildings of the second ditch were converted to a military museum covering the history of the Military at Elvas and including visitors' facilities. The walls dividing the second floor of the Governor's House into four parts were removed to make room for a bar. At the Castle, the reconstructions of the Second Republic period (1933-74) have been removed as part of more recent works (2001-3) which included installation of an interpretation centre, education and museum services in the Homage Tower, improvement of lighting and the restoration of existing buildings. The Ministry of Defence has continued to maintain the structures that it owns and has converted the barracks which were formerly part of the Convent of São Domingos to a national military museum.

Detailed sheets are given in the nomination dossier for all elements of the property components, indicating user, function, tourist access, interpretation, and the current state of conservation graded as good, fair or poor. The general state of conservation of the castle, towers and gates of the medieval walls, bulwarked fortifications, Amoreira Aqueduct, Fort of Santa Luzia and Fort of Graça is said to be good. The three fortlets are said to be in a fair state of conservation; there is a lack of regular cleaning and removal of vegetation in the ditches. Military buildings including the Retired Men's Barracks and others near the British Cemetery – Corujeira Barracks, the Powder Magazine of Santa Barbara and the General Command Building are listed as being in a poor state of conservation and are up for sale by the Ministry of Defence. New uses need to be found for these buildings.

ICOMOS notes that vegetation is encroaching on the Convent of St Paul and the church. However the window panes are intact. The barracks of São Joao da Corujeira are unoccupied except for one cell and the ground floor doors have been blocked up by the Municipality to prevent squatters gaining access. The Fort of Graça is open to the winds, unoccupied and at risk of vandalism. In particular, the governor's residence needs to be made secure against undesirable visitors and funds need to be sought for a conservation program. To this end an agreement between the army (as owner) and the Municipality is in preparation.

ICOMOS also notes that some features have been impacted by car parking and the installation of floodlighting, such as at the Fort of Santa Luzia, where the banquette has been removed.

Active Conservation measures

There are no current projects underway beyond planning for tourist and cultural functions at Fort Graça.

Maintenance

ICOMOS notes that a number of areas of the fortifications and the unoccupied buildings are in need of maintenance including removal of intrusive vegetation.

Effectiveness of conservation measures

There is no doubt that much has been done by the Ministry of Defence, the Municipality, Ministry of Culture and other institutions to conserve structures and find new uses for them in this vast fortification complex. Overall, the nominated property is therefore well conserved.

ICOMOS considers that conservation measures are adequate overall. ICOMOS recommends that a detailed inventory of historic urban features and structures should form part of the Management Plan as a basis for conservation and monitoring of the property.

Management

Management structures and processes, including traditional management processes

Several bodies are involved in the management of the components of the nominated property. The historic centre, the Fort of Santa Luzia, Fort of Graça, and the three fortlets are managed by the City of Elvas Council with input from the Ministry of Culture through IGESPAR. The part of the buffer zone designated in the Planning Charter of the Municipal Master Plan as within the urban perimeter is also managed by the City of Elvas. However the Fort of Graça is outside the designated urban perimeter. It is within a National Ecological Reserve and managed by the relevant national body through its regional body, the Regional Directorate of Environment and Land-use Planning of Alentejo. A small part of this Reserve to the south-east of the Fort is designated as a National Agricultural Reserve and managed by the relevant national/regional body. The Ministry of Defence has input to the management of the bulwarked fortifications, forts, fortlets and buildings that it owns, including the Fort of Graça.

Policy framework: management plans and arrangements, including visitor management and presentation

On the basis of the protection system described above, the State Party has developed the Integrated Management Plan for the Fortifications of Elvas (IMPFE). The IMPFE aims to bring all stakeholders together to ensure the integrity of the property and enhance its potential use. It aims to control the buffer zone area as well as the area of the property, focusing on institutional co-operation, involvement of private stakeholders, educational, scientific and cultural initiatives and dissemination of information. The Plan proposes an Office for the Fortifications of Elvas (OFE) which will be the executive body administering the Management Plan within the City of Elvas, appointed by the Mayor. It will be chaired by the Councillor for Culture and include municipal technical staff and specialists in all areas of cultural heritage and urban management, representatives of public bodies involved in the property and buffer zone and representatives of relevant local stakeholders. There will also be an Advisory Board which will include representatives from the public and private stakeholder bodies, experts and outside consultants. The Management Plan is appended as Annex II to Volume III of the nomination dossier.

In its response received on 10 February 2012 to ICOMOS's request for timelines on this, the State Party stated that the OFE will be legally established by the end of June 2012 and implementation of the Management Plan will begin as soon as the entity is then created and installed by the Municipality. ICOMOS considers that the need for controls in the management system over the area of urban development that intrudes between the fortifications and is not included in the protected area still needs to be addressed.

Risk preparedness

In response to ICOMOS' request for information, the State Party reiterated that the property is not under threat from natural disasters. The response included details of the Elvas Municipal Emergency Plan for Civil Protection. Among other matters this is designed to minimise loss of life and property, reduce or mitigate the effects of major accidents or disasters and to restore the minimum conditions of normality as soon as possible.

Involvement of the local communities

In response to ICOMOS' request for information, the State party stated that the residents of SICA (the buffer zone) will be represented in an organised manner via their associations both in the administration and the advisory body.

Resources, including staffing levels, expertise and training

Finance for the conservation and maintenance of the property comes from the European Union and matching national funding of national and regional programmes applicable to the various bodies involved in the property area and its buffer zone, and from community initiatives. Applications must be made in relation to specific projects and actions. In addition funds are available through government allocations to State and local authorities, in particular for the Programme of Rehabilitation of Degraded Urban Areas; and also for the protection of cultural heritage from the Ministry of Culture. Funds available through the Ministry of Public Works have recently financed the upgrading of Republic Square and construction of underground parking, and works to the Rossio of S. Francisco. The primary source of funds for conservation and maintenance is the Municipality, which invested more than fourteen million Euros in the period 2002-6. In the Management Plan it is proposed to set up a company/ foundation for the purpose of identifying and attracting funding for the property.

The technical support unit of the OFE will comprise around 12 suitably qualified and trained staff including an urban specialist in historic centres, 2 architects, a historian, landscape architect, museologist, sociologist, 2 civil engineers, tourism expert and secretariat.

Effectiveness of current management

ICOMOS considers that the various responsible authorities are working together in a co-ordinated manner. The key issue of concern relates to the Fort of Graça, which is open to the winds, unoccupied and at risk of vandalism. The Ministry of Defence has conserved the rampart and military buildings over the past 13 years, but the question remains as to how to utilise all the buildings now redundant to the army.

In conclusion, ICOMOS considers that immediate attention is required to identifying financial resources and new uses for the unoccupied buildings. The proposed 'Fortifications of Elvas Company' (SFE) needs to proceed as soon as possible. The Office for the Fortifications of Elvas should be set up and the Management Plan implemented as stated by the State Party in its response received on 10 February 2012. Furthermore the management system should be extended to include controls over development in the view line between the Fortlet of São Domingo and the Fort of Graça, and ICOMOS recommends that the Management Plan should include guidelines for new or infill buildings within the historic centre and outside the walls, and these should be incorporated in the Municipal Master Plan.

6 Monitoring

The first monitoring programme was carried out in 2009 by the City of Elvas as the basis for the State of Conservation as reported in the nomination dossier. Specific indicators for monitoring all the elements of the components of the property have been set and are listed in the individual State of Conservation sheets. It is proposed to repeat this monitoring exercise every three years.

ICOMOS notes that the monitoring system was applied to a limited number of nominated historic features and buildings. It needs to be extended to cover the full inventory, once it has been developed.

ICOMOS considers that the design of the monitoring system is adequate, but its scope needs to be extended.

7 Conclusions

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List. The nominated property meets criterion (iv), and conditions of authenticity and integrity but these are vulnerable. Outstanding Universal Value has been demonstrated. The main threat to the property is depopulation of the historic centre and a lack of functions for unoccupied buildings including the Fort of Graça, creating potential for lack of maintenance and vandalism. There is also evidence of inadequate control on development between the Fort of Santa Luzia and the bulwarked fortifications of Elvas' historic centre. In its response received on 10 February 2012 to ICOMOS' letter on this issue the State Party advised that the property boundary has been extended to cover the entire glacis of all the fortifications and the buffer zone has been enlarged to encompass the whole property and cover all the areas between the town bulwarks and the outlying forts and fortlets, and between the forts and fortlets themselves. However as shown on the accompanying map (Fig. 1.e.4) the view line between the Fortlet of São Domingos and the Fort of Graça is not covered and needs to be protected by explicit controls under the management system.

The legal protection in place is not sufficient and will be expanded to cover the whole nominated property including the intramural area as a National Monument and the Buffer Zone as a Special Protection Area as documented in the State Party's response received on 10 February 2012 to ICOMOS' letter dated 12 December 2011. Conservation measures are adequate overall, but a detailed inventory of historic urban features and structures should form part of the Management Plan as a basis for conservation and monitoring, and be incorporated in the Elvas Municipal Master Plan. The various responsible authorities are working together in a co-ordinated manner. However immediate attention is required to identifying financial resources and new uses for the unoccupied buildings, particularly the Fort of

Graça. The proposed 'Fortifications of Elvas Company' needs to proceed as soon as possible. In its response received on 10 February 2012 to ICOMOS' letter dated 12 December 2011 the State Party stated that the management system will be extended by the end of 2012 to include controls over development surrounding Elvas' fortifications and the areas between them and the outlying forts and fortlets, and between the forts and fortlets themselves. But the map provided shows that it needs to be extended more to the west to protect the view line between the Fortlet of São Domingos and the Fort of Graça. Furthermore, ICOMOS recommends that the Management Plan should include design guidelines for new or infill buildings within the historic centre and outside the walls, and these should be incorporated in the Municipal Master Plan. The State Party advised in its letter received on 12 February 2012 that the Office for the Fortifications of Elvas and the Fortifications of Elvas Company will be legally established by the end of June 2012 and implementation of the Management Plan will begin soon after.

Recommendations with respect to inscription

ICOMOS recommends that the nomination of the Garrison Border Town of Elvas and its Fortifications, Portugal, be **referred back** to the State Party in order to allow it to:

- Designate the whole nominated property including the intramural area as a national monument and the buffer zone as a Special Protection Area;

- Extend the Management system to contain explicit controls to protect the view line between the Fortlet of São Domingo and the Fort of Graça;

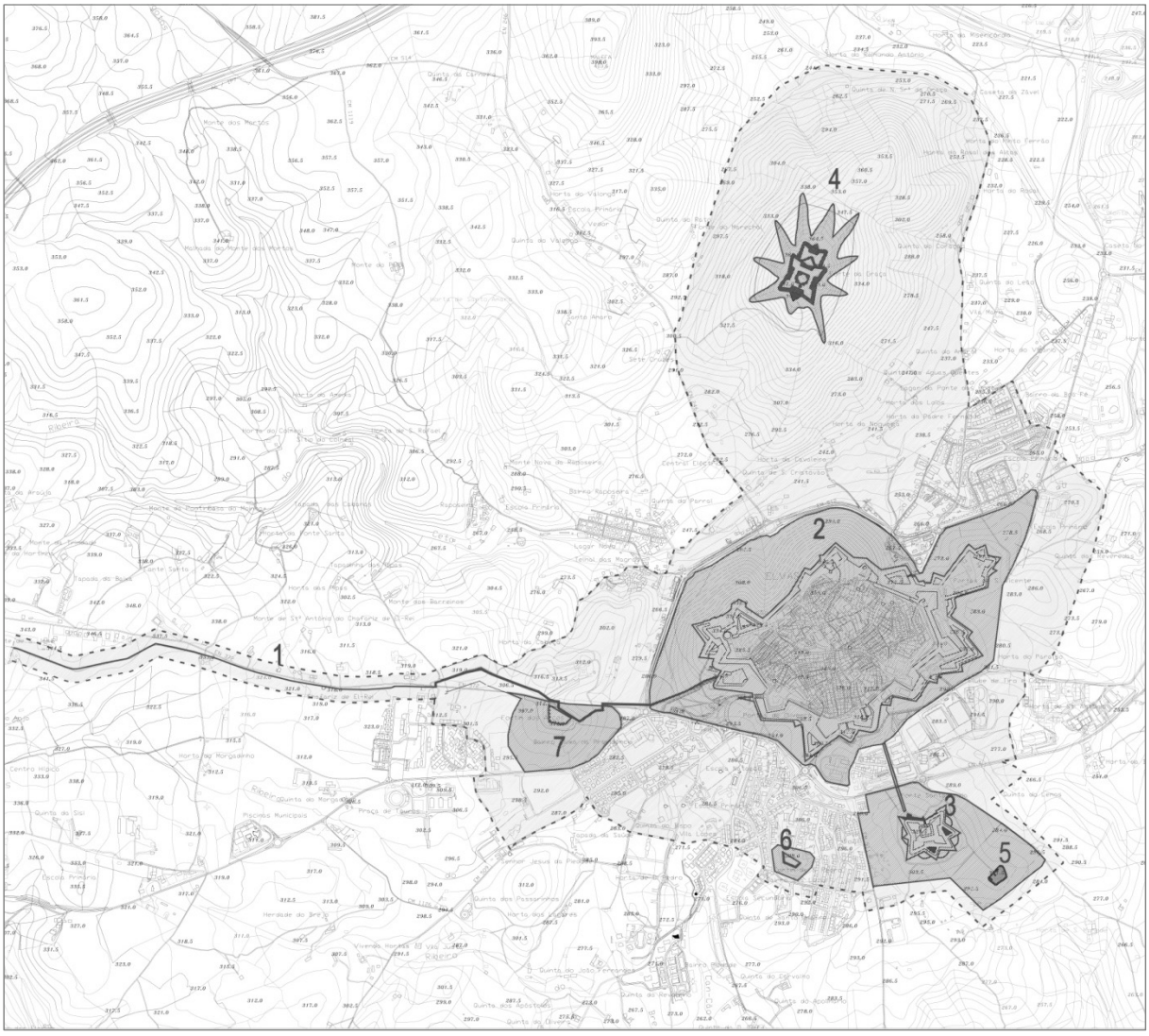
- Set up the Office for the Fortifications of Elvas and implement the Management Plan.

ICOMOS further recommends that the State Party give consideration to the following:

- Progressing as soon as possible the identification of financial resources and new uses for the unoccupied buildings, particularly the Fort of Graça;

- Establishing a full inventory of features and structures for the property as a basis for conservation, and extending the monitoring system to cover this as part of the Management Plan. The inventory should be incorporated in the Municipal Master Plan;

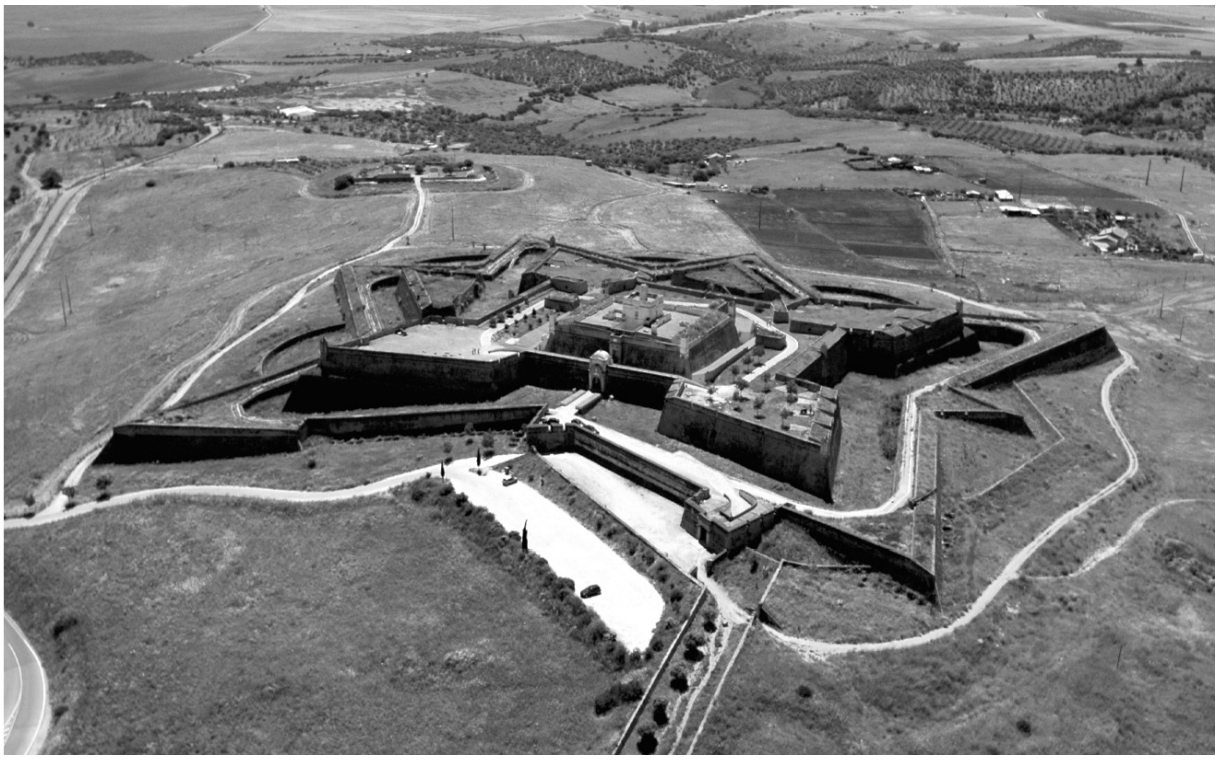
- Including guidelines in the Management Plan on appropriate design for new or infill buildings within the historic centre and outside the walls and incorporating these in the Municipal Master Plan.



Map showing the revised boundaries of the nominated properties

Aerial view of the nominated property from east

The Castle of Elvas – aerial view



Fort of Santa Luzia – aerial view from north

Fort of Graça – inner gate and ditch

Russian Kremlins (Russian Federation) No 1378

Official name as proposed by the State Party
Russian Kremlins

Location
City of Uglich, Yaroslavl Region
City of Pskov, Pskov Region
City of Astrakhan, Astrakhan Region
Russian Federation

Brief description
The Russian Kremlins are conceptualized as a serial nomination of thirteen component parts, three of which, Astrakhan Kremlin, Uglich Kremlin and Pskov Kremlin, are proposed for inscription. These three Kremlins are 16-17th century fortified city centres located in the European part of Russia, which have in common a location along or close to the waterfront of the cities' main rivers. The Kremlins were built as the central defence and administrative units of the cities and include cathedrals and churches, state offices, and residences. As protection during hostile attacks and sieges, they were defended by walls, towers and moats and are accessed through strategically-located gates.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of three *sites*.

1 Basic data

Included in the Tentative List
29 January 2010

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
31 January 2011

Background
This is a new nomination.

Consultations
ICOMOS consulted its International Scientific Committees on Fortifications and Military Heritage and Historic Towns and Villages, as well as several independent experts.

Literature consulted (selection)

Cracraft, J, Roland, D. (Eds.), *Architectures of Russian Identity: 1500 to the Present,* Ithaca, Cornell University Press, 2003.

Green, M., *Russian Kremlin: Building History,* Lucent Books, 2001.

Nossov, K., *Medieval Russian Fortresses AD 862-1480*, New York: Osprey Publishing, 2007.

Nossov, K., *Russian Fortresses 1480-1682,* New York: Osprey Publishing, 2006.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 25 September to 4 October 2011.

Additional information requested from the State Party
ICOMOS sent a letter to the State Party on 22 September 2011 requesting additional information with regard to the extent of the reconstruction carried out, in particular for Astrakhan Kremlin, the conservation standards applied, as well as documentary references. The State Party has not provided any response to the questions raised.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
Kremlins are the central and most fortified parts of the Russian city and play host to a number of different buildings, including structures with administrative, religious, residential and trade functions. They often have a defensive character and form the stronghold of the city, within which the population sheltered in case of attacks or sieges. Kremlins survive from as early as the 14th century and four Kremlins, Moscow, Novgorod, Kazan and Suzdal, are already inscribed on the World Heritage List.

The serial nomination of Russian Kremlins presents a group of Kremlins, which share a similar typology; stone constructions surrounded by a defensive wall with fortified towers. They all include religious and administrative structures, and were built in the same historical period, between the 15th-17th centuries. Equally, they are constructed utilizing the geomorphological specifics of their respective terrains as defensive barriers. Of the 13 sites identified for this serial nomination, 3 site components are at present nominated, the Kremlins of Astrakhan, Uglich, and Pskov. Ten further components shall be presented as serial extensions over several nomination cycles and will include the Kremlins of Rostov, Kolomna, Ryazan, Alexandrov, Vologda, Tula, Tobolsk, Smolensk, Nizhniy Novgorod, and Zaraysk.

The first part of this serial nomination, proposed here, consists of three component sites located in the cities of Astrakhan, Uglich and Pskov. Combined, they constitute a

property of 23.7 hectares in size, surrounded by three buffer zones with a total area of 544.5 hectares.

The property consists of:

- Ensemble of Astrakhan Kremlin
- Ensemble of the Uglich Kremlin
- Ensemble of the Pskov Kremlin

The three component sites are described in turn below. Due to the variety of built structures included in each Kremlin, only the most significant of each ensemble will be described.

Ensemble of Astrakhan Kremlin

Located on an elevated island in the historic centre of the city of Astrakhan in the upper Volga delta, this component part consists of the 11-hectare walled Kremlin and is proposed with a buffer zone of 280 hectares, covering a considerable part of Astrakhan's inner city. The Kremlin is in the shape of a right-angled triangle, the shorter sites of which point to the North and West, while the hypotenuse is parallel to the Volga River. It is surrounded by a stone wall 1,554m in length and up to 12m in height, which includes seven of originally eight fortified towers. The 3-5m thick walls, crowned with swallowtail merlons, were built as one of the earliest Kremlin stone fortifications, in 1582-1589, and incorporate an advanced system of loopholes for guns.

Three main gates lead into the walled Kremlin, which includes 21 architectural structures, with defensive, administrative or religious functions. The gates are embellished by architectural structures, such as the cathedral belfry of St Nicholas Church-over-the-gate. Of the previously eight towers only seven remain and only one, Zhitnaya Tower, the smallest of all the towers, remains in its original form. The other six towers include very significant structures such as the 80m high cathedral belfry at Prechistenskiye Gate, built in 1910, the Archiereyskaya Tower, constructed in 1843, or the Red Gate Tower, reconstructed in 1958 in its 16th century form.

The most important religious structures in Astrakhan Kremlin are the Assumption Cathedral, the Trinity Cathedral and the St Cyril Chapel. The two-storey Assumption Cathedral with its height of 75m and 5 domes is one of the largest in Russia and in its current structure dates back to 1710. It was designed by the architect Dorophey Myakishev and is one of the last cathedrals still connected to the Lobnoye Mesto, a special circular platform established for tribunals and executions. Despite its present snow-white appearance and its green domes, the cathedral was originally multi-coloured and the domes originally decorated with gilded stars. The four-storey Eparch's Chambers were situated just behind the cathedral, but successive extensions have largely distorted their original appearance. Trinity Cathedral was initially built in 1573 but was destroyed several times, the last as a result of a fire following severe plundering in 1928, when it burned down to a shell. In the 1970s it was reconstructed following its 18th century plan and decoration. The third religious structure, the small St Cyril Chapel, retains its 17th century simple cubic shape, to which a spherical dome and a portico were added in the early 19th century.

Among the administrative structures are the Guard House, a classical building extended in the 19th and 20th centuries, the Office of the Military Commander from the second half of the 19th century, and the Officer's House, completed in 1808. Additional barracks for soldiers were added in the 19th century, south of the officer's quarter, as well as in the 20th century, near Zhitnaya Tower.

Ensemble of the Uglich Kremlin

The Uglich Kremlin is located on a trapezium-shaped island in the very centre of Uglich, more precisely between the tributaries of the Volga River, bordering the Kamenny Brook and the River Shelkovka. It covers an area of 3.5 hectares, proposed as the property component, and is surrounded by a buffer zone of 26.7 hectares. In Uglich too, the Kremlin was the beginning of the city's urban development, which nowadays preserves its 18th century appearance.

The Kremlin is surrounded by an artificial ditch connecting the natural rivers. This is the only remaining defensive perimeter, after the fortifications were demolished in the second half of the 18th century. The Kremlin's main axis connects the most dominant structures, the Nikolsky Bridge, the Duma Building and the Transfiguration Cathedral. This axis also divided the Kremlin's territory into two almost equal parts, with all remaining architectural structures located in the eastern part. The main access from the city to the Kremlin is via the Nikolsky Bridge, built in 1808 and replacing an earlier wooden bridge. It consists of two vaulted rooms and decorated railings of brick posts and barriers. The first building visible upon entering the Kremlin precincts is the building of the former Uglich Duma. It was constructed in 1813-1815 in classical style. The columned portico, which stretches over two floors, characterizes its façade. The former central meeting hall was located on the second floor. The building is currently used for the administration of the Uglich Museum of History and Fine Arts, with the former public hall given over to concerts and conferences.

The Transfiguration Cathedral is the central monument in the Kremlin and also the main cathedral in Uglich. Built on the foundations of earlier structures destroyed on many occasions, the present cathedral retains the shape of its rebuilding under Peter I (the Great), which was initiated in 1700 and consecrated in 1706. It is constructed in the Naryshkin Baroque style and consists of a central square hall adjoined by a porch and altar apses, and embellished by five tall domes. Its facades considerably changed their appearance again in the 19th century, when the western portico and southern porch were added and the façades rebuilt. Unused for religious functions between 1929 and the 1990's, the cathedral is now used again for religious

services and has hosted the regular Sunday mass since 2004.

Next to the cathedral is an octagonal multi-level bell tower constructed in 1730. It replaced an earlier wooden belfry and illustrates stylistic differences between it and the neighbouring cathedral. Its more simple and archaic use of ornamentation provides a contrast to the cathedral decorations. The oldest surviving architectural structure in the Kremlin is the remaining chamber from the former palace of the Princes of Uglich. It dates back to approximately 1480, when the whole palace was constructed. During the Polish Invasion the palace constituted a last refuge for the local population, but it was badly damaged by fire, largely burning down, with the exception of this one small section. In the 18th century its roof was replaced and in the late 19th century the chamber was restored as a museum. However, specialists consider this restoration to be of poor quality, as it contains beautifications that seem not to have had any historical reference.

A second important religious structure in the Kremlin is the Church of St Demetrios, said to be located on the very spot where the blood of Prince Dimitry was spilled. Originally built in 1692 but later reconstructed, it consists of a cubic-shaped worshipping hall with five domes, a porch towards the west and an attached refectory. This church is presently used as a Museum of History and Fine Arts but also hosts church services on special occasions.

Ensemble of the Pskov Kremlin

The property component of the Pskov Kremlin consists of two parts, the central fortification of the Kremlin (Krom) and Dovmont Town, a former residential area in the outer fortification to the south of the Krom. The total area of both parts is 9.2 hectares and the State Party proposes a surrounding buffer zone of 237.8 hectares. The Krom is located at a slight elevation on the hill top of the Kremlin peninsula and includes the Trinity Cathedral and the Clergy House. It is surrounded by an inner fortified stone wall with circular towers. This wall corresponds to the shape of the fortifications constructed in the 17th century, which were largely dismantled in the course of the Northern War in the 18th century, and which were later rebuilt again in the mid 19th century. On the lower, southern ground, Dovmont Town is also surrounded by an extension of the Krom walls, with one tower, the Dovmont Tower, also protecting this residential unit. The only access route to the inner Kremlin is via a gateway through Dovmont Town.

Upon entering Dovmont Town from the south, the first significant architectural structures are the rectangular two-storey Consistory building of 1840 and the Mandatory Chambers, an official building originally built in the 17th century. The residential units of Dovmont Town as well as a few smaller churches in its eastern section are only preserved as ruins and are now integrated in the open-air archaeological museum. In the inner walled part the Trinity Cathedral, consecrated in 1699, dominates the hill and is well visible from most parts of Pskov. The five-domed structure reaches a height of 70m and has a central square-shaped ground plan. The cathedral is constructed in local limestone masonry and shows the distinctive characteristics of the baroque style popular in Moscow at the time.

Additional architectural structures in the inner Krom are the Clergy House, built in 1840, which is once again used for its original purpose, and the Powder Magazine, constructed towards the end of the Moscow Period. Its construction was part of the second consolidation of the by then damaged and dilapidated stone walls and it is integrated into the eastern side of the inner Krom wall.

History and development

As a result of the considerable distance between the component parts of the property (ca. 2,100km and 1,600km respectively), the historical political and military contexts of the property differ. A shared aspect however, is the expansion and consolidation of the Muscovite Empire in the 17th and 18th centuries, to which all three components of the property provide testimony.

The beginnings of the Astrakhan Kremlin date back to 1558, just four years after the Moscow army, together with the future Khan of Astrakhan, marched to take the city and sent the former ruler, Yamghurchi and his family, into exile. The change of authority provided for new political relations in the Volga region, but its power was not yet consolidated and was therefore in need of effective defensive structures. A hill not far from the old city of Astrakhan was chosen for the new wooden fortification into which the Russian army moved. With its construction it also became the nucleus of the future city of Astrakhan which expanded around this military fortification.

In 1569 the Crimean-Turkish Army started its campaign to Astrakhan and placed the fortified city under siege. However, after meeting with the Russian army, the campaign remained unsuccessful and in 1570 Selim II recognized the governance of Russia over Astrakhan. Shortly after, in 1573, Cyril, the first Orthodox priest at Astrakhan, commissioned the building of its first monastery, dedicated to the Trinity. However, the continuing threat from both Turkey and the Crimean Khanate necessitated the strengthening of the fortifications, and the Kremlin was rebuilt in stone in 1582-1589. With the increased power of artillery fire in the 17th century, the walls were widened at the bottom and reinforced with additional stone coverings and the towers, with provisions for firearms usage, were incorporated into the walls.

In 1717 Astrakhan was given the status of principal town within Astrakhan Province, which required new government institutions. The construction of the religious buildings had already commenced in the early 17th century, but building continued in the early 18th century, when 155 dwellings belonging to people of different ranks were documented in the Kremlin. In the 18th century significant changes began with a massive clearance in

preparation for a visit of Peter the Great in 1721, when all dwellings were removed. In 1769 the new Master Plan for Astrakhan was passed, which left the whole central part of the Kremlin empty. In the 19th century the fortification walls were subject to modifications and several constructions took place, among them the Officers House, the Soldier's Barrack and the Guard House.

In 1918 Astrakhan Cossacks launched an armed attack against the Soviet powers. The Kremlin suffered during the following 14 days of military exchanges, but the Soviets held on and the Cossacks were defeated. All religious structures were largely destroyed, plundered and closed for religious services. The Assumption Cathedral was subsequently used for archive and ammunition storage, the Eparch's House assigned to the military authorities, and the belfry of St Nicholas' Church demolished. In the 1950s, following a decision by the Council of Ministers of the RSFSR, a larger restoration scheme was initiated, after which, in 1974, the religious buildings of the Kremlin were assigned to the Astrakhan Museum of Regional Studies. The Kremlin was declared a reserve museum in 1980. Following the end of the Soviet era, the Assumption Cathedral was handed over to the church authorities and is now once again used for church services, whilst the other buildings remain part of the museum reserve.

The history of Uglich Kremlin starts with a fire in 1371 which burned down the old town of Uglich following internal conflicts. After the fire the town was rebuilt by the Moscow Princes as a fortified city. According to chronicles, the first construction of the Cathedral of the Transfiguration of our Saviour was started in 1487. In the middle of the 17th century, Uglich Kremlin was in need of major restoration following the Polish invasion. Some chronicles even speak of a new town being constructed out of pine wood. At that time the second significant religious structure, St Demetrios' Church, was built.

A century later the old cathedral also required replacement as its condition had become unsuitable for worship. The new cathedral was built on the same site and included fragments of the late 15th century frescoes of the former church's south wall. Many of the administrative buildings, including the former Uglich Duma, were added in the 19th century. In 1892, the Kremlin was declared a public museum and is therefore one of the oldest museums in Russia.

The Pskov Kremlin is founded on an earlier fortification, which predates the Kremlins of Astrakhan and Uglich, as it dates back to the 10th century. However, the present structure was built later and only archaeological research has provided evidence of the Kremlin's earlier history. In the years 1348-1510, Pskov was independent of the Russian state and was ruled from a fortified ensemble in Pskov's centre, which corresponded to the northern Krom area and already included a stone predecessor to Trinity Cathedral. In 1510 the city fell to Muscovite forces, which deported many of the noble families.

In the fortified Kremlin, the Russian rulers withstood a siege by the Polish Army (1581-1582). With Peter I (the Great's), reign and the Northern War, the upper part of the Kremlin stone fortifications was dismantled and was rebuilt as massive earthen fortifications. 1840 marked the beginning of a major restoration and consolidation phase of the Kremlin walls and architectural structures. Two main stone buildings were added in the 19th century, the Clergy House and the Consistory. During the 20th century, the Kremlin was subject to damage due to both ideological motivations and war. In 1936 the Annunciation Cathedral was demolished and later the other structures were damaged during World War II, when the city was attacked and occupied for three years by German troops. In 1952 the government decided to pursue immediate post-war reconstruction works. In 1988 additional renovations were initiated for the 1,100th anniversary celebrations of the city.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The nomination dossier proposes three Kremlins, which are the first nomination of a serial property representing the Kremlins as powerful, fortified city centres with systems of defence, including architectural structures of religious, administrative and military significance. Emphasis is placed on Kremlins constructed in Russia in the 14th-17th centuries, which used a similar type of stone defensive construction and contained significant religious components. Other categories of Kremlins, such as wooden Kremlins, Kremlins significantly predating the Muscovite reign, or Kremlins located outside the Russian territory are not considered as part of the serial nomination. The three component parts nominated at present are presented as outstanding examples of Russian military engineering of the 16th century.

In order to confirm that the series covers the most suitable selection of sites to demonstrate Outstanding Universal Value, the comparative analysis would need to determine whether the three Kremlins proposed have exceptional or unique features, which are not yet represented in other Kremlins or fortification structures on the World Heritage List. It would further need to demonstrate that for the specific contribution of each site component, the property selected is more significant than other sites considered for potential future inscription. Following confirmation of the above, the comparative analysis would further need to demonstrate that the selected serial components are the most exceptional and outstanding examples of Russian military construction of the 14th to 17th centuries, and that each serial component makes a unique contribution to the overall Outstanding Universal Value proposed for the series.

The comparative analysis presented in the nomination dossier focuses on comparing the Kremlins as a fortification typology with similar fortifications already

inscribed on the World Heritage List. The State Party considers the single most comparable site to be the medieval Historic Fortified City of Carcassonne, France (1997, (ii), (iv)), and the most comparable group of fortifications the Fortifications of Vauban, France (2008, (i), (ii), (iv)). It is, however, argued that these two cannot be compared to fortifications that specifically reflect the traditions of Russian military art and urban planning as well as the integrated architecture of the Russian Orthodox Church.

No comparative analysis is conducted among Kremlins located in Russia or neighbouring countries, either among the ones nominated or planned to be nominated as part of the future series, or with the four Russian Kremlins already inscribed on the World Heritage List: the Kremlin and Red Square, Moscow (1990, (i), (ii), (iv), (vi)); the Novgorod Kremlin in Historic Monuments of Novgorod and Surroundings (1992, (ii), (iv), (vi)); the Suzdal Kremlin in White Monuments of Vladimir and Suzdal (1992, (i), (ii), (iv)), and the Historic and Architectural Complex of the Kazan Kremlin (2000, (ii), (iii), (iv). The nomination dossier makes no attempt to demonstrate how the new serial nomination provides an outstanding contribution which is not yet demonstrated by these Kremlins. On the contrary, the State Party argues that the Kremlins already inscribed could be considered part of the serial nomination but that at the time of their inscription the concept of a serial nomination did not yet exist. The nomination dossier likewise does not highlight the outstanding contribution of each Kremlin to the serial nomination but states that what is conceptualized as the forthcoming serial nomination will comprise all preserved Kremlins.

ICOMOS considers that while Kremlins constitute an architectural phenomenon predominately found in the territories of former or current Russian influence, the comparative analysis has not made clear how the Kremlins proposed in the serial nomination constitute the most relevant examples of Russian Kremlin architecture, as well as how the series can be said to constitute Outstanding Universal Value. ICOMOS notes that in its previous nominations of Kremlins to the World Heritage List, the Russian Federation highlighted specific aspects of Kremlin architecture.

The Kremlin of Moscow was recognized as the earliest stone Kremlin in Russia, for its most complete defensive walls, its massive scale, its political influence, its influence on the urban development of Russian cities, its reflection of Italian influences in Russian military defence technology, and as a prototype for Russian Kremlin architecture. The Kremlin in Novgorod was considered outstanding for its intact system of medieval fortifications (15^{th}-17^{th} centuries), including ramparts and moat, its design in response to the natural geographic features of the terrain and the inclusion of outstanding examples of Russian orthodox religious structures, such as St Sophia Cathedral. Furthermore the Kremlin in Suzdal was recognized as containing one of the most important religious structures, the first white stone church in Northern Russia. It was also considered unique for the preserved ensemble of Kremlin and fortified old town. Finally, the Kazan Kremlin was considered of Outstanding Universal Value as an exceptional testimony to the khanate period as well as its demonstrated function as a nucleus for the urban development of the city. It was further seen to represent the integration of Tatar and Russian influences in architecture, whilst integrating the technologies and styles of other cultures, such as French or Italian.

ICOMOS considers it difficult to trace any exceptional aspects in the three Kremlins nominated at present, which have not yet been acknowledged as best represented in the Kremlins already inscribed on the World Heritage List. While ICOMOS notes the consideration of the State Party to integrate the four Kremlins already inscribed into the series, ICOMOS recalls that in serial nominations each component part is required to substantially contribute to the Outstanding Universal Value of the series, although the Outstanding Universal Value is constituted by the series as a whole.

ICOMOS concludes that the comparative analysis does not illustrate how the three Kremlins of Astrakhan, Uglich and Pskov represent significant aspects relevant to the understanding of the history and function of Kremlins, which have not yet been recognized for the four Kremlins already inscribed on the World Heritage List. ICOMOS notes that a comprehensive comparative analysis would need to analyse the individual contribution of each Kremlin to the Outstanding Universal Value of the series and compare these to the individual contributions of those other Kremlins inscribed, nominated and planned to be nominated. Only through such comparison can a selection of the most exceptional Kremlins be determined. ICOMOS considers that if the four inscribed Kremlins are intended to be part of the serial nomination, they would need to be re-nominated as part of the new series and their Outstanding Universal Value would need to be reconceptualised in this context.

ICOMOS considers that the comparative analysis does not justify consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Russian Kremlins are a unique representation of Russian history, architecture and urban planning and gained strategic importance through the creation of a national integrated system of powerful defences in the 16^{th} century;
- The Russian stone Kremlins of the 14^{th}-16^{th} centuries were built based on the ideas of architects who were invited from Europe and therefore reflect an important interchange of human values.

- The Kremlins provide an exceptional testimony to Russian architecture with their unique combination of pragmatism and artistic expression and reflect Russian military engineering capacities as well as the architecture of the Russian Orthodox Church.
- Historically, the proposed Kremlins became the city-forming cores for the development of their respective towns, and represent features particular to the composition of Russian cities and their urban plans.

According to the State Party the serial approach was chosen to present a group of exceptional Kremlins, which belong to the same historico-cultural group and present the same type of property, thereby providing more variety to the architectural expressions of Kremlins from the 14th-17th centuries. ICOMOS considers that the selection of sites presented aims to illustrate a variety of features by including all preserved Kremlins of this particular typological and historico-cultural group rather than presenting the most exceptional or outstanding example(s) of the architectural, urban, religious, military and other features of Kremlin architecture. This varietal approach is further demonstrated by the fact that similar justifications are used for the different individual properties and not every property seems to make a relevant contribution to all the criteria. The Outstanding Universal Value is suggested to be applicable for the intended series of 13 Kremlins and is presented as being justified already by the three components proposed as its initial composition; however, the nomination fails to demonstrate how each of the Kremlins contributes specifically to the proposed Outstanding Universal Value of the series.

In ICOMOS' view the three Kremlins proposed cannot be considered to be of Outstanding Universal Value, as none of the three examples contributes particular aspects related to the history or typology of Kremlin architecture, which has not already been recognized for the Russian Kremlins already inscribed on the World Heritage List. ICOMOS considers that a serial approach, which is not based on the four Kremlin properties already inscribed on the World Heritage List, cannot be justified.

ICOMOS considers that the justification according to which the three Kremlins nominated provide the best illustration of the unified Russian State and its military engineering art of the 16th century equally cannot be supported. The three component properties were all subject to successive modifications over time and none of the three Kremlins is able to present a preserved 16th century ensemble of a Russian fortified city core. In fact, all three examples seem to have been characterized by rebuilding and restructuring activities in the early 18th century (under Peter I, the Great) as well as further developments in the 19th century. ICOMOS therefore considers that an authentic representation of the time of the Muscovite power (14th-17th centuries) or the expansion of the Russian Empire (17th-18th centuries) cannot be authentically conveyed by the three Kremlins nominated.

Integrity and authenticity

Integrity

The integrity of the serial property is judged in relation to the ability of the components to cover all attributes needed to express the Outstanding Universal Value suggested. With regard to the individual components, integrity is expressed in the completeness and adequacy of size of the component to represent the relevant contribution to the overall Outstanding Universal Value.

The nomination dossier presents three serial components, selected to demonstrate the Russian stone Kremlins and their military engineering art of the 14th-16th centuries. ICOMOS considers that these three Kremlins cannot be said to completely represent the architectural, religious, urban and military features of Kremlins in Russia. ICOMOS notes that 10 further Kremlins are envisaged as potential candidates for a future extension of the nomination; however, ICOMOS considers that the most significant examples of Russian Kremlins, in particular the Kremlin of Moscow, are already inscribed on the World Heritage List and that without inclusion of these examples the condition of integrity cannot be met for a serial approach.

With regard to the integrity of the individual components, ICOMOS considers that the material remains of several architectural structures, whether defence, religious or administrative contain only fragments and limited remnants of their initial construction phase, and that according to the information presented in the nomination dossier the component properties nominated cannot meet the condition of integrity with regard to their suggested illustration of Russian architectural and engineering arts of the 14th-16th or even 14th-17th centuries. ICOMOS notes that the clearance and insertion of several architectural structures during the 18th, 19th and 20th centuries and the subsequent ideologically-motivated and military destructions during the 20th century have equally reduced their historic integrity.

ICOMOS notes that the visual integrity of the Astrakhan and the Uglich Kremlins have been negatively affected by 20th century urban developments. In Astrakhan, the up-to 11 storeys apartment buildings of the communist era and also the recently modernized department store, Crystal, create negative visual influences in the property's setting. In Uglich, the two recently opened hotels (completed in 2005 and 2009 respectively) on the Volga river banks have a negative visual impact on the Kremlin setting.

Authenticity

Authenticity of a serial property relates to the ability of the serial group to convey the Outstanding Universal Value as proposed. With regard to the individual site components, authenticity relates to their ability to exhibit the historic materials and design, workmanship and setting, use and function, as well as other components in relation to the overall Outstanding Universal Value proposed in the nomination dossier. Following the arguments presented

by the State Party, the authenticity of the property is ensured by the exceptional preservation of the three component properties over several centuries, which includes preservation of defence, administrative and religious structures.

ICOMOS considers that, although in each of the three Kremlins some structures have been preserved, the material evidence which dates back to the time of construction and to the relevant period outlined in the justification of Outstanding Universal Value (14th-17th centuries) is very limited. In the Astrakhan Kremlin, part of the stone structures of the walls and integrated towers, but not the roofing structures of these, date back to the late 16th century. However, neither the materials nor the workmanship can be seen today as the walls and towers were re-plastered in the 20th century. In addition St Cyril's Chapel has preserved its late 17th century form and design. All other architectural structures in Astrakhan document later construction, predominantly of the 19th century.

Likewise in Uglich and Pskov Kremlins, many architectural structures fell victim to decay and destruction and were reconstructed, often after the design of their original structures. The religious buildings in Uglich Kremlin, including the Cathedral of the Transfiguration and the Epiphany Cathedral, are structures originally built in the 18th century. Apart from the lack of the original surfaces, as a result of a modern preference for colourful and smooth surfaces, these structures are preserved in their 18th century shape but do not represent their appearance in earlier centuries. The original stone fortification walls of Uglich Kremlin, one of the typological denominators of the serial nomination, were dismantled and removed in the 18th century and all remaining administrative structures, including the Nikolsky Bridge and the Duma Building, date to the 19th century. The location and lower part of the fortification walls of Pskov Kremlin date back to the 18th century whilst the remaining structure is a 20th century reconstruction. The Trinity Cathedral has 19th century facades, whilst its original 17th century ground plan remains.

In summary ICOMOS considers that while a few buildings remain authentic with regard to their construction dates in the 18th and 19th centuries, none of the architectural structures in the Kremlins meets the condition of authenticity with regard to material, substance or workmanship in relation to 14th-17th century evidence. Several structures, like the St Demetrios Church and the Duma Building in Uglich Kremlin, changed use and function, while others, especially some religious buildings, have recently been handed back to the church authorities and are once again used for church services. Yet, authentic use alone cannot be considered sufficient to meet authenticity with regard to a historic period of which only a few material remains are preserved.

In conclusion, ICOMOS considers that the conditions of integrity and authenticity have not been met.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (ii), (iii) and (iv).

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the three Kremlins nominated are based on the principles of the latest architectural and technological achievements in Europe at the time and therefore represent the interchange of human values between Russian and European fortification architects.

ICOMOS considers that the three Kremlins proposed were built by Russian architects, in the case of Astrakhan by the Moscow masters Velyaminov and Ovtsin. Historic sources cannot confirm any direct involvement of foreign architects in the construction or planning of the three Kremlins, but it seems that the designs and implementation were influenced by the prototype Kremlin constructed in Moscow, which was indeed influenced by the exchange of European and Russian approaches to military architecture. In the case of the Moscow Kremlin the contributing architects, Fiorovanti, Solari and Ruffo, were Italian and brought with them the latest European military technology.

ICOMOS considers that the interchange of European and Russian influences in the architecture and technology of Kremlins has already been recognized under this criterion as uniquely represented by the Kremlin in Moscow. The justification and comparative analysis provided does not clarify how the three Kremlins nominated can contribute additional facets of this exchange, given that in all three cases the Kremlin in Moscow acted as the mediator between European influences and local architectural practice.

ICOMOS considers that this criterion has not been justified.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the three nominated Russian Kremlins reflect the most outstanding traditions of Russian military engineering and the architecture of the Russian Orthodox Church and therefore bear an exceptional testimony to Russian civilization and cultural traditions.

ICOMOS considers that while Kremlins in general bear testimony to the architectural traditions of Russia, only the most exceptional representations of this tradition can be said to justify Outstanding Universal Value. ICOMOS notes that with regard to the best examples of Russian military technology, the Kremlin in Novgorod was

inscribed on the World Heritage List for its outstanding and intact system of Russian fortifications (15th-16th centuries). In the case of exceptional examples of Russian Orthodox architecture integrated in Kremlins, the cathedrals of both Novgorod Kremlin (St Sophia) and Suzdal Kremlin were inscribed as outstanding. In order to justify how the Orthodox Russian churches of the Astrakhan, Uglich or Pskov Kremlins integrate exceptional features and attributes, which are not yet represented by properties inscribed on the World Heritage List, a comprehensive comparative analysis of Russian Orthodox Church architecture in and outside Kremlins would need to be conducted. Similarly, a comprehensive comparative analysis of military defence features and technologies in Russian Kremlins could highlight any potential features of defence architecture in these Kremlins that may justify Outstanding Universal Value.

ICOMOS considers that this criterion has not been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the Russian Kremlins nominated played a particularly significant role in the defence of the nation against external enemies and in strengthening the positions of the Russian State and the Russian Orthodox Church. They therefore illustrate a significant period of human history, that is the history of Russian fortifications, town-planning, and religious architecture.

ICOMOS considers that fortifications, town-planning or architecture are not usually considered significant stages in human history themselves but that under criterion (iv) specific types of these categories are highlighted as representative of stages in human history and thereby of Outstanding Universal Value. A significant stage in human history that the Kremlins could potentially represent is the influence of the Grand Duchy of Moscow (13th-17th centuries), which is suggested by the reference dates in the nomination dossier, or the establishment of Tsarist rule and the expansion of the Russian Empire (18th-19th centuries), as the monuments in the three component sites would suggest.

ICOMOS considers that in either case the Kremlin typology of the three examples is not specific enough as it does not seem to add anything more to the exceptional role of the Moscow Kremlin in narrating and illustrating a unique type of architecture and urban planning that strongly influenced the region during these centuries. It not only acted as the architectural prototype for all the later Kremlins nominated but also became the symbol of a whole era of Russian rule centred on Moscow. Its function as the prototype of all Kremlins, the prototype of all central fortifications of Russian towns, was specifically recognized for the Moscow Kremlin under criterion (iv). ICOMOS considers that without a comprehensive comparative analysis of all Kremlins and their individual typological features, it is not possible to justify this criterion for the Kremlins of Astrakhan, Uglich and Pskov.

ICOMOS considers that this criterion has not been justified.

ICOMOS considers that the serial approach can only be justified if is based on the four Russian Kremlins already inscribed on the World Heritage List.

In conclusion, ICOMOS does not consider that the criteria and Outstanding Universal Value have been justified.

4 Factors affecting the property

Development and tourism pressures

The nomination dossier gives assurances that the three Kremlins are well protected by conservation programmes and development restrictions, in particular building height restrictions, in the surrounding buffer zones. The government authorities are actively promoting tourism as an economic potential for the cities, and recent large-scale restoration programmes and museum developments aim to increase the Kremlins' attractiveness to national and international visitors.

However, recent developments, such as the two hotel developments along the banks of the Volga in Uglich and the ever-increasing visitor numbers in all three Kremlins, illustrate that with continued promotion as a visitor destination, pressure for expanded tourist and traffic infrastructure is likely to increase in the near future. The State Party has adopted precautionary measures by restricting the height of development within the historic cities and designated buffer zones. It has further initiated control of visitor numbers in particular buildings, especially in Uglich, which are based on carrying capacity calculations based on measured temperature and moisture variations.

ICOMOS recommends consideration of further regulations in view of the potential developments of urban infrastructure, in particular with regard to proportion, volume and design of new constructions in the buffer zones. ICOMOS also recommends the regular monitoring of the commercial use of properties in the Kremlins and their buffer zones, in order to control and, if necessary, change the tourism infrastructure developments. ICOMOS further notes that new or redeveloped landing facilities for boats along the respective river banks or other river developments within sight of the Kremlins may constitute negative visual impacts on the visual integrity of the property.

Environmental pressures

Environmental impacts defined by the State Party include extreme temperature variations, both between seasons and between night and daytime. The nomination dossier also mentions the effects of industrial and traffic pollution, which both seem largely controlled.

A considerable source of concern exists at the Uglich Kremlin, where the construction of the hydro-electric power plant in the 1940s led to an elevation of ground water and to increased water saturation of the sandy loams. This phenomenon has caused deformations in the foundations of some of the Kremlin structures and also an acceleration in erosive processes along the river banks. Especially during the regular spring floods, an increased incidence of landslides and subsidence has been observed. In 2008 this necessitated partial reconstruction of the river bank slope near St Demetrios' Church. The State Party has developed a regular monitoring programme for the river banks. ICOMOS further considers that proactive measures to prevent landslides should be developed based on geo-physical surveys of the river banks.

Natural disasters

The three Kremlins are located in zones of low seismic activity. The relative proximity of the Kremlins to the rivers renders them more vulnerable to flooding. Whilst the Kremlins of Astrakhan and Pskov are located on elevated terrain and have not been affected by floods in the past, Uglich Kremlin's riverbank areas suffered partial losses during two powerful floods in 1955 and 1966.

Like other complexes located in historic city centres, and especially complexes which include wooden roof structures, wooden interiors and religious usage which sometimes involves candles, the Kremlins are vulnerable to fire. The latest fire in Pskov Kremlin, which destroyed a conservation tent covering Vlasievskaya Tower occurred in April 2010. While Uglich Kremlin seems better prepared in the event of fire, through annual training conducted with the fire brigades, ICOMOS recommends that more systematic fire fighting and risk preparedness strategies should be developed for all three complexes.

Impact of climate change

The nomination dossier does not consider the Kremlins at increased risk from, or vulnerable to, effects of climate change, although the possibility of further temperature extremes or increased occurrence of spring floods is mentioned.

ICOMOS considers that the main threats to the property are future tourism and traffic infrastructure pressures, fires, and for Uglich Kremlin, the risk of flooding and landslides.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries and buffer zones submitted were clearly demarcated for the Kremlins in Astrakhan and Uglich. For the Kremlin of Pskov, ICOMOS had the opportunity to examine the proposed delimitations of the property and the buffer zone during its evaluation mission. However, a copy of a map indicating the exact boundaries of the property and buffer zone of Pskov Kremlin has not, despite being requested, been made available. The boundaries and buffer zones shall be considered separately for each serial component.

Ensemble of Astrakhan Kremlin

The boundaries of the property component in Astrakhan are clearly demarcated by the outer walls of the Kremlin. The buffer zone is delimited by the historic city, which is located on a peninsula surrounded by the River Volga, the Kutum River and the First of May Canal. ICOMOS considers the boundaries and buffer zone adequate.

Ensemble of Uglich Kremlin

The property boundaries of the Uglich component follow the shores of the Volga and the Kamenny Brook as well as the moat which separates the Kremlin from the city. The delimitation thereby describes the historic location of the fortification walls, which were dismantled in the 18th century. The buffer zone is conceptualized as a view corridor on the eastern side of the property.

ICOMOS considers that whilst the boundaries are appropriate, the delimitation of the buffer zone is too narrow to effectively protect the visual integrity of the Kremlin, in particular towards the river and the south. During the ICOMOS evaluation mission, the State Party agreed to enlarge the buffer zone to include the whole of the old town as well as the entire width of the river and opposite river banks. A revised map with these new delimitations has unfortunately not yet been received.

Ensemble of Pskov Kremlin

The boundaries of the Pskov property component follow the ramparts of the Kremlin and the wall of Dovmont Town. ICOMOS considers that this delimitation supports the boundaries of the historic ensemble and is adequate. The buffer zone has been composed in terms of its influence on the visual characteristics of the Kremlin. ICOMOS considers that the buffer zone should ideally be revised to take into account the historic relationships between the historic city and the Kremlin by including the walled historic city and also the complete panorama along both river banks.

In conclusion, ICOMOS considers that the boundaries of the nominated property components are adequate and that the buffer zones of the Kremlins at Uglich and Pskov need to be revised.

Ownership

As cultural monuments recognized as significant by the federal state, the three property components and all structures within their boundaries are state properties. The religious structures of Astrakhan Kremlin, the Assumption Cathedral, Trinity Cathedral, the Belfry and the Eparch's House, have been handed to the Astrakhan Eparch for use in perpetuity.

Protection

Legal Protection

The Kremlin of Astrakhan was included in the list of architectural and historic monuments of the Russian Federation in 1947. The Kremlins of Uglich and Pskov are equally designated on the federal level in accordance with decision 1327 of the Council of Ministers of the RSFSR, dated 30th August 1960, designating historic sites for the improvement and protection of monuments and culture in the USSR. The three property components thereby enjoy the highest possible level of protective designation in the Russian Federation.

ICOMOS notes that no specific legal protection seems to be in place for the buffer zones and it remains unclear how the function of these is regulated.

Effectiveness of protection measures

The legal protection of the property at the federal level confers the responsibility for any decisions with regard to the property's development to the Ministry of Culture. This protection seems to be effective. With regard to the buffer zones, ICOMOS considers that unless the buffer zone boundaries are expanded for Uglich and Pskov, and precise regulations for the protective function of the buffer zones established, their protective character cannot be considered effective.

ICOMOS considers that the legal protections for the property components are adequate but that regulations have to be defined for the protective function of the buffer zones.

Conservation

Inventories, recording, research

Cartographic and documentary data on the components and conditions of all architectural elements in the Kremlins are available and have been regularly updated since at least the 1950s. These records are being held at the Ministry of Culture for the Astrakhan Region and the Astrakhan State United Historical and Architectural Museum-Reserve for the Astrakhan Kremlin; at the Culture Department for the Yaroslavl Region and the Archive of the Ministry of Culture of the Russian Federation for the Uglich Kremlin; and at the office of the Chairman for the State Committee of Culture for Pskov Region for the Pskov Kremlin. ICOMOS recommends that a second copy of the Pskov Kremlin records should be kept in an archive to reduce the risk of loss.

Present state of conservation

The overall state of conservation of the three property components is acceptable, although several of the nominated structures have been reconstructed so recently that it seems problematic to use the term 'state of conservation' as it is usually applied. For example, the Red Gate Tower in Astrakhan Kremlin was reconstructed in 1958, the Belfry in 1910, and annexes to Assumption Cathedral in 1970. In some of the 19th and 20th century reconstructions, non-traditional materials were utilized – including occasionally concrete – which changed the material state of the properties.

The state of preservation of all properties illustrates smooth, clean and often colourful (or snow-white) surfaces, which makes it difficult to recognise the age of an architectural structure by its visual appearance.

Active Conservation measures

Active conservation measures, carried out in the context of short-term conservation plans, are ongoing in all three property components. In Astrakhan Kremlin, a conservation plan for 2012-2015 sets out 15 restoration projects, including the restoration of the barracks, reconstruction of the iconostasis in Sretenskaya Church, and restoration of the Eparch's House. The main conservation activities at Uglich Kremlin presently ongoing are concerned with the landscaping, and aim to re-establish the historic landscape aesthetics of the Kremlin compound. In Pskov Kremlin, restoration activities under the program 'Preservation of Cultural Heritage and its use in Russia (2011-2014)' are underway. ICOMOS notes that all conservation activities follow mid-term programs and are state-funded.

ICOMOS also notes a tendency towards measures aimed at beautification of the monuments. In several cases these measures could have been more discrete and sensitive to the historic fabric and ICOMOS recommends opting for a more minimalistic approach in conservation activities.

Maintenance

In the Kremlins of Astrakhan and Pskov general maintenance works are carried out by the local administration, the Astrakhan Kremlin Museum Reserve and the State Committee for Culture of the Pskov region. In both Kremlins a lack of landscape maintenance is recognizable and in particular in Astrakhan the neglected character of the arboretum diminishes the appearance of the site's setting.

In the Kremlin of Uglich, maintenance tasks are shared between the administration of the State Uglich Museum of History of Architecture and Fine Arts and the Uglich Federal State Unitary Enterprise (GUARD), which maintains the security-related equipment and risk prevention installations. Landscape elements currently are restored and included in regular maintenance measures.

Effectiveness of conservation measures

The conservation measures seem effective in increasing the durability of historic materials and surfaces. However, ICOMOS considers that some of the measures could almost be considered too efficient as historic surface layers are often renewed rather than restored. ICOMOS considers that these conservation and rehabilitation activities which were carried out in the past were too extensive, and recommends consideration of more discrete approaches that are sensitive to the remaining historic fabric, for any future conservation activities.

In conclusion, ICOMOS considers that the three property components were subject to extensive conservation and reconstruction activities. Although these seem to have been effective, ICOMOS recommends that future conservation activities should be based on more minimalistic conservation strategies.

Management

Management structures and processes, including traditional management processes

The overarching management authority of the serial nomination of Russian Kremlins is the Russian Committee for the World Cultural and Natural Heritage. It is entrusted to act as a coordination centre for protection and management concerns that have to be guided by the proposed Outstanding Universal Value and therefore requires shared approaches. The Committee consists of representatives of the State Russian Federation, relevant international institutions, professional organizations, higher education institutions, scientific and research institutions as well as individual recognized specialists.

Under the auspices of the Russian Committee an expert group has been formed to take direct and immediate responsibility for the management processes. This expert group is jointly chaired by the UNESCO Chair in Urban and Architectural Conservation and the Russian Committee of ICOMOS. ICOMOS considers that an overarching approach to heritage management is important for serial nominations which combine several components of the same typology and cultural group and is required according to paragraph 114 of the *Operational Guidelines*. However, ICOMOS considers that the information provided does not clarify the role of the local administrations of the property components in the management and policy decisions, and how they interact with the expert group. ICOMOS recommends development of a shared management framework, including outlines and schemes for decision-making processes, which clearly stipulate the participation mechanisms and responsibilities of each institution concerned with the management of the nominated property.

Policy framework: management plans and arrangements, including visitor management and presentation

For two of the nominated Kremlins, Astrakhan and Uglich, sections of the nomination dossier submitted have been presented as management plans. However, ICOMOS considers that the content of these sections does not contain the most essential elements required to lay out the site management structure and policies. The so-called Management Plan of the Astrakhan Kremlin comprises a list of restoration projects envisaged up to 2015, while that of the Uglich Kremlin highlights the property management processes in terms of access control, ticketing, security and human resources. For the Kremlin of Pskov no management plan was submitted but the property components seem to have a reliable management system guided by the Regional Ministry of Culture in cooperation with the museum administration and the Orthodox Church.

ICOMOS notes that ideally a management plan should outline the objectives of property management to be achieved within a certain timeframe, the processes of decision-making, policy development and implementation towards these objectives as well as the responsibilities and evaluation mechanisms during the implementation phase. ICOMOS recommends the development of management plans for each site component, including risk preparedness strategies as well as consideration of the wider context of tourism and spatial planning.

Visitor numbers are gradually increasing but are as yet a long way from numbers that would pose a risk of physical damage to the property. The interiors are an exception to this, the interiors for some of which access is already regulated and restricted. Basic services for visitors such as information offices, guides, sanitary facilities and gift shops are available at all three property components. The Kremlins are also used as venues for cultural events during which security regulations, in particular fire risk management, may need to be increased.

Risk preparedness

The Kremlins and the museum exhibitions on their territory are equipped with fire fighting systems according to state regulations. In Uglich additional annual training is carried out with the fire brigades with regard to emergency control in the most important community areas. Apart from these measures no further risk preparedness strategies have been developed for the property.

ICOMOS recommends that more systematic fire fighting and risk preparedness strategies be developed for all three complexes. ICOMOS further recommends that proactive measures to prevent landslides should be developed for the Uglich Kremlin and risk management strategies developed which anticipate interventions in case of flooding.

Involvement of the local communities

The nomination dossier does not describe any active processes of community involvement or participation. On the contrary, the State Party argues that decision-making and management processes should remain fully in the hands of state institutions and organizations, who have qualified specialists to carry out these processes. ICOMOS considers that a more community-driven management process, drawing in particular on the religious communities, would be an asset.

Resources, including staffing levels, expertise and training

Financial resources are predominantly provided from state budgets and are added to by revenues generated in the property components. Around 400 million roubles (13 million $ US) have been designated for management and specific restoration and reconstruction projects at the properties up until 2015. It appears that while the funding for Astrakhan is ample, the budgets provided for Uglich and Pskov Kremlins are sufficient only to conduct maintenance and necessary conservation operations.

The staffing in all three properties is sufficient but full-time restoration and conservation personnel are missing in the Kremlins of Astrakhan and Pskov. The conservation projects are conducted by contracted restorers from a pool of qualified professionals designated by the Ministry of Culture. ICOMOS considers that it may be an advantage to have a conservation professional amongst the staff at each property component to supervise the maintenance and restoration works of external experts but also to conduct and coordinate the regular monitoring of the state of conservation.

Effectiveness of current management

The management as presented seems effective in respect of the immediate maintenance and management of the historic buildings. However, ICOMOS considers that as part of a shared management framework, overarching management objectives should be defined. ICOMOS further recommends the incorporation of the wider context affecting the preservation of the property components, including tourism infrastructure and spatial development planning, into the management system. To achieve this, the management initiative needs to be more precisely defined in terms of the exact roles and responsibilities of each participating institution and requires inclusion of additional partners responsible for tourism infrastructure and spatial development planning.

In conclusion, ICOMOS recommends the development of a shared management framework for the property and the establishment of management plans, which consider risk preparedness strategies, as well as tourism infrastructure and spatial development planning. ICOMOS considers that a more community-driven management process would be an asset.

6 Monitoring

The monitoring system presented follows three separate approaches for the three property components. In Astrakhan Kremlin the monitoring indicators are focused on assessing the completion and quality of scheduled restoration projects. These are not adequate to monitor the state of conservation of the property in the mid- and long-term and need to be revised.

For Uglich Kremlin the main key indicator is the vertical alignment of monuments measured at regular intervals. Although ICOMOS notes the particular risks of the geological setting of Uglich and the fact that foundation movements have occurred in the past, ICOMOS considers that this indicator should be one amongst many to measure the overall state of conservation and management. For Pskov three indicators have been developed which are perhaps closest to what is required to monitor World Heritage properties. However, ICOMOS considers that these indicators are too general and not adequate to measure the quality of site preservation and management. ICOMOS considers that the monitoring system proposed is inadequate and requires revision for all three site components.

ICOMOS recommends that the monitoring system and indicators proposed should be revised to allow for adequate monitoring of the property.

7 Conclusions

The nomination of the Russian Kremlins is conceptualized as a serial nomination of up to 13 component parts, of which three are nominated at present; the Astrakhan Kremlin, the Uglich Kremlin and the Pskov Kremlin. ICOMOS notes that so far the State Party has presented nominations of Russian Kremlins according to specific exceptional attributes, which have constituted the Outstanding Universal Value of the individual examples. Following this approach four Russian Kremlins have already been inscribed on the World Heritage List: the Kremlin and Red Square, Moscow (1990, (i), (ii), (iv), (vi)); the Novgorod Kremlin in Historic Monuments of Novgorod and Surroundings (1992, (ii), (iv), (vi)); the Suzdal Kremlin in White Monuments of Vladimir and Suzdal (1992, (i), (ii), (iv)), and the Historic and Architectural Complex of the Kazan Kremlin (2000, (ii), (iii), (iv)).

The nomination dossier of three further Kremlins does not demonstrate how the new serial nomination provides an outstanding and universal contribution which has not already been demonstrated by the Kremlins previously inscribed. The State Party argues that, in principle, the Kremlins already inscribed could have been considered part of a serial nomination, but does not propose their inclusion. ICOMOS considers that a serial approach to the nomination of Russian Kremlins can only be justified if it is based on and includes the Russian Kremlins

already inscribed on the World Heritage List, and if it adds further Kremlins on the basis of individual exceptional attributes not yet represented in the series.

As the comparative analysis presented did not include a comparison of specific features with the Kremlins already inscribed or the other ten Kremlins planned to be nominated in the future, ICOMOS considers that on the basis of the material provided in the nomination dossier, it does not seem likely that the three Kremlins presented add features which contribute to the representation and understanding of Russian Kremlins, which are not yet inscribed on the World Heritage List. Therefore in ICOMOS' view, Outstanding Universal Value as well as integrity and authenticity in relation to the 14th-17th century focus proposed, has not been justified.

ICOMOS considers that the three Kremlins presented are likely to face pressure from potential tourist and urban infrastructure developments. ICOMOS recommends that, in response to these, the boundaries of the proposed buffer zones for Uglich and Pskov should be revised, legal regulations for the function of the buffer zones in all three site components created, and building regulations with regard to newly inserted constructions specified, taking into account proportions, volumes and design in addition to existing height regulations. ICOMOS further recommends monitoring of the commercial use of the properties and their buffer zones.

With regard to the property boundaries, ICOMOS considers the delimitation of all three components adequate but recommends that the buffer zones at Uglich and Pskov need to be expanded to protect the visual integrity of the river setting and reflect the relationship between the Kremlins and the historic cities. ICOMOS notes that the property is inventoried, but recommends that an additional copy of the Pskov Kremlin records should be produced to reduce the risk of loss.

ICOMOS notes that the properties underwent extensive restorations during the past decade. Whilst fully recognizing the expectations of local communities, in particular religious communities, with regard to the historic structures, ICOMOS recommends the adoption of a minimalistic approach in conservation activities. With regard to the property management, ICOMOS recommends the development of a shared management framework, which stipulates the roles and responsibilities of each institution participating in the management process. ICOMOS recommends developing management plans for the property, which incorporate the wider context of tourism infrastructure and spatial development planning into the management system. As part of the management plan, ICOMOS further recommends the systematic establishment of fire fighting and risk preparedness strategies and proactive measures to prevent landslides along the river banks of Uglich Kremlin. ICOMOS considers that a more community-driven management process would be desirable. Finally, ICOMOS recommends that the monitoring system and indicators proposed should be revised to allow for adequate monitoring of the property

Recommendations with respect to inscription

ICOMOS recommends that the Russian Kremlins, Russian Federation, should **not be inscribed** on the World Heritage List.

ICOMOS recognizes the importance of the theme of Russian Kremlins to the World Heritage List and encourages the State Party to reconceptualise a serial nomination on the basis of the four Russian Kremlins already inscribed on the World Heritage List, to which further Kremlins, with outstanding and exceptional attributes not yet represented, could be added.

Map showing the location of the nominated properties

Astrakhan Kremlin – general view

Uglich Kremlin – general view

Uglich Kremlin - Cathedral of the Transfiguration

Astrakhan Kremlin – Red Gate Tower

Pskov Kremlin – general view

Neolithic Site of Çatalhöyük (Turkey) No 1405

Official name as proposed by the State Party
The Neolithic Site of Çatalhöyük

Location
Province of Konya
District of Çumra
Turkey

Brief description
The two large tells of Çatalhöyük rise up to 20 m above the Konya plain on the Southern Anatolian Plateau. Excavations of the Eastern mound have revealed 18 levels of Neolithic occupation dating from 7,400-6,200 BC including a large assemblage of wall paintings, reliefs and other symbolic, artistic features illuminating the evolution of prehistoric social organisation and cultural practices as humans adapted to sedentary life and agriculture. The Western mound shows a continuation and evolution of cultural practices in Chalcolithic occupation levels dating from 6,200-5,200 BC.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

1 Basic data

Included in the Tentative List
6 February 2009

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
31 January 2011

Background
This is a new nomination.

Consultations
ICOMOS has consulted its International Scientific Committee on Archaeological Heritage Management and several independent experts.

Literature consulted (selection)

Düring, B. S., *The Prehistory of Asia Minor: From Complex Hunter-Gatherers to Early Urban Societies,* Cambridge University Press, Cambridge, 2011.

Matero, F. and Moss, E., 'Temporary site protection for earthen walls and murals at Çatalhöyük, Turkey' in *Conservation and management of archaeological sites*, Vol.6 Nos. 3 & 4, 213-227, ICCROM, Rome , 2007.

Sagona, A. and Zimansky, P., *Ancient Turkey*, Routledge, London and New York, 2009.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 28 to 30 October 2011.

Additional information requested and received from the State Party
A letter was sent to the State Party on 12 December 2011 requesting a timetable for the review, updating, approval and implementation of the Management Plan and clarification on the roles and responsibilities of all partners, the management structure and objectives and the means of implementation. A response was received on 25 February 2012 and the information has been incorporated into the relevant sections below.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The nominated property covers 37 hectares with a surrounding buffer zone of 110.74 hectares.

Çatalhöyük lies on the Konya plain on the southern edge of the Anatolian Plateau at an elevation of approximately 1,000m above sea level; the highest point of the East Mound of Çatalhöyük is 1,020.3 m above sea level. It lies within the boundaries of Küçükköy, a small village located one kilometre north. The centre of Çumra province is 12km south/south-west and its capital, Konya is 60km north-west.

The two mounds which compose the property are Çatalhöyük East clearly visible from some distance and Çatalhöyük West much lower with gently sloping topography. Each mound is fenced and they are separated by farmland, some of which is actively cultivated, and an irrigation channel that reflects an ancient water course or lake.

Çatalhöyük East consists of 21m of Neolithic deposits dating from 7,400-6,200 BC with later deposits mainly of Byzantine burials and rubbish pits. Çatalhöyük West is 6m high and is almost exclusively Chalcolithic (6,200-5,200 B.C.), with the presence of some Byzantine burials.

The site represents significant social change and development: hunting, domestication of plants, the invention of pottery, and the coming together of thousands of people in a permanent settlement. Furthermore the two mounds together span over 2,000 years and indicate a high degree of continuity though time.

Excavations have reached the bottom of the East Mound and have discovered a total of 18 levels of occupation. The main architectural components of the site are densely clustered mud brick houses, rectangular in plan, of which 166 have been excavated, with areas of refuse or midden between them. On both mounds, houses are clustered together without streets and with roof access. On the West Mound, however, houses are two-storey and have buttressed walls. The extensive art, symbolism, and burials discovered at the site occur within houses.

There is evidence of productive activities in all houses, on midden areas and house roofs. None of the sampling shows evidence of large public buildings, ceremonial centres, specialized areas of production, or cemeteries. However there were houses with more art and longevity that may have been ritual centres; houses as centres for burial, and the selective special treatment of some individuals in death. The evidence is generally taken to indicate that society at Çatalhöyük was largely egalitarian without large-scale centralized administration and that its rich art was produced in a domestic context.

Çatalhöyük East

The Southern area of the East mound was excavated by James Mellaart in the 1960s, revealing the stacked sequence of housing in the different layers throughout the height of the tell that provided evidence of a continuous, if evolving, cultural tradition.

Excavations in the Northern area have exposed houses grouped in small clusters that appear to have shared ancestral burial houses, with some larger-scale groupings into sectors of clustered houses bounded by midden areas and/or alleyways.

Wall paintings exposed during excavations in the 1960s were executed on walls plastered with white, lime-based clay and showed images of humans, raptors and wild animals in narrative scenes of hunting and baiting. Wild bulls are the centrepieces of the north walls of several buildings. Relief sculptures modelled in clay on the walls were also exposed, including of plastered bull skulls with bull horns attached (*bucrania*) and complete animal figures. Rounded plaster protuberances on the walls resembling female breasts contained the teeth of foxes and weasels, the lower jaws and tusks of wild boars, the claws of bears and the beaks of vultures. All of these deposits and paintings suggest that animals played important roles in many rituals.

Most burials in the settlement were beneath house floors and platforms. Over 400 burials have been excavated.

Craft good and tools recovered during the excavations included small figurines, pottery, obsidian objects, baskets, clay balls, beads and bone tools, obsidian knives and blades, as well as grinding stones, mortars and pestles, axes, mace heads, stone vessels and palettes mostly made from igneous rocks.

Stamp seals found at the site, made of fired clay and painted with a variety of forms and motifs, form a significant and distinctive group among Neolithic stamp seals dating from 8,000 to 5,000 BC found at various settlements in the Near East.

Çatalhöyük West

The settlement that formed the West Mound grew up during the period following the Neolithic known as the Chalcolithic. Traditions beginning to develop in the upper levels of the East Mound continued in the western settlement as houses became more independent and self-sufficient. Excavations on the West Mound have uncovered larger, more complex, multi-roomed houses arranged around a central, plastered room with a central hearth. Here there is no evidence of burials below floors, and to date no evidence of wall-painting or relief sculpture. On the other hand the pottery, stone vessels and ceramic pot-stands were decorated with elaborate paintwork showing a continuity of imagery from the walls of the East Mound, with paintings of bull heads, splayed bear figures, women and headless bodies.

The excavated areas of the two mounds together represent less than 10% of the overall site area. Two large shelters have been built over excavated portions of the East Mound. Also, a Visitors Centre, ‘Dig House’, and an experimental house as well as facilities have been provided outside the nominated property boundary.

The landscape in which the nominated property lies is perceived today as a flat, arid and for most parts intensively cultivated agricultural plain, encircled by mountains. The lack of trees enables Çatalhöyük and the many other tell mounds that dot the plan to be readily visible.

History and development

By the end of the Pleistocene period c.13,000-11,500 BC, the lake that preceded the Konya Plain was drying up, and by 9,500 BC a warmer and wetter environment promoted soil conditions suitable for farming. Çatalhöyük developed as a settlement in the Neolithic period and was occupied for 2,000 years from approximately 7,400 – 5,500 BC. According to the nomination dossier, Çatalhöyük developed from small local communities to larger urbanized areas. Over time, the settlement expanded in height and area. New buildings were constructed on top of midden deposits, after some decades or even centuries of use. Waste was also thrown off-site around the edge of the settlement and as it accumulated it provided the basis for the construction of new buildings. Buildings towards the edge of the settlement were terraced down the slope. The estimated population was between 3,500 and 8,000.

For centuries houses were built over other houses, the hearths staying in the same relative location. A remarkable continuity in the 8th and 7th millennia is observed throughout the various levels of the site. Nevertheless, detailed analysis of the buildings shows an endless cycle of movement and reorganization. Ovens, hearths and bins were moved from one side to the other along the south wall or were located in side rooms and then back into the main rooms. There is a changing sequence as pottery appears, obsidian becomes more specialized, stamp seals are introduced, figurines change in style, social differentiation becomes more marked, and houses become more independent.

The settlement's densest phases seem to be in Levels VII and VI of the East Mound. The largest numbers of burials occur in houses in Levels VII and VI, in both the Southern and Northern areas. The shift to the use of pottery in cooking in Level VII shows that cooking was more varied and complex, and pottery production intensified. In the main East Mound levels, hearths and ovens are always by or close to walls. On its upper levels and in the West Mound, the hearth is in the centre of the room, indicating a focus on domestic production.

In the East Mound's upper levels burials beneath floors decrease and wall painting give way to painted pottery carrying similar images as the previous wall paintings. Houses became more independent and self sufficient as production relations of exchange and specialization developed. Over millennia the bricks used at the site gradually decrease in size. There is evidence of feasting on wild cattle up to Level VI. By the 6th millennium on the West Mound feasts depended more on the provision of domesticated animals.

From the 6th millennium the northern area of the East Mound was gradually abandoned and there was some occupation of the eastern slope producing a small eminence. The area of occupation in the south shrinks quickly from Level VI onwards. Radiocarbon dating indicates that the West Mound began to be occupied during the last phases of the East Mound's occupation, giving a sense of housing dispersal and indicating a clear move from the former close huddling of buildings. After the site was abandoned, thousands of years of environmental processes and erosion lowered the top of the mounds by 2 m, whereas on the surrounding plain alluviation covered the Neolithic land surface and covered the lower slopes of the East and West Mounds.

Surface finds indicate the presence of a Byzantine site to the east of East Mound. The site is under cultivated land and has not been investigated. Its exact date, nature and extent are unknown and there is no evidence that either Çatalhöyük East or West were settlements in the Classical or Byzantine periods.

In 1951, James Mellaart, from the British Institute of Archaeology at Ankara conducted the first systematic survey of the Konya Plain. Çatalhöyük was observed from a distance in 1952 during the second survey season. In 1958 David French and Alan Hall visited the Mound and exposed areas revealing mud brick buildings, bones, potsherds and obsidian. Early measurements of the site indicated that it was 450 m in length and 275 m in width, covering approximately 34 acres with over 20 m of Neolithic deposits, making it the largest Neolithic site hitherto known in the Near East.

In 1958 Turkish law designated the site as an ancient monument protected by the General Directorate of Monuments and Museums. Mellaart´s excavations between 1961 and 1965 discovered about 160 buildings on the different occupation levels, mainly confined to the East Mound although two small trenches were dug on the Chalcolithic West Mound. It all took place with scarce technical resources and no scientific analysis (except radio carbon dating). The site was abandoned from 1965 to 1993. Since 1993 the site has been excavated by the Çatalhöyük Research Trust (Çatalhöyük Research Project) supported by several universities and foreign entities, which has excavated or planned excavating approximately 80 buildings.

The main conservation works undertaken were those by James Mellaart in 1964; the extensive program undertaken in 1993 when the site was re-opened, and the *in situ* stabilisation methods initiated from 1993 to 1999 by the Conservation Laboratory, University of Pennsylvania. The first on-site artefact conservator commenced work at the site in 1999. A conservation database was set up as part of the excavation database, and conservation guidelines for archaeologists, as well as for packaging and storage, were produced in 1999.

Since then a conservation team from the Institute of Archaeology, University College London has been working at the property in collaboration with conservators from Cardiff University, UK and Mimar Sinan University, Istanbul.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The nomination dossier states that none of the World Heritage sites in Turkey or in the Near East date from the Neolithic. ICOMOS notes that this statement is incorrect as will be seen below in discussion of Choirokoitia, Cyprus. The nomination dossier then considers noteworthy Neolithic sites in Anatolia and the Middle East including Hacılar, Höyüçek, Suberde, Musular, Pınarbası, Can Hasan, Asıklı Höyük, Çayönü, Hallan Çemi, Nevalı Çori, Göbekli Tepe, Jerf el Ahmar, Abu Hureyra, Mureybet, Qermez Dere, Zawi Chemi Shanidar, Eynan, Ain Ghazal, and Jericho, with many of which Çatalhöyük shares similar elements. The nomination dossier points out that in comparison with these sites Çatalhöyük can be seen to have a combination of distinguishing features. In particular the site was occupied year round and was fully sedentary, in contrast to other sites such as Göbekli Tepe, which is on Turkey's Tentative List (2011), where the inhabitants were still primarily hunters and gatherers who used the site as a cult centre. Çatalhöyük is extremely large and was continuously occupied for 2000 years. The practices of passing human skulls down from generation to generation within houses, holding feasts involving wild male cattle, and remembering these ritual events through the extensive use of symbolism in the house testify to the continuity of cultural practice at the site. There is an unparalleled concentration of wall paintings, wall reliefs, sculpture and symbolic installations. The imagery depicting human dominance of animals is understood as evidence of the beginnings of animal domestication. The nomination dossier concludes that Çatalhöyük is the most distinctive representative Neolithic archaeological site reflecting the transformation to settled agricultural life in large dense settlements and the accompanying social and spiritual developments.

The nomination dossier refers to other settlements included on the World Heritage List including the Heart of Neolithic Orkney (United Kingdom), the Archaeological Ensemble of the Bend of the Boyne (Ireland), the Neolithic Flint Mines at Spiennes (Mons), Belgium and Stonehenge and Avebury (United Kingdom), and points out that these sites represent the changes occurring in the Neolithic in North-west Europe over a thousand years after occupation at Çatalhöyük ceased. It is argued that the Neolithic sites currently on the World Heritage List are primarily monumental, and appear to reflect a deepening of social hierarchies, whereas Çatalhöyük, without such monuments, represents a relatively egalitarian society. The significance of Çatalhöyük lies in the evidence it provides of all aspects of Neolithic social life. ICOMOS notes that some World Heritage listed sites in Central Europe and the Balkans do in fact provide evidence of Neolithic social life as discussed below.

ICOMOS considers that comparison with Neolithic sites in Greece, the Balkans, Central Europe and Italy is necessary to make the case for Çatalhöyük as a bridgehead from the near East to Europe and this has not been made. In this context the nominated property could be compared with the World Heritage Listed (2011, criteria (iv) & (v)) Prehistoric Pile dwellings around the Alps from Austria/France/Germany/Italy/Slovenia/ Switzerland. This series of 111 archaeological pile-dwelling sites composed of the remains of prehistoric settlements dating from 5,000 to 500 BC have provided information on the agriculture, animal husbandry and developments in metallurgy of early agrarian societies in Europe over a period of more than four millennia, but there are no evident links to the Anatolian Neolithic. Comparison could also be made in this context with Two Neolithic Dwellings with their interior and household furnishings and utensils completely preserved, Stara Zagora, which is on Bulgaria's Tentative List (1984). The dwellings, preserved *in situ* with furnaces, hand-grinders, ceramic vessels, stone implements and ornaments offer a complete idea of the life of a Neolithic family in Europe from the 6th millennium BC - its number, economic life and everyday occupations, the nature of home furnishings and utensils, the manner of building, maintenance and the preparation of food. However again there are no evident links with the Anatolian Neolithic. The claim in the nomination dossier that bull symbolism, the cult of Cybele and traditions of carpet motifs found in Mediterranean, European, and Middle Eastern traditions to this day derive from Çatalhöyük cannot be substantiated, although there is no doubt that bull symbolism in particular has been a recurring phenomenon throughout the region.

ICOMOS considers that the nominated property could also be compared with the World Heritage listed site of Choirokoitia, Cyprus (1998, criteria (ii), (iii), (iv)), which is an aceramic Neolithic site dating from the 7th to the 4th millennium BC. This settlement is located on a riverine peninsular and is characterised by circular dwellings constructed of stone, mud brick and rammed earth, protected on the west by successive walls with a complex defensive gateway. These features are not found at Çatalhöyük. There is evidence of animal domestication, and human burials beneath floors. Finds of anthropomorphic stone figurines suggest ritual practices. To date no evidence of wall paintings, relief sculpture or other symbolic installations has been discovered, but much of this site remains to be excavated. However ICOMOS considers that the recognised Outstanding Universal Value

of Choirokoitia does not diminish the exceptional qualities of Çatalhöyük.

Comparison could also be made with Neolithic sites on the Tentative Lists including Céide Fields and North West Mayo Boglands (Ireland); Liangzhu Archaeological Site (China); Archaeological Site of Mehrgar (Pakistan); the Historical–Cultural Axis of Fin, Sialk, Kashan (Iran) and Historical Texture of Damghan (Iran). It can be clearly seen from the available information on these properties that the size and longevity of settlement at Çatalhöyük together with its evidence of ritual practices and artistic symbolism make Çatalhöyük stand out as a Neolithic human agglomeration.

ICOMOS considers that Çatalhöyük is a very rare example of a well-preserved Neolithic settlement. The level of preservation of items such as wall paintings and the three dimensional preservation at the site is unique. It has been considered one of the key sites for understanding human Prehistory for some decades. The substantial size and great longevity of the settlement, the presence of a large assemblage of features that inform us about the symbolic world of the inhabitants, together with the extensively documented research at the site make it the most significant and informative large, human agglomeration of its period.

ICOMOS considers that the comparative analysis it conducted beyond that provided in the nomination dossier justifies consideration of this property for inscription on the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Prior to the excavations at Çatalhöyük in the early 1960s, there was little evidence to suggest an early development of the first farmers and the first towns and villages outside the Fertile Crescent. For this reason, the British archaeologist James Mellaart's discoveries at Çatalhöyük inspired widespread interest.
- Initially, the importance of the site was recognized as its large size at an early date and its location outside the supposed 'cradle' of civilization in the Near East.
- A major factor for its prominence was also undoubtedly its art, described by Sir Mortimer Wheeler as a curious and sometimes a trifle macabre artistry which nevertheless distinguishes a site which represents an outstanding accomplishment in the upward grade of social development.
- Today we know that Çatalhöyük was not the earliest or the largest farming community in Anatolia and the Levant; however, it was a major participant in the cultural and economic changes that swept across the Near East in the Neolithic Period.
- Its strategic location in Anatolia made it a bridgehead for the spread of the Neolithic way of life to Europe and beyond.
- The Neolithic Site of Çatalhöyük stands out because of its large size (covering 34 acres with a population of 3,000-8,000 people), the length of its occupation (over 2,000 years), its dense concentration of 'art' in the form of wall paintings, wall reliefs, sculptures and installations, and its excellent state of preservation.
- Çatalhöyük is a site of great importance for our understanding of the first steps towards civilization, including early settled agricultural life and the overall process that led from settled villages to urban agglomerations.

ICOMOS considers that this justification is not entirely appropriate. Justification for Çatalhöyük as a bridgehead for the spread of the Neolithic way of life, or as a major participant in the cultural and economic changes that swept across the near East in the Neolithic period requires the support of a broader comparative analysis. However ICOMOS considers that the comparatively large size, length of occupation and artificial production in Çatalhöyük is unique and can be considered of Outstanding Universal Value. The site is further of great importance to the understanding the early processes of settled communities and agricultural life, their development from villages to urban settlements, as well as early forms of animal domestication.

Integrity and authenticity

Integrity

The State Party reports that the gradual way in which the Neolithic Site of Çatalhöyük was abandoned, and the environmental processes and erosion which occurred after the site's abandonment, contribute to its integrity. Over millennia the plain surrounding the site rose and buried large portions of Çatalhöyük. The top of the site today is 21 m above the Neolithic land surface and 18 m above the current land surface of the plain.

The portions of the site excavated by Mellaart, in general, suffered extensive deterioration after the site's closure in 1965. The site and its trenches were then left open for 30 years, with the result that collapse of walls and soil sections, and vegetation growth on prehistoric walls and plasters were widespread.

In 1993, when the site was re-opened, extensive conservation work was undertaken. Shelters and consolidation have been used and the buildings remain exposed under these shelters throughout the year so that they can be viewed by visitors while being protected from

the direct effects of the climate. The shelters have been designed so as not to detract from the site's integrity.

The Çatalhöyük Research Project's current approach is to avoid highly interventionist techniques. The emphasis is to leave features *in situ* as long as feasible and to display not only the products, but also the processes of excavation and conservation. This approach significantly contributes to the integrity of the site.

The property preserves relevant remains of the prehistoric settlement spanning 2,000 years. To date the landscape has been largely preserved because urban development is mainly concentrated around Konya 60 km north-west of the site and because the area surrounding the site is dedicated to non-damaging agriculture.

ICOMOS considers that the nominated property has, in general, retained its integrity but is vulnerable to increasing tourism.

Authenticity

The State Party considers that the property meets the requirements of authenticity mainly due to:

- Documented field research, involving excavation, environmental reconstruction, and regional survey, applying the latest scientific analyses to the archaeological material in the field and in the laboratory;
- Excavations have aimed to retain the *as found* profile of the mounds and spoil from the excavations is disposed accordingly;
- The use of new materials such as synthetic polymers is expensive and their long-term effect is difficult to predict, so ways of reducing their repeated use are sought and traditional alternatives such as local clays are being tested. The preservation of original materials also contributes to authenticity;
- The East and West Mounds have kept to a great extent the original form and design of their architectural components and of the whole settlement as well as many decorative elements and craft works which allow understanding of the life of the societies that occupied the site;
- The archaeological findings of complete housing units, artworks and implements as well as their current presentation make it possible to interpret the site's original functions, traditions regarding construction, rehabilitation and repair, domestic customs, production and agriculture, arts and crafts, social relations, spiritual beliefs and burials, feasts and ceremonies, all of which have been revealed;
- The location within the landscape, and evidence of how this setting was organically transformed over time allowing interpretation of the complex relation between man and nature, contribute to the site's authenticity.

ICOMOS considers that over forty years of research and excavation at the site bear testimony to the site's authenticity. The site is well preserved. Its physical mass and scale have not much altered since it was first found in 1958. However, its bifurcated nature and the discrete fencing of the East Mound and West Mound, coupled with the development of a vehicular entrance with Guard House at the East Mound create a visually confusing approach to the nominated site.

ICOMOS considers that the conditions of integrity and authenticity have been met, but are fragile due to the nature of the property.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii), (iii) and (iv).

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that Çatalhöyük represents an important period of human development with the shift from hunting to agriculture, and the move to sedentary, communal living. The building plans, internal structures and so arguably the way of life were repeated over several generations, for around 2,000 years.

ICOMOS considers that the justification given by the State Party does not clearly illustrate an interchange of human values but appears to be focused on the testimony of a shift towards communal sedentary living, which is better recognized under criterion (iii). ICOMOS considers that the function of the site as a 'bridgehead' or 'major participant' towards Europe has not been demonstrated and that therefore its reference character for other sites cannot be confirmed at this stage. There seems a potential that the artistic traditions of Çatalhöyük have continued to influence Mediterranean, European and Middle Eastern traditions after the decline of the settlement. However, such aspect would need to be supported by a wider comparative analysis of the potential reference role of Çatalhöyük as an artistic centre, including analysis of sites which developed receptive artistic traditions.

ICOMOS considers that this criterion has not been demonstrated.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that Çatalhöyük bears unique testimony to a key period of human development. Evidence at the site, such as wall

paintings, figurines and burial rituals, attests to strong cultural and artistic traditions, the concentration of which is unique to this period in Asia Minor. Although settlement at Çatalhöyük came to an end in 5,200 B.C., excavations have revealed evidence of artistic traditions that have continued to influence Mediterranean, European and Middle Eastern traditions to this day.

ICOMOS considers that the Çatalhöyük provides a unique testimony to a moment of the Neolithic, in which the first agrarian settlements were established in central Anatolia and developed over centuries from villages to urban centres, largely based on egalitarian principles. The early principles of these settlements have been well preserved through the abandonment of the site for several millennia and remain illustrated in the urban plan, architectural structures, wall paintings and burial evidence. The stratigraphy of up to 18 settlement layers provides an exceptional testimony to the gradual development, re-shaping and expansion of the settlement.

ICOMOS considers that this criterion has been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the two mounds at Çatalhöyük, and particularly the Neolithic East Mound, are outstanding examples of an architectural ensemble which indicates a significant stage in human history: the decision to live together as a collective, maintaining the same location within the landscape for over 2,000 years. There is a unique settlement pattern of back-to-back houses with roof access into buildings.

ICOMOS considers that the house clusters of Çatalhöyük, characterized by their street-less neighbourhoods, dwellings with roof access, and house types representing a highly circumscribed distribution of activity areas and features according to a clear spatial order aligned on cardinal directions, form an outstanding settlement type of the Neolithic period. The comparable sizes of the dwellings throughout the city illustrate an early type of urban layout based on community and egalitarian ideals.

ICOMOS considers that this criterion has been demonstrated.

In conclusion, ICOMOS considers that the nominated property meets criteria (iii) and (iv) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes
The attributes carrying the Outstanding Universal Value of the property are the two tells in their flat plain setting, the excavated *in situ* remains including rectangular mud brick houses, burials, wall paintings and reliefs, symbolic installations including *bucrania*, excavated artefacts including painted pottery with symbolic imagery, obsidian objects and stamp seals.

4 Factors affecting the property

Development Pressures

Impacts of irrigation and fluctuations of water levels were affecting the underground archaeological material but are now duly monitored and well controlled. Agriculture between the mounds and on the west side of the West Mound does not currently have a significant negative impact on the integrity of the buried remains but might affect the views of the site. Ongoing work with local stakeholders is helping to develop sensitive agriculture practices, and to raise awareness amongst farmers in the region to stop deep ploughing over mounds. As the West Mound is a lower, flatter mound its topography lends itself more readily to agricultural use. The West Mound has been protected from agricultural use since 1996, when the boundaries of the Neolithic Site of Çatalhöyük were extended. Now no tree plantation or intervention, including agriculture, is permitted on the West Mound.

New construction is controlled by the local municipality through applications to its planning department. The Çatalhöyük Research Project additionally works with the local community to develop sensitive building practices.

Facilities for the Çatalhöyük Research Project and for tourists are located in the buffer zone and are built in such a way as to minimize the impact on the site. Guidelines are followed for new buildings at the site. The two shelters built on the site were designed and constructed so as to protect the site's integrity. Prior to laying the foundations, all archaeological material was removed and all findings fully recorded.

Large infrastructure projects such as high tension cabling, and pylons are not undertaken without consultation. The Çatalhöyük Research Project established a consultation process with transport, electricity, and water authorities, prior to works that would impact the site and its setting.
Theft and illegal excavation are avoided by means of adequate fencing on the site's boundaries and with trained guards.

ICOMOS considers that it would be highly inappropriate for any new buildings or tourist infrastructure to be provided within the property or its buffer zone, apart from the upgrading of fencing and other management actions.

Tourism pressures

The number of visitors to the site has increased from 7,000 in 2004 to 15,000 in 2010. The authorities expect to raise this number to 50,000 -150, 000 annually in 2020. ICOMOS observed that under current management conditions this would greatly affect the property. An area has been provided for vehicle parking next to the site, opposite the entrance, and is screened by trees. The current pathway arrangement maintains the natural appearance of the mounds and allows for seasonal flexibility and changes, but is susceptible to compaction and erosion. At the present time all visitors must be accompanied by a guard when on the mounds and the Çatalhöyük Research Project continues to monitor wear and tear and compaction of paths. Paths are moved every 3 years, allowing vegetation to return to older paths and preventing paths becoming eroded. Litter and site maintenance is being undertaken by the excavation team on the site. The number of bins on site has had to increase as tourism has risen over the years.

Environmental pressures

Anatolia can suffer hot summers, high winds and cold snowy winters which might affect the structures. Frequent exposure of the archaeological remains and sites under excavation to drastic climatic variations might be dangerous. The Çatalhöyük Research Project's integrated conservation program provides emergency stabilization and protection for mud brick walls and painted surfaces during excavation and between field seasons, as well as monitoring, material analysis, and conservation treatment, testing and application. The two shelters were designed precisely to bear extreme weather conditions with high wind uplift and heavy snow load.

Natural disasters

The property is in a low intensity seismic zone of Turkey and any movement could cause severe damage to the structures. No analysis of this threat is provided in the nomination dossier. Fire might occur but the grass on site is cut regularly and fire breaks have been created around the site.

Impact of climate change

No impact from climate change has been noted in the nomination dossier, however, ICOMOS notes that changes in water level have affected underground archaeological material in the past and may be of concern if heavy rain and snowfalls become more frequent.

ICOMOS considers that the main threats to the property are environmental factors, possible earthquakes and rapidly increasing tourism.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundary of the property lies at the base of the mounds, running along the break of the slope between mound and flat. The border is additionally demarcated by an irrigation ditch along the east boundary; a road, the dig house, and the northern edge of land parcel no.342 along the north boundary; a road and canal at the western edge of land parcels nos.103 and 342 along the western boundary; and an irrigation ditch at the southern edge of land parcels nos.94, 95, 96, and 98 along the southern boundary. According to the State Party, this delineation encompasses all the relevant attributes.

ICOMOS notes that coring indicates that archaeological remains extend outside the proposed site boundary within the buffer zone; however the prehistoric remains lie at depths of 2 m to 3.5 m below present ground level and are therefore protected.

The buffer zone provides an adequate perimeter zone around the site. On the southern and eastern sides of the property, it is defined by present land divisions, a roadway and a drainage channel. To its western side it also reflects land divisions. On the north-west and south-west, lands which are not subdivided have had to be transected to provide a continuous boundary of appropriate size and integrity. The Dig House, storage and tourist facilities are located in the buffer zone.

ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate.

Ownership

The nominated property is mainly owned by the State, but there are some privately owned land parcels currently under the expropriation agenda of the Ministry of Culture and Tourism. The proposed buffer zone is mainly owned by private owners, mostly farmers.

Protection

In 1958 Turkish law designated the property as an ancient monument under the protection of the Directorate General of Monuments. It was registered as a conservation site on the national inventory of 1981 by the Superior Council for Immovable Antiquities and Monuments. It is also protected by Law 2863/1983 on the Protection of Cultural and Natural Heritage amended in 1987 and 2004, which established numerous provisions and regulations for the cultural immovable patrimony. According to these instruments, local authorities are also responsible for the property's protection.

In 1994, the 3rd grade archaeological conservation zone surrounding the nominated area was also registered by the decision of Konya Council for the Conservation of Cultural and Natural Heritage. Since 1996, when the boundaries of the property were extended, the West Mound received the same level of protection as Çatalhöyük East, including a fence and guards, and no form of intervention, including tree plantation or agriculture, is permitted within the site boundaries.

ICOMOS finds that the nominated property is legally protected against any negative development or change.

Effectiveness of protection measures

The property is legally protected at the highest and local levels. Measures include regulations on construction, agriculture and the need for permits.

Nevertheless, effective legal protection in practice requires an efficient management structure and operation.

ICOMOS considers that the legal protection in place is adequate.

Conservation

Inventories, recording, research

The property has been thoroughly inventoried. There is an electronic archive with general information including excavation diaries and the excavation database containing information on each archaeological unit. It can be queried by unit number, numbers of building or parts of a building) or feature number (e.g. a hearth). It includes the unit sheet description; stratigraphic data; samples taken; details of 'bulk' animal bone and obsidian finds. The website runs from a server within the University of Cambridge and is backed up regularly by staff from the University. There are also film and photograph archives. Copies of reports and excavation documentation and plans are held at the General Directorate of Cultural Assets and Museums (Ministry of Culture and Tourism); Directorate of Konya Archaeology Museum, Konya Regional Council for Conservation of Cultural and Natural Heritage; and at the Çatalhöyük Research Project, Institute of Archaeology, University College London.

ICOMOS finds that the whole property has been thoroughly inventoried and excavation interventions duly registered. However the documentation is held by various entities, primarily the Çatalhöyük Research Project. The national and local entities with overall responsibility for keeping the inventories and documentation of the property need to be defined and recognised.

Active Conservation measures

According to the nomination dossier the conservation activities include: emergency stabilization and protection during excavation and between field seasons, condition survey and environmental monitoring, material analysis, and conservation treatment development, testing, and application. There has been documentary research on the site's excavation and on its treatment history as a base to establish previous conditions and subsequent conservation methods. Technical analysis and characterization of the mud-brick, plasters, paintings and relief sculpture using standard geo-technical and wet chemical techniques, microscopic and instrumental analyses are systematically undertaken.

Other measures are monitoring and recording of site conditions using developed methods for earthen materials and diagnosis of deterioration mechanisms. Also part of the conservation practices are the design, testing, and execution of a treatment programme specifically focused on the *in situ* stabilization of architectural fabric including plain and painted earthen plasters and mud brick walls and features.

Drainage problems from the winter snows and rains have been dealt with by landscaping and excavating drainage channels around the shelters which direct and manage water flow.

The shelters have allowed excavation, conservation, and exhibition to take place beneath them and are regarded as successful overall in protecting the remains. However they have resulted in some fluctuations in relative humidity, which are being researched and managed by the Çatalhöyük Research Project and adjustments to the shelter covering materials are under consideration.

Water levels are now monitored, stabilised, and maintained by the Turkish Water Authority at a constant level to avoid the deterioration of the archaeological remains at Çatalhöyük.

Maintenance

ICOMOS notes that no information on regular maintenance is provided in the nomination dossier but it is legally established that the research entities are responsible for maintenance. The nomination dossier does not report any systematic conservation and maintenance plans.

The two shelters have sides which enclose the archaeological remains in the winter months and are removable for the summer months, in order to increase the flow of air and decrease temperatures inside. The seasonal adjustment of the shelters is a standard maintenance procedure.

Effectiveness of conservation measures

Due to decades of research and conservation by skilled personnel, a high degree of preservation of the property and its attributes has been achieved.

ICOMOS notes that no state funding is provided for conservation, which fully relies on foreign grants and cooperation.

ICOMOS considers that the nominated property is in a good state of conservation but that a regular state budget for conservation and maintenance needs to be established and a responsible state agency named for keeping all inventories and documentation.

Management

Management structures and processes,
including traditional management processes

ICOMOS considers that there are some issues with the management of the site, the primary one being that there is no single agency charged with responsibility for the management of the site, although the Ministry of Culture and Tourism has overall responsibility.

The day-to-day management and monitoring of the site is by the Director and staff of the Çatalhöyük Research Project which is funded by a range of annual charitable sponsorships, donations and research grants.

As set out in the nomination dossier the Ministry of Culture and Tourism, Konya Regional Council and the Director of the Museum in Konya, who acts as site manager, are charged with monitoring and evaluating the conservation projects for the site.

In response to ICOMOS's request of 12 December 2011 for clarification of the roles and responsibilities of all partners, the management structure and objectives and the means of implementation the State Party has provided information on these as set out in the proposed new Management Plan structure. Within the framework of Turkey's Protection of Cultural and Natural Properties Act No. 2863, as amended by the Act No. 5226 (2004) and its supplementary regulation no. 26006 gazetted 27 November 2005 concerning the Principles for Site Management, the management structure will comprise a Çatalhöyük Coordination and Supervision Council (CSC), an Advisory Board and a Management Plan Team. The CSC will include the site manager, 2 members of the Advisory Board (to be elected at its first meeting), and representatives from the related administrations. The Advisory Board comprising bodies and/or individuals with the right of ownership within the management plan boundary; representatives from the Chamber of architects and city planners; representatives from non-governmental organisations; representatives from the related departments of the universities, and the site manager (who is the Director of the Konya Museum) has already been established. The Management Plan Team including experts from the excavation team in Çatalhöyük and the departments related to the Ministry of Culture and Tourism has also been established.

The objectives are to sustain the Outstanding Universal Value (OUV) of the site for present and future generations by means of implementation of the new Management Plan. The new Management Plan will take into account issues such as visitor management, tourism, access, education, research and the needs of the local community.

The State Party advised that the Department for World Heritage Sites within the Directorate General of Cultural Heritage and Museums, Ministry of Culture and Tourism started the process of facilitating the review of the 2004 Çatalhöyük Management Plan in 2011. The timetable for the development of the Management Plan was included as Annex-1 to the information provided in the State Party's supplementary information dated 24 February 2012. According to the timetable, the first draft of the Management Plan will be available to the Advisory Board for comment at the end of June 2012 and following revision will be subject to public consultation during August and September 2012. It will then be reviewed by the Advisory Board and a final draft submitted to the Çatalhöyük Coordination and Supervision Council for approval in December 2012, with publication expected by the end of December 2012.

Policy framework: management plans and arrangements,
including visitor management
and presentation

The current Management Plan was developed in 2004 by the Çatalhöyük Research Project with assistance from the European Union and support from the Turkish Directorate General for Cultural Heritage and Museums, also engaging regional and local stakeholders. According to the nomination dossier, the objectives of the Management Plan are the property's evaluation and management in the context of its setting and surrounding landscape; better access to information, training and site presence; to minimize impacts on exposed and underground archaeological material; storage and display of finds from excavation under proper conditions for conservation; involvement of local communities as partners in the protection and interpretation of the property and surroundings; good interpretation, educational materials and security for visitors; and sustainability of all policies put forward in order not to endanger the values of the site. No reference is made to the proposed Outstanding Universal Value.

The Management Plan prescribes its formal adoption by the Directorate General for Cultural Heritage and Museums and recognition by the Çumra Municipality as planning guidance. A five year revision is foreseen, with forward looks to 10 and 25 years being given in the document. Staffing and expertise as well as funding have been provided by the Çatalhöyük Research Project.

A visitor centre located in the courtyard of the dig house complex provides information about the site and serves as an exhibition space. Nearby is the 'experimental house' which amalgamates a number of features common to the Neolithic buildings of Çatalhöyük such as platforms, ovens, and wall paintings. The original aim of the house was as a research tool to investigate the building techniques used at Çatalhöyük and it now serves an interpretative function. A dedicated route has been created that leads the visitor firstly to the North Shelter on the East Mound and then across the mound to the South Shelter, where the large vertical section left by the Mellaart excavations has been cleaned and annotated to aid visitor understanding. The walkway is made of interlocking wooden planking resting on sandbags to protect the underlying archaeology. Low roped sides keep visitors from straying off the path and information panels have been put at strategic places.

Finds from the excavations and a presentation of the site are on display also at the Konya Museum and at the Museum of Anatolian Civilisations at Ankara.

ICOMOS notes that there is a well-developed proposal to construct a new, dedicated museum, within which the entire collection will be updated and displayed. The proposed museum has an architectural treatment that reflects the character of the flat-roofed, mud-brick structures on the site. In addition a 2 ha site has been purchased for a new visitor centre, some 1.2km from the site close to the entrance to the village of Küçükköy, from where shuttle bus access would be provided to the site. New ways of presenting the site are currently being researched with the aim of communicating to three types of visitor: local residents and Turkish nationals, school children, and international tourists. Installations in the visitor centre will include interactive 3D computer graphic models of objects and buildings, replica artefacts, animated digital reconstructions, mural art, photographic displays and audio-video presentations.

ICOMOS also notes that projects which may affect the Outstanding Universal Value of the property, such as any proposal to build within the property or buffer zone boundaries, should be submitted to the World Heritage Centre at an early stage for review in accordance with the *Operational Guidelines for the Implementation of the World Heritage Convention* paragraph 172.

Risk preparedness

No contingency plans are described in the nomination dossier for dealing with foreseeable risks such as fire, storms or earthquakes. ICOMOS recommends that an adequate risk preparedness strategy be developed as part of the new management plan.

Involvement of the local communities

The Çatalhöyük Reseach Project has involved members of the local community at Küçükköy in archaeological education programs including the Training, Education, Management and Prehistory in the Mediterranean (TEMPER) program, sponsored by the European Union, which also provided educational materials related to the site in local schools. The Project runs summer workshops for children from the Konya region and other areas across Turkey, which gives several hundred children a day at the site, and a community based participatory research project including a library in Küçükköy. Collaborative projects include a regular series of comics based on the current excavations that also incorporates future management and care of Çatalhöyük, an internship and a Newsletter which is now distributed once a year in all six towns and villages. The Project also supports an annual Festival of activities at the site, which in 2010 was attended by nearly 500 community members. The local community has become a partner in the project and has produced its own displays in the Visitor Centre.

Resources, including staffing levels, expertise and training

An international and multidisciplinary team of archaeologists, architects, anthropologists, geologists, conservators and other technicians lead by a British archaeologist associated with Stanford University is responsible for carrying out the activities of archaeological research, conservation, promotion of the site for visitor access, and site management. Additional expertise and training are provided by the Project's institutional partners, including Selçuk University, Stanford University, University College London, Adam Mickiewicz University, and Istanbul University. A number of local people are employed at the site as cooks, cleaning staff, heavy residue sorters, screeners and flotation machine operators. Four local guards are employed.

Funding for the Çatalhöyük Research Project and its associated Teams has come from Foundations and Research Councils in Britain and the United States of America, as well as corporate sponsorship. The annual operating budget for the project is raised from a number of sources: corporate sponsors (29%), donations (13%) and academic foundations (58%).

ICOMOS notes that no consideration appears to have been given to the security of funding for management of the site in the future when the Çatalhöyük Research Project may no longer be active at the site and international philanthropic and grant funding together with corporate sponsorship may no longer be available.

ICOMOS notes that there appears to have been no consideration of a framework for the long term management of research knowledge. The long tradition of international team study has influenced where the archives of the site reside. It is not clear how the management of such archives will be achieved in the future. At present the Museums at Konya and Ankara accept key finds from the site, but the museum personnel do not appear to be involved with the management of information generated by the site in any other way. Turkish excavation teams have had limited involvement at the site.

Effectiveness of current management

ICOMOS welcomes the proposed new management structure as set out in the State Party's supplementary information of 24 February 2012, and notes that while funding and visitor management will be covered under the new Management Plan, there is no heading for risk management as such.

ICOMOS considers that the new Management Plan needs to be developed, approved and implemented, including consideration of risk management.

6 Monitoring

The State Party reports that the Çatalhöyük Research Project is responsible for monitoring the property. Different entities from the State Party are also legally charged with monitoring and evaluating the conservation projects but the nomination dossier does not provide details on their activities.

The indicators employed are the following:

- Temperature and relative humidity throughout the year.
- Water ingress and water regime in the structures (walls and floors),
- Salt crystallisation identification and effects.
- Insect and rodent damage.
- Inclination/leaning of walls.
- Overall conditions of structures
- Condition of shelters and access routes within them
- Condition of paths on mounds
- Water table beneath mounds

These indicators can detect several of the negative effects on the integrity and authenticity of the property's values. However, consideration needs to be given to the possible impact of environmental and climatic threats, agriculture, tourism and other developments which might affect the property.

In conclusion, ICOMOS considers that the monitoring measures and indicators are incomplete. Furthermore, ICOMOS recommends that local authorities participate more actively in cooperation with the Çatalhöyük Research Project in monitoring the property.

7 Conclusions

ICOMOS considers that the nominated property meets criteria (iii) and (iv) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated. Criterion (ii) has not been substantiated. The main threats to the property are environmental factors, possible earthquakes, and rapidly increasing tourism. The boundaries of the nominated property and of its buffer zone are adequate. The legal protection is adequate and the property is in a good state of conservation. However, the property does not have long-term financial security due to lack of a state budget for conservation and maintenance. ICOMOS further recommends to identify one designated state agency to take custody of all relevant inventories, research documentations and management documents of the property.

The management system currently relies heavily on the Çatalhöyük Research Project (a non-governmental international entity), with insufficient input from the State Party. However the State Party has advised a new management structure in its supplementary information of 24 February 2012 which lays out how this issue is to be addressed. The new Management Plan will define the management structure and operational procedures to involve all stakeholders including the State Party, and also aims at identifying future state funding and tourism management strategies. ICOMOS considers that a risk preparedness strategy needs to be included. The management plan is expected to be completed and approved by December 2012.

Recommendation with respect to inscription

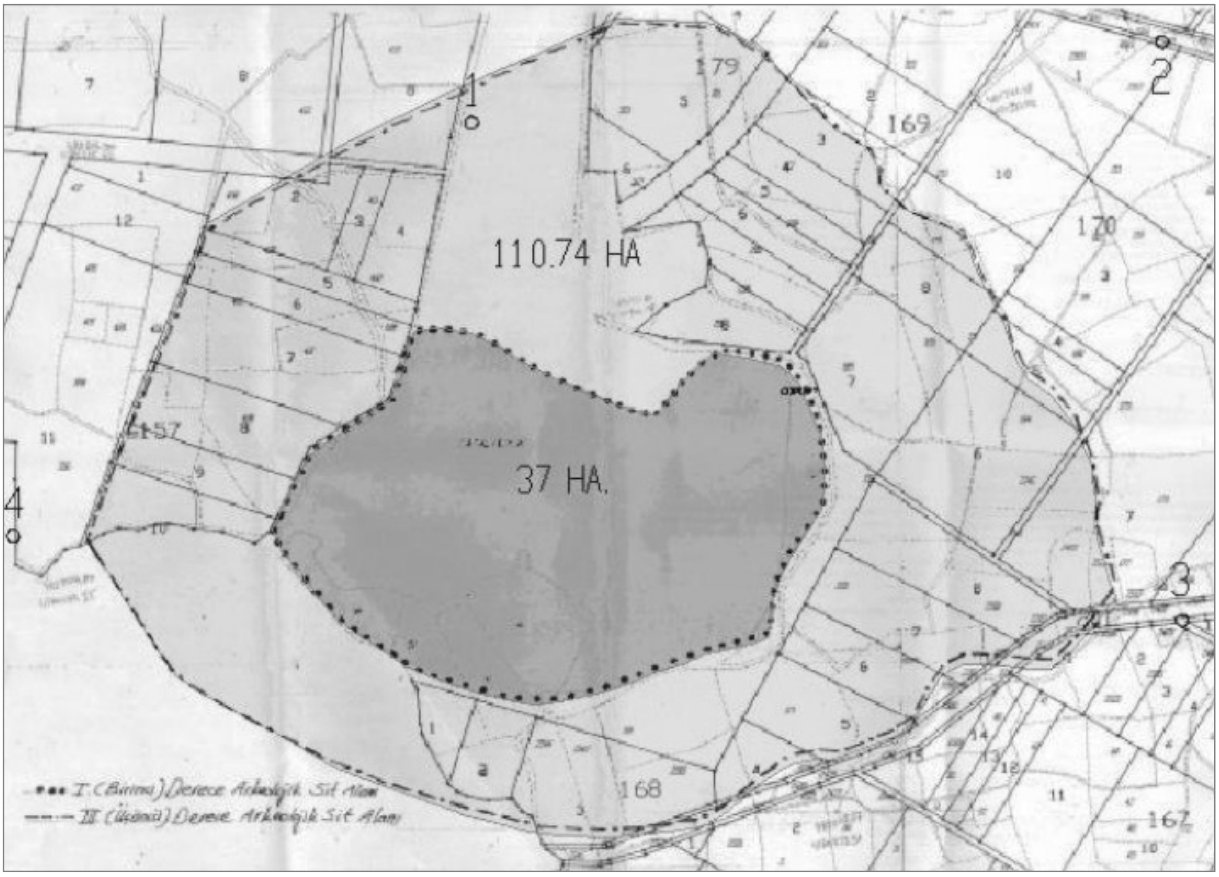
ICOMOS recommends that the nomination of the Neolithic Site of Çatalhöyük, Turkey, be **referred back** to the State Party in order to allow it to:

- Develop, complete, approve, distribute and implement the new Management Plan, clarifying the roles and responsibilities of all parties including the State Party, and include strategies for visitor management and risk preparedness;
- Identify as part of this process a strategy for future funding security for conservation and maintenance.

ICOMOS recommends that the State Party give consideration to the following:

- Including, among the monitoring indicators, the evaluation of environmental and climatic impacts as well as those related to the effects of agriculture, tourism or other developments, which might affect the property;

- Defining, besides the Çatalhöyük Research Project, the national and local entities responsible for the custody of the inventories and documentation on the property.



Map showing the boundaries of the nominated property

Area underneath the northern shelter

Buildings in the northern shelter

Adult male buried in the northern shelter

View under the southern shelter

The Twin Monastery of Wearmouth-Jarrow (United Kingdom) No 1391

Official name as proposed by the State Party
The Twin Monastery of Wearmouth-Jarrow

Location
Sunderland City, South Tyneside Metropolitan Borough
Tyne and Wear, England
United Kingdom

Brief description
Located near the mouths of the Rivers Tyne and Wear, the twin monastery was founded in Wearmouth in 672AD and extended to Jarrow in 681AD. The architectural heritage of the monastic churches and the archaeological below-ground remains of the two associated monastic complexes provide a link to late-Roman antiquity and the coming world of the European Middle Ages. As an early example of communal cloistral layout and residence of the Venerable Bede (673-735), the twin monastery became a scholarly reference for Roman liturgy monastic communities in Northern Europe.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of two *monuments*.

1 Basic data

Included in the Tentative List
21 June 1999

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
24 January 2011

Background
This is a new nomination.

Consultations
ICOMOS has consulted its International Scientific Committee on Archaeological Heritage Management as well as several independent experts.

Literature consulted (selection)

Bede, *Ecclesiastical History of the English People*, London: Penguin Classics, 731, [1991].

Cramp, R., Excavations at the Saxon monastic sites of Wearmouth and Jarrow, co. Durham: an Interim Report, in *Medieval Archaeology*, 13, p. 21-36, 1969.

Cramp, R., *Wearmouth and Jarrow Monastic Sites*, vol 1& 2, Swindon, English Heritage, 2005.

Yorke, B., *The conversion of Britain: religion, politics and society in Britain c. 600-800*, Pearson Education, 2006.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 11 to 14 September 2011.

Additional information requested and received from the State Party
ICOMOS sent a letter to the State Party on 12 September 2011 requesting additional information with regard to the justification of criterion (vi), development pressures, risk preparedness strategies, sources and levels of finance as well as visitor access. The State Party provided information on 24 October 2011 and 16 February 2012, which is included under the relevant sections below.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The Twin Monastery in Wearmouth-Jarrow presents the earliest-known physical remains of the beginnings of Northumbrian Christianity and, in particular, monastic communal culture in Northern Europe. Both complexes, located at a distance of approximately 14.2 kilometres from each other, were founded as one monastic organization. Following a land donation of 70 hides by King Ecgfrith near the mouth of the River Wear, Benedict Biscop (628-690AD) initially founded St. Peter's Church and Monastery in Wearmouth in 672/3. After the royal donor saw the impressive results of the first foundation, he donated another 40 hides near the mouth of the River Tyne, where St. Paul's Church and Monastery were subsequently established, close to the village of Jarrow (681AD).

The architectural style and techniques used to build the twin monastery had only rarely been seen in Anglo-Saxon England since the departure of the Romans three centuries earlier. After travelling extensively in Europe and having visited Rome six times, the founder Biscop and his colleague and successor Ceolfrith created their monastic foundation based on Roman architectural traditions and the best examples that Biscop had seen during his travels. Both complexes had wider monastic estates to sustain the two communities and had direct access to the rivers and, through them, to the nearby open sea. This was important as the complexes were within easy access of each other, both by land and water. Unfortunately, the precise boundaries of the monastic estates have been lost and are now difficult to trace, due to later Viking settlements and re-division of land.

Both monastic complexes were laid out on similar ground plans with churches of identical size. They each had cemeteries to the south of the church, with a strict division of lay and religious burials, through which one passed to the domestic buildings. Although the size and plan of both churches are very similar, their architectural decorations vary considerably. Whilst the decoration in St. Peter's (Wearmouth) combines insular art forms with classical forms, the only slightly later St. Paul's (Jarrow) has very austere and classical forms, a novelty in Anglo-Saxon England at that time.

The property consists of two monuments:

- Monastic complex of St. Peter's at Wearmouth
- Monastic complex of St. Paul's at Jarrow

These shall be considered separately:

Monastic complex of St. Peter's at Wearmouth

Monastic Wearmouth's layout resembles the ground plan of a Roman villa with an enclosed space and a walkway joining a range of buildings. The in-situ remains of the complex comprise architectural remains of St. Peter's Church from the Anglo-Saxon period, a well-researched archaeological site comprising three phases of Anglo-Saxon building activity and a large number of associated finds, especially collections of coloured glass and sculpted stones. Although the latter finds are important for the understanding of St. Peter's history and artistic potential, they will not be included in this description as they do not fall under the scope of the 1972 *Convention concerning the Protection of the World Cultural and Natural Heritage*.

St. Peter's Church was built in just one year, by masons and glaziers who Biscop brought from France. The construction started with the nave, to which a two-storey porch was added in the west. The tower, which is located over the porch, was constructed later in the 10th or 11th century AD. Originally the porch may have had side chambers to the north and south as can be assumed from the north and south entrances which are rebated for doors opening to the outside. The porch was elaborately decorated, and considerable in-situ evidence of this has survived, including large stones on either side of the entrance carved in the shape of beasts, and free-standing lathe-turned baluster shafts that supported chamfered imposts.

Above the western main entrance are remains of a broad frieze, sculpted with animal and human figures. The second floor above shows three early openings, a round-headed window to the west and blocked openings north and south. The nave of the church extended from the western wall to the present chancel arch with dimensions of 5.64 by 19.50 metres. The foundations of the northern wall still survive under the existing arcades which are a later introduction. The easternmost part of the church, according to documentary sources, may have been used as a burial place for abbots.

The monastic site of St. Peter's has only been fully understood since archaeological excavations were commenced in 1959, due to its complex sequence of three successive building phases within a short Anglo-Saxon timeframe. This rapid development, however, proves the rise in population and constant expansion of the complex in the 7th and early 8th centuries. The complex reached its final form only decades after the initial founding stone was laid and was again modified several centuries later.

During the first construction phase (starting from 672), the project focused on the building of the church. A small separate building was either built during the same period or already pre-existed on the site. The monastic layout consisted mostly of an open space used as a cemetery to the south of the church and a walkway, leading south, probably towards other buildings. The excavated footings of the church further suggest that side chambers formed narrow aisles along the northern and southern sides of the church.

During the second construction phase (690-716) Ceolfrith expanded the monastic complex in a more ordered layout. An enclosure with major walls to the west, south and east was tied into the newly constructed porch of the church as well as the eastern extended portico. The area was accessed through the pre-existing passageway. The thickness of the enclosure walls suggests that the building was a two-storey structure. The southern building most likely housed the monks domestic quarters. A third construction phase in the later 8th century expanded the enclosure and lengthened the church towards the east. The burial grounds of the St. Peter's monastic complex are extensive and up to 441 individuals dating to the Anglo-Saxon Period have been counted.

Monastic complex of St. Paul's at Jarrow

Like at Wearmouth, the in-situ remains of the monastic site contain the architectural remains of St. Paul's Church, including its dedication stone, and an archaeological site investigated during the course of modern excavations. Here, the early structures were built in locally-sourced medium carboniferous sandstone, using the Roman technologies first introduced at Wearmouth.

The church of St. Paul's consists today of the remains of two Anglo-Saxon Churches, one eastern and one western, which were connected in the 10th or 11th century by an arch structure which bridged the gap between the two. Later, the tower was constructed in stages above this gap. The eastern church, largely complete up to today, is one of the oldest surviving monastic churches north of the Alps. It is built of small blocks of local sandstone, probably sourced from earlier Roman sites. Original 7th century stone windows are preserved in the south wall, and evidence for three similar windows can still be seen in the northern wall. Both north and south walls are essentially intact and are characterized by the typical Anglo-Saxon megalithic side-alternate quoins at each corner. There is also still visible evidence of an upper level entrance in the

south wall, which suggests an upper chamber or gallery. The interior of the eastern church, because of its small original windows and its lower height, is much darker than the later modified western church.

The western church was the main monastic basilica, consecrated in 685AD. It was originally extended slightly further to the west, with a large rectangular nave and a smaller rectangular chancel, than it is today. It probably also included a two-storey porch as at St. Peter's. The western part of the church is more difficult to interpret today, as it was largely dismantled and replaced by a new nave in 1782, which was then replaced by the present one, constructed by George Gilbert Scott in 1866. However, its early Anglo-Saxon remains survive below the floor level of the current church. The only remaining visible element is the surviving dedication stone of the original church, which is now integrated in the stonework above the arch between the nave and chancel, and represents the earliest preserved inscription from an English church. Its original location remains unknown.

The monastic site of St. Paul's at Jarrow is preserved in its ground plan, although the stones of the monastic buildings were reused for later constructions on the site and in its surroundings. The standing remains are not Anglo-Saxon but date to the building work carried out by Aldwin in the 1070s. As can be seen from the ground plan, laid out in flat stone slabs, two major buildings existed lying parallel to the church. The thickness of their walls suggests that they were two-storey buildings, one an assembly area for food preparation and dining, the other a multi-purpose hall for work and meetings. The upper storey may have housed the monks' dormitories. A smaller building 40m further south on the banks of the River Don was set aside for special guests of the monastery. The refectory had floors made of *opus signinum* (lime concrete with crushed terracotta tiles) and it was extended in the 9th century AD to include a separate kitchen.

History and development

Christianity was first introduced to England during the Roman occupation, but it lost influence during the 6th century, after the province of Britain had been cut off from the Roman Empire. Only after the missionary Augustine, who founded Canterbury, managed to convert the Kingdom of Kent, did the other newly emerged Anglo-Saxon kingdoms follow suit, Northumbria doing so about three decades later. However, it still took until the Synod of Whitby in 664, presided over by King Oswiu, for the Kingdom to give preference to the practices associated with the Roman church rather than the previously influential Irish practices and the rule of Iona. It was in this very context that Benedict Biscop established the twin monastery of Wearmouth-Jarrow, the first community in Northumbria based on Roman monastic rules.

An innovative enterprise for its time, both architecturally and with regard to its religious references and communal monastic approach, the monastery developed as a centre of learning and intellectual endeavour. Three subsequent expansions in Wearmouth within a few decades, provide evidence of the rapid growth of the community. Documentary evidence further testifies to the international attention that the scholarship and writing of Wearmouth-Jarrow received, in particular that of the famous Venerable Bede (673-735).

Following the foundation of the monastery in Wearmouth, its founder Benedict Biscop became its abbot. When later, Jarrow was constructed, Ceolfrith (640-716) was sent to oversee activities there and to head the new community. After Biscop's death in 690, he succeeded him as abbot of both communities of the twin monastery. He headed the community for 26 years, until 716, when he decided to move to Rome to spend the remaining part of his life there. However, he did not reach his destination, dying on the way at Langres in France. Wearmouth-Jarrow was approaching its most prominent period, under the Venerable Bede, a student of Ceolfrith, who was raised in the monastery from the age of seven. Primarily a theologian, but also an historian and interested in a variety of other sciences, he made Wearmouth-Jarrow famous through his influential books, especially his *Ecclesiastical History of the English People*. Long after his lifetime, the monks at Wearmouth-Jarrow were engaged in copying his writings in response to the great international interest in his scholarship.

As rapid as its expansion and fame, was the decline of the monastic community at Wearmouth-Jarrow as a result of the 9th century invasions by Scandinavian settlers, which made monasteries, in particular those near the coast, vulnerable to Viking attacks. Historic sources mention that Vikings wintered on the River Tyne in 875 and looted a monastery at the mouth of the Don, probably Jarrow, in 794. The archaeological remains show evidence of extensive fires from around this period. In 883, the Wearmouth-Jarrow property was given to the Community of St. Cuthbert, before it established itself in Durham in 995.

By 1070, new monastic communities were established and the buildings restored. Aldwin, Prior of Winchcombe Abbey, re-established a community there which was again short-lived and which ended when Aldwin was made Prior of Durham Cathedral in 1083. However, the architectural legacy of this short period is important, in particular at Jarrow where the church and monastic complex were rebuilt following the Viking and Norman attacks. After 1235, Wearmouth and Jarrow became two priory cells of the Prior of Durham. In Wearmouth, throughout most of the following centuries, the community remained at its officially permitted minimum of two monks. Nevertheless, they kept St. Peter's operating and maintained the complex, as well as re-roofing the cloister. Jarrow housed a master and one or two monks who supported him. By cherishing the memory of Bede, although his bones were transferred to Durham Cathedral in the 11th century, the community flourished more than Wearmouth.

The twin monastery of Wearmouth-Jarrow was dissolved in the 16th century by Henry VIII and passed into lay hands, which led to a fragmentation of the two estates.

The Jarrow estate was purchased by Simon Temple in the 18th century, who built Jarrow Hall on the hill overlooking the church in 1785. The east and south ranges of Wearmouth were adapted to form Monkwearmouth Hall, destroyed by fire in 1790, which was the home of the Williamson family who still own some parts of the estate. The two churches were kept operational for the celebration of mass.

The 18th and 19th centuries were characterized by dense industrial development along the mouths of the Tyne and Wear, predominantly ship-building on both banks of the rivers. The later 18th century also brought changes in liturgy and with it larger congregations, for whom the medieval churches were too small. In response, St. Peter's was extensively remodelled in 1794. The northern aisle, chancel arch and northern chantry were demolished to allow for construction of a new gallery. Less than a century later, and following a change of philosophy in monument restoration, another rebuilding took place in the 1870s, aimed at removing the 18th century fabric and reinstating the medieval layout and style. Equally, St. Paul's in Jarrow was modified to increase its capacity in the early 19th century and later changed to reinstate the previous medieval layout and design.

In its most recent history, the Twin Monastery of Wearmouth-Jarrow has been focused upon as an historic resource, with sophisticated excavation campaigns and clearance of 19th and early 20th century industrial and housing structures on the archaeological remains. Both sites, which now provide ample evidence of their Anglo-Saxon history, are open to the public and further in-depth information is available at the privately-run Bede's World museum, built to the immediate north of Jarrow Hall on the former monastic estate. It functions as the main visitor gateway to the twin-monastery today.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The Comparative Analysis in the nomination dossier is presented in a two-fold structure and preceded by a more general introduction to the development of global monasticism. The first comparative section compares Wearmouth-Jarrow with early monastic communities elsewhere, giving special focus to properties inscribed on the World Heritage List. The second part more specifically considers early monastic developments in the British Isles.

The aim of the comparative analysis is set out in the introductory section, which defines the context in which meaningful comparison is made. The emphasis is placed on monastic complexes, not on early medieval churches, although occasionally churches or cathedrals have been included. When comparing monastic complexes, examples are selected from monasteries which are well-preserved in their architectural structures. Little, if any, attention is given to monastic complexes which, like Wearmouth-Jarrow, are preserved only in below-ground archaeological remains. The route through which Roman Monasticism spread north of the Alps, gives us reason to believe that, probably, comparable evidence of perhaps even earlier monastic complexes is present at other Northern and Central European sites. Wearmouth-Jarrow however, is in the privileged position of having been the subject of very detailed and professional archaeological studies and excavations. However, this privilege does not necessarily confirm that Wearmouth-Jarrow is the best preserved archaeological site that exists.

In the international comparison, eremitic monasteries, such as the Rock-cut Churches and Monasteries in Cappadocia (Göreme National Park and the Rock Sites of Cappadocia, Turkey, 1985, (i), (iii), (v) and (vii)), or the Monasteries of the Arab Desert and Wadi Natrun, on the tentative list of Egypt, have been considered. Other early monasteries mentioned are St. Catherine's in Sinai (Saint Catherine Area, Egypt, 2002, (i), (iii), (iv) and (vi)), and the monasteries of Ouadi Qadisha (Ouadi Qadisha (the Holy Valley), Lebanon, 1998, (iii), (iv)), which are considered not comparable because of their ascetic character. The earliest communal monasteries on the World Heritage List are the San Millán Yuso and Suso Monasteries, Spain (1997, (ii), (iv), and (vi)), from the mid 6th century, or the Abbey of Lorsch (Abbey and Altenmünster of Lorsch, Germany, 1991, (iii) and (iv)), which was founded in 764, almost a century later than Wearmouth-Jarrow.

In the British Isles, monastic structures predating Wearmouth-Jarrow are preserved at Lindisfarne, a settlement of Irish monks following the Irish tradition of monasticism, who established in 630 the monastery on Coquet Island, which, according to documentary evidence, housed a community of monks of considerable size and fame in 684; and the monastic complex which followed Roman customs at Whitby, established in 664 on the foundations of an earlier Irish community. The latter has historic fame as the location of the Synod of Whitby, during which the Roman method for calculating Easter and other aspects, was established as the norm in Northumbria, replacing the previous Ionan order. In Ripon, a church and monastery dedicated to St. Peter was established in 672, and in Hexham in 674, both communal monasteries which followed the Roman order. They were founded by Benedict Biscop's travelling companion Wilfred, who had been equally inspired by the monastic communities they had visited along their way. Both Ripon and Hexham have considerable above-ground architectural remains, including their original crypts. The argument presented in the comparative analysis that "*limited archaeological excavations … have not yet convincingly elucidated the larger layouts"* cannot confirm that the archaeological evidence is less significant. Further ruins of mid 7th century monasteries and churches can be found at Reculver (669), and Bradwell-on-Sea (660).

ICOMOS considers that Wearmouth-Jarrow is certainly the Anglo-Saxon 7th century monastery which has received the most thorough archaeological investigation and therefore, at present, is the one that presents the best-known medieval monastic layout. However, given the great potential of earlier monastic sites, with more significant above-ground remains, to reveal similar layouts in future archaeological excavations, ICOMOS considers that the Twin Monastery of Wearmouth-Jarrow has not yet demonstrated its comparative significance in relation to its prototype layout for monastic communities north of the Alps.

The comparative study would need to be augmented by comparison with the other remaining architectural structures of 7th century monasteries and monastic churches, specifically in Northern Europe. These comparisons should emphasize the state of preservation of both above and below-ground remains and, in the case of barely excavated sites, include the evidence from initial archaeological excavations, as well as anticipated further archaeological findings. Where available, data from radar or geophysical investigations should be considered.

The initial comparative analysis did not specifically compare early medieval centres of learning or places which made a major and enduring intellectual contribution to humanity in early medieval times. Additional information received at the request of ICOMOS compares the influence of Bede with other early thinkers of the Christian Church and contemporary thinkers in general, and considers whether these could be associated with places. While this added analysis illustrates that Bede was an exceptional individual, who has been honoured amongst 33 doctors of the Universal Church, a list of outstanding religious scholars headed by Gregory the Great (540-604), Jerome and others, it does not compare the physical manifestations of his early medieval scholarship with other centres of comparable intellectual endeavour. It is argued that other earlier or contemporary scholars, like Gregory the Great, Augustine of Canterbury (605) or Isidore of Seville (560-636), lack comparable associated places.

As a polymath, Bede was also recognized for his scientific writing and is therefore compared to other scientists and historians. However, the information provided argues for a lack of comparison, as the first person to illustrate associations with a specific place which facilitated his work was the later (by one century) Einhard (770-840) from the churches of Michelstadt and Seligenstadt. ICOMOS considers that Bede's intellectual inspiration and literary works are closely related to Wearmouth-Jarrow as a centre of intellectual endeavour. However, ICOMOS considers that it has not been made clear which features illustrate this centre of intellectual endeavour within the physical remains of the property. Therefore the physical manifestations of Bede's intellectual legacy have not been compared. A comparison of Bede as an exceptional individual to other exceptional early scholars and scientists does not fulfil the requirements of a comparative analysis in the context of the World Heritage Convention. ICOMOS therefore does not consider that the comparative analysis has demonstrated that no other intellectual centre in Northern Europe provides physical reference to the works of a scholar, in a way comparable to the reference provided of the intellectual centre inspired by the Venerable Bede in Wearmouth-Jarrow.

ICOMOS considers that the comparative analysis does not justify consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Its architectural remains in the original monastic churches and below-ground remains of the associated monastic complexes provide a visible link between the past world of Roman antiquity and the coming world of the European Middle Ages.
- The innovative architecture, some of which survives in situ, epitomises the introduction of building in stone with Romanesque style sculpture and coloured glass windows into the British Isles.
- The Twin Monastery at Wearmouth-Jarrow was a stepping stone on the way to the greater formalisation of monastic claustral layouts, and communal as opposed to eremitic living.
- The outstanding library and teaching established at Wearmouth-Jarrow by Benedict Biscop and his colleague and successor Ceolfrith, and its scholarly ethos, were unlike anything else available in its day.
- Through the prolific and wide-ranging works of its most renowned thinker, Bede, Wearmouth-Jarrow at its height became the primary intellectual centre of Western Europe.

The serial nomination of two component sites at Wearmouth and Jarrow, is justified on the basis that the two monasteries are closely related and that St. Paul's in Jarrow was founded as an integral part of the community of the slightly earlier-established St. Peter's at Wearmouth. Both monasteries were linked administratively and headed by a shared abbot.

ICOMOS considers that Wearmouth-Jarrow is primarily known as the residence and place of work of the Venerable Bede, who has influenced Anglo-Saxon history so profoundly. Therefore it can be considered as an early intellectual centre of Western Europe.

With regard to the importance of Wearmouth-Jarrow for the re-introduction of building in stone after the end of the Roman Empire, and its role as a prototype for the layout of monastic communal complexes, ICOMOS considers that a very specific emphasis is necessary in order to support this Outstanding Universal Value. Since several remains of historic stone monasteries and

churches exist in the British Isles within a similar time-frame and even earlier, the State Party refers to the specific Roman style and communal layout of the monastery. However, the founding principles of Roman communal monasticism were set much earlier and implemented at the latest by the 6th century, in a number of monastic examples, which Benedict Biscop visited during his travels and from which he took inspiration for the complexes at Wearmouth-Jarrow. Other contemporary complexes were developed based on similar influences and at this point have not been investigated comparatively. To claim a unique role for Wearmouth-Jarrow, given that other complexes seem to have more significant above-ground remains, would require some degree of conjecture.

Integrity and authenticity

Integrity

Integrity is a measure of the wholeness and intactness of the cultural heritage and its attributes. The integrity of a serial property is judged in relation to the ability of the components to cover all attributes needed to express the Outstanding Universal Value suggested by the State Party. With regard to the individual components, integrity is expressed in the degree to which all or a significant portion of the elements necessary to read and understand the values conveyed by the property are still present and included in the nominated property.

The two serial components proposed by the State Party are the two locations of the one monastery, which had shared leadership and administration and which were therefore closely linked in function. The inclusion of both properties is essential to reflect the historic development and significance of the Twin Monastery of Wearmouth-Jarrow and the serial approach is justified.

The remaining above-ground elements of the property are the western façade and the western porch of St. Peter's Church in Wearmouth, and the eastern choir of St. Paul's Church in Jarrow. These are architectural fragments of early medieval church buildings. However, the basis of the Outstanding Universal Value introduced by the State Party are the monastic remains, in particular the claustral layouts, which are preserved exclusively below ground, and were back-filled after excavations in the 1970s. All archaeological in-situ below-ground remains of the monastic ground-plan fall within the boundaries of the property. However, access routes and harbour locations are no longer known and therefore not included. Since the archaeological remains are not visible to the visitor, evaluations of their significance and adequacy can only be made on the basis of archaeological records of past excavations.

At both sites of the twin monastery, paved lines in the grass indicate the locations of the below-ground wall fragments. Perhaps comprehensible to an expert, these are not as meaningful to the average visitor and cannot replace the three-dimensional experience of archaeological remains. ICOMOS considers that the fragmented above and below-ground remains do not easily facilitate interpretation and understanding of the values intended to be conveyed by the proposed Outstanding Universal Value. The overall material remains of the monastic structures are not sufficient and do not include the minimum number of elements required to convey an impression of a 7th century monastic complex.

ICOMOS further notes that following extensive changes to the settings of both the component properties, the historic access routes, both by land and sea, can no longer be understood. ICOMOS therefore considers that integrity has not been justified.

Authenticity

Authenticity of the serial property relates to the ability of the serial group to convey the Outstanding Universal Value as nominated. With regard to the individual site components, authenticity relates to their ability to exhibit the historic context, built form and function, as well as setting and other components in relation to the overall Outstanding Universal Value.

The State Party identifies a number of information sources as relevant to conveying authenticity with regard to the Outstanding Universal Value proposed. These encompass the relationship between the two monasteries and their estuarine estates, their locations and settings, form, design, material and substance for the above-ground remains, as well as form and design for the monastic layouts.

ICOMOS considers that although the monasteries are still located in their original context, the settings of the two complexes and the physical relationships between them have changed considerably. The routes of land and sea connections between the two properties are not known today, in the case of the sea routes predominantly due to the lack of knowledge as to the harbour locations. Urban and industrial developments within the setting of both properties over time have changed the overall landscape character, in which the monastic complexes are no longer the most dominant features. In Wearmouth, the university complex separates St. Peter's Church from the River Wear and in Jarrow, the reclamation of the Jarrow Slake, which is now used by the Port of Tyne, has left its mark on the landscape.

With regard to the architectural elements, ICOMOS notes that although some material fragments have been preserved, these have been integrated into new church buildings of different layout, design and proportions. Whilst the fragments provide surviving references to elements of early medieval architecture, the modified surrounding context does not allow perception of the original design and layout of the early medieval churches. In St. Paul's Church a glass window in the floor, which allows viewing of some of the early foundations, facilitates a better understanding. In St. Peter's however, a similar glass window reveals much later architectural structures and

therefore adds more confusion than explanation. ICOMOS does not share the opinion expressed by the State Party that the movable elements exhibited within the churches, which contribute to the understanding of the archaeological remains, should therefore be considered as an integral part of the immovable property.

ICOMOS considers that it is impossible to evaluate the authenticity of the below-ground archaeological remains; as such this can only be done on the basis of archaeological excavation records and the recorded state of conservation in the late 1970s. ICOMOS considers that, while the material authenticity of the remains is likely to be well protected, because the excavation site was reburied, authenticity in setting, form, technique as well as spirit and feeling cannot be confirmed for the monastic remains. However, authenticity in spirit and feeling may have a stronger impact for the architectural church structures and their relationship to the Venerable Bede. It is because of his memory that most of the visitors and pilgrims come to Wearmouth-Jarrow, in order to see and pray in the churches that Bede used to pray in. Despite the significant architectural changes, religious visitors and pilgrims seem able to experience the relationship of the architectural structures with Bede and perhaps for the limited context of religious visitors, authenticity in spirit and feeling could be justified.

In conclusion, ICOMOS considers that the condition of integrity has not been met. ICOMOS further considers that the condition of authenticity has only been met for the religious context of the church buildings.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (ii), (iii), (iv) and (vi).

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the Twin Monastery of Wearmouth-Jarrow provides evidence of the introduction of communal monasticism in 7th century Britain and is thereby an early and formative example of a communal monastic layout north of the Alps, which became a reference point as a prototype for later monastic communities in Northern Europe.

ICOMOS considers that the layouts of Wearmouth-Jarrow are constructed with reference to earlier monastic communities, which Benedict Biscop and Wilfrid visited during their travels. Wearmouth-Jarrow is not the earliest monastic community establishing a communal order north of the Alps, but merely the best researched example at present. It has not been established that later monasteries indeed took their inspiration from the layouts at Wearmouth or Jarrow, rather than from other Southern communities which also inspired Benedict Biscop and can be considered shared reference points. In order to establish the prototype character of Wearmouth-Jarrow, direct references of later monastic communities to the physical structures at Wearmouth-Jarrow would need to be demonstrated. Since the claustral layouts at Wearmouth and Jarrow differ, it should also be specified which of the two layouts acts as the reference in particular cases.

ICOMOS considers that this criterion has not been justified.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that the surviving monastic complex at Wearmouth-Jarrow provides an exceptional testimony to the cultural tradition of early Christian monasticism in Northern Europe at its formative stage.

ICOMOS considers that at present the architectural and archaeological remains are not convincing as a unique or at least exceptional example of Western European Christian monasticism. Several other early monastic complexes of the 7th century are preserved in more significant architectural remains and perhaps also archaeological structures. However, they have not been subject to comparable archaeological investigation. To justify the uniqueness of Wearmouth-Jarrow, a more detailed comparative analysis of Anglo-Saxon monastic complexes, including their likely archaeological potential, would seem necessary. As long as other early monasteries of the 7th century demonstrate more significant potential, it cannot be demonstrated that the excavated archaeological remains at Wearmouth-Jarrow are the best preserved example of early Roman monasticism in the British Isles.

ICOMOS considers that this criterion has not been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the twin monastery is the earliest surviving and best researched monastery built with scholarly ambitions at an early and formative period for Northern Europe. It is further justified as illustrating the transition from Roman Antiquity to the forthcoming Middle Ages by providing a prototype claustral layout for communal living, which was later referenced during the Carolingian Renaissance, such as at ninth-century Lorsch in Germany and St. Gall in Switzerland, as well as later medieval monasteries, such as Fountains Abbey in England.

ICOMOS considers that the proposed prototype character of Wearmouth-Jarrow, which had exerted influence over time or within a cultural region, would be better recognized under criterion (ii), and has already been discussed there. It should just be added here that both Lorsch and St. Gall, which have been inscribed as World Heritage properties, have documented their sources of inspiration. At Lorsch these were indicated as being from Southern European monastic communities, whilst at St. Gall the earliest monastic community was established by an Irish monk in 612, and its later conversion to a Benedictine monastery was initiated by the abbot Othmar, who also made references to Southern influences.

ICOMOS considers that the physical remains of Wearmouth-Jarrow do not seem sufficient to consider it one of the peak examples of the architectural typology of claustral monasticism in Northern Europe.

ICOMOS considers that this criterion has not been justified.

Criterion (vi): be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;

This criterion is justified by the State Party on the grounds that Wearmouth-Jarrow is directly associated with the ideas and scholarship of the Venerable Bede, a polymath, who was raised and worked in the twin monastery. It is argued that, inspired by Wearmouth-Jarrow's exceptional library, teaching and innovative environment, he became the most important intellectual of his age and one of the most influential European thinkers of the first millennium.

ICOMOS would like to recall that the World Heritage Convention is a property or site-based convention without a mandate for the commemoration of the world's most outstanding individuals. Although the literary works, as well as the scholarly vision, of the Venerable Bede could potentially be considered as of outstanding significance, their tangible manifestation in the property would need to be demonstrated.

ICOMOS considers that to justify this criterion the State Party would need to demonstrate how specific tangible features of the property embody the association with Bede's vision, scholarship, theological and philosophical ideas as well as literary works. ICOMOS asked for additional information regarding the tangible links between the property and the intellectual climate, which Bede gave expression to in his concepts and ideas. The additional material provided by the State Party remained focused on the Venerable Bede as an historic figure who resided in the property, but did not elaborate on the physical manifestation of an emerging early medieval centre of intellectual endeavour. ICOMOS therefore considers that the justification presented is inadequate for the context of the World Heritage Convention and that this criterion cannot be justified on the basis of the historic importance of the Venerable Bede.

ICOMOS considers that this criterion has not been justified.

ICOMOS considers that the serial approach is justified.

ICOMOS does not consider that the criteria and Outstanding Universal Value have been demonstrated.

4 Factors affecting the property

Development pressures

The two component sites of the property are protected from any development through their legal designation as Scheduled Ancient Monuments or listed historic buildings. However, the buffer zones are part of urban and industrial areas which have been extensively developed over the centuries and in particular during the last decades. While the buffer zone at Wearmouth is dominated by the University of Sunderland campus, the buffer zone at Jarrow includes parts of the Port of Tyne.

The nomination dossier indicated that *"there are currently a number of proposals for major developments in the buffer zone"*. At the request of ICOMOS, the State Party provided details on all the current proposals as well as their planning stages, in the additional information received on 20 October 2011. On 16 February 2012 the State Party submitted a later framework including concrete proposals for developments in the buffer zone of St Peter's in Wearmouth, as part of the Wearmouth Master Plan and Design Code Supplementary Planning Document, adopted by Sunderland City Council's cabinet on 15 February 2012. The proposed developments are focused on the university campus to provide academic, commercial and student residential accommodation. Further developments are foreseen at Scotia Quay, a vacant riverside property between St. Peter's and the student residences, and at the Bonnersfield site, located adjacent to the Wearmouth Bridge. Equally, development intentions were indicated for Numbers Garth and High Street, both within the buffer zone but on the other side of the river. ICOMOS considers that some of the development sites indicated lie between the property and the River Wear and include main view axes to St. Peter's from the opposite side of the river. The development proportions and sight axis protection scheme indicated in the recently adopted supplementary planning document do not seem to fully respect the protected view lines indicated in the management plan. If the development was implemented as indicated, St. Peter's Church would be framed by contemporary student housing development, when viewed from the southern banks of the River Wear, while the site of the former monastic complex, presented as the key components of the Outstanding Universal Value, would no longer be visible from the river and would seem at risk of losing its connection to the former river

setting. ICOMOS regrets that the supplementary planning document was already adopted in this format and recommends its revision to preserve the property's key views, in particular the view indicated as P3, within the Management Plan.

Development projects indicated at St. Paul's in Jarrow include two new tunnels underneath the River Tyne, which are outside the buffer zone and should not constitute any negative impacts on the property. The State Party further indicates potential small-scale development in the Port of Tyne. This includes a biomass handling facility, a wind turbine manufacturing facility and a renewable energy plant, which will all be located outside the buffer zone. It should be mentioned here that both the Port of Tyne and the Shell UK Limited oil terminals to the north-west of the property have signed a Memorandum of Understanding with the Wearmouth-Jarrow Partnership, in which they agree to respect the proposed Outstanding Universal Value in all their development proposals.

ICOMOS considers that the buffer zones, in particular the buffer zone at Wearmouth, are likely to experience considerable development activity in the medium and long-term. The recommended maximum height of residential buildings indicated in the adopted Master Plan and Design Code (up to 12 storeys within the buffer zone) raises concerns and may have to be reduced. ICOMOS considers that the appropriateness and sensitivity of architectural interventions needs to be controlled. It is also important that any new construction activity is preceded by detailed archaeological assessments and excavations as well as comprehensive Heritage Impact Assessments (HIA's) to identify any potential negative impacts of the proposed development.

Tourism pressures

The Twin Monastery of Wearmouth-Jarrow does not experience large numbers of visitors but would be well prepared for a potential increase in visitor activity. Most visitors at present come for religious reasons, including some pilgrims seeking the historic environment of the Venerable Bede. Unfortunately, both churches have been subject to vandalism during recent years and English Heritage has equipped the local teams with materials to remove graffiti. The western portal and porch section of St. Peter's Church is not regularly used for visitor access in order to protect the fragile early medieval remains. It can, however, be opened on special occasions.

Environmental pressures

Among the environmental pressures potentially affecting the property, flooding of the adjacent rivers is the main concern. However, both sites are on comparatively high ground, St. Peter's at 14.3 meters above sea level and St. Paul's at 7.5 meters above sea level. This places both sites within Flood Zone 1, as defined by the Environment Agency, which is considered to be of low flooding probability (less than 0.1%). However, the State Party points out that climate change (see below) could eventually lead to a long-term reassessment of probabilities.

Natural disasters

Within the category of natural disasters, apart from flooding, man-made risks are the most significant factor. Although both churches are low risk places due to their relatively isolated locations, fire could be caused by users (candles) or lightning strikes. Appropriate fire protection and fire fighting strategies are in place (see also risk preparedness). The Shell UK Limited oil terminal in the north-west of the buffer zone could cause severe damage to the property at Jarrow if an explosion was to occur. Specific emergency plans exist for such an eventuality. Also the Port of Tyne, partially within the buffer zone of St. Paul's at Jarrow, handles dangerous substances and is equipped with its own emergency plans.

Impact of climate change

The State Party considers sea level rises and extreme weather events as potential risks to the property that may result from future climate change. However, even with constant increases in sea level, the height difference of at least seven meters between present sea level and the property provide adequate protection. Areas of archaeological potential along the riverfront, which are located in the buffer zone, may be affected earlier. These would then require mitigation in the form of archaeological excavations. A general tendency towards warmer summers with increased rainfall and warmer, wetter winters has been observed. This has, in the past, led to flooding during the winter season.

ICOMOS considers that the main threats to the property are development pressures in the buffer zones and the risk of explosions in the neighbouring Shell UK Limited oil terminal at Jarrow.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

It is difficult to exactly define the outer boundaries of the Anglo-Saxon monastic complexes. Therefore the property contains not only the evidence already excavated but also areas of high archaeological potential. Nonetheless, some locations of archaeological potential, in particular along the riverfronts, remain in the buffer zone. A survey with 11 boreholes in the area of the University of Sunderland campus has recently been conducted in order to trace the location of the historic harbour and investigate the potential for further archaeological deposits associated with the monastery at St Peter. The survey indicated that the river banks were previously closer to the monastic complex than at present but has not provided any material archaeological evidence which suggests extension of the boundaries. Should future investigations find evidence of the exact harbour location, then ICOMOS would

recommend that the property be extended to include the historic harbour.

At Jarrow, the 18th century Jarrow Hall, a listed monument of historical value, is located within the property. The reason given for its inclusion is the archaeological potential for further finds underneath the structure.

The buffer zones are of adequate size.

ICOMOS considers that the boundaries of the nominated property are acceptable but may have to be modified at St. Peter's in the future, in case the historic harbour locations have been identified. ICOMOS considers that the boundaries of the buffer zones are adequate.

Ownership

The central elements of the serial component of St. Peter's at Wearmouth, including the church, monastic remains and the churchyard, are "*vested in the incumbent*", the legal definition of properties held by the Church of England. Outer areas are held by the Diocese of Durham (vicarage), Sunderland City Council, and a private owner, who has leased the area to Sunderland City Council for use as a public park. St. Pauls in Jarrow is entirely held by the Church of England, with the exception of Jarrow Hall and its adjacent land, which are owned by Bede's World, and Drewett's Park, also at the northern end of the property, which belongs to South Tyneside Council.

Protection

Legal Protection

The elements presented in the two serial components are listed at national level. The archaeological remains of the Anglo-Saxon monastery at Wearmouth are a Scheduled Ancient Monument (no. 32066), and the Church of St. Peter's is a Grade I listed monument (920-1/12/207). St. Paul's monastery and Jarrow Village are both Scheduled Ancient Monuments (County monument no. TW46 and TW16), while St. Paul's Church is a Grade I listed building, as are the architectural ruins of Jarrow Monastery (no. 1/84 and 1/85). None of the above listed designations allows for any development on the site, without the approval of the responsible agencies, in particular English Heritage.

In addition to the state legislation, the properties are also protected through ecclesiastical laws, which require that all changes affecting the two properties must go through a system of consultation and consent, involving also religious communities and authorities. The two churches are covered by ecclesiastical exemptions, which protect the buildings from unsuitable or insensitive alterations through guidance provided by the Rule Committee of the General Synod.

The legal protection of the buffer zone was based on the Planning and Compulsory Purchase Act of 2004 in the framework of which the Regional Spatial Strategy (RSS) set out an integrated long-term spatial development strategy for the region. Following its revocation by the newly-elected government in May 2010, a circular was issued, which instructed local planning authorities to revisit their policies. Whilst the Management Plan submitted with the nomination dossier is based on the previously valid Regional Spatial Strategy (RSS), the State Party has on 16 February 2012 presented a newly adopted supplementary planning document, which at least partly disregards height restrictions, development proportions and previously established sightlines. ICOMOS considers that the buffer zone is not adequately protected from inappropriate development at this stage and that a revision of the adopted strategies seems necessary.

Effectiveness of protection measures

The protective measures for the property are adequate. Protective measures in the buffer zone are in place, but in the case of St Peter at Wearmouth do not seem to correspond to the protection standards established and described in the management plan. ICOMOS considers that it is imperative to integrate strict consultation and approval procedures for buffer zone developments in the revised Supplementary Planning Document, including Heritage Impact Assessments (HIA) for any foreseen development.

In conclusion, ICOMOS considers that the legal protection in place for the property is adequate, and that the development restrictions and procedures outlined in the management plan should be integrated into all Spatial Planning Policies.

Conservation

Inventories, recording, research

The properties are inventoried, described, extensively researched and well documented. Detailed archaeological excavation reports are available and 3D Laser scans of the architectural structures complete the archaeological documentation. The inventories and a variety of historic records are held in three different contexts. The ecclesiastical records are predominately in the Diocese of Durham and the two parish administrations, the archaeological excavation archive is held in three copies at Bede's World, the Tyne and Wear Archives and Museums, and the National Monuments Record. The local historic records are archived at the Sunderland City Library and the Durham County Record Office.

Present state of conservation

The properties have been undergoing a quinquennial survey programme since 1955, which provides elaborate documentation of their state of conservation over time. What is assessed are the church complexes in their present form, including the early medieval fragments and later constructions of the 12th, 18th and 19th centuries. The most recent survey of 2009 describes the churches as *"basically sound and well looked after."* No works of utmost urgency were identified, but recommendations

included necessary repairs to rainwater gutters, re-pointing of masonry and brickwork, minor re-slating of the north porch, checking and if necessary renewal of electrical installations and lightning conductors. It is impossible for ICOMOS to assess the state of conservation of the below-ground remains of the monastic layouts, beyond the assessment made at the time of their excavation. In the excavation reports, the archaeological remains showed a good state of preservation, with the notable exception of the human remains.

Active conservation measures

Active conservation measures are implemented by the Diocese of Durham and approved as well as supervised by English Heritage. They are guided by a detailed Conservation Plan, which established the principal conservation policies. Present emphasis is given to the conservation of the in-situ carvings at the western portal of St. Peter's Church, which is vulnerable through exposure to weathering and abrasion. The possible replacement of the carvings by copies, which would allow the storage of the originals in a controlled environment, is being discussed. In addition, cracking and settlement of the tower have been identified and have been monitored since 1986/87. In case new movement is observed, emergency consolidation would need to be initiated. During the course of 2011, the rather unsuitable heating system inside St. Peter's was scheduled to be replaced.

Maintenance

The regular inspection and maintenance of the churches is carried out by the Wearmouth-Jarrow Partnership under the guidance of the 2010 Conservation Plan. Where repair is required, it is carried out on the basis of minimum intervention and with the use of appropriate materials. All interventions, even at a maintenance level, are recorded. Day-to-day maintenance and cleaning is undertaken by volunteers and staff of the Church of England.

Effectiveness of conservation measures

The conservation measures implemented are based on comprehensive studies, are well-planned, carried out professionally, and documented.

ICOMOS considers that the state of conservation of the above ground architectural remains is well-documented and adequate, and that active conservation measures are effective.

Management

Management structures and processes, including traditional management processes

The property is managed by the Wearmouth-Jarrow Partnership, a group of organizations set up specifically for the management of the property, which acts as the overall steering group and is chaired by the Bishop of Jarrow. The partnership includes the Diocese of Durham, Parish of Jarrow, Parish of Monkwearmouth, Bede's World, Sunderland City Council, South Tyneside Council, National Glass Centre, Tyne & Wear Archives & Museums, Bede's Way, One North East, English Heritage, University of Sunderland, Newcastle University, Durham University, the Department for Culture, Media and Sport (DCMS), and ICOMOS-UK. Within the partnership, a Management Plan was developed, which specifies the roles and responsibilities of each partner. The partnership meets on a monthly basis and is advised by specialist working groups.

Four working groups, dedicated to documentation, conservation, interpretation and resources, provide information to the decision-making body. The partnership remains a loose collaborative group and, following its statutes, the membership is reviewed on an annual basis. It aims to further formalize its status, for example through registration as a charitable organization. At present, two full time employees, a co-ordinator and an assistant, have been employed by the partnership, to coordinate and supervise the management of the property.

The management system established is clearly linked to the Outstanding Universal Value proposed and covers both properties, without further management sub-divisions for the two serial components. ICOMOS considers that the Wearmouth-Jarrow Partnership, once formalized, is an adequate overarching management authority and commends the participative, shared management approach to both serial sites.

Policy framework: management plans and arrangements, including visitor management and presentation

The State Party has presented a shared Management Plan for the Twin Monastery of Wearmouth-Jarrow. In Part C, the plan presents a vision for the property and defines the management objectives and policies. The following section D provides an action plan (2010-2016) for the implementation of the strategies defined. The plan was approved by the management partnership and has been implemented since 2010.

In addition the State Party provided a visitor management and interpretation study, which initiated further strategic guidance on visitor-related issues. On the basis of this, an interpretation plan for Wearmouth-Jarrow was developed. Additional tourism assessments were conducted and have informed the wider framework of the Management Plan, including a vision for education facilities. The Management Plan, as well as its reference documents, is exemplary and adequate to guide the management of the property.

Risk preparedness

Given the specific threats of the nearby Shell UK Limited oil terminal at Jarrow, ICOMOS asked for additional information concerning the disaster response strategies. In response, the State Party submitted the latest versions of the two separate Disaster Management Plans for St. Paul's and St. Peter's. ICOMOS considers that, given the specific local threats, in particular at St. Paul's, Jarrow, it is

appropriate to consider the two serial components under separate risk management plans. Both Disaster Management Plans contain detailed risk assessments, emergency plans for different emergency scenarios as well as recovery plans for the aftermath of an emergency. ICOMOS considers that the risk preparedness documented in the Disaster Management Plans is satisfactory.

Involvement of the local communities

The nomination dossier and some of the management policies have been subject to extensive community consultation, involving local residents, businesses and relevant organisations. Questionnaires and leaflets were sent to all those living or working in the property or buffer zone. More than 8,000 replies reached the management partnership during the consultation period, and were almost exclusively expressions of support and appreciation.

ICOMOS commends the participatory management approach.

Resources, including staffing levels, expertise and training

Financial resources required for the coordination, management, maintenance and conservation of the property are contributed by the various members of the management partnership, but as of now, no separate institutional budget exists for Wearmouth-Jarrow. ICOMOS requested further information on the financial situation, and the State Party responded that budgeting was predominantly based on the contributions and on-going commitments of the various management partners. ICOMOS considers that the intended formalization of the management partnership could assist in designating a specific budget, which may give the property long-term financial sustainability.

At present, the various members of the partnership contribute according to the requirements of their area of responsibility, such as English Heritage to conservation activities, One North East to key studies and development plans, and the Parish of Monkwearmouth to furniture and displays. These resources are augmented by one-off contributions from external partners, such as the Heritage Lottery Fund or private individuals. Staff to coordinate the management partnership is predominantly financed by the two city councils involved.

In terms of professional expertise, each of the management partners contributes their respective professional experts: English Heritage for questions of conservation, the city councils for urban planning procedures, and Bede's World for visitor management and interpretation. ICOMOS considers that it would be desirable to have an institutional budget and key staff dedicated to the property.

Effectiveness of current management

ICOMOS considers that the management arrangements are adequate and effective. The degree of collaboration of different agencies and institutions within the Wearmouth-Jarrow Partnership is impressive. The Management Plan and other strategic management documents contain all relevant aspects of property management and are in the process of being implemented.

In conclusion, ICOMOS considers that the management system for the property is adequate, but that a separate budget and key staff positions should be dedicated to the property.

6 Monitoring

In addition to the quinquennial monitoring system in place, the Wearmouth-Jarrow Partnership has established added monitoring procedures directed at the protection, conservation and enhancement of the proposed Outstanding Universal Value of the property. Tabular objective-oriented key-indicators were presented, which are each described with their respective method of assessment, periodicity, responsibility, current status and ideal status. ICOMOS considers that the monitoring system and the key-indicators presented are satisfactory.

In conclusion, ICOMOS considers that the monitoring system and key indicators provided are adequate.

7 Conclusions

The Twin Monastery of Wearmouth-Jarrow is proposed to illustrate the early introduction of Roman monastic life in Northumbria in well-researched archaeological remains, which were reburied for protection purposes, after the completion of the investigation. To convey to visitors an idea of the location of the below-ground foundation walls, paved lines have been laid in the grass south of the church buildings. The 7th century Anglo-Saxon architectural fragments are now integrated in two repeatedly expanded and modified churches. The remains are restricted to two walls of the chancel in St. Paul's, and the western portal and part of the porch in St. Peter's. ICOMOS considers that the material above and the below-ground remains are too limited to convey the Outstanding Universal Value proposed and that they cannot be proven unique or exceptional without further investigation of other 7th century monastic sites with high archaeological potential. ICOMOS, as a result of the scarcity of remains, also considers that the conditions of integrity and authenticity have not been met for the physical features of the twin monastery.

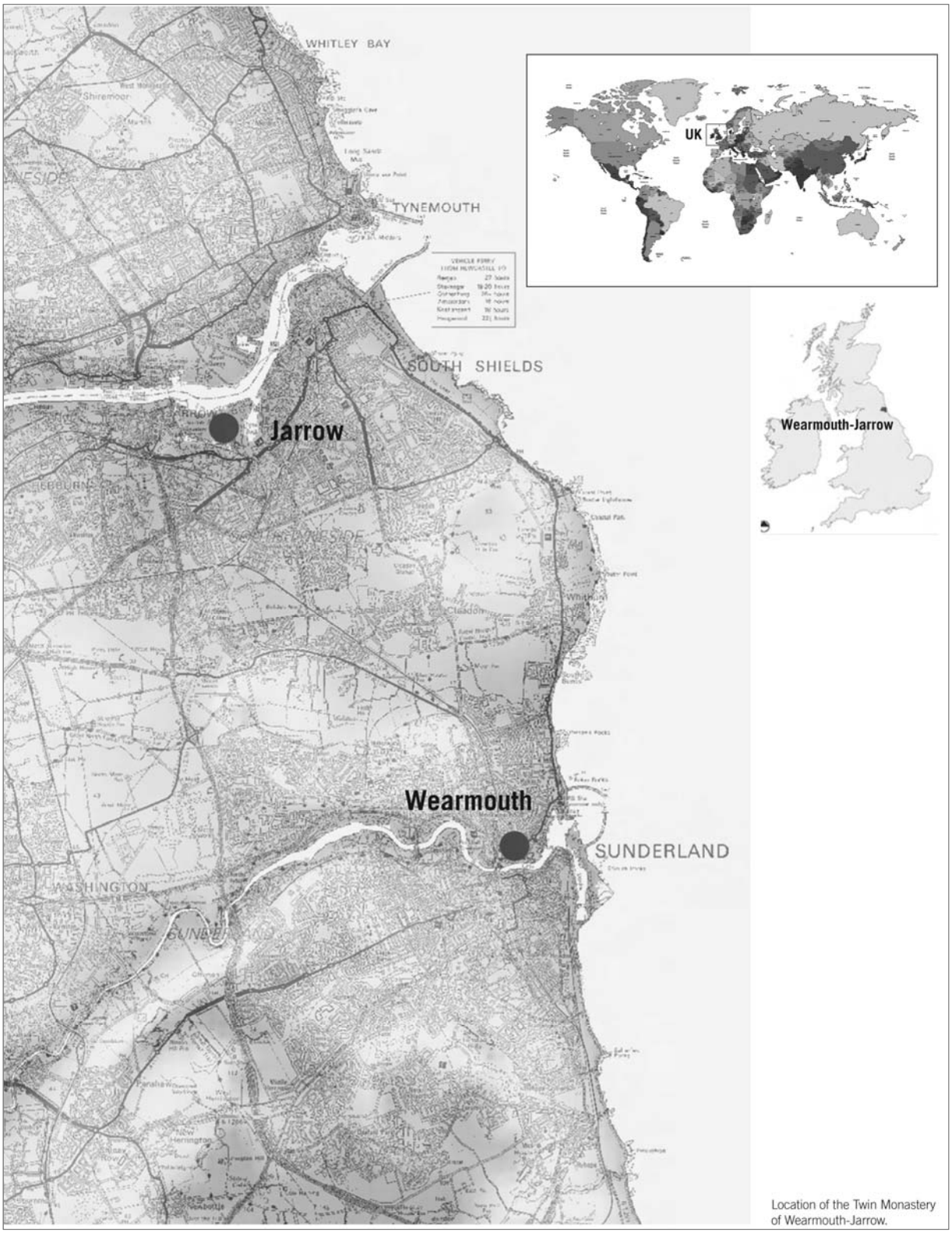
ICOMOS further considers that the proposed Outstanding Universal Value of Wearmouth-Jarrow as a tangible manifestation of an exceptional centre of intellectual endeavour in the early Middle Ages, uniquely documented

in the writings of the Venerable Bede, could not be justified in the context of the World Heritage Convention. ICOMOS considers that it has not been demonstrated how the intellectual legacy of the Venerable Bede is related to the physical remains of the property and that the justification provided centred exclusively on the historic importance of the Venerable Bede and the association between the person and the location. ICOMOS in this context would like to recall that the World Heritage Convention is a property or site-based convention without a mandate for the commemoration of the world's most outstanding individuals.

Whilst the Management Plan for the property is adequate and ICOMOS recognizes the commendable participatory approach towards property management, ICOMOS considers that the management partnership needs to be formalized and that an institutional budget as well as key staff members should be dedicated to the property. ICOMOS further considers it necessary to modify the local planning framework for the buffer zone at Wearmouth, based on the benchmarks and key views outlined in the Management Plan. It is essential that the approval procedures for any development in the buffer zones are expert-based, consultative, legally binding and integrate obligatory Heritage Impact Assessments (HIA's) before any new development is approved.

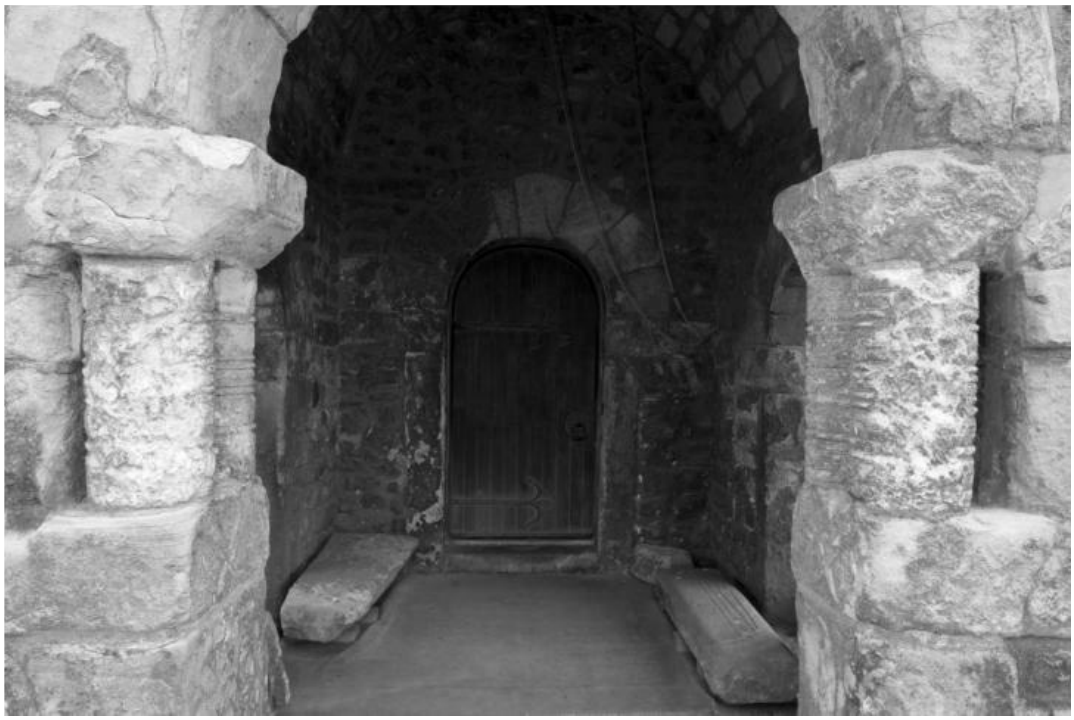
Recommendations with respect to inscription

ICOMOS recommends that the Twin Monastery of Wearmouth-Jarrow, United Kingdom, should **not be inscribed** on the World Heritage List.



Map showing the location of the nominated properties

Aerial view of St Peter’s complex



7th century west porch of St Peter’s, with original decorative scheme

Aerial view of St Paul’s complex

St Paul’s Church

IV Cultural properties

Mining Sites of Wallonia (Belgium) No 1344rev

Official name as proposed by the State Party
The Major Mining Sites of Wallonia

Location
Communes of Boussu, La Louvière, Charleroi, Blegny
Provinces of Hainaut and Liège
Walloon Region
Belgium

Brief description
The Grand-Hornu, Bois-du-Luc, Bois du Cazier, and Blegny-Mine sites are the best preserved coal-mining sites in Belgium, dating from the early 19th century to the second half of the 20th century. They are testimony to surface and underground mining, the industrial architecture associated with the mines, worker housing, mining town planning, and the social and human values of their history, especially the Bois du Cazier disaster (1956).

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of four *groups of buildings*.

1 Identification

Included in the Tentative List
8 April 2008

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
29 January 2009
27 January 2011

Background
This is a deferred nomination (34 COM, Brasilia, 2010).

The World Heritage Committee adopted the following decision (Decision 34COM 8B.27):

The World Heritage Committee,

1. *Having examined Documents WHC-10/34.COM/8B and WHC-10/34.COM/INF.8B1,*
2. *Defers the examination of the nomination of the Major Mining Sites of Wallonia, Belgium, to the World Heritage List in order to allow the State Party to:*
   a) *Clarify the ownership situation of Blegny-Mine and contractualize responsibility for its management with the management company;*
   b) *Review the buffer zone at Bois-du-Luc, in accordance with the principles already applied to the buffer zones for the three other sites;*
   c) *Make in-depth protection of the property's components effective through systematic inclusion on the list of historic monuments and protected cultural sites in Wallonia. The protection must be coordinated between the various sites and it should achieve the highest level possible;*
   d) *Formalize and promulgate a harmonized protection system for the buffer zones in direct relationship with the property's Outstanding Universal Value, and take into account the need to protect the surroundings of the property's components, especially through control of urban development;*
   e) *Create a conservation plan for the entire property, defining its methodology and monitoring and specifying its managers and stakeholders. This plan should, in particular, take into account the restoration of the conditions of authenticity of the private houses on the Grand-Hornu estate;*
   f) *Formalize and make effective, in accordance with Paragraph 114 of the Operational Guidelines, a consultation and management coordination structure between the various sites, operating on a regular basis, specifying its structure, the stakeholders, the scope of its authority, and its working methods. It will, in particular, be in charge of a coherent and homogeneous monitoring system yet to be defined;*
3. *Considers that any revised nomination requires an expert mission to the site;*
4. *Recommends that the State Party:*
   a) *Appoint without further delay the safety manager at Blegny-Mine;*
   b) *Design and implement, as part of the Conservation Plan, a study and training programme for the long-term conservation of this technical and industrial property with its specific nature.*

The State Party submitted additional information on 27 January 2011, and the heritage listing orders and coloured maps of the sites in September 2011.

Consultations
ICOMOS consulted the TICCIH and several independent experts.

Literature consulted (selection)

Bergeron, L., *Les villages ouvriers comme éléments du patrimoine de l'industrie,* TICCIH, 2001.

Hughes, S., *The International Collieries Study,* a joint publication of ICOMOS and TICCIH, 2003.

Jaquet, P., et al., (éd.), *Le patrimoine industriel de Wallonie*, Liège, 1994.

Robert, Y., *Le complexe industriel du Grand-Hornu*, Scala, 2002.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 28 to 30 September 2011.

Additional information requested and received from the State Party
On 29 September 2009 the State Party was requested to provide additional information regarding the justification for the property's serial inscription, comparative analysis, and management. The State Party responded in a letter dated 16 November 2009 which included a three-page summary and various annexes.

ICOMOS requested additional information from the State Party in a letter dated 14 December 2011 to:

- confirm the extension of the buffer zone for Bois-du-Luc;
- confirm the implementation and operation of the Coordination Group and the four steering committees.

The State Party replied on 22 February 2012 providing additional information that is incorporated into the present assessment report.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The four sites forming the property are located in the same coal region, forming a strip 170 km long and 3-15 km wide which crosses the country from east to west. It is separated into two distinct geological basins: Hainaut in the west and Liège in the east. The former extends on the French side into the Nord-Pas-de-Calais Basin, while the latter extends on the German side towards Aachen.

The nominated property consists of three sites in Hainaut and one in the Liège region. Each includes between twelve and twenty-six registered elements of an architectural, industrial, or technical nature.

The Grand-Hornu colliery and workers' city

This ensemble has twelve main elements within a highly integrated industrial, urban, and architectural ensemble. It was designed in the 1810s by the founder of the colliery, Henri de Gorge, and the architect Bruno Renard. The central industrial section was developed between 1816 and 1832 and the surrounding workers' housing was completed during the first half of the 19th century. The ensemble is an example of the utopian projects of the early industrial era in Europe.

The industrial buildings that form the core of the ensemble are arranged along an approximately east-west main axis, where they served the historic mining operations that closed in 1955. On the western side, a main building forms a monumental entrance with colonnade and pediment; it is flanked by stores and the lamp room. After passing through the two corner buildings with lanterns, this first ensemble extends towards the interior along two orthogonal side wings (stables to the north, stores to the south). The interior buildings are accessed from here. They are arranged around a main central courtyard in the form of an extended ring; they include the machinery construction workshops, now partly in ruins, the carpentry shop, and administration offices. This internal courtyard, flanked by a series of arcades, has in its centre a statue of the founder of the colliery, Henri de Gorge. To the east, along the main axis of the industrial buildings, is the crypt, where the founder and various managers of the colliery are buried.

The industrial ensemble is surrounded by the workers' city. This is concentrated on an ensemble of streets, trapezoidal in shape. Most of the housing was built at the same time as or shortly after the industrial buildings. The estate includes a total of 450 individual dwellings. They are in rows, originally built in lots by street, using standard plans with identical facades and each with a rear garden. The southern estate is directly linked to the industrial ensemble, with the manager's residence forming the southern annex.

The site with its buildings, closed over fifty years ago, today illustrates the architectural and social dimensions of the Walloon coal-mining heritage. It was designed as an 'ideal city' at the very beginning of the Industrial Revolution on the European Continent (1810-20).

A modern building was added in 1991 to the industrial buildings to house the Museum of Contemporary Arts of the French Community of Belgium (see Authenticity).

The Bois-du-Luc colliery and workers' city

This ensemble is divided into five geographic zones with distinct industrial, technical, and social uses, all with a direct link to the operation of the mine. They include 22 registered built elements or ensembles, the majority of which were erected between 1838 and 1909. The colliery is, however, one of the oldest in Europe, dating back to the end of the 17th century.

The south central part is arranged around the operation of the Saint Emmanuel pit, its two shafts and its service buildings in Neo-Classical style (foremen's room, lamp room, shower-bathrooms, etc.). The pit still retains many technical elements, in particular headgear, lift cages, and an 1842 winding gear. This industrial section also includes the first manager's residence and the more

recent electricity sub-station ensemble. When the mine was closed in 1973, many neighbouring industrial buildings were demolished: the coke plant, sorting and washing equipment, locomotive shed, etc. The western section is arranged in a U-shape around a vast square courtyard with its opening facing the industrial site. The buildings included an ensemble of workshops and colliery offices. Today they house an eco-museum and a mine museum. In the direction of the workers' estate , a large metal lift gate mounted on two towers and marks the boundary of the industrial site and the colliery workshops.

The southern and south-western part of the property directly extends the colliery operations with the enormous Saint Emmanuel slag heap.

The workers' estate forms the north central part of the nominated property. The Carrés (or Bosquetville) estate was built in 1838, based on a cross-shaped symmetrical street plan and a ring road. It defines four built ensembles, two of which are rectangular in shape and the other two trapezoidal. The two-storey facades are regular and homogeneous along all the streets. The street layout evokes the underground organization of the mine galleries. At the central intersection there are some larger buildings. One of these opens onto the café and a community hall for the mineworkers. The open interior areas were given over to workers' gardens. The Carrés Estate was refurbished in 1975, and again in 1994, to improve its level of hygiene and comfort. To the north-west, the workers' estate is extended by the long Rue du Bois-du-Luc and its 131 houses built in the 19th century. To the north it includes a school.

The north-eastern part of the property mainly comprises the Le Bois pit and its houses, the Saint Patrice slag heap and, forming a link with the Carrés Estate, Quinconces Park (1866). The latter has a monument to Sainte Barbe (Saint Barbara), the patron saint of miners, and a bandstand.

The northern part of the property, along the access road to the main mining site, includes a series of functional and social extensions to the colliery. The oldest building in this section is the hospice, built in 1861. It was extended with a hospital and the Church of Sainte Barbe at the beginning of the 20th century. It also has the second manager's and the engineer's residences, the laboratory, a hotel, employees' houses, and a school.

Bois-du-Luc illustrates the industrial, urban, and social dimension of the classic era of the Walloon coal-mining heritage. In particular, it contains many technical remains that are specific to the history of coal mining.

Le Bois du Cazier colliery

This colliery illustrates a mining operation originally dating from the 19th century, the current components of which date from the late 19th century and above all from the first half of the 20th century. The nominated property contains 26 registered components. The history of this colliery is marked by the last major mining disaster in European history, which occurred in 1956 and cost 262 lives.

Located in the north of the nominated property, the industrial section is largely rectangular in shape, arranged around the Saint Charles and Foraky pits. The entrance, located at the north-east end, is through a gate, a grid, and the gatehouse with an inscription to the collective memory of the place where the families waited for news after the 1956 disaster. The monument to the victims stands immediately beyond this entrance.

To the east lie a series of functional buildings, forming an alignment that extends from the monumental brick pediment, made up of stores, offices, the changing room, shower-baths, lamp room and the large workshop.

At the centre of the industrial site, starting from the entrance, are to be found the carpentry shop and stables, a hut of the type reserved for immigrants, and the locomotive shed. Beyond that, the area is marked by two monumental pediments which indicate the start of the machine rooms. These are similar to those of the stores and mark the industrial space; they were built in the 1930s. The central hall housed the electricity generator, the blowing engine and the compressors; it is extended by the main staircase. The west hall housed the machines and the technical peripherals for the Saint Charles pit, the winding gear. The pit has two metal headgears which frame the coal delivery building.

To the south of the industrial zone, at the rear in relation to the entrance, stand the secured surviving remains of the Foraky pithead machinery, damaged by the 1956 disaster. Today they form an ensemble dedicated to the memory of this event (memorial space, bell, monument to the Italian workers, and remains of the pit).

These industrial buildings have been converted into a museum and cultural ensemble dedicated to industry in general and glass in particular, along with topics such as workplace safety, migration, etc.

This industrial ensemble is extended to the north-east of the property and in its centre by two slag heaps, No 1 and No 2, which, together with the industrial section, form an overall landscape that is characteristic of mining operations.

The central part of the property includes the Bois du Cazier cemetery. The southern section of the property corresponds with the large Bois du Cazier slag heap (No 3). It rises some 70m above the original ground level. Today, a path provides access to its peak where a landscape viewing point is installed.

The site was finally closed in 1967. It mainly illustrates the technical and social dimensions of mine working at the end of the 19th century and in the 20th century. It is especially notable as a place of remembrance for mining

disasters, and more generally the hard and dangerous nature of the miners' work. It includes numerous technical and industrial elements which provide a comprehensive understanding of the extractive mining system as it may have been in the first half of the 20th century.

The Blegny-Mine colliery

Blegny has been the site of coal-mining since the 18th century. However, it has been rebuilt several times, notably following its destruction during World War II. The nominated property includes thirteen registered elements, some of which are old, in the centre of an industrial mining structure that is typical of the mid-20th century. Coal mining was still active here in the early 1980s and the surface equipment has been conserved. The site was rapidly converted into a mining museum, including some shallow underground galleries that are open to visitors.

The south-west section of the property is arranged around the Marie pit, its metal headgear, and a series of surrounding buildings. These are the oldest elements at Blegny-Mine, dating back to the end of the 19th century. Converted into a mining museum, the site has in particular retained and restored: the blowing engines (first installation around 1927, extended with a second unit in 1970), the lamp room, four generations of compressors (early 20th century, 1923, 1950s, and 1970s), and the winding gear (1924). This section also includes the wash tanks and the coal slurry tanks (settling tanks).

The southern section is arranged around pit No 1 and its annexes. It is surmounted by a 45m concrete tower housing the winding gear, the two lift cages, and the control booth. This system, which provides access to the galleries, still operates as part of the museum and tourism programme.

The buildings surrounding pit No 1 form a continuous ensemble, including the shaft station, forge, and machine shops. It also includes the machine building for the screening and washing plant (1946). In its day, it was an innovative system and it is the only one of its kind to have been conserved in its entirety. This section also includes separate technical premises, including the laundry for the miners' work clothes, a small manual screen, carpentry shop, and timber store.

The western section forms the mine entrance from the access road. It includes the mine offices and administrative services (1924). The centre and north of the property comprises a double slag heap and its slag handling system. The peaks rise to 37m and 55m above the original ground level respectively.

Blegny-Mine illustrates the industrial and mining development of the collieries in Western Europe throughout the 20th century. It is one of the last pitheads to have operated in this region of the world. It retains more or less intact its monumental technical components and a significant part of its galleries, as the site was rapidly converted into a mining museum. This ensemble forms a significant and explanatory overview of surface and underground mining techniques.

History and development

Coal, or hard coal, was probably used to operate the Roman hypocausts in Liège as far back as Antiquity. However, the first archival reports of its use date from the 12th and 13th centuries, making the Walloon seams among the earliest exploited in Europe.

Alongside traditional domestic uses, coal was used for industrial purposes very early on, in glass, brick, and lime kilns, dye works, breweries, etc. The first trials in steelmaking, in the Liège region, date back to the early 17th century. Its use and the organization of its extraction adopted an advanced capitalist form. In the mid-18th century coke was known in Liège and Charleroi, but its application to steelmaking was still some way off. The first steam-operated mine drainage machines also appeared at this time.

In the early 19th century French mining legislation and the adoption of British methods led to the rapid development of underground mining to produce coke for steelmaking, and later for the pioneering mechanical engineering industry in continental Europe. The Grand-Hornu site is an extremely good illustration of this founding period of modern mining. Belgium's independence in 1830 helped to spur on this growth and made the Walloon mining basin an exemplary centre of the Industrial Revolution outside England.

The second half of the 19th century largely saw these mines continue to grow, gradually benefiting from the progress made in the second era of industrialization, such as the use of compressed air for cutting, electrification of coal extraction, mechanized pumping and sorting, chemistry of coal by-products, etc.

At the turn of the 20th century the Walloon mines began to suffer from severe competition. Production continued all year round throughout the major events and economic changes, such as World War I and the Depression of the 1930s. Walloon coal mining managed to remain serviceable, but it was ageing and had to cope with seams that were increasingly difficult to exploit. Bois-du-Luc is testimony to this long period of maturity of the Walloon mining system. Deeply affected by the Second World War, it emerged in a diminished state from bombing during the conflict.

At the end of World War II, the Belgian Government decided to undertake a massive relaunch of coal production to underpin the country's reconstruction and industrial development. However, the low productivity of the Walloon mines led to the extensive recourse to immigrant labour, especially Italian. The Bois du Cazier mine is indicative of this period both for immigration and for the difficult mining conditions. This situation took a

dramatic turn with the 1956 mining disaster and its many victims.

In 1951 the European Coal and Steel Community (ECSC) was formed as a prelude to the construction of the new Europe. This was an opportunity to restructure the Walloon mines, but 1958 saw the beginning of a movement towards the progressive closure of the less profitable pits. Almost 20,000 mining jobs were lost in a very few years. The *Société anonyme des charbonnages du Borinage* was created in 1959 to bring under the one umbrella all the basin's mining assets, undertake their closure when they became non-viable, and relaunch production using more modern methods at the best of the mines.

A final push was made in the early 1970s to introduce modern techniques at the few remaining active mines that were still considered to be productive. Blegny-Mine in particular is indicative of this period. Confronted with competition from coal imported from Eastern Europe, Africa, etc., and delivered at low cost to North Sea ports, the last remaining Belgian pitheads closed in 1983-84. This trend went hand-in-hand with the general collapse of heavy industry in Wallonia in favour of 'port steelworks' that began in 1970. The final mining crisis expresses one of the most significant aspects of this deindustrialization process, in terms of landscape, town planning, and social history.

This deindustrialization process was also characterized by long periods of abandonment, notably at Le Grand-Hornu, between its early closure (1955) and the effective takeover by the public authorities just a dozen or so years later.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The State Party's comparative analysis is divided into two parts. In the first, it focuses on the *distinctive features* specific to each of the four sites nominated as serial components.

The apparent uniformity of the mining heritage in its main functional components should not ignore the geological conditions and the economic, historical, and social context specific to each component. There were several hundred collieries in the Walloon region; today, they have all been closed for over two decades. Much of the infrastructure has been completely swept away and reused for completely different purposes, and thus profoundly modified. Very few mining complexes have retained their quality as evidence of this past. Recognition of this industrial heritage has resulted in the listing of various components (slag heaps and technical and industrial components of the collieries) as sites or monuments, but the vast majority are incomplete. The four nominated sites are already included in this inventory; they are the only ones that still demonstrate sufficient integrity while also meeting the conditions of authenticity. At the same time, they are the most significant in illustrating Wallonia's mining past.

One colliery, Cheratte, was finally not included despite its architectural qualities, because of its state of complete ruin.

The State Party presents an international comparative study. It briefly quotes the major mining sites already recognized in the World Heritage List. These are the British sites of the Industrial Revolution: Ironbridge Gorge (1986, criteria (i), (ii), (iv) and (vi)), Blaenavon Industrial Landscape (2000, criteria (iii) and (iv)), and Cornwall and West Devon Mining Landscape (2006, criteria (ii), (iii) and (iv)). The Belgian sites represent a broader historical period, from the rise of the industrialization phenomenon to the mid-20th century. They also highlight technology transfers in the mining sector.

The most comparable site, in terms of the industrial theme and period, is probably the Zollverein Coal Mine Industrial Complex in Essen, Germany (inscribed in 2001, criteria (ii) and (iii)), which ceased operations in 1986.

In the field of utopian cities connected with industry, the Royal Saltworks of Arc-et-Senans, France, is a central reference (1982, criteria (i), (ii) and (iv)), and to this should be added New Lanark in the United Kingdom (2001, criteria (ii), (iv) and (vi)).

Finally, the Walloon coal mining sites are located in close proximity to and enjoy significant geological, mining, and social affinities with the Nord-Pas-de-Calais mining basin in France (which will be examined by the 36th session of the World Heritage Committee). However, because of the different history and the nature of the heritage conserved, the Belgian analytical and descriptive approach differs from the French approach as an evolving cultural landscape. The immediate environment of the Walloon sites precludes such an overall landscape approach.

ICOMOS considers that, in its first section, the comparative analysis suitably justifies the selection of the components proposed for the serial inscription. Furthermore, on the basis of the State Party's response on 16 November 2009, ICOMOS considers that the series is now complete.

However, on the basis of the TICCIH-ICOMOS thematic studies (see Bibliography), ICOMOS considers that other European or foreign coal-mining sites might have been taken into account in the comparative analysis, even though they are not included in the World Heritage List: in the Saarland, the Ruhr, the United Kingdom, Poland, the United States, China, Japan, South Africa, etc. This gap in the comparative study concerns Blegny-Mine in particular. The same applies to industrial social utopias and 19th century industrial urban planning, with Crespi d'Adda, (Italy, 1995), the Guise Phalanstère (France), or even the Catalan industrial colonies (Spain) and the watchmaking

towns of La Chaux-de-Fonds and Le Locle (Switzerland, 2009), etc.

ICOMOS considers that the State Party's comparative analysis has been carried out at the national level for similar properties and at the international level the gap is largely filled by the ICOMOS-TICCIH thematic studies. The ensemble makes it possible to identify the specific values and comparative significance of the nominated property.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The abundant presence of coal in the Walloon subsoil permitted the development of its extraction in ancient times for domestic and pre-industrial applications.
- The British example of the Industrial Revolution spread very early to the Walloon mining basin, resulting in the rise of heavy industry in the early 19th century. This was fostered by the region's traditional use of hard coal, the proximity of the British example, and the possibility of rapidly developing the transport of heavy materials by canal or rail.
- The four sites selected are testimony to the history of the Industrial Revolution in Europe, from its arrival on the Continent in the early 19th century, and then during the second era of industrialization, through to its decline in the second half of the 20th century. This history has many facets - technical, architectural, social, landscape, and urban.
- The property is testimony to the built utopias of the 18th century and their implementation in the 19th century within the context of the Walloon mines, for the industrial buildings and workers' housing.
- In the 20th century, through the large-scale recruitment of immigrant labour, the collieries were privileged places for intercultural exchange in the context of mining and industrial work.

The four sites of the serial nomination are complementary and exemplify Belgian mining history. The first two illustrate the birth and development of this type of industry in the 19th century, within an overarching architectural and social vision of the paternalistic type. The other two are testimony to the technical developments and utilitarian architectonic options of the early and mid-20th century. The ensemble therefore provides considerable analytical and typological consistency in coalmines during the various phases of contemporary industrial history.

ICOMOS considers that this justification is appropriate.

Integrity and authenticity

Integrity

The integrity of the mining, industrial and social testimony is not borne specifically or totally by any of the sites alone. This lack of individual completeness of the sites is a justification for the serial approach.

The historical dimension of the beginnings of the Industrial Revolution and its initial growth (1800-70) is above all present at Grand-Hornu and Bois-du-Luc. These two sites are remarkable testimony to the ambitions and utopian ideals of 19th century industrial architecture and town planning in Europe. The technical and industrial testimony for this period is weaker, but it is present at Bois-du-Luc.

Industrial organization at the height of European coal mining (from the end of the 19th to the first half of the 20th centuries) is clearly to be seen at the Bois du Cazier site. It also reflects the essential social values of the mining and industrial world at this period: immigration and the dangerous nature of the work, as evidenced by the 1956 disaster.

The technical dynamics of coal extraction and processing, as they were in the final phase of operations in the second half of the 20th century in Europe, are mainly present at Blegny-Mine. All the machinery and the access to the galleries at this site provide a complete perspective of this industrial and technical phase of human history. It forms an integrated operational ensemble.

The industrial mining landscape dimension of the sites is present in many places, notably the imposing slag heaps in Bois-du-Luc, Bois du Cazier, and Blegny-Mine. The landscape value is, however, of varying quality depending on the site, and is sharply limited by the surrounding environment, with which at times the coalmine has no direct rapport. The nomination dossier does not rate this element of the property's value highly, and so it is only a secondary dimension of its integrity.

ICOMOS considers that the elements of the series have been selected for the quality, value, and extent of the testimony they provide, each within its own frame of reference. Each expresses an original and complementary dimension of the value of the ensemble of the serial nominated property and each has the necessary components with sufficient integrity for a clear expression of this overall value.

Authenticity

Grand-Hornu: The industrial buildings are currently in a fairly good state of conservation, but in a form that was restored and reconstructed in the 1970s from an abandoned site in ruins. Some buildings however have retained this condition, notably the remains of the workshops, which are roofless but in their original masonry architectonic state. There are no technical or

industrial remains. While the architectural authenticity of the industrial ensemble is weak, it still expresses the atmosphere of an ideal industrial city of the early 19th century. It is possible in this case to refer to perceived authenticity.

The Museum of Contemporary Arts of the French Community of Belgium, which provides a new use for the industrial site, has installed a new building that blends closely with the existing heritage. The overriding architectural decision was to stress its differentiation while at the same time ensuring that the volumes and materials were compatible with its historical environment. It can be considered favourably since it does not adversely impact the authenticity of the place or its expression.

The state of the workers' houses poses a problem of authenticity. The houses were sold to private owners, starting in the 1950s, and work to modernize and maintain the facades has been carried out without there being any concerted conservation policy for the urban heritage. The State Party considers that these transformations are reversible. Extensive conservation-restoration work for the attributes of the authenticity is to be considered for this part of the property, notably following the decision 34COM 8B.27, point e, of the World Heritage Committee.

Bois-du-Luc: This is a very diversified ensemble providing industrial and urban structures, and architectural components that satisfactorily meet the conditions of authenticity. The later abandonment of mining than at Grand-Hornu (1973) occurred in a cultural and social context that was more aware of heritage conservation. The actions by the State were programmed and organized in consultation with the private and public owners. The exterior restorations were carried out with greater care and respect for authenticity. The adaptation of the houses to contemporary urban use may be considered successful, having been carried out under the aegis of a single owner with a social role. The eco-museum, which occupies a large part of the industrial site, and the mine museum contribute to the expression of the site's authenticity.

Bois du Cazier: The structure of the site and its industrial and mining buildings form an ensemble that bears witness to the heyday of mining in Wallonia from the end of the 19th century to World War II. It also testifies, perhaps even more strongly, to the social conditions and the dangers of mining operations. The memorial to the 1956 disaster and the industrial museum contribute to the expression of the authenticity of these testimonies. In terms of construction, only the three pediments and the two metal headgears provide visual elements of an authentic nature. The other aspects of the buildings on the site have been extensively modified, notably with a view to making this a memorial after the disaster and the closure of the site. The architectural and organizational contributions to the site carried out within this context are of an interpretive and functional nature, underpinning the collective memory; from a morphological and architectural point of view they cannot be said to be authentic. The environment of the industrial site, comprising the slag heaps and the cemetery, contributes to a sense of the property's landscape authenticity. In short, the testimony of the workers' memory is absolutely authentic, and it is underlined by the landscape environment of the industrial site, but the site's architectural and structural components are much less so.

Blegny-Mine: The industrial site is an authentic expression of a mining facility of the final period of coal mining in Wallonia. Its physical dimensions and the comprehensive nature of its technical and industrial evidence emphasize this authenticity and allow an interpretation of the quality of the mine's technical and social conditions post-World War II. Still in operating condition, the technical and industrial process for extracting and preparing coal meets the conditions of authenticity.

ICOMOS considers that the authenticity of the components of the nominated serial property varies depending on the component considered and depending on the property's sites, but it nonetheless achieves a satisfactory level overall. The programme announced for the renovation and management of the Grand-Hornu workers' city will favourably restore the conditions of authenticity for this property once it has been implemented.

ICOMOS considers that the conditions of integrity and authenticity are satisfactory overall. Several gaps will be filled by implementing the projects announced for Grand-Hornu.

Criteria under which the property is proposed

The property is nominated on the basis of cultural criteria (ii) and (iv).

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that the Walloon coalmines are among the earliest in Europe. They played an exemplary role in mining, notably during the modern era. They represent a site where the innovations of the English Industrial Revolution were disseminated on the continent of Europe very early, as early as the 18th century. This role was extended and reinforced in the 19th century when the Walloon mining region in its turn became an exporter of mining technology and knowledge worldwide. As a global coal extraction system, the Belgian colliery model was widely disseminated and taught.

The Walloon mines are one of the oldest and most important places of cultural intermixing through the

participation of workers from other regions (Flemish in the 19th century), and then through immigration from various European regions in the 20th century (Italians, Czechs, Hungarians, Poles, Yugoslavs, Russian prisoners, etc.). The 1956 accident at Bois du Cazier symbolizes this mixing of cultures in the melting-pot of the mine: the victims were primarily Italian and Belgian, but ten other nationalities were also represented.

The Grand-Hornu and Bois-du-Luc sites reflect the influence of architectural and urban trends linked to the utopian view of the industrial and workers city that arose in the Age of Enlightenment.

ICOMOS considers that the four sites that make up the series nomination are testimony to considerable and exemplary technical, cultural and social exchange in Europe throughout the development and operation of coal mining.

ICOMOS considers that this criterion has been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that the four sites of the Walloon coal-mining heritage form a microcosm of the Industrial Revolution from the technological and social points of view.

At the technological level, the property is testimony of the three successive technical systems associated with the Industrial Revolution: its initial development, through to around 1860, based on coal, steam, and iron; then the changes wrought by the second era of industrialization, electricity and chemistry in particular; and finally, from the 1960s, the final efforts at mechanization in the face of the inevitable deindustrialization of Western Europe (Blegny-Mine).

On a social level, the Belgian coalmines illustrate, in the opinion even of Karl Marx, all the constituent elements of industrial capitalism: the switch from family capitalism to the proprietary limited company, the creation of a working class entirely identified with its means of production and shared values, and the development of idealistic and utilitarian paternalistic management. The Grand-Hornu and Bois-du-Luc city-factories provide two complete examples from the 19th century.

ICOMOS considers that the ensemble of the four sites that form the property provide a prominent and complete example of the industrial mining world in continental Europe at the various stages of the Industrial Revolution. It provides significant testimony of its industrial and technological components, its urban and architectural choices, and its social values. It also provides a significant overview of mining landscapes of this period.

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the serial approach is justified by the selection of relevant and complementary sites.

ICOMOS considers that the nominated property meets criteria (ii) and (iv) and conditions of integrity and authenticity and that Outstanding Universal Value has been demonstrated.

Description of the attributes of Outstanding Universal Value

The four sites of the nominated property are complementary and exemplify Belgian and European mining history. They provide four testimonies of the various technical, architectural and social forms of coal mining throughout this history.

- First, as a mining project in terms of the organization and construction of the industrial site, in the various periods of the Industrial Revolution taken as a long-term process. More specifically, its beginnings and its first peak (Grand-Hornu and Bois-du-Luc), its functional utilitarianism in the second era of industrialization (Bois du Cazier), and its late reconstruction and final productive intensification in the phase of decline (Blegny-Mine).
- The property is testimony to the utopias of the industrial city within the context of coal mining, notably in the form of the ideal city of Grand-Hornu organized around an industrial site with strong architectural significance, and the very complete industrial and social ensemble of Bois-du-Luc, illustrating the Christian paternalism of family-owned companies in the 19th century.
- The property is testimony to the technical systems used to extract coal, particularly the old machines at Bois-du-Luc and the technological ensemble at Blegny-Mine. The latter, by virtue of its completeness, both above and below ground, and its state of conservation permit a satisfactory interpretation of the coal production process.
- The interculturalism and workers' values coupled with immigration are clearly present in Bois-du-Cazier, because of the 1956 disaster and the presence of the memorial.
- The presence of the mining landscape with the slag heaps provides additional understanding at three of the sites: Bois-du-Luc, Bois du Cazier, and Blegny-Mine. They complete and reinforce the attributes of the Outstanding Universal Value listed above.

4 Factors affecting the property

Development pressures

In general, there are few risks linked with uncontrolled urban or industrial economic development. All the sites are listed, thereby guaranteeing that special attention will be paid to any potentially threatening planned activities. Additionally, industrial activity has ceased and its

resumption is improbable given the investment that would be required

The industrial sites all have a cultural or social function today, and the current infrastructure meets the needs of these changes in use. All have been recently restored. There is little space left for new construction in the buffer zones with their dense built urban environments (Grand-Hornu, Bois-du-Luc and Bois du Cazier). Blegny-Mine is surrounded by an essentially agricultural area.

ICOMOS considers that there is potential for property pressures from the renewal of the existing built environment within the urban buffer zones and recommends that attention mainly be paid to changes to the existing building stock and restoration.

Tourism pressures

Through their roles as cultural, memorial, or museum centres, the industrial sites already receive many visitors. This does not pose any problems, since the sites have all been stabilized and restored; the risk of accidents is limited. Furthermore, the surface areas concerned, the volumes of the buildings, and the decisions made when they were converted allow for the reception and movement of a large number of visitors. At present, none of the sites has reached its maximum capacity and significant increases are not an issue at any of them.

Environmental pressures

There are few, if any, environmental pressures. On the contrary, it could be said that the cessation of operations on the sites has resulted in an improvement in the air quality with a reduction in dust and smoke.

The colonization of the slag heaps by wild or planted shrub vegetation is helping to stabilize these artificial hills, which are in places very high and steep. This provides a natural means of preventing the risk of landslides or collapses.

Natural disasters

Belgium is not on any fault line. The earthquakes are of low amplitude and are not noticed by the inhabitants. However, there is a risk of the shoring of the mine galleries being weakened in the event of an earthquake.

With respect to mine risks, the safety precautions demanded by the mine administrative authorities precludes any risk of gas emanations and consequent accidents. The situation of Blegny-Mine is special, as it is possible to visit one of the old galleries.

Impact of climate change

The effects of climate change are at present indiscernible. Events such as tornadoes or exceptional storms, possibly linked with climate change, have so far not affected the property.

ICOMOS considers that the threats to the property itself are low. On the other hand, pressure from renewal of the existing urban building stock could eventually occur in the urban buffer zones.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The components of the property and their buffer zones are:

- Grand-Hornu: The property has a surface area of 15.86ha; 859 people live within its boundaries. The buffer zone has a surface area of 47.81ha, and 387 people live within it.
- Bois-du-Luc: The property has a surface area of 62.55ha; 622 people live within its boundaries; the buffer zone has been extended in accordance with the decision 34COM 8B.27, point b of the World Heritage Committee, under a regional decision in August 2011, surface area is 100.21ha.
- Bois du Cazier: The property has a surface area of 26.88ha; there are no residents within its boundaries. The buffer zone has a surface area of 104.06ha, and 1,049 people live within it.
- Blegny-Mine: The property has a surface area of 12.78ha; there are no residents within its boundaries. The buffer zone has a surface area of 92.62ha, and 158 people live within it.

ICOMOS considers that the boundaries of the four sites and of their buffer zones are adequate.

Ownership

In general, the industrial parts of the sites were acquired by the regional or local authorities following the closure of the mines. The management of the industrial sites was then transferred to cultural, tourism, or social associations under long-term leases.

There are two types of ownership in the inhabited zones: semi-public entities in charge of public housing acting as the lease owner of the housing (the Carrés Estate in Bois-du-Luc) and private owner-occupiers (the workers' houses in Grand-Hornu).

The main public and semi-public owners are:

- Grand-Hornu: Hainaut Province (site), Boussu Commune (landscaped areas).
- Bois-du-Luc: Walloon Region (site), Centr'habitat public housing association (estate), Louvière public social assistance centre (hospital), Louvière City (hospice, schools and park), Le Doyenné (church and schools).
- Bois du Cazier: Walloon Region General Commissariat for Tourism (site), Charleroi Commune (cemetery).

- Blegny-Mine: The World Heritage Committee requested clarification of the situation for this site (34.COM 8B.27, point a). The difficulty in establishing ownership and right of use for this site was in particular related to the State Party's right over the underground parts, because of the cessation of the industrial mining operations but not to the use of certain galleries for tourism activities. This question is currently being settled as follows:
  - Upon liquidation of the operating company, SA Charbonnages d'Argenteau, the mining site's property ownership reverted to the Province of Liège. The latter then ceded the usage rights to the Walloon Region which then contracted it to the management association "Domaine touristique de Blégny-Mine" (2010).
  - However, the underground mine remains under the mining concession held by SA Charbonnages d'Argenteau until June 2012. On this date, the Walloon Region intends to take over the concession; the transfer deed is currently being prepared. During the transition period, the situation of usage and responsibility for the underground mine for tourism purposes depends on the agreement (not provided to us) between the mining company and the *de facto* management association for the site and its underground parts; in the event of an accident a complex legal situation may ensue.
  - The Blegny-Mine Association owns the documentation centre and the rolling stock; it has also become the contractual manager of the site under a management agreement with the Province of Liège (General Commissariat for Tourism) effective from 1 January 2010.

ICOMOS considers that the situation of ownership of Blegny-Mine has been clarified and that the complex situation will be settled after enactment of the deed of transfer for the long-term lease of the underground mine to the Walloon Region.

Protection

Legal protection

The listing as a historic monument of the Walloon Region is recognition of the heritage value of a property, but also a public commitment to take the necessary measures for this property's protection and conservation. This commitment takes several forms: regulatory, organisation of the consultation procedure, financial consolidation by the Walloon Heritage Department and legal action if needed. Two other levels of protection also exist. Recognition of *protected heritage status* is reserved for the sites and ensembles. This is a lighter and more flexible restriction than listing. There is also a higher level of classification, *Exceptional Heritage* of the Walloon Region. At times, municipal orders and plans can strengthen and extend the regional level of protection.

The World Heritage Committee recommended more extensive and more systematic protection of the property's more significant components (Decision 34.COM 8B.27, point c); it also requested a standardized protection system for the buffer zones (Decision 34.COM 8B.27, point d).

At Grand-Hornu, the industrial site, buildings, and interior courtyards are listed as historic monuments (1993), as are the worker's city and the manager's residence (August 2011).

In Bois-du-Luc the majority of the industrial and social buildings and the workers' housing is listed as a historic monument (1996). They have been covered by the higher level of Exceptional Heritage of the Walloon Region since 2006. The employees' houses, engineer's and second director's residences, hotel, workers' houses outside the Bosquetville Estate, and the Saint Patrice and Saint Emmanuel slag heaps were listed in August 2011.

Since 1990 the Bois du Cazier industrial site has been covered by Walloon Protected Heritage status. The non-listed industrial sections, the historical components of the communal grave and the Italian monument were listed as historic monuments in August 2011.

The Blegny-Mine mining site was listed as a historic monument in August 2011. In particular, this listing covers: the Marie pit buildings, its internal equipment, external coal slurry tanks; pit No 1, its tower and industrial facilities, its lift and part of the galleries; the slag heap building and machinery; a series of technical buildings (laundry, sorting yard, carpentry shop, forge entrance, weigh scales, etc.); and the site entrance. Blegny-Mine's buffer zone was promulgated by Regional Decree in August 2011.

ICOMOS considers that the progress made since 2009 in extending the protection of the components that make up the four sites complies with the recommendations of the World Heritage Committee and that this protection is now adequate.

Protection of the buffer zones is provided, at a general level common to the four sites, by the CWATUPE (Walloon Code for Regional Development, Urban Planning, Heritage and Energy) which defines the protection zones for listed monuments and sites, and also stipulates the general terms for their protection. Urban planning permits can only be issued after compliance has been granted by the *Royal Commission for Monuments, Sites and Archaeological Excavations*. The serial property's four buffer zones have officially been placed under this regulation by a regional deed dated 22 August 2011.

The sector plans, specific to each site's commune, records the local town planning situations. The first three sites are located in zones with long-standing industrial and urban occupancy, the fourth, Blegny-Mine, is in a

rural zone; most of its buffer zone is given over to farming and only a small fraction is allocated to rural housing.

ICOMOS considers that control of the buffer zones is adequate under the provisions of the Development Plan (CWATUPE) as they refer to the environment of listed monuments and sites, and their application to the four buffer zones of the serial nomination, under the Regional Deed of 22 August 2011. ICOMOS recommends that landscape impact studies be carried out prior to any urban or industrial conversion projects at the first three sites to determine how they affect the property's visual values.

Traditional protection

The traditional protection concerns the involvement of the residents or the neighbouring population regarding the components of the property. It is expressed in the form of a living working-class culture and an on-going very strong commemoration of the mine victims in Bois du Cazier, a living memorial to the Walloon and immigrant miners. It is also expressed by the attitude of the inhabitants of the worker estates towards their homes.

Effectiveness of the protection measures

Given that the components expressing the property's value have been listed as monuments or sites, ICOMOS considers that the protection measures are adequate and that they should be effective. The same applies to the buffer zones under the protection of the Development Plan (CWATUPE).

ICOMOS considers that the legal protection in place is adequate.

Conservation

Inventories, archives, research

There is a series of sector inventories of historic monuments in the Heritage Department of the Walloon Region. This is completed by recent studies used to inform the extension of listings to include various components of the property (2009-2011).

Each of the sites has its own archives, at times very extensive, regarding its history; they are generally stored in documentation centres open to researchers (Blegny-Mine and Bois du Cazier). There are also numerous historical, regional and tourism studies made by various institutions, especially Liège University. The latter assisted with the creation at Blegny-Mine of the mining industry archive and documentation centre (CLADIC). More generally, the documentation services and public libraries, both at the site museums and in city and university institutions in Belgium, have extensive documentation dealing with the various architectural, urban, social and industrial aspects associated with the sites and the history of coal mines in Belgium and Europe.

Present state of conservation

Aside from the Grand-Hornu workers' houses, with their extensively modified facades, the state of conservation of the property's various components is generally good. It is monitored by the cultural, tourism and museographic associations in charge of the majority of the industrial sites, through semi-public structures for the other components of the property, the dwellings in particular.

Nonetheless, this generally favourable state of affairs seems to reflect widely varying local dynamics, specific to each site, and limited involvement by the regional services responsible for regional heritage conservation, which alone are in a position to ensure a homogeneous approach to these issues.

Active conservation measures

The authority responsible for conservation and restoration is the Heritage Department of the Walloon Region. In practice, for the public and semi-public sites, the conservation work is mainly provided by the owner bodies in consultation with the other local and regional authorities concerned, generally under multi-year plans. They are supported by specialist associations: Wallonia-Brussels Industrial Heritage, Museums and Society in Wallonia (an industrial, scientific and technical heritage group), and Walloon Archives.

Following the decision 34.COM 8B.27, point e, by the World Heritage Committee, a foundation for the restoration of the 160 façades of the Grand-Hornu workers' city is now being set up by the partners in the site's management. It includes a programme for the ensemble together with technical and financial aid for the individual owners.

The studies for writing a general plan for the conservation of the industrial facilities at Blegny-Mine were started in 2011, under the responsibility of the new director of conservation and risks.

ICOMOS considers that the various sites have developed or improved their local conservation plan since the initial nomination in 2009. It would nonetheless be advantageous to harmonize these plans and incorporate them into an overarching conservation plan for the four sites in order to target the full expression of the serial property's Outstanding Universal Value.

Maintenance

General maintenance measures are largely handled by the sites' managing associations and institutions.

Maintenance of the technical and industrial components still in operation at Blegny-Mine is financially covered by the contract between the Walloon Region and the site's Management Association.

Effectiveness of the conservation measures

ICOMOS considers that the effectiveness of the conservation measures has been improved by the measures taken, notably the renovation project for the Grand-Hornu workers' city and the draft maintenance and conservation plan for the technical facilities at Blegny-Mine.

Nonetheless, the creation of an overarching conservation plan, as recommended by the World Heritage Committee (34COM 8B.27, point e), could be based on grouping together the existing or draft conservation plans, providing they are written using a shared format prepared by the scientific authorities in charge of supervising the serial property. This would make it possible to harmonize the policies at each site and to handle conservation projects in a more homogeneous manner.

Local trends and issues remain: at Grand-Hornu, the policy for restoration assistance for the workers' city needs to be implemented; in Bois du Cazier, the conservation policy seems to be dominated by memorial and social aspects to the detriment of the site's other material components; and at Blegny-Mine, maintenance of the technical facilities requires significant long-term attention, etc.

Greater involvement by the Coordination Group and the Regional Heritage Department in the scientific entities and in the supervision of the overarching conservation is required.

ICOMOS considers that conservation policies exist and are being developed for each of the sites, albeit independently. By creating conservation plans for each site using a shared format, it would be possible to harmonize the individual policies leading to conservation projects being handled in a more homogeneous way. The Coordination Group and the Regional Heritage Department must become more involved in the scientific entities and in supervising the conservation of the four sites.

Management

Management structures and processes,
including traditional management processes

The management of the industrial sites largely takes the form of a delegation of contractual activities of a cultural, social, or museographic nature by public or semi-public owners to specialist associations or professional public entities. As a general rule, a lease and a contract govern the relationships between the owner and the manager:

- At *Grand-Hornu*, the manager is the Walloon French Community and the Museum of Contemporary Arts.
- At *Bois-du-Luc*, the sections of the industrial site open to the public are entrusted to the Ecomuseum and the GABOS cultural activity group. They receive financial assistance from various regional and local authorities.
- At *Bois du Cazier*, the overarching management is entrusted to the 'Bois du Cazier' association, which benefits from the financial support of the General Commissariat for Tourism, the Charleroi Community, and the Belgian French Community. Its activities are shared by the site's overall management, the memorial, and the glass museum.
- At Blegny-Mine, the legal situation of the management association "Domaine touristique de Blegny-Mine" has been clarified since 2009 and it its relations with the regional and provincial public governing authorities have been strengthened.

A series of public, semi-public, and individual owners manage the other buildings used for community purposes or for housing.

There was no clearly established overarching management framework in the initial nomination dossier and the World Heritage Committee pointed out this gap (34COM 8B.27, point f). The additional dossier itself indicated that "to develop a long-term shared and coordinated approach was innovative" for the managers of the four sites. It is the Walloon Heritage Department that has brought them together relatively regularly since 2009, notably to write the additional dossier. This has led to:

- as a first step, the implementation of a provisional working group which was recently converted (22 September 2011) into a permanent *overarching Coordination Group*; its composition has been made official and it has met on several occasions;
- a "joint declaration" signed by the four site managers in 2009, committing them in general terms to complying with the values of their sites and to consulting with each other;
- each site having a steering committee involving a management committee and a scientific committee;
- a draft management plan that is compiled and implemented under the authority of the Coordination Group; preliminary work has recently been started, following the creation of the Coordination Group

ICOMOS is pleased to note the recent implementation of a federal management structure, the *overarching Coordination Group*, in accordance with the decision 34COM 8B.27, point f) of the World Heritage Committee; it must accompany and coordinate the property's four steering committees.

On the other hand, ICOMOS notes that the division into four independent site scientific committees seems to be prejudicial to the expression of the property's Outstanding Universal Value, which is not fully borne by any of the sites but by the ensemble of the four. A single scientific committee, grouping together all the various entities already planned at each site, and working with the Coordination Group, is essential. It would be able to prepare the shared conservation and management formats; it would be able to deliver opinions about the

conservation of the series as a whole and to coordinate its supervision.

Policy framework: management plans and arrangements, including visitor management and presentation

The shared reference framework for the territorial management of each site is provided by the "sector plans" governed by the Town Planning Code (see protection). These ensure control over land zoning and they govern building permits.

The January 2011 complementary documentation provides the following points relative to the operation of the Working Group common to all the sites, which is a forerunner to the Coordination Group:

- an "action programme" common to the four sites for 2010 and one for 2011. However, they are very schematic, merely providing chapter headings dealing with cultural, tourism and social aspects; the effective actions are an initial merger of the communication policies and the organization of a joint study day;

- the announcement of a management plan.

ICOMOS takes note of a federal management system and the difficulties the sites have in working together. Rather than compile a joint management plan, it would seem more useful to define a detailed management plan for each of the sites based on, if possible, a shared format that would be defined by the *Coordination Group* and the *Regional Heritage Department*, and to include the conservation plans already mentioned together with the confirmed elements of the joint annual action plans.

Risk preparedness

Risk management primarily relates to the safety of the old mines and the public's admission. The former is governed by the Belgian Mines Code, the most recent version of which dates from 1998. A manager has been appointed and appropriate inspections are made regularly.

The only site where there is frequent inspection of its facilities is Blegny-Mine, in terms of its industrial safety and the admission of the public, since much of it is still operational. The lift cages and cables undergo daily visual inspection; other regulatory inspections are performed at this site at frequencies ranging from weekly to yearly. They are carried out by qualified personnel from approved agencies. There are specific electricity safety measures for the underground facilities, with a local emergency generator. The absence of firedamp and dioxygen (O2) levels are checked continuously. If a first threshold is reached, the ventilation systems are automatically started up. Other alert levels and automatic safety procedures are in place. Blegny-Mine is classified as a 'non-firedamp mine,' *i.e.*, one which presents a low and stable potential mine risk. An engineer was hired in December 2010 to oversee safety at Blegny-Mine.

The pits at the other sites are under passive supervision, as all have been closed. The risks involved in admitting the public to the old mine buildings are of the same order and subject to the same safety and health rules as all other similar premises open to the public. They have been secured and have automatic fire warning systems. Some premises considered more liable to theft or break-ins are protected by alarms and surveillance systems.

Involvement of the local communities

The municipalities are involved in the management and development programmes at each of the sites, as well as in consolidating the property's finances for conservation. The site management associations and local cultural associations provide significant opportunities for the local population, especially former miners and their families, to engage in the life of each of the sites. The latter attend the Bois du Cazier memorial events and are in charge of much of the current operation of the Blegny-Mine facilities.

Resources, including staffing levels, expertise and training

Numerous staff, specializing in the relevant activities, are in place at the various sites that make up the serial property. In most cases they are employed by the associations and companies in charge of management and the cultural and museographic activities at the sites:

- At Grand-Hornu, around one hundred people, some of whom work part-time.
- At Bois-du-Luc, around fifteen people are employed by the two museographic associations.
- At Bois du Cazier, the management association employs a staff of 28 people; ten Charleroi municipal employees are also seconded on site.
- At Blegny-Mine, 76 people are present under various contractual arrangements. The tasks involve running the site for visitors, as well as three maintenance teams.

ICOMOS notes that no information is provided about the staff in charge of the conservation of the properties.

Effectiveness of the current management

The effectiveness of the tourism and cultural management at each site, considered as an autonomous entity, appears satisfactory. It is in most cases provided by a large number of staff, although no mention is made of their skill levels. These teams are also in charge of general maintenance of the public areas and, at Blegny-Mine, they are also tasked with the technical operation of the mining site.

In the final analysis, this is a relatively loose federal-type property management system, with each site having its own management structure. It is therefore essential to

strengthen the coordination and harmonization aspects between the sites, in particular to express fully the Outstanding Universal Value which is not borne individually by any one of the sites, but by the serial ensemble. The approaches to adopt in order to achieve this involve the effective operation of a common overarching entity, the merger of the sites' scientific committees, individual site management plans written on the basis of a common format and the harmonization of conservation plans.

ICOMOS considers that the management system of the property is adequate at least with regard to cultural and museographic management at each of the sites, as well as for technical operation and general maintenance; but it should be reinforced by the merger of the site scientific committees and individual site management plans written on the basis of a common format.

6 Monitoring

The original nomination dossier explicitly indicates that there are no specific indicators to measure the property's state of conservation (p. 75). However, 'health status files' were developed for each building to coincide with the compilation of the nomination dossier. In theory, these are to be updated every five years. The files produced are annexed to the documents for each site. In practical terms, they are photographs of the building façades with qualitative statements ranging from 'very good' to 'very poor'. The 'work/urgency' section is generally not documented.

ICOMOS considers that monitoring is technically in place at the level of the individual public and private buildings that form the property, but that no overall monitoring has been defined to date in terms either of its indicators or of a common framework and of the exercise of responsibility for the monitoring.

7 Conclusions

ICOMOS recognizes the Outstanding Universal Value of the Major Mining Sites of Wallonia (Belgium), comprised of the former Grand-Hornu, Bois-du-Luc, Bois du Cazier, and Blegny-Mine collieries. The series is fully justified. ICOMOS also notes the efforts made by the State Party to satisfactorily respond to the recommendations of the decision 34COM 8B.27 of the World Heritage Committee; however, all these efforts are very recent with regard to certain points (e and f notably) and it requires additional efforts, such as the establishment of an overarching scientific committee for the four sites and the writing of a harmonised conservation plan using a common format.

Recommendations with respect to inscription

ICOMOS recommends that the Major Mining Sites of Wallonia, Belgium, be inscribed on the World Heritage List on the basis of **criteria (ii) and (iv).**

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Grand-Hornu, Bois-du-Luc, Bois du Cazier and Blegny-Mine sites represent the best preserved places of coal mining in Belgium, from the early 19th to the second half of the 20th centuries. The Walloon Coal Basin is one of the oldest, and most emblematic of the industrial revolution, on the European continent. The four sites include numerous technical and industrial remains, relating to both the surface and the underground coal mining industry, the industrial architecture associated with the mines, worker housing, mining town urban planning and the social and human values associated with their history, in particular the memory of the Bois du Cazier disaster (1956).

Criterion (ii): Among the earliest and largest in Europe, the four Walloon coalmines are testimony to the early dissemination of the technical, social and urban innovations of the industrial revolution. They then played a major exemplary role on the technical and social levels through to recent times. Finally, they are one of the most important sites of interculturalism arising out of mass industry through the participation of workers from other regions of Belgium, Europe and later Africa.

Criterion (iv): The ensemble of the four Walloon mining sites provides an eminent and complete example of the world of industrial mining in continental Europe, at various stages of the industrial revolution. It bears significant testimony to its industrial and technological components, its urban and architectural choices, and its social values, especially following the Bois-du-Cazier disaster (1956).

Integrity

The series' components have been selected for the quality, diversity and wealth of the testimonies they provide. Each expresses an original and complementary dimension of the serial property's overall value, and each has the necessary components demonstrating sufficient integrity for an intelligible expression of this overall value.

Authenticity

The authenticity of the individual components of the serial property varies somewhat depending on the component considered and depending on all the property's sites, but it achieves a satisfactory level overall. The programmes announced for the renovation of certain components, such as the Grand-Hornu workers' city, should favourably restore the conditions of authenticity for this property. Nonetheless, an

overarching conservation plan would be welcomed to ensure the authenticity of this serial property is lastingly maintained.

Management and protection requirements

Overall, the protection measures for the sites are adequate. Guarantees have been provided for the sound management of the urban and rural buffer zones through local town planning or sector plans, implementing the general provisions of the Development Code for the environment of the listed monuments and sites.

Starting from the addition of sites with separate management and conservation systems, the serial property has recently acquired a permanent overarching body that is operating effectively: the overarching Coordination Group. The scientific capacities of this group must be strengthened and the programmes and actions coordinated to achieve a level of management and conservation compliant with that of a property with recognised Outstanding Universal Value.

ICOMOS recommends that the State Party give consideration to the following:

- Strengthening the scientific capacity of the overarching Coordination Group by merging the four site scientific committees or at least establishing closer cooperation between them;

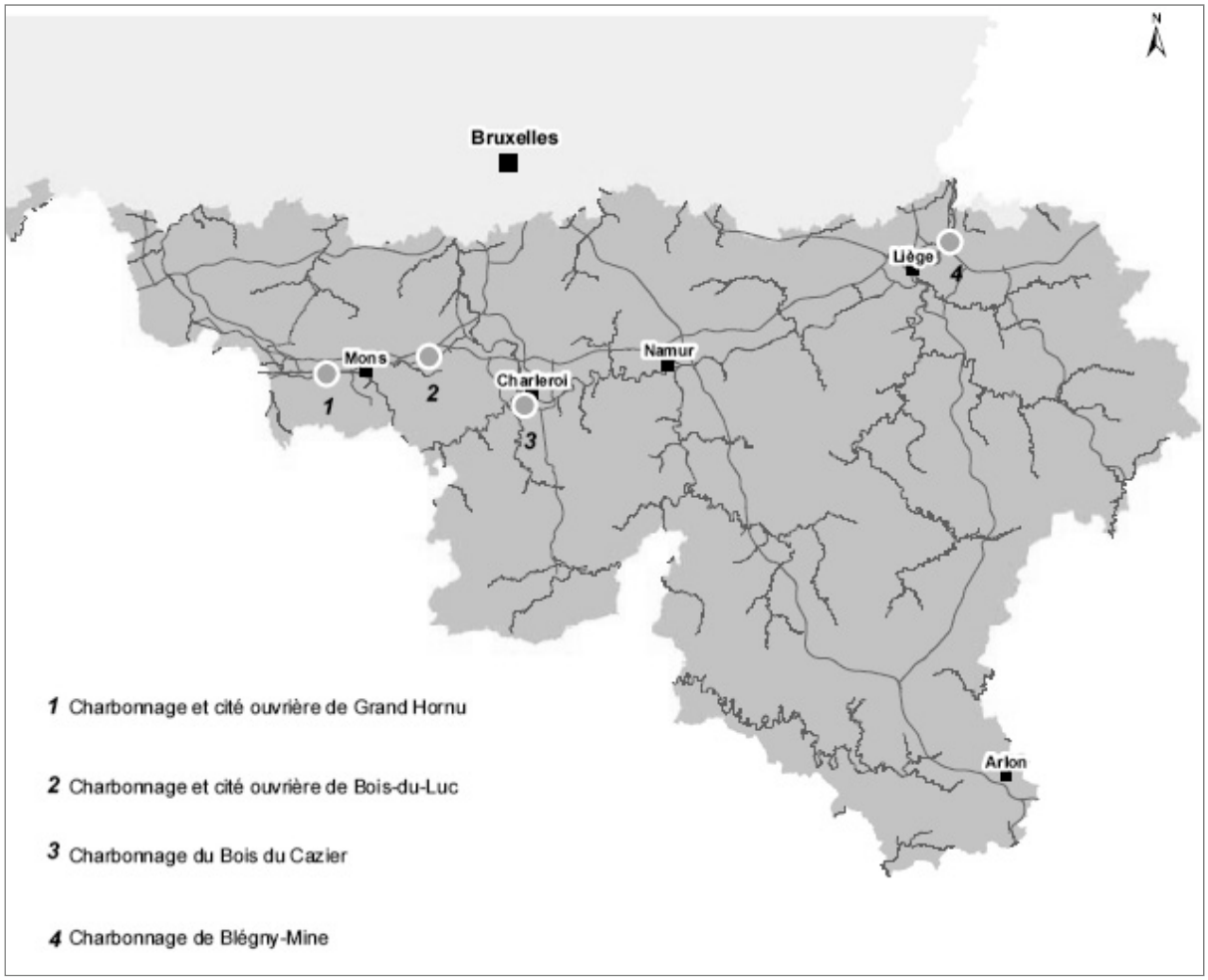
- Strengthening the presence and the professional involvement of the Regional Heritage Department in the property's overarching management bodies;

- Writing conservation management plans for each of the sites based on a common format prepared by the Coordination Group and by its associated scientific and professional bodies, and produce an overarching conservation plan;

- Carrying out, for the urban or industrial conversion projects in the buffer zones, landscape impact studies insofar as the property's visual values are concerned;

- Confirming the financial capacity of the Grand-Hornu Foundation for the restoration of the worker city's conditions of authenticity;

- Forwarding to the World Heritage Centre the deed of transfer to the Walloon Region of the long-term lease for the underground mine at the Blegny-Mine site once it has been enacted.



Map showing the location of the nominated properties

Grand-Hornu

Bois-du-Luc

Bois du Cazier

Blegny-Mine

Heritage of Mercury. Almadén and Idrija
(Spain, Slovenia)
No 1313rev

Official name as proposed by the States Parties
Heritage of Mercury. Almadén and Idrija

Location
Almadén, Comunidad Autonoma de Castilla La Mancha, Provincia de Ciudad Real
Spain
Idrija
Slovenia

Brief description
Mercury is a relatively rare metal, whose use has long been irreplaceable in a variety of technical, chemical and industrial processes. It has only been produced in substantial quantities and over a long period by a small number of mines worldwide, of which the two largest, until recent times, were at Almadén in Spain and Idrija in Slovenia. These two mining towns, whose origins date from ancient or Medieval times, demonstrate the lengthy period over which a socio-technical system of extraction specific to this metal was in operation, and the process of evolution it underwent. Controlling mercury extraction enabled control of the market, which very quickly became intercontinental in scope because of its decisive role in the extraction of silver from deposits in the New World. A heavy metal, which is liquid at room temperature and has very specific chemical and physical properties, mercury is also a pollutant, which is dangerous for human health.

Category of property
In terms of categories of cultural property set out in Article I of the World Heritage Convention of 1972, this is a serial nomination of two *groups of buildings.*

1 Basic data

Included in the Tentative List
27 April 2007 (Spain)
18 June 2007 (Slovenia)

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by World Heritage Centre
29 January 2008
26 January 2010
1st February 2011

Background
This is a deferred nomination (34 COM, Brasilia, 2010).

An initial nomination dossier was examined by the World Heritage Committee at its 33rd session (Seville, 2008), and was referred back to the States Parties. This was a serial nomination for three sites, presented by three States Parties (Spain, Slovenia, Mexico) on a broader theme than mercury extraction: “The Mercury and Silver Binomial on the Intercontinental Camino Real: Almadén, Idrija and San Luis Potosí”.

A revised nomination dossier was examined by the World Heritage Committee at its 34th session (Brasilia, 2010) and the World Heritage Committee adopted the following decision (decision 34COM 8B.40):

The World Heritage Committee,
1. Having examined Documents WHC-10/34.COM/8B and WHC-10/34.COM/INF.8B1.Add,
2. Defers the examination of the nomination of the Mercury and Silver Binomial, Almadén and Idrija with San Luis Potosí, Spain / Slovenia / Mexico to the World Heritage List in order to enable the States Parties to:
   a) Reconsider the definition of the property in San Luis Potosí, but also with its mining region, and more broadly in comparison with the other silver extraction sites using the amalgamation process in Mexico, to bring it into line with the mining and industrial theme of the mercury and silver binomial, and so to establish its Outstanding Universal Value. An inventory of the technical and industrial heritage linked to the silver mines would be necessary for such a redefinition;
3. Considers that any revised nomination, with new boundaries, requires an expert mission to the site;
4. Recommends that the States Parties:
   a) Continue the contacts established with towns and silver mines which used the same mercury amalgamation process, particularly in Mexico and Bolivia, and with the Huancavelica mercury mine in Peru. However, the inclusion of additional sites which are not yet inscribed on the World Heritage List must give rise to a new nomination;
   b) Better integrate into the definition of the property the concepts of pollution and risks for human health resulting from the production and use of mercury. The international institute projected at Idrija for the study and raising of public awareness of these issues is enthusiastically supported.

In January 2011, a revised dossier was submitted to the World Heritage Centre, based on a serial property centring on mercury and its mining heritage.

Consultations
ICOMOS consulted its International Scientific Committee on Cultural Landscapes and the International Committee for the Conservation of the Industrial Heritage (TICCIH).

Literature consulted (selection)

Cañizare-Ruis, M., “Patrimonio minero-industrial en Castilla-La Mancha: el área Almadén-Puertollano”, *Investigaciones Geográphicas*, 31, Alicante, 2003, p. 87-106.

Dizdarevic, T., *The influence of Mercury production in Idrija mine on the environment,* Ljubljana, 2001.

Lescovec, I., "Maintenance and presentation of the technical heritage of the Idrija Mercury Mine", *Patrimoine de l'industrie,* Paris, 2004.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 19 to 25 September 2011.

Additional information requested and received from the States Parties
ICOMOS requested additional information from the States Parties in a letter dated 12 December 2011, so as to determine precisely the specific protection measures which apply to the buffer zones and the authorities in charge of their application; and to confirm the functioning of the International Committee in charge of coordination between the two properties. For Almadén: to ensure that the precise boundary of the property matches up between the various plans, and to include the buffer zone, with its specific regulations, in the Municipal General Plan (POM); to put a stop to works undertaken in the buffer zone which do not comply with the applicable regulations in this zone. For Idrija: to carry out a photographic inventory of the technical elements and industrial buildings currently present inside the property boundaries.

The States Parties replied on 21 February 2012, providing additional information which has been taken into account in this evaluation report.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The nominated property consists of the two mining sites of Almadén (Spain) and Idrija (Slovenia), used for the extraction of mercury (quicksilver). These were the world's two main extraction centres of this strategically important metal until recent times. The relationship between them was established when the Spanish empire, from the mid-16th century to the early 19th century, was seeking precious metals in America. The mercury amalgamation process was used for the cold extraction of silver in the mines of Mexico, Bolivia and Peru. Mercury mines of secondary importance also existed in China, Italy and California.

Almadén

Almadén is situated in the central southern part of the Iberian peninsula. The town was connected in particular to the ports of Seville and Cadiz, which were engaged in the international trade in mercury, under the control of the king. The mining area of Almadén contains elements of a geographic, geological and landscape nature; it includes mining, industrial and land use elements, together with urban, architectural and social elements. This is the world's largest deposit of cinnabar (mercuric sulphide), the principal mercury ore which was first extracted in antiquity. The main mining site today contains large mining slag heaps whose residual contents are under technical surveillance, to prevent the diffusion into the environment of the residual mercury. Other less important mines, which in some cases have long been abandoned, are also present in the region, but they have not been included in the property nominated for inscription on the World Heritage List.

The property consists of a main part, located to the west of the town of Almadén, together with a number of monuments scattered through the rest of the town, inside the buffer zone. The property consists primarily of:

1) The mining site and the elements directly related to the history of its exploitation:

- the mines themselves, consisting of interlinked shafts and galleries of various periods;
- the entrances to the del Pozo, del Castillo, and La Contramina mines; the shafts, the machinery and the buildings of San Aquilino, San Teodoro, San Andrès, and San Joaquin;
- the constructions of the del Castillo mine, the mercury store (today the museum), and the administrative and social buildings, etc.;
- various tunnels with specific functions, such as the forced labour tunnel, Caña Gitana, and the mining transport tunnel of San Aquilino;
- the Bustamante cinnabar furnace, designed in 1720;
- remains of the brick furnace (17th century);
- traces of the road to Seville used for the transport of the mercury to its port of embarkation.

2) The property also includes the town centre, still in its original fabric, stretching from the mining site to Constitution Square, with the following noteworthy elements:

- Retamar Castle,
- the Chapel of San Miguel,
- the historic San Miguel shaft,
- the Mining Academy building,
- the remains of the mine superintendent's house,
- the Inquisitor's House,
- the San Sebastian el Nuevo church,
- the Carlos IV and Carros gates,
- groups of traditional dwellings.

3) Various monuments in the buffer zone:

- the archaeological remains of the forced labour gaol;
- the San Rafael Miners' Hospital, which today houses the museum and archives of Almadén;
- the bullring.

Idrija

The mining site of Idrija is located in western Slovenia, not far from the Italian border and more particularly the port of Trieste on the Adriatic coast, from where some of the mercury was exported. The presence of mercuric

sediment is the characteristic geological feature of the Idrija region. It was associated with the presence of mercuric sulphide (cinnabar) which made up the ore. It is the second largest mine in the world, after Almadén. The network of galleries dug during its lifetime is around 700 km in length, at depths of up to 420 m. Considerable quantities of wood were necessary for the mine's operation, to provide props to support the galleries and as fuel for the furnaces. The Idrija region was equipped with dams in order to permit the transport of the wood by flotation.

The site today presents vestiges of the mining area and its outbuildings, the shafts and tunnels, the facilities for extraction by ore smelting, the pumps, the machinery and the associated equipment, and the hydraulic facilities used for generating energy or transporting wood. It also contains a specific set of urban buildings which bear testimony to mining exploitation over a long period. Finally, it includes a number of traces of historic pathways used for mercury transport.

The nominated property is divided into the main urban and industrial zone, two adjacent additional zones inside the buffer zone, and four peripheral hydraulic zones.

1) the main zone of the old town includes the following heritage elements:

- the mercury stores and the mine administration in Gewerkenegg Castle,
- the Francis shaft,
- the miners' theatre,
- the town hall,
- the secondary school for science,
- the miners' living quarters,
- the paths in Idrija linking the mine, its facilities and the stores, in particular 'Anthony's Main Road,' which leads to the entrance of a shaft dating from the beginning of the 15th century.

2) furnace 2 and the mercury extraction workshop;

3) the Kamšt water pump and the Joseph shaft, together with traces of the point of departure of the Mercury Route in Idrija;

4) the Gorenja dam;

5) the Vojsko dam;

6) the Putrih dam;

7) the Belca River dam.

ICOMOS notes that the nominated serial property is different from the two previous nominations, examined in 2009 and 2010. The Mexican mercury use site, which formed the grounds of the World Heritage Committee's decision to defer examination of the nomination (34COM 8B.40), has been withdrawn. The new serial property is centred on the mercury and its mining heritage.

History and development

Mercury and its mineral derivatives have been known and used since Greco-Latin antiquity, in small quantities, as a coloured pigment (vermilion), in jewellery making, and as an ingredient of the pharmacopoeia. The amalgamation process, based upon the ability of liquid mercury to dissolve the precious metals of gold and silver, has been known ever since this period. In the Middle Ages the Arabs described the process and they passed it on to the European alchemists. Mercury, the only metal that is liquid at room temperature, was known at the time as 'quicksilver'.

Mercury resources, which are usually in the form of an ore containing mercury sulphide (cinnabar), sometimes with small amounts of native mercury (in the metallic state), have the geological particularity of being few in number across the globe. Historically, only four or five main locations have been worked. The largest deposit is at Almadén in Spain, which has been known since ancient times; the second largest is Idrija, in present-day Slovenia, discovered in 1490. The other main mercury deposits are the mines of Monte Amiata in Italy, which have also been known since ancient times, the mines of Huancavelica (Peru), discovered in 1564, the mines in China, the existence of which became known to Europeans in the modern period, and finally the mines of California dating from the Gold Rush in the second half of the 19th century.

In the early 16th century the Idrija mine was developed under the control of the Republic of Venice, which brought in German master miners and sold the mercury produced throughout Central Europe, in the Eastern Mediterranean, and in Flanders. An initial amalgamation test for the extraction of silver was probably carried out in Venice in 1507. The powerful trading dynasty of the Fuggers, who hailed from southern Germany, gained a dominant position in non-ferrous metal mines in Europe, thanks to an agreement with the reigning house of the Habsburgs. Almadén formed part of this entity, and the extraction of mercury was revived there in around 1550, because of its use for the extraction of precious metals from deposits in South America and Central America, which were one of the main motivations for Spanish colonial expansion. Initially the resource concerned was gold, but very quickly the amalgamation process was applied to the large-scale cold extraction of silver, which required no furnaces and thus no abundant supplies of firewood. The workings in the Andes and Mexico used this process, which requires large amounts of mercury. While the workings in the Andes took advantage of the discovery of the mercury deposits at Huancavelica, New Spain had to import mercury on a massive scale from European mines.

Control of Almadén mercury extraction and the organisation of its transportation and trade then became an issue of great economic and geopolitical importance. The Spanish royal treasury acquired a monopoly in these activities in 1559. The Habsburgs then took direct control of the Idrija mines in 1575.

Remains of the terrestrial routes for mercury transport survive at the point of departure at Almadén for the ports of Andalusia, and at Idrija for the port of Trieste. The east-west mercury route and the return silver route across the Atlantic had considerable economic consequences in Spain and Europe, and in America, from the 16th century to the early 19th century. In this context, production at the Idrija mines supplemented Almadén, whenever the latter experienced production difficulties or if production was insufficient. This was the case in particular during the period 1620-1645, and again in the second half of the 18th century.

Considerable efforts were made to develop a furnace to enable intensive extraction of mercury from cinnabar in the early 17th century, particularly in Spain and in Spanish America. After a number of tests, the furnace constructed by Alonso Bustamante at Almadén in 1646 was found to be the most efficient, and it became standard equipment, particularly in the Spanish-speaking world. Almadén today has a complete and well-restored furnace of this type, whose initial installation dates back to the early 18th century.

Concern for the safety and diseases of miners exposed to mercury was first expressed as early as the 16th century in the case of the Idrija mines, and it grew in the centuries that followed. The presence of medical staff and a pharmacy is attested there in the mid-18th century. An initial work on the mercury-related diseases of miners was published in 1761. An insurance system for miners was in place at the end of the 18th century, an extremely pioneering development in this region. The problem of industrial diseases arising from exposure to mercury is a serious issue, and one which affected workers engaged both in mining and in operating the furnaces. Steps were taken at a very early stage at Idrija to reduce exposure to mercury vapours for the workers, such as the use of masks for those close to the furnaces and the use of a roster system for the jobs involving the most severe exposure. In the 17th century hot baths were used for treatment. The medical question continued to be studied in the 19th century and in the 20th century, when, for example, the miners were provided with preventive ionisation treatment.

At Almadén, forced labour was used over a long period to provide the work force. The remains of the forced labour gaol bear witness to this, together with a tunnel used to control access to the mine by the forced labourers. A large part of the museography at Almadén is concerned with the forced labourers and the health consequences of exposure to mercury (the site of the forced labour gaol, the museum of the former hospital). Furthermore, the mercury ore extraction zone extended beyond the boundaries of the property nominated for inscription on the World Heritage List, and a number of mining and architectural elements bear testimony to this fact.

In the early 19th century, there was a decrease in Mexican demands for mercury from Almadén and Idrija because of events which affected the country, later because of the use of mercury from California, and finally because of a change in silver extraction techniques during the Industrial Revolution. It is significant that two of the principal Californian mines were given the names New Almaden and New Idrija. The early Bustamente furnaces were replaced, first at Idrija by the use of the new ČermakŠpirek furnace (1887), and then by rotating furnaces in the mid-20th century. Remains of furnaces of this type are still preserved at Idrija.

In the same tradition as its secondary school for science, Idrija acquired a school of geology in the 20th century which is today well known in Central Europe. Almadén developed a higher level of technical education related to the mercury mines. Subsequent efforts have been made both at Idrija and at Almadén to set up scientific institutions carrying out research and studies into mercury pollution and its effects on human health.

The working of mercury at the two sites ended in 1993-1994 at Idrija, and in 2002-2004 at Almadén. It is estimated that Almadén supplied about one-third of the world's mercury over a period of 2000 years of exploitation, and Idrija about one-eighth over a period of 500 years.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The comparative analysis in the nomination dossier begins with a comparison with international serial transboundary properties which are already inscribed on the World Heritage List, or those projects which are at an advanced stage of development. Few of the properties mentioned in the comparison have no transboundary territorial continuity whatsoever.

The nominated property belongs to the larger group of mining sites and mining towns which are present in various parts of the world. It is important to examine the type of mining exploitation, the periods of exploitation and their historic role, and finally their integrity and authenticity, in order to enable a comparison between them, and with the nominated serial property. There are currently around twenty on the World Heritage List, and around forty mining sites (including sites on the Tentative Lists) are examined in the nomination dossier. They are located in different parts of the world, and are divided up by type of extraction into categories such as mineral salts, copper and ferrous ores, precious metals and precious stones, and by the periods during which they were exploited. Almadén and Idrija are fully in line with the group of major mining sites of international significance, together with the associated mining towns. Several of these sites have important landscape aspects.

The theme of mercury extraction is not yet represented amongst the properties inscribed on the World Heritage List. No properties representing this theme other than Almadén and Idrija are included in the Tentative Lists. The single and specific theme of mercury extraction is what connects and constitutes the specific nature of the two transboundary serial properties nominated. Furthermore, the two sites provide a direct link between the mining testimony and its urban and social dimensions. They are furthermore complementary in terms of technical and scientific expertise. They have important historic links with regard to the very early European and then transatlantic market, from the mid-16th century until the early 20th century. The market and commercial distribution of mercury are represented by the silver-bearing sites of Mexico: the silver mines of the Historic Town of Guanajuato (1988, criteria (i), (ii), (iv) and (vi)), the mines of Zacatecas (1993, criteria (ii) and (iv)), and the Camino Real of Tierra Adentro and the Town of San Luis Potosi (2010, criteria (ii) and (iv)).

Finally, and as recommended by the World Heritage Committee (34COM 8B.40, point 4.a), particular attention has been paid to the mercury extraction site of Huancavelica in Peru, whose importance in mining and historical terms is comparable to that of the two nominated sites. The working of the Huancavelica site began in 1563, in association with the development of the celebrated silver mining complex of Potosi, which is inscribed on the World Heritage List (Bolivia, 1987, criteria (ii), (iv) and (vi)). The use of mercury from Huancavelica was however more wide-ranging, and it formed part of a wider market which was already supplied by Almadén and Idrija, generating very substantial revenues for the Spanish crown. The main mine of Santa Barbara and the town are separated by a distance of four kilometres. Both today contain a certain number of elements which illustrate the heritage of mercury and its mining.

ICOMOS considers that the Huancavelica site could indeed significantly reinforce the value of the nominated serial property, and in particular provide an important example of a mercury mine in the American context. However, it seems that the site of Huancavelica does not have the necessary degree of integrity, and no conservation and management policy is currently in place for this property.

With regard to the mining sites in California, they were closed in the 1970s and abandoned. Their state of conservation and their integrity seem weak. The mine at Monte Amiata near Siena in Italy played a very important role in ancient times and in the Middle Ages, but it was then abandoned until the end of the 19th century, when extraction began once again. The heritage it represents today would seem to be mainly of a museographic nature.

ICOMOS considers that the selection of the two sites in the serial nomination is justified by the comparative analysis, particularly bearing in mind the specific nature of mercury extraction in the context of general mining history, and the importance of the two sites in this field. The series could be extended, in a limited way, to certain elements in the mining environment of Almadén, and by a complete extension dossier for Huancavelica, if this site can demonstrate that it has sufficient elements demonstrating its integrity and the management of its conservation.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the States Parties to be of Outstanding Universal Value as a cultural property for the following reasons:

- Mercury is a unique metal in terms of its physico-chemical properties and of its uses in many human societies, from ancient times to the present day.
- It was once used on a vast scale, particularly for the extraction of precious metals in America, which gave rise to early and substantial international commercial, cultural and technological interchanges.
- Mercury is a relatively rare metal, whose extraction was only possible in a very small number of large mines, of which Almadén and Idrija were the largest in the world over a very long time span. Mercury extraction is a specific and exemplary example of the relationship of man with nature.
- Mercury has toxicological properties which make it dangerous to handle, which was one of the reasons which led to its abandonment at the end of the 20th century. The great mines of the past, such as Almadén and Idrija, ceased to function, and have become testimony to a technical and industrial culture which has disappeared.
- The two mines provide comprehensive cultural testimony, over a long time span, of extraction techniques, social and economic conditions, and the architectural and urban environment, together with the associated cultural and social traditions.

The justification of the serial approach is based on the fact that Almadén and Idrija were the two most important mines in the world for mercury extraction, that they had historic links, and that together they have preserved a diversified and unique cultural and technical heritage relating to mercury extraction.

ICOMOS considers that this justification is appropriate, because the two mining sites in the serial nomination are the most important for mercury extraction, both in quantitative terms and in terms of historic time span. They adequately represent the various aspects of mercury culture, both in technical, industrial and economic terms and in urban, social, environmental and toxicological terms.

Integrity and authenticity

Integrity

Almadén
The nominated property has retained since the 16th and 17th centuries traces of its mining function and the associated evidence of the exploitation of mercury, its processing, and its transport, as well as significant urban and architectural elements of the development of the mining town of Almadén. The property is set in a mining and urban landscape which evokes its history, linked to the beginnings of the 'Mercury Route' to Seville and then to the Americas.

The vestiges of mining illustrate the evolution of the techniques of mercury exploitation and processing up to and including the 20th century. A sufficiently significant series of elements of tangible testimony has been conserved for its history to be represented with coherence and integrity.

The urban planning perceptible today is close to that of the 18th century. Some housing has been modified, and other buildings have been largely destroyed (house of the mine superintendent, the forced labour gaol).

Idrija
Like Almadén, Idrija bears witness to mining techniques throughout the different periods of its exploitation, up to its closure beginning at the end of the 1980s. Efforts to protect the mining elements as heritage began in 1952. These elements are extremely varied: shafts and galleries, machinery, hydraulic systems with dams for the transport by flotation of wood (for props and as fuel), industrial buildings and urban planning linked to the mine, and remains of the mercury transport routes. They provide a meaningful insight into the history of mercury mining at Idrija and its transport system.

ICOMOS considers that the two nominated sites form a coherent and complementary whole, which adequately illustrates all the technical, cultural and social aspects associated with mercury extraction. They are the two most important sites for this activity which have been preserved, at once in terms of volumes produced, historic time span and completeness of testimony. The integrity of the serial nomination has been justified.

Authenticity

Almadén
The presence of underground mining elements dating from the 16th and 17th centuries has been authenticated.

A pair of Bustamante furnaces, the technical design of which dates from the 17th century, have been restored by the Spanish Historic Heritage Institute, in accordance with the principles of the Venice Charter. The restored parts are clearly identified.

The functions of some of the urban buildings have been changed from their original purpose and have undergone substantial alterations (e.g. Retamar Castle). However, most have a good level of architectural authenticity.

Idrija
All the mining elements and their technical annexes are authentic. Most of the water control systems date from the 18th century, the most recent from the start of the 19th century.

The most noteworthy architectural and monumental elements have in general a high degree of authenticity. The town itself has, however, undergone changes that affect its built structure and its urban layout.

ICOMOS considers that the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (ii), (iv) and (v).

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the States Parties on the grounds that the trade and transport of mercury, which became intercontinental from a very early date, generated important interchanges, which were scientific, technological and cultural. This was particularly the case for the use of mercury in the amalgamation process, which led to transfers of techniques and expertise between America and Europe, particularly in the 16th and 17th centuries. The use of mercury for the extraction of silver in America gave rise to unprecedented commercial flows and financial developments. At a later period, the creation of academies of science and interchanges of scientists and technical processes, particularly in Europe, created an international scientific and professional community. Mining traditions also influenced the creation of towns containing emblematic and singular buildings.

ICOMOS considers that the new definition of the serial nomination is essentially centred on mercury extraction, and that it only partially illustrates the economic and cultural interchanges referred to, particularly those linked to the development of the amalgamation process in America. However, there were indeed interchanges between the various mercury production sites with regard to the metal extraction processes, and they took place at a very early stage on a European and then an intercontinental scale, because of the nature of the mercury market and the specificity of the technical and scientific problems linked to its extraction and use.

ICOMOS considers that this criterion has been justified.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the States Parties on the grounds that the mines of Almadén and Idrija were and remain the largest mercury mines in the world. Closed relatively recently, they today represent the most significant events regarding mercury exploitation by man, in terms of mining techniques and impact on the environment, in terms of trade and transport, and in urban and social terms. The metal extraction processes involving the use of furnaces are specific to mercury, and were innovative, from the mid-16th century to the mid-19th century.

ICOMOS considers that the two mining sites of Almadén and Idrija constitute the most important heritage left behind by the intensive extraction of mercury, particularly in the modern and contemporary periods. This dual testimony is unique, and illustrates the various industrial, territorial, urban and social components of a specific socio-technical system in the metal production industries.

ICOMOS considers that this criterion has been justified.

Criterion (v): be an outstanding example of a traditional human settlement, land-use or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion is justified by the States Parties on the grounds that the nominated sites constitute an outstanding example of the interaction of man with his environment, an environment which is today vulnerable because of the closure of the mines and mercury pollution.

This human intervention gave rise to important social aspects, through a workforce that included forced labourers and prisoners at Almadén, through the difficult life of the miners, and through the early consideration given to occupational diseases at Idrija.

Many elements of intangible culture are associated with the specific nature of the human communities who participated in the exploitation of the mines. The nominated sites also bear witness to the continuous scientific and technological efforts made by man in his relationship with the environment.

ICOMOS considers that the two nominated sites constitute an example of a distinctive form of human settlement for the intensive extraction of mercury, reflected in its underground, industrial and urban elements, which is specifically recognised by criterion (iv). There was moreover a strong and lasting interaction between man and his environment because of the toxicity of mercury. This is why mercury production is currently being abandoned worldwide. Clearly this expresses a special relationship between man and nature, and ICOMOS considers that the pollution phenomena which are linked to the two mining sites form an integral part of the property today. However, the arguments put forward are insufficient to fully demonstrate criterion (v), as only mercury pollution constitutes a truly distinctive element compared with other types of mining uses of the territories.

ICOMOS considers that this criterion has not been justified.

ICOMOS considers that the serial approach is justified.

ICOMOS considers that the nominated property meets criteria (ii) and (iv) and conditions of integrity and authenticity and that Outstanding Universal Value has been demonstrated.

Description of the attributes

Mercury is a metal with unique physico-chemical properties, and it is only naturally abundant in a few rare deposits. Almadén and Idrija are the world's two largest mercury mines. They were exploited continuously over a long time span. Exploitation was particularly intense from the mid-16th century to the early 19th century, as part of intercontinental interchanges carried out with a view to extracting precious metals.

Almadén and Idrija bear witness to a specific mining and industrial system, dedicated to the production of mercury. It is illustrated by various types of furnaces designed for the smelting of mercury ore, and a large number of galleries, shafts, hydraulic systems, industrial and commercial facilities, storage areas, and surviving remains of paths used for the transport of the ore and the mercury, etc.

Through their urban developments, the two mining sites bear cultural testimony to the social and economic conditions of mercury extraction, and to the educational and medical traditions linked to the needs of the mercury mines.

Mercury has toxicological properties which make it dangerous to handle, and mean that its residues pollute the environment, which led to the decline in its use at the end of the 20th century. The great mines of the past, such as Almadén and Idrija, have ceased to function, and have become testimony to a technical and industrial culture which has disappeared

4 Factors affecting the property

Development pressures

Almadén
Cessation of mining activities at the end of the 1990s had important social consequences. An industrial reconversion zone has been put in place. More recently, several urban development plans have been launched, or are being considered, as part of the *Plan de Ordenacion Municipal (POM)* (Municipal General Plan). An extremely visible urban facility has just been built on the hill, which required a substantial excavation opposite the property, and at the edge of the buffer zone. The POM provides for an extension of the town and new infrastructures in the buffer zone, including one immediately on the edge of the main urban property. The plan also provides for a new by-pass road. In the additional information sent by the State Party (February 2012), it was announced that the sociocultural centre, which is clearly visible from the property, would be hidden by a screen of trees.

ICOMOS considers that the projects (under way or being considered) referred to in the Municipal General Plan (POM) could have an impact on the visual integrity of the property and its environment.

Idrija
The pressure of economic development needs is limited naturally by the geography of the valley. Urban development pressure exists, however, under the control of the town's new land-use plan (2007). Recent industrial development has centred on new technologies, and its visual impact remains compatible with the values of the property.

Tourism pressures

Almadén
Industrial tourism is small-scale at present.

Idrija
The town is primarily a summer hiking centre. Industrial tourism related to the mines is small-scale at present.

Environmental pressures

Almadén
The Alcudia valley in which the mines and the town are situated is a region with an important natural heritage in terms of flora and fauna. A large part of the buffer zone consists of an ornithological reserve. The landscape and environmental changes linked to the mine are being dealt with under a natural environment project (2005). The main risk for the environment (soil, water table, air quality etc.) is the presence of mercury, as a result of slag from the mine.

Idrija
The mining activity has had serious adverse effects on the natural environment. 500 years of mine working have led to a high level of soil pollution by mercury and radioactive radon (up to 900 mg of mercury per kilogram). These effects have however declined rapidly following the closure of the mines (1995). A great deal of slag has been discharged into the river, causing water pollution extending as far as the Adriatic Sea. Slag was also used to close up some disused shafts and galleries, and is thus continuing to generate a certain amount of water pollution.

Natural disasters

Almadén does not seem to be exposed to major natural disaster risks. The possibility of exceptional events such as tornadoes or very severe storms however cannot be excluded, as in the rest of Spain.

Idrija
The property is situated in a zone classified as prone to earthquakes.

Impact of climate change

Up to now there is no perceptible or expected effect linked to climate change on the two sites.

ICOMOS considers that the main threats to the properties are the urban projects at Almadén, in the buffer zone, or affecting the property's landscape environment.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone
Almadén
The nominated property has an area of 49.67 ha and it is occupied by 852 people.

The buffer zone has an area of 1,117 ha.

Idrija
The various parts of the property have the following areas: 1) 47.33 ha, 2) 0.6 ha, 3a) 1.33 ha, 3b) 0.28 ha, 4) 0.71 ha, 5) 1.21 ha, 6) 0.49 ha, 7) 2.49 ha, representing a total of 54.44 ha. The property is occupied by 3,871 people.

Parts 1), 2) and 3) of the property are surrounded by a single buffer zone of 563.60 ha, recently increased in size (January 2012). The other parts are hydraulic facilities in a protected forest or rural environment; they were recently (January 2012) allocated a buffer zone, whose surface area needs to be specified.

ICOMOS considers that the boundaries of the nominated properties and the associated buffer zones are appropriate.

Ownership

Almadén

The mines themselves, the adjacent spaces, and the section of the Mercury Route identified at its point of departure are the property of the private company *Empresa Minas de Almadén y Arrayanes S.A.*, as are the Miners' Hospital and the San Miguel Chapel, situated in the town.

The public spaces of the town and part of the buildings identified as having historic and heritage value are the property of the Municipality of Almadén (Castle, house of the mine superintendent, mining academy, bullring).

The other elements with historic and heritage value are the property of the Catholic Church (San Sebastián el Nuevo Church) and of the University (archaeological site of the forced labour prison).

The great majority of the housing is private property.

Idrija

The cultural property of national interest is covered by an inventory of 34 elements, whose ownership is divided up as follows:

- the State (two hydraulic elements);
- the Municipality and local authorities (seven elements, including the Theatre, the House of the Miners, part of the Castle, the Mercury Store);
- public institutions: the maternity hospital (three elements associated with the Castle), the Museum (four elements associated with the Castle and the hydraulic system heritage); the Gorica Hydroelectric Company (three hydraulic elements), and miscellaneous (one element in the Castle);
- the Idrija Mining Company, which is a private company (fourteen elements, mainly mining-related and industrial).

Protection

Legal Protection

Almadén

The set of mining buildings and the set of urban buildings are under the legal protection of:

- the Spanish Constitution defining the Organic Laws and the Status of the Autonomous Communities (27 December 1978),
- the Spanish Historic Heritage Act (16/1985) and its regional application acts and decrees (Act 4/1990 of Castilla–La Mancha, and Decree 7/2005 in particular),
- the Local Territorial Authorities Regulation Act (7/1985),
- the Territorial Regulation Act (6/1998),
- the Protected Natural Spaces Act (9/1999).
- The new Regional Land Use and Town Planning Law (1/2010).

The set of mining buildings was declared a Property of Cultural Interest on 29 October 2007. It includes an inventory of the site's technical, industrial, and architectural elements. Several sites or monuments had already received this official protection previously: the Bustamante furnaces, the Castle, the Bullring, and the Miners' Hospital.

The town centre and its monuments are covered by the Special Municipal Protection Plan.

Part of the buffer zone is protected as a European natural ornithological reserve (*Natura 2000);* another part belongs to the former mining site, which is protected by its cultural interest property status.

The buffer zone is divided between two municipalities: it is thus subject to the Municipal General Plan (POM) of Almadén, and the protected rural zone of Chillón.

In its answer in February 2012, the State Party (Spain) sets out the whole of the legal structure in place, and the authorities in charge of applying the legal measures at national, regional and local levels. It also indicates that the recommendations made by ICOMOS in December 2011 about better protection of the buffer zone, with regard to urban projects in the POM, were accepted by a municipal decision dated 26 January 2012. A recapitulative map of the subzones of protection in the buffer zone has been provided, together with a map of the POM including the boundaries of the property and buffer zone.

ICOMOS recalls that it is necessary to inform the World Heritage Committee of any urban project which could affect the visual integrity of the property, particularly at Almadén where real estate projects are being considered. This must be done at a sufficiently early stage, in accordance with Paragraph 172 of the *Operational Guidelines*.

Idrija

The mining ensembles and the urban ensemble are under the legal protection of:

- the Cultural Heritage Protection Acts (7/1999 and 96/2002) and their implementation decrees;
- the Administrative Procedures Code (24/2006);
- the Territorial Planning Act (33/2007);
- the Building Acts (102/2004 and 14/2005);
- the Nature Protection act (39/2006);
- the Decrees relating to the Creation of the Mining Site Landscape Park (11/1993 and 37/1995);
- seven Municipal Decisions on the town's cultural and historic heritage.

The technical and industrial heritage of Idrija and the surrounding area has been declared a Cultural Monument of National Importance (Decrees 66/2001 and 55/2002).

A list of elements of local interest exists, defining the extent of local protection. The recapitulative municipal document is the Municipal Space Plan or Municipal General Plan of the Town of Idrija (TPMP), approved in January 2011, and effective since June 2011. In the additional documents it provided in February 2012, the State Party indicates that this document governs the conservation of the property and its buffer zone, both from a strategic and operational viewpoint.

Traditional Protection

The dwellings are in most cases private property and are maintained by their owners.

The Catholic Church carries out direct or delegated management of the religious buildings at its disposal at Almadén and Idrija.

Effectiveness of protection measures

The additional information provided by the State Party (Spain) provides clarification of the way protective measures for the property and its buffer zone have been incorporated into the Municipal General Plan (POM) of the town of Almadén.

The additional information provided by the State Party (Slovenia) indicates that the protection of the buffer zone has been taken into account by the existing regulation, which had already been set up for the protection of the property.

The protection measures for the two properties and their buffer zones seem to be sufficiently effective.

ICOMOS considers that the legal protection is appropriate for the two sites, and that guarantees have been provided about the allowance made for the buffer zones of the property in the municipal spatial plans of the two towns Almadén and Idrija. ICOMOS recalls however that it is necessary to inform the World Heritage Committee of any urban project, particularly at Almadén, which could affect the visual integrity of the property, in accordance with Paragraph 172 of the *Operational Guidelines*.

Conservation

Inventories, recording, research

Almadén
Inscription as a property of national cultural interest led to the creation of an inventory by the Spanish Heritage Institute. This inventory includes a description of the state of conservation.

The mining company has undertaken a substantial programme to survey the mine and maintain its cultural elements. The survey constitutes the documentary and material base for the museography and the mining park project. The company has also contributed to the creation of the Francisco Javier de Villegas Foundation, which is in charge of the mine museum and the mining archives (San Rafael Hospital).

The Technical University is also contributing to the museography and archaeological knowledge of the forced labour gaol.

Idrija
The documentation work is being carried out in conjunction with the surveillance and maintenance activities.

The inventories and documentation relating to the mining heritage of Idrija are available at both national and regional level (Institute for the Protection of the Slovenian Cultural Heritage at Ljubljana and its Regional Office at Nova Gorica).

The Museum has archive material and documentation.

The Idrija mining company also has its own archives and documents.

The additional documentation of February 2012 includes a rich collection of illustrations of the Idrija site, but it would be advisable to carry out a thorough inventory of the technical and industrial heritage which is in fact present, for both sites, so as to ensure high-quality conservation and enhancement.

Present state of conservation

Almadén
The Bustamante furnaces were recently restored and are in a good state of conservation. The remaining two gates of the mining site have been restored, and elements of the Route are clearly identifiable. The monuments and urban buildings are generally in a good state of conservation.

Idrija
Many restorations have been undertaken over recent years for components of the built structure, the technical and civil engineering elements of the mine, and the hydraulic elements.

Active Conservation measures

Almadén
Each of the management partners implements the relevant part of the conservation plan: the Foundation and the Mining Company for the mining park and its activities; the Municipality for the urban space and the monuments belonging to it; and the University and the private partners for the other real-estate and archaeological elements of the property.

Idrija
Substantial conservation and renovation activities have been carried out recently, including restoration of the main monuments and restoration of Anthony's Main Road. The Municipality is coordinating the introduction of current and future conservation measures.

Maintenance

At both sites, the public urban parts are maintained by municipal services. The other parts are directly maintained by the owners, or by the contractual occupiers.

Effectiveness of conservation measures

ICOMOS considers that the conservation measures at the two sites are satisfactory, and they seem to be effective. The conservation situation has improved significantly over the last few years, particularly as regards urban conservation both at Almadén and Idrija. Efforts are also being made in both cases in the conservation of the mining and industrial sites, to enable visits by the public.

ICOMOS considers that the conservation measures for both sites of the property are adequate.

Management

Management structures and processes, including traditional management processes

Almadén
The management structure consists of the grouping together of several public and private institutions which are either in charge of specific aspects of the management of the property or have cultural functions:

- the mining company MAYASA,
- the Francisco Javier de Villegas Foundation (FJV), which is in charge of the Museum of the San Rafael Royal Hospital, the historic archives of the mines, and the cultural management of the mining site,
- the Municipality of Almadén,
- the University, which manages the historic mine museum and the royal forced labour prison interpretation centre,
- the Almadén Office, which has a cross-functional role in promoting the town's economic and cultural activities,
- the Almadén Mining Academy,
- the Almadén Mining Park (2008), in which the Municipality, the FJV Foundation and the Polytechnic School participate.

Idrija
The structure for the direct management of the property is based on two main partners:

- the Municipality of Idrija, which is in charge in particular of the Museum of Idrija,
- the structure in charge of closing down the Idrija mines.

The public institutions in charge of monitoring conservation and protection are:

- the Slovenian Cultural Heritage Protection Institute, Regional Office of Nova Gorica,
- the Slovenian Nature Conservation Institute, Regional Office of Nova Gorica.

The local institutions recently put in place are:

- the Mercury Research and Information Centre (2008),
- the Idrija Heritage Centre (2010),
- the Heritage of Mercury Interpretation Centre (in preparation).

An International Committee to coordinate the activities of the two States Parties was created in 2008. It has met regularly since it was set up, and coordinates the management of the properties nominated for serial inscription. Common initiatives have been set up by the Committee: contacting of other sites under consideration for an extension of the series, organisation at Idrija of an international conference on the environmental and socio-economic impact of the extraction and use of mercury (2009), and more generally scientific coordination between the research institutes studying the mercury risk at both towns (see Risk Preparedness).

Policy framework: management plans and arrangements, including visitor management and presentation

Almadén
The direct management of the property is covered by the following main plans:

- the FJV Foundation's management plans for the Hospital Museum and the mining archive centre,
- the Municipal General Plan of the Almadén Mining Park, under the auspices of the FJV Foundation and in association with other partners of the property,
- the Special Municipal Plan for the Protection of the Historic Town Centre (ARI, 2010),
- the university plans and programmes, and in particular the mercury risk laboratory,
- the mining territory pollution clean-up plan.

The other plans and measures relating to the property and the buffer zone are:

- the catalogue of protected properties and areas (CAT),
- the Municipal General Plan (POM), which is currently being revised.

Idrija
The management of the property is covered by the following main public plans:

- the National Programme for the Rehabilitation of the Mining Site of Idrija, set up when the closure of the mines was being considered (1987),
- the Regional Development Plan (Gorica, 2007-2013),
- the Emerald Tourism Route,
- the Sustainable Development Plan for the Italo-Slovenian border,
- the regional tourism development plan ("Overture"),

- the municipal economic and tourism development plan ("Revit"),
- the Idrija Long-Term Territorial Plan (2007, revised in 2011, under the name TPMP).

The Idrija Integrated Cultural and Natural Heritage Protection Programme was approved in October 2010. Drawn up under the auspices of the Municipality, it establishes a basis for coordination between the institutions and organisations in charge of the property, and ensures synthesis and harmonisation of the various plans and programmes. Its role is effectively that of a property management plan for Idrija

Risk preparedness

Almadén
The main risk is related to residual mercury and its possible effects on the environment. The facilities have been decontaminated. A programme of environmental surveillance of mercury levels is in place. A substantial pollution clean-up programme (2008) sets out soil pollution clean-up measures on the mining site (residual slag deposits). The results are encouraging, as the mercury levels recorded in the air and in water tables are now close to zero.

There are today two research and study centres at Almadén related to residual mercury pollution:

- the Institute of Applied Geology, Matelles Pesados biochemistry laboratory (University of Castilla-La Mancha),
- the National Mercury Decontamination Technical Centre (a governmental organisation).

Idrija
A system has been put in place for the surveillance of levels of mercury in the water. The seriousness of the illnesses of former workers is proportional to the number of years of employment at the mine.

Today Idrjia has a Mercury Research Centre which looks at the effects of mercury on the environment and on human health.

The mine closure plan was accompanied by a soil control programme, to protect against a weakening of the built structure as a result of the presence of underground galleries, particularly as regards the historic town centre.

Involvement of the local communities

The local communities are mainly involved through the town councils, which in both cases play a major role in the management and conservation of the properties.

A certain number of citizens' associations are involved in aspects of the conservation of the cultural and natural heritage, on both sites.

Resources, including staffing levels, expertise and training

Almadén
The Culture Ministry intervenes by means of its budget, which is guaranteed by the principle of 1% earmarked for culture. The same approach applies to the cultural heritage of the Autonomous Region of Castilla–La Mancha. The Municipal budget also contributes to the management of the property.

The Mining Park of Almadén is financially supported by the Regional Government, under the auspices of the Department of Industry and Labour. It is also supported by the European Community as part of the overall project with Idrija.

The Javier de Villegas Foundation has been active at Almadén since 2004. Its resources come from public subsidies (State, Region), for specific research and/or conservation programmes.

The University receives funds for its management of the Museum and the forced labour prison site. It also receives specific funds for its Mercury Research Centre.

Tax incentives are offered for all investments in the maintenance and restoration of heritage elements belonging to private individuals, and for all private contributions to actions in the cultural heritage field.

The human resources consist in the first instance of the specialist staff of the Ministry (Spanish Historic Heritage Institute). The Technical University College of Almadén provides specialists in mining questions and in technical museography. It offers a mining engineering course.

The University of Castilla-La Mancha offers training courses in construction engineering, architecture and cultural heritage.

Idrija
The Municipality devotes a substantial proportion of its annual budget, between 8% and 15%, to property conservation operations and to the town Museum. It receives governmental aid in the form of finance and the secondment of staff with scientific and technical expertise (curator of the Museum).

The European Union is also involved in the overall programme in conjunction with Almadén.

The Slovenian Cultural Heritage Law includes measures to encourage private investment in heritage conservation.

The museographic and tourism activities generate funds for the property.

The expertise is provided by the Slovenian Institute for Cultural Heritage Protection, which organises training. Locally, the Geology Institute has scientific specialists;

there are also museum specialists and guides in the Museum trained in the specific aspects of the mining heritage. The Mining Park has a staff of around fifteen people. The Mining Company has its own maintenance and surveillance personnel.

Effectiveness of current management

ICOMOS considers that a management system is in place for the two sites forming the nominated serial property. In both cases, the system seems to be under dual control: firstly by the municipality, and secondly by one or more institutions directly connected to the mining past or to educational activities associated with mining, and which still remain in place today, in forms which have been renewed to a greater or lesser extent.

At Almadén, coordination between the urban development bodies (POM plan) and the bodies in charge of protecting and conserving the property should be stepped up. The property and its protection have only been taken into account at a very late stage, at the explicit request of ICOMOS (letter of 12 December 2011).

Decision 34COM 8B.40 point 4. b) by the World Heritage Committee concerning more assertive management of pollution and health questions linked to residual mercury, being a fully fledged component of the mercury mines heritage, has been followed, in terms of both institutions and programmes. A more thorough assessment would however require the views of international specialists in such questions.

The International Coordination Committee has been set up and has functioned, particularly when the earlier dossiers were assessed (2009-2010). The States Parties have provided additional information (February 2012) about its regular operation, and the diversity of its overarching responsibilities.

ICOMOS considers that particular attention should be paid to the coordination between the municipal services in charge of town planning, and the organisations in charge of the protection and conservation of the properties, particularly at Almadén.

ICOMOS considers that the management system for the two properties is on the whole appropriate, but that the coordination between the municipal services in charge of town planning, and the organisations in charge of the protection and conservation of the property at Almadén should be reinforced.

6 Monitoring

The two States Parties declare that they have based their monitoring of the property on the same general criteria: the state of conservation, a study of possible environmental impacts on the property, and the value of the elements forming part of the property.

Periodical monitoring and assessments are carried out for the following:

- the mercury mines and the possibility of potentially toxic residues of mercury, the surveillance of the atmosphere (Polytechnic University of Almadén, the mining companies of Almadén and Idrija);
- the technical and civil engineering elements of the mines, the machines (Polytechnic University of Almadén, the mining companies of Almadén and Idrija);
- the architectural features and surveillance of potential invasive elements, such as new buildings (national ministerial institutes, regional delegations).

Four tables of indicators are proposed, indicating the intervals at which checks are made, and the organisation in charge:

- state of conservation of elements of the properties directly related to the establishment of the value of the Heritage of Mercury;
- evaluation of the effectiveness of management system measures;
- evaluation of the factors affecting the state of conservation of the properties;
- evaluation of the degree of sustainable development of the properties and their buffer zones in connection with regional programmes.

ICOMOS considers that the monitoring of the component elements of the serial property is satisfactory in principle; it must however lead to effective decisions concerning the monitoring of visual integrity at Almadén.

7 Conclusions

ICOMOS considers that the Outstanding Universal Value of the property “Heritage of Mercury. Almadén and Idrija” has been demonstrated, and that it meets criteria (ii) and (iv).

Recommendations with respect to inscription

ICOMOS recommends that Heritage of Mercury. Almadén and Idrija, Spain, Slovenia, be inscribed on the World Heritage List on the basis of **criteria (ii) and (iv)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

Mercury is a relatively rare metal, whose use has long been irreplaceable in a variety of technical, chemical and industrial processes. It has only been produced in substantial quantities and over a long period by a small number of mines worldwide, of which the two largest, until recent times, were at Almadén in Spain and Idrija in Slovenia. These two mining towns, whose origins date from ancient or Medieval times, demonstrate the lengthy

period over which a socio-technical system of extraction specific to this metal was in operation, and the process of evolution it underwent. Controlling mercury extraction enabled control of the market, which very quickly became intercontinental in scope because of its decisive role in the extraction of silver from deposits in the New World. A heavy metal, which is liquid at room temperature and has very specific chemical and physical properties, mercury is also a pollutant, which is dangerous for human health. The two sites contain technical remains of large numbers of mine shafts, and their galleries and surface facilities, with artefacts which are specific to the extraction of mercury-bearing ores; they also include significant urban, monumental and infrastructure elements and material and symbolic materials associated with the life styles and social organisation of mercury extraction.

Criterion (ii): Mercury extraction took place in a very limited number of mines, of which the two largest were Almadén and Idrija. From the Renaissance period in Europe, the activity took on an international dimension. Its worldwide strategic importance increased steadily, particularly because of its role in the working of gold and silver mines in America. The interchanges were at once economic, financial and related to technical expertise.

Criterion (iv): The mining sites of Almadén and Idrija constitute the most important heritage left behind by the intensive extraction of mercury, particularly in the modern and contemporary periods. This dual testimony is unique, and it illustrates the various industrial, territorial, urban and social elements of a specific sociotechnical system in the mining and metal production industries.

Integrity

The mining sites of Almadén and Idrija form a coherent whole with complementary components, satisfactorily illustrating all the technical, cultural and social aspects associated with mercury extraction. The elements are present in sufficient number to enable satisfactory interpretation. These are the two most significant sites for this activity to have been preserved, in terms of volumes produced, historical duration, and the completeness of the evidence provided. The integrity of the serial property has been justified.

Authenticity

At both sites, the presence of mining infrastructure elements both underground at on the surface, the presence of technical artefacts linked to mining extraction, its upstream needs (hydraulic energy, wood) and its conversion into “quicksilver” (furnaces), its transport and its storage are authentic. This also applies to the urban and monumental elements, and for the testimony to the miners’ working conditions.

Management and protection requirements

The protection measures for the sites are satisfactory; in both cases they have led to municipal general plans of land use and the control of construction works projects which could affect the sites. These urban and rural planning measures also apply to the buffer zones. At Almadén however, the existence of projects which could have a visual impact on the property and the belated inclusion of the property and its boundaries in the municipal general plan demonstrate the need for closer cooperation between the municipal authorities and the property management entity. For both sites, a satisfactory local management system exists, and the overarching International Committee for the coordination of the serial property has demonstrated that it functions satisfactorily.

ICOMOS recommends that the States Parties give consideration to the following:

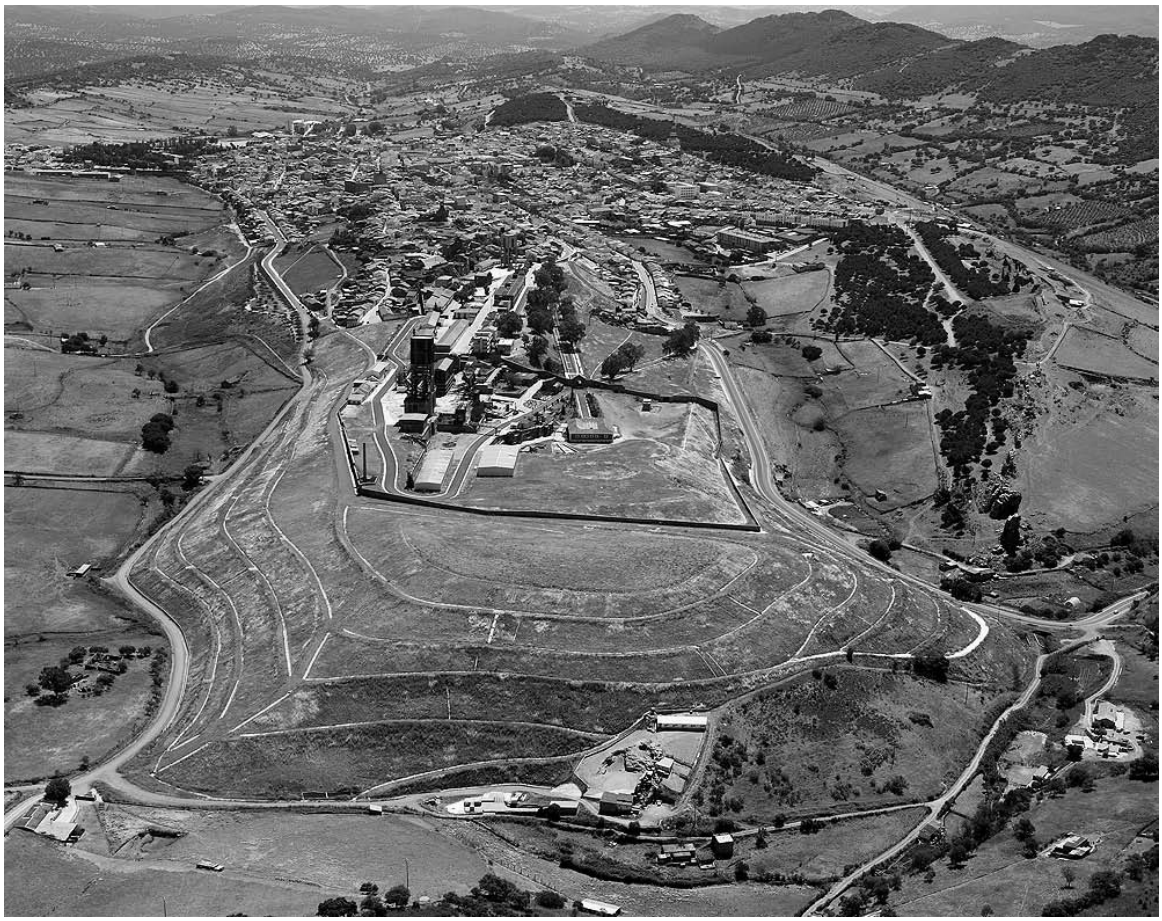
- Carrying out a thorough inventory of the technical and industrial heritage elements which are actually present, for the two sites, in order to ensure high-quality conservation and enhancement;

- At Almadén, reinforcing the cooperation between the municipal authorities in charge of the General Plan and the property management authority;

- At Almadén, confirming that maintaining the visual integrity of the property and its environment is properly taken into account with regard to the various urban projects being considered in the town. It is also necessary to inform the World Heritage Committee of such projects at a sufficiently early stage, in accordance with Article 172 of the *Operational Guidelines for the Implementation of the World Heritage Convention*;

- At Idrija, specifying the surface areas of the new buffer zones, following the recent redrawing of their boundaries (January 2012).

Map showing the location of the nominated properties



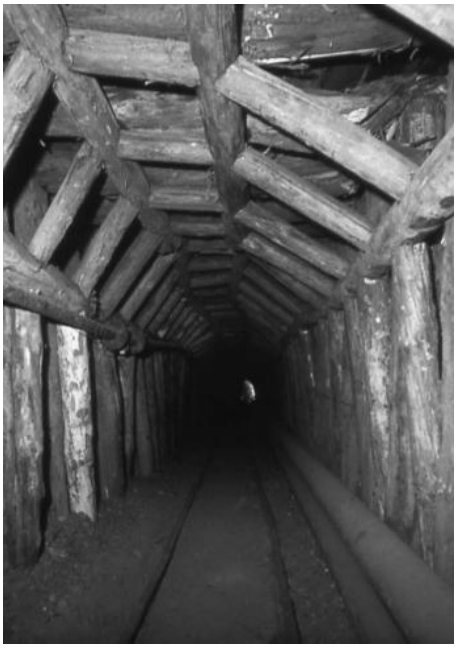
View of Almadén and the mine

Almadén - San Aquilino tower

Almadén - Mining Academy building

General view of the city of Idrija

Idrija - dam



Idrija – view of a gallery

Decorated Farmhouses of Hälsingland (Sweden) No 1282rev

Official name as proposed by the State Party
Decorated Farmhouses of Hälsingland

Location
Gävleborg County
Hälsingland Province and Dalarna Province
Sweden

Brief description
A selection of seven large timber farmhouses with richly decorated interiors are part of a concentration of over a thousand surviving timber structures in the Hälsingland area, dating mainly from the 18th and 19th centuries, that reflect a timber building tradition that originated in the Middle Ages (12th-16th centuries AD). The farmhouses, set in long fertile valleys within the Taiga forest landscape, display the peak of prosperity for this building tradition between 1800 and 1870, and reflect the prosperity of independent farmers who used economic surplus from their exploitation of flax and woodland to build substantial new houses with entire buildings or suites of rooms used solely for festivities. The owners commissioned artists from Hälsingland or itinerant painters from neighbouring Dalarna to provide highly decorative interiors to reflect their social status. These decorated houses combine local building and local folk art traditions in a highly distinctive way that can be seen as the final flowering of a folk culture with deep roots in north-west Europe.

Category of property
In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of 7 *sites*.

1 Basic data

Included in the Tentative List
12 December 2005

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
24 January 2007
27 January 2011

Background
This is a deferred nomination (33 COM, Seville, 2009).

The World Heritage Committee adopted the following decision (Decision 33 COM 8B.28):

The World Heritage Committee,
1. Having examined Documents WHC-09/33.COM/8B and WHC-09/33.COM/INF.8B1,
2. Defers the examination of the nomination of the Farms and Villages in Hälsingland, Sweden, to the World Heritage List in order to allow the State Party to:

a) Reformulate the nomination to select a few exceptional decorated farmhouses that maintain their agricultural setting and could be said to be exemplars of the specific and local tradition of decorated farmhouses of the late 18th and 19th centuries in Hälsingland and possibly neighbouring regions;

b) Provide a more detailed comparative analysis of the best surviving decorated houses of the genre in order to demonstrate how the nominated ones compare to these;

c) Produce an overall management plan or system for the serial nomination, including emergency response procedures;

d) Ensure all nominated sites have legal protection for their interiors and that settings are adequately protected;

3. Considers that any revised nomination with revised boundaries would need to be considered by a mission to the site.

On 27 January 2011 the State Party submitted a revised nomination.

Consultations
ICOMOS has consulted its International Scientific Committees on Cultural Landscapes, on Vernacular Architecture and on Wood and several independent experts.

For the first nomination, ICOMOS also consulted IUCN who provided comments on 19 January 2009.

Technical Evaluation Missions
An ICOMOS technical evaluation mission visited the property from 16 to 19 September 2011.

Additional information requested and received from the State Party
For the first nomination, ICOMOS sent a letter to the State Party on 7 October 2008 on the issue of comparative analysis, selection of sites and the inclusion of flax mills and the Trogsta Valley. The State Party responded with supplementary information on 17 November 2008 and on 2 December 2008.

For the revised nomination, ICOMOS sent a letter to the State Party on 26 September 2011 requesting further information on the overall management of the serial property. The State Party responded on 21 October 2011 with details of the composition and responsibilities of a Coordinating Site Council. This information has been included in this report.

ICOMOS sent a further letter to the State Party on 12 December 2011 requesting further information on the composition of the proposed Management Committee, details of its responsibilities towards the Management Plan, and when the Committee will be inaugurated. It also requested information on the scope and protection of the buffer zone for Bommars, on Emergency Fire Response Plans, as requested by the World Heritage Committee, and on Monitoring Indicators.

The State Party responded on 27th February 2012.This supplementary information has been included in this report.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
In a comparatively small area of north-eastern Sweden, bordering the Gulf of Bothnia and known as Hälsingland, are a concentration of large richly decorated, wooden farmhouses and associated farm buildings reflecting the peak of prosperity for the farming landscape in the 19th century and the social status of its farmers.

In response to the request of the World Heritage Committee at its 33rd session, the nomination has been re-formulated and the number of sites reduced from 15 (including 20 farmhouses, a flax mill and summer pasture) to 7 farmhouses. The seven sites are, spread across an area 100 km from east to west and 50 km north to south. Six of these are in Hälsingland Province with a seventh just across the border in Dalarna Province – although this area was culturally part of Hälsingland in the 1800s.

The farmhouses are seen as the best and most representative of the decorated farmhouse tradition, and have been selected from some 400 surviving decorated rooms.

Hälsingland is mountainous and fairly densely afforested province with the small amount of cultivable land (approximately 5% of the total) in long narrow, flat, valleys alongside lakes and rivers.

The rural landscape of small villages and scattered farmsteads has evolved over at least seven centuries. The landscape reflects the comparative independence of the farmers, traditional communal use of pasture, and mixed farming based on cattle breeding, arable cultivation, forestry, flax growing and hunting.

In the 19th century, communal use of woodland and pasture and traditional sharing of valley fields was replaced by a legal apportionment of land to farmers, part of a national land regularisation scheme (see *History and development* below). This change brought considerable prosperity to the farmers who invested their new wealth in large buildings.

A particularly distinctive feature of the new or enlarged farmhouses was the provision of either a separate house, a *Herrstuga*, or rooms in the main house, set aside for festivities, special occasions or assemblies, and hardly used for the rest of the year. These rooms were usually the most highly decorated in the farmstead.

In the 18th century, most farms had houses and farm buildings arranged around a courtyard with a *Portlider*, or access building on one side. During the 19th century, the layout was often changed to a more open arrangement of house with side wings. Gradually during the hundred years from around 1800 many houses also changed from one storey to either one and a half or two storeys.

Most buildings were constructed of jointed horizontal timbers of pine or spruce from the village's forests. By the 18th century, the face of the timbers was planed smooth and in the 19th century many buildings were faced first with broad, hand-sawn, vertical timber boards, and later machine cut ones, often painted, to make the houses look more similar to those constructed of brick. Dark red paint using pigments from the Falun copper mines was also used in Hälsingland (and all over Sweden) and came to be seen a symbolic of Swedish rural life. Later in the 19th century lighter pastel colours were also introduced. The traditional roof covering was birch bark, held in place by thin split rods. This was supplanted in the 19th century by nailed shingles and in the 20th by tiles for dwellings and tin sheets for outbuildings.

A distinctive feature of the 19th century houses is their elaborate decoration, a fusion of popular art and contemporary landed-gentry styles, such as Baroque, Rococo and "le style gustavien". On the outside, this elaboration is commonly found in carved decoration around the main entrance door or porch, the work of local cabinet makers. Within, the houses were decorated with canvas or textile paintings affixed to the walls, or with paintings directly onto the wooden ceilings or walls, some supplied in the 19th century by itinerant painters from neighbouring Dalarna (Dalecarlia), and known as Dalecarlian paintings. The subjects were often biblical but with the people depicted in the latest fashions of the time.

Four hundred painted interiors have been recorded, the majority from the 19th century. The names of ten painters are known, although the majority of the work remains anonymous.

The seven sites selected consist of farmhouses with a number of decorated rooms for festivities (between four and ten), with largely intact ranges of farm buildings, and sited within a landscape context that has the capacity to reflect their agrarian function.

In detail, the property consists of the following farms. Only the main decorated rooms are described:

1. Kristofers farm, Stene, Järvsö

Kristofers farm, with two houses and service buildings arranged around three sides of the courtyard, is on the outskirts of the village of Stene. It was reconstructed in the early 19th century. The larger of the two houses was used solely for festive occasions and both its banqueting house and other domestic rooms have been richly decorated with freestyle and stencilled floral paintings, created by Anders Ädel in the 1850s, and which are typical of the upper Ljusnandal area.

The festivities room in the banqueting house – where the most important celebratory meals were served – has a free-hand painting of landscape views, divided into panels and framed by columns, wreathed in red and blue drapery. The central panel has a cross crowned with an eye, a symbol of God's all-seeing eye that marked the place for honoured guests.

The guest room also has decoration divided not panels. These have a stencilled edge and within the centre are bouquets of flowers.

The nominated buildings are the core of the farm that was reconstructed in the 19th century. Farm buildings from 1900 and later are in the Buffer Zone.

2. Gästgivars farm, Vallstabyn

In the 1860s this farm, at the edge of the village of Vallsta, had an enclosed plan – four buildings around a courtyard. The fourth side was later removed and a further group of farm buildings constructed around a yard to the south.

The farm has two dwellings. The residential building was constructed around 1800 but refaced with smooth wooden panels in 1882. The second building, which was reserved for festivities, was constructed in 1838.

The building for festivities was decorated throughout by Jonas Wallström over a period of some years. On the ground floor the main room is still in its original state, whereas some of the others have been partially repainted since the 1950s. The unrestored room has stencilled paintings on stretched linen fabric in a vertical design in imitation of silk brocade that is characteristic of Wallström's work. Around the paintings is a printed wallpaper border.

On the upper floor, all the rooms are stencilled with hand-painted borders. In the main festivities room, the decoration is divided into panels, each framed with a design that imitates the gilded wooden frames around silk hangings. Within all but one of the panels is a repeated pattern of diamond shaped stencilled flower medallions, motifs that occurs nowhere else in Hälsingland. A central panel between two windows is crowned by two neo-classical winged figures in white on a blue ground that imitates Jasperware pottery produced by the English firm Wedgwood. Beneath, painted in a free form, is an idealised landscape of a mill next to a waterfall, framed by trees and with a boat in the foreground. The ceiling is edged with an acanthus motif in grisaille, and a garland of white roses with green leaves.

3. Pallars farm, Långhed

Långhed village is characterised by large farmhouses often of two and a half stories and impressive complexes of farm buildings.

Pallars has three houses, dating from the 1850s or slightly earlier, grouped around a courtyard. Both the main house and a house reserved for festivities in the east wing have Dalecarlian paintings. Pallars represents the time when large residential buildings had reached their zenith in Hälsingland.

The main central house is of two and a half storeys with a mansard roof. Its façade is finished with smooth wooden panels now painted white and presumably originally painted to imitate pale stone. The house has a large richly carved porch. Within, two rooms retain their painted decoration. On the ground floor a living room has landscape paintings by Svärdes Hans Errson. The paintings executed in oils, together form one overall panorama of trees and bushes.

The festivities house was constructed in 1853 and decorated throughout at that time by one unknown Dalecarlian painter. The whole building has been preserved intact. The main room has landscape paintings within arched panels; what differentiates it from other landscape paintings is its subject matter which depicts actual Swedish towns such as Stockholm, Västerås and Gävle and images of Sami dwellings and sleighs pulled by reindeer, the latter being a unique image with no counterparts in Sweden or indeed in other Nordic countries.

The main farm buildings were reconstructed between 1930 and 1958.

4. Jon-Lars farm, Långhed

Jon-Lars is the largest of all the Hälsingland farmhouses with seventeen rooms over two and a half storeys. Built for two brothers and their families in 1857, its empire-style porch shelters two doors that lead to two separate residential quarters. The house is unusual in that all the rooms for domestic functions were within one roof and there is thus no separate festivities building. There are also no flanking farm buildings, the main group of farm buildings dating from the mid-19th century being a short distance away.

While one half of the building has been modernised, the other half is well preserved. This was decorated by the Dalecarlian painter Svärdes Hans Ersson in 1863. One of the upstairs guest rooms has wall paintings of

landscape motifs of idealised towns and wispy trees, with vines twining around the intervening frames.

5. Bortom åa farm, Gammelgården

Bortom åa is a remote forest village in the border district between Hälsingland and Dalarna, an area that was colonised in the 1600s by Finnish immigrants. Its main farmhouse, built in 1819 and extended in 1835, was originally enclosed by a second house and farm buildings but these were moved further away at the end of the 19th century.

The entire old house has been preserved with its fittings and fixtures so that it now reflects a complete farmer's house from the mid-19th century. Some of the rooms were decorated in the 1820s and 1830s and others between 1856 and 1863. The lower of the two festivities rooms was decorated in 1825. The main image is of Sweden's Crown Prince in a covered carriage, flanked by soldier. Around the rest of the room are flower motifs on the walls and landscapes with buildings and figures above windows and doors. On the first floor, a festivities room was decorated in 1856 by the Dalecarlian painter Bäck Anders Hansson with stylised flowers in strong colours within simple frames.

6. Bommars farm, Letsbo, Ljusdal

Bommars farm consists of winter and summer houses built in the 1840s at right angles to each other, of two and one and a half storeys respectively. Both have late 19th century porches.

The rooms for festivities take up the entire upper storey of the winter house. The main room has walls covered with hand printed wallpaper, the design copied from wallpaper preserved at Ekebyhof Castle near Stockholm. Two other chambers were decorated at the same time, one with painted, marbled panels framed by a stencilled border and the second with a factory produced Renaissance revival style wallpaper.

7. Erik-Anders farm, Askesta village, Söderala

Construction of Erik-Anders farmhouse was begun in 1825 and, with its originally yellow painted facades, and hipped and gabled roof with classical moulding, it resembled a small manor house. Its one multi-purpose farm building was constructed in 1915.

There are festivities rooms on both of its two floors and these were decorated in 1850 by members of the Knutes family from Dalarna. The ground floor room now has wallpaper from the 1890s, while the decorations in the upper rooms survive. The largest room has restrained decoration with marbled dados, below marbled panels with patterned border, and with garlands of flowers over the doors.

On the first floor, the large parlour was decorated by the Knutes Olof Ersson family painters from Rättvik. In recent years, the paintings in several other rooms have been restored to reveal marbling.

History and development

The first farmers started to work Hälsingland's coastal areas around 400 BC and they gradually spread inland. They kept cattle, grew barley and organised themselves in family groups with communal rights to land and the surrounding forest. They succeeded in retaining these rights even after the country was Christianised in the 12th century and Sweden became a central power with a strong monarchy. The *Hälsingelagen* [Hälsingland's own laws], written in the 1300s, gives a clear picture of the society of the time as a somewhat independent part of the Swedish realm. Feudal structures were never established in the province.

The Crown, however, did own some of the woodlands and in the 16th century parts of these were settled by people from Finland who were granted tax exemption. They developed smallholdings in the forest, a few of which have survived to the present day.

During the 17th century, when Sweden developed as a military power, the crown entered into a contract with the farmers to provide soldiers to the armed forces. The farmers were obliged to build smallholdings or crofts for their soldiers and in Hälsingland these holdings could be inherited by the soldiers' widows. In due course there was a surfeit of such crofts which could be used by people without property of their own, such as craftsmen. This helped develop building craftsmanship in Hälsingland during the 18th and 19th centuries.

From the mid-16th century onwards, the farmers in Hälsingland grew in prosperity, through trade in flax and hides, the gradual mechanisation of agriculture and flax production.

The great Redistribution of Landholdings, introduced in 1757 and implemented in many Hälsingland villages from the beginning of the 19th century, made it possible for farmers to move their farms from the heart of the village in order to achieve a more rational property division and to apportion farm and woodlands to individual farmers. In many villages this brought to an end the old communal system of working. It did however also allow individual farmers to profit from the exploitation of woodland produce.

This new freedom combined with increasing mechanisation of farming, flax and woodland production and the growth of enterprise and also population, led, first of all to the expansion of farmhouses to reflect new wealth and status – so prominent in Hälsingland - and to the development of enterprises and risk taking, and then later to migrations of people to North America and other countries as within changing economic climate many businesses failed and farms were abandoned.

The increased mechanisation in the early 20th century made sawn timber and machine planed panels readily

available and this had a pronounced effect on house construction. After the 1870s the craft traditions of timber building and painting can be seen to have started to disappear. The large decorated houses of Hälsingland thus remain as examples of the final prosperous flowering of long-standing traditions of timber building and folk art.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The detailed comparative analysis provided in the revised nomination dossier states that no other property with vernacular buildings that has been inscribed on the World Heritage List includes a wealth of decorated domestic interiors in rooms used for festivities as are found in Hälsingland farms, nor reflects the type of agrarian landscape that fostered these large prosperous farms. It is acknowledged that the Agricultural Landscape of Southern Őland, Sweden (2000, criteria (iv) and (v)) has a similar socio-economic background but it is noted that the farmhouses have not preserved their interiors to any noteworthy extent.

In considering other properties, not inscribed on the World Heritage list, nor on Tentative lists, the analysis sets out comparisons with European regions which developed timber building techniques and more specifically with the traditions of the Nordic Region where peasant farmhouses decorated with fixed wall paintings are most common.

The analysis mainly considers Finland, Russia, Switzerland and Norway and also the various regions of Sweden where decorative wall painting traditions prevailed in combination with timber building techniques

In Finland, over 80% of buildings have been constructed since the 1940s. Although a few large farmsteads survive in Ostrobothnia, there are only slight examples of painted decoration on doors and one noted example of stencil painting.

In Russian Karelia, although there is a timber building traditions and rooms that were only used at certain times of year were built, there is no tradition of elaborate painted decoration.

Although painted decoration existed in the northern European part of Russia, this was generally confined to stoves and wooden panelling and few decorated buildings of high quality survive.

The large farmhouses of Switzerland and the independent farming class that produced them can be said to reflect certain similarities with the farmsteads of Hälsingland. There is however no strong tradition of decorative wall painting.

The closest comparators outside Sweden to the Hälsingland tradition of elaborately painted rooms are to be found in Norway where there is a 350 year old tradition in interior decorative painting in timber buildings.

Furthermore it is often regarded that Norwegian and Swedish decorative painting are a part of a common tradition. In Norway, the decorative paintings from the same period as the paintings in Hälsingland, are to a large extend free-hand paintings with floral and tendril patterns and figurative images. In some districts however, decorations were carried out in linseed oil paint, based on cut out stencils forming illusions of contemporary wallpapers. The decorations were usually painted in one or two rooms, the guest room and in addition the main living room. The decorative painting in Norway shows a great variety between the different regions. The difference between Norway and Sweden appears to relate to the large amount of preserved decorative interiors located in a relatively small region of Hälsingland and the lack of large suite of rooms for festivities in Norway.

Within Sweden the tradition of wall-painting is considered in relation to houses in 14 areas. There are said to be three acknowledged traditions of wall-painting: painted wall-hangings of southern Sweden, Dalecarlian paintings and paintings in Hälsingland.

The wall-hangings of southern Sweden are portable paintings, most created between 1750 and 1850 and put up for special occasions. The surviving fixed paintings are mostly found in the provinces of Hälsingland, Gästrikland, Västerbotten and Dalecarlia with a few in Ostergötland and Västergötland but only involving one painted room.

The Dalecarlian painters were mobile and painted houses in their own region and also in Hälsingland, Gästrikland and Västerbotten between 1780 and 1870. They appeared to have adapted their images to the tastes and preferences of their customers.

Although some Dalecarlian paintings are said to survive in Dalecarlia, the majority are said to be found outside the region, as the comparatively small Dalecarlian houses have been enlarged and modernised. Nevertheless two houses with painted rooms remain that have many similarities with Hälsingland. However they cannot be said to reflect the same traditions as Hälsingland nor can they be seen to be part of a widespread phenomenon in Dalecarlia.

Gästrikland, like Hälsingland flourished in the 19th century but on the basis of iron mining rather than flax and forestry. Dalecarlian painters were very active but few complete rooms survive. However Gästrikland also produced their own painter, Hans Wikström, who worked between 1775 and 1830 and one interior of his has been preserved.

The most extensive survival of painted rooms outside Hälsingland, appears to exist in Västerbotten where an inventory of 1998 recorded 100 rooms including some by Dalecarlian painters. However it is stated that no complete decorated houses survives as they do in Hälsingland.

Within Bergslagen (an iron-working region that covered several provinces), some painted rooms survive and also one complete house, with paintings probably done by Hans Wikström.

What emerges clearly from this detailed analysis is that it is within Sweden that painted houses exist in the greatest numbers, and specifically in Hälsingland but that the pictorial painting tradition spills over into neighbouring regions and there has been considerable interchange of artists and ideas between the regions of Sweden.

ICOMOS considers that the analysis has emphasised the final, very rich flowering of the local farmhouse style in Hälsingland in the late 18th and 19th century, when interiors were highly decorated by local painters and where the greatest number of complete decorated houses survive in their agricultural and landscape context. Although some painted interiors exist in other areas, Hälsingland has the largest share of all Dalecarlian paintings to have survived in Sweden and in buildings that are well preserved. The farmhouses of Hälsingland combine rich decorative paintings with a highly developed building tradition that reflects the considerable prosperity of the farmers. As a group they do not have a parallel.

The seven sites selected to represent this combination of decoration and building traditions have been selected from some 400 examples to represent the finest and most complete examples still in their agrarian context. This selection has been based on surveys of 1,000 farms carried out between 2002 and 2004 and a register compiled in the 1990s of preserved wall paintings in some 400 rooms.

The selection has been based on the following criteria:

- Farmhouses with a sufficient number of decorated rooms for festivities related to the period 1800 to 1870.
- All dwelling houses on the farm must be preserved – in order to understand the relationship between the main dwelling and buildings for festivities.
- Different decorating techniques are present in each site.
- Farmhouses should have a well preserved agrarian context; the surrounding agricultural land should be open and a sufficient number of farm buildings present to place the domestic buildings in their context.
- The landscape setting is preserved by the buffer zone.

ICOMOS considers that the comparative analysis in the revised nomination dossier that concentrates on the combination of decorative rooms and timber building traditions, as requested by the World Heritage Committee in decision 33 COM 8B.28 item 2b, has shown that this combination exists to an extent in Hälsingland that cannot be paralleled elsewhere. The criteria for selection of the sites are well articulated and justify the selection of sites, as well as an overall serial approach.

ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The selected decorative farmhouses of Hälsingland represent an outstanding collection of some 1,000 well preserved farmhouses with around 400 decorative rooms still in situ.
- The density of intact preserved decorated rooms is unparalleled within the entire Northern Taiga.
- The seven selected farms, dating from 1800 to 1870 which constitute the peak of this cultural expression, are outstanding examples of how independent farmers within a small geographical area combined a highly developed building tradition with a rich folk art tradition in the form of decoratively painted interiors in rooms used for celebrations.
- These decorated farms bear witness to a culture that has disappeared today but has been preserved in an exceptional way.

ICOMOS considers that this justification is appropriate and that the serial approach has been justified.

Integrity and authenticity

Integrity

The criteria for selection of the seven sites have been related very clearly to the proposed Outstanding Universal Value. Thus each site contributes strongly to the overall value in terms of displaying highly decorated festivities rooms in timber buildings, within the context of an overall farmstead and within an open landscape that reflects its agrarian origins. Also each farmstead reflects slightly different aspects of the way farmhouses incorporated rooms for festivities and the types of decorations that were applied by different artists. Together the seven sites display all the attributes of Outstanding Universal Value.

None of the attributes can be said to be vulnerable.

Authenticity

All the farmhouses have been selected to show the relationship between the festivities rooms and the rest of the farmstead, for their good state of preservation and for their ability to display the full range of responses in architectural and decorative terms.

Together the seven sites can be said to include all the attributes necessary to convey fully and truthfully Outstanding Universal Value. The repairs and restoration of individual elements have been undertaken by skilled professionals using mostly traditional materials and techniques. The exception is the roofing of farmhouses and farm buildings where traditional roofing material has been replaced by more modern materials in order to ensure the protection of the decorative rooms. In a very few cases, wall decoration has been reconstructed but these do not relate to the key decorated rooms between 1800 and 1870. Five of the sites are still directly associated with farming activities. The exceptions are Gästgivars and Bortom åa but these retain their agricultural surroundings.

ICOMOS considers that the conditions of integrity and authenticity have been met.

Criteria under which inscription is proposed
The property is nominated on the basis of cultural criteria (v).

Criterion (v): be an outstanding example of a traditional human settlement, land-use of sea use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

ICOMOS considers that this criterion is fully justified for the way the large, impressive farmhouses with their highly decorative rooms for festivities reflect the extraordinary combined timber building and folk art tradition, the wealth and social status of the independent farmers, and the final flowering of a long cultural tradition in Hälsingland.

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the serial approach is justified and the selection of sites is appropriate.

ICOMOS considers that the nominated property meets criterion (v) and the conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes
Outstanding Universal Value is conveyed by the rich ensemble of large, well preserved timber farmhouses, their highly decorated rooms for festivities, the range of decorative responses these rooms display, their associated farm buildings and their agrarian context.

4 Factors affecting the property

Development pressures

Currently development pressure is not high around the nominated sites and the protective and planning regulations both for the properties and the buffer zones are strong. Nevertheless the expansion of wind power is mentioned in the nomination dossier as a potential issue. It is stated that municipalities would have the right to veto inappropriately placed systems. ICOMOS considers that wind turbines would clearly have a highly detrimental impact on the scale and openness of the landscape setting. Great attention has been paid to choosing sites where the agrarian context is still in place, and it will be of the utmost importance to sustain their appropriate settings.

Tourism pressures

Gästgivars is partially let to a handicraft group and Bortom åa is owned by a municipalities. Both of these are opened regularly to the public. The remaining five sites are privately owned and their owners do open their houses to groups of visitors by appointment, usually only during the summer months.

Currently visitor numbers are relatively low, but there appears to be a belief at local level that the World Heritage inscription would help increase tourists and could support the local farming economy. The nominated farms are already within a *Stora Hälsingegårdars Väg* farm trail.

Environmental pressures

There is no evidence of serious problems. The main issue is keeping the four sites that are still active agricultural enterprises as working farms in order to maintain the open cultural landscape that constitutes the settings of the farmhouses and farm buildings. These have small areas of arable land and larger areas of forest. Grants are paid to farmers for the extra work needed to maintain meadows and pastureland. ICOMOS considers that this support is needed in the current economic climate in which farming in this area is no longer a profitable occupation.

Natural disasters

The main threat is from fire – either from forest fires or from electrical or other problems within the buildings. This is acknowledged in the nomination dossier where it is made clear that the reasonability for putting in place adequate fire protection plans is the responsibility of the owners who must take appropriate measures. The nomination dossier also states that to achieve appropriate protection, a fire protection policy, fire protection documentation, risk inventory, fire protection rules, organisation and training as well as appropriate

controls and follow up will be put in place for the nominated property as a whole, with advice from the emergency services. Such a system, as part of an emergency response procedure, was requested by the World Heritage Committee in decision 33 COM 8B.28, item 2c. However this system is not yet in place.

In its supplementary information the State Party stated that during 2012 work will be undertaken to comply with this decision. Each farmhouse will be provided with an individual fire protection plan and fire protection installations as well as a plan for maintenance and control. The County Administrative Board will also initiate course in collaboration with the Rescue Services for house owners.

Impact of climate change

The buildings could be vulnerable to changes in humidity or heavier snow falls.

ICOMOS considers that the main threats to the property are fire and possible pressure for wind turbines in the wider landscape. Formal fire protection plans for all sites need to be finalised and made operational.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries of the sites are adequate. At Bommars, the boundary excludes the third residential building of the farm (built in 1900 and subsequently sold off from the farm) but access to the main nominated area is through the yard of the third house which is currently not entirely satisfactory.

Buffer zones

For all except Bommars, the boundaries of the buffer zones are adequate and have been drawn to encompass visible village landscape, many of which have considerable number of traditional farm buildings.

At Bommars, the buffer zone is small – only slightly larger than the nominated area and does not extend to the visible village landscape.

In its supplementary information, the State Party stated that this Buffer would be enlarged to bring it into line with the others. A decision to undertake this enlargement was taken in January 2012 and it is anticipated that the process will be complete by the autumn of 2012.

ICOMOS considers that the boundaries of all seven of the nominated sites are adequate and the buffer zones will be adequate when the buffer zone of Bommars has been extended to encompass the visible village landscape.

Ownership

Bortom åa is owned by a municipality; the remaining six sites are privately owned and the owners still live on the property.

Protection

Legal Protection

All nominated sites are protected as cultural heritage buildings under the Cultural Heritage Act, 1988. Four sites (Gåstgivars, Bortom åa, Bommars and Erik-Anders farmhouses) have been designated in the past three years, and this ensures protection of the fabric and decorated interiors, as requested by the World Heritage Committee in decision 33 COM 8B.28 item 2d.

All the buffer zones, except Bommars, have been designated as areas of national interest for the conservation of the cultural environment under the Environmental code, 1988.

For all the buffer zones, special protection measures have been draw up, under the Planning and Building Act, 1987. These allow for building permits to be required even where these are not mandatory.

The protective measures afforded by the buffer zone are included in the Municipal Plans. All municipalities have given assurances that all measures at their disposal will be used to protect the areas from unsuitable development.

Traditional Protection

All but one of the nominated sites is in private ownership and relies on their owners for on-going maintenance, conservation and protection. Where there is a long standing tradition of local craftsmanship, as in Hälsingland, this protection works well. The owners are interested in the buildings and some have some conservation knowledge. Training has also been organised – see below.

Effectiveness of protection measures

Overall the protection measures are good. For the main houses, the protection in place protects both interiors and exteriors of the houses. There is a high reliance on private owners having the resources and competences to carry out maintenance and on-going conservation of buildings and to keep agricultural practices alive in the surrounding farmland.

The integration of protective measures for the buffer zones into local municipal plans means there is commitment by local authorities to their implementation.

ICOMOS considers that the legal protection in place is adequate and the overall protective measures for the property are adequate.

Conservation

Inventories, recording, research

Surveys of the Hälsingland buildings have been undertaken on several occasions during the 1990s. Around a thousand farms have general data and more detailed material has been assembled for 80 farms. This more detailed inventory, the Hälsingland Farm Register, is available to authorised users through a website maintained by the County Administrative board.

An inventory of paintings was carried out in the 1990s and part is available on the Hälsingland Farm Register. The houses are associated with substantial archives.

What has not yet been achieved are measured drawings for each of the main buildings that would allow an understanding of their construction and evolution; nor a compilation of detailed records of the decorated interiors, including their state of conservation and records of conservation work to the fabric. However it is understood that some of this work has been started.

ICOMOS considers that the aim to achieve an overall more detailed level of documentation needs to be added to the Management Plan.

Present state of conservation

The state of conservation of the nominated sites is currently mainly at a high level. Conservation interventions, mainly at a small scale, undertaken during recent years have been undertaken with skill.

For every farm, a Conservation plan has been drawn up during the last ten years by the same consultant architect. Mainly these are quite general. The exception is Bortom åa where the plan has more detailed drawings.

At Bortom åa there are problems with rising groundwater. At Bommars the condition of the farm buildings is very good.

Active Conservation measures

Gävleborg County officials have focused remarkable effort in Hälsingland during the last ten years. A report of the work is included in the nomination dossier.

An extensive capacity building programme has fostered a new generation of carpenters and other tradesmen mainly from the area.

Conservation of the interiors and especially the paintings has been undertaken by specialists. This has entailed mainly small detailed repairs. Only in a few cases has a small amount of re-painting been undertaken (vestibules in Erik-Anders and Bommars).

In Sweden there are currently sources of finance for cultural heritage conservation, such as state grants for national heritage objects. There is also a network of expertise and advice spanning national, regional and local levels.

Effectiveness of conservation measures

Overall the state of conservation of the sites, the approach to conservation and the support involved for the whole process in terms of expertise and resources is good and effective. The one area that could be strengthened is documentation in terms of compiling a conservation history of each property.

ICOMOS considers that the conservation of the property is satisfactory as are the on-going conservation measures; however it considers there is a need to strengthen the documentation of the conservation history of each property.

Management

Management structures and processes,
including traditional management processes

The management of individual sites is the responsibility of owners with advice from conservation experts.

The overall management of the series will be undertaken by a World Heritage Management Committee. This is in the process of being set up. It will consist of the farmhouse owners and authorities with a supervisory responsibility (the County Administrative Board and the municipalities) as well as other actors which have a vested interest in the development and continued existence of the property, such as local and county museums, the local development agency and the University of Gävle. The partners in the management committee will make decisions on measures to protect the World Heritage property's values in accordance with Swedish legislation. The management committee will also functions as a forum for raising important and current issues related to conservation and preservation, educational initiatives, sustainable development as well as participation and collaboration.

In its supplementary information, the State Party stated that the members of the Management Committee will be chosen in the spring of 2012 and the County Administrative Board will convene the first meeting in August 2012. The Committee will report annually to the National Heritage Board.

Policy framework: management plans and
arrangements, including visitor management
and presentation

A management plan for the property has been prepared. It sets out over-arching objectives and four areas for priority work. These are:

- Protection and Conservation
- Developing Knowledge
- Work with Public Exhibition
- Participation and Cooperation

Under each priority area, goals are set out.

The supplementary information provided by the State Party stated that the Management Plan will be approved by the County Governor if the property is inscribed.

The Management Plan will be implemented by the World Heritage Management Committee when it is established.

This implementation will be facilitated by a World Heritage Coordinator. The supplementary information provided by the State Party stated that such a person had been appointed.

ICOMOS considers that management system will be adequate once the Management Committee is set up to coordinate management across all the sites of the serial property, in accordance with the requirements of the *Operational Guidelines*, paragraph 114.

6 Monitoring

Twenty-three monitoring indicators are set out in the nomination dossier. These cover basic statistics such as number of buildings, changes of ownership, number of permits issued etc. and most are not directly related to the attributes of Outstanding Universal Value, in terms of ensuring that they are maintained. Where they are, the indicator is recoding changes, and includes for instance number of torn down buildings.

What was missing was an indicator related to the state of conservation of the decorated interiors, the single most important attribute of the property.

In its supplementary information, the State Party has stated that any additional indicator has been adopted and that a baseline survey of the wall paintings was carried out in September 2011.

The County Administrative board is responsible for carrying out monitoring.

ICOMOS considers that the monitoring system is adequate.

7 Conclusions

The revised nomination has addressed the concerns of the World Heritage Committee and has put forward a fully justified selection of seven sites that represent the extraordinary concentration of large, well-appointed and highly decorated houses in the Hälsingland region. They have been chosen against a clear set of criteria to reflect the apex of the timber building traditions when the independent farmers achieved great prosperity through their exploitation of flax processing and woodland exploitation and used their wealth to create houses to reflect their status. The distinguishing features of this final flourish of timber building traditions were the creation of complete houses or suite of rooms to be used only for celebrations and the commissioning of local artists to decorate the walls of these rooms in a style that merged folk art with the fashions of the capital.

The seven sites have well preserved houses with a significant number of decorated rooms, still retain a range of farm buildings and have a setting that reflects their agrarian context. Each site shows different response to the way rooms were decorated. All but one farm is still lived in and most are still farmed or associated with farming activities.

To sustain this extraordinary ensemble will require great collaboration and support for the owners who are those responsible for their conservation. Although a Management Committee has been appointed it has not yet become functional – this is due to happen in August 2012. Further although a management plan has been prepared, its implementation has not yet started, as it will be the responsibility of the Committee.

The value of the seven houses is conveyed by the smallest details of the decorated interiors. Although the state of conservation of the decorations is currently good, there is a need to benchmark what is there now and to document conservation history to underpin future monitoring.

The greatest threat to the seven sites is fire and there is an urgent need for fire protection policies to be in place for all sites, within the context of overall emergency response policies. This process has now been started and will be enacted during 2012.

Recommendations with respect to inscription

ICOMOS recommends that the nomination of Decorated Farmhouses of Hälsingland, Sweden, be **referred back** to the State Party in order to allow it to:

- Confirm that the World Heritage Site Management Committee has been set up to coordinate management across the seven sites, in line with the requirements of the *Operational Guidelines,* paragraph 114, and that the Management Plan is operational;

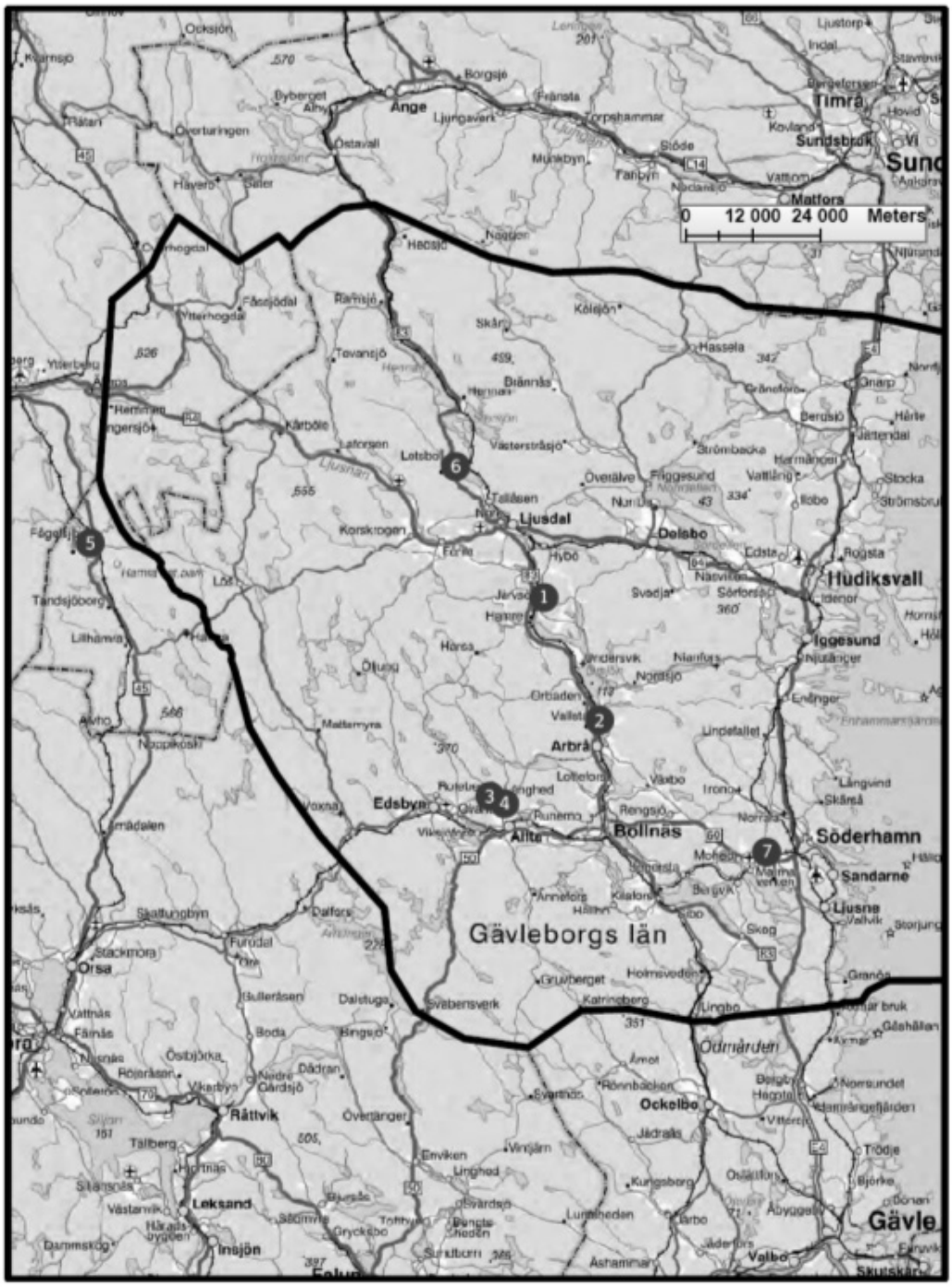
- Confirm the extension to the buffer zone for Bommars and provide a revised plan;

- Confirm that Fire Protection plans and equipment are in place for each site as requested by the World Heritage Committee.

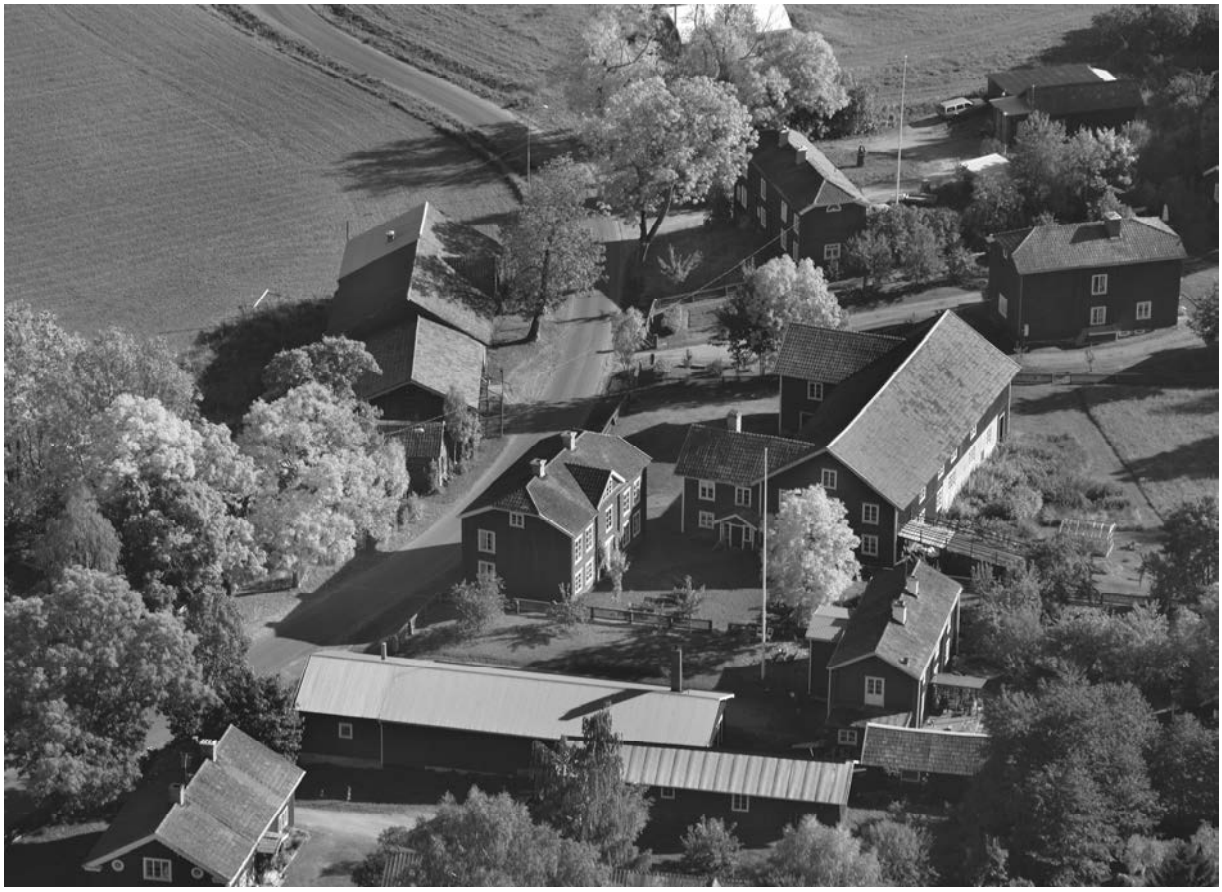
ICOMOS further recommends that the State Party give consideration to the following:

- Paying specific attention to the expansion and location of wind power turbines which could impact adversely on the scale and openness of the landscape setting;

- Strengthening documentation of the conservation history for each site and add this aim in the management plan.

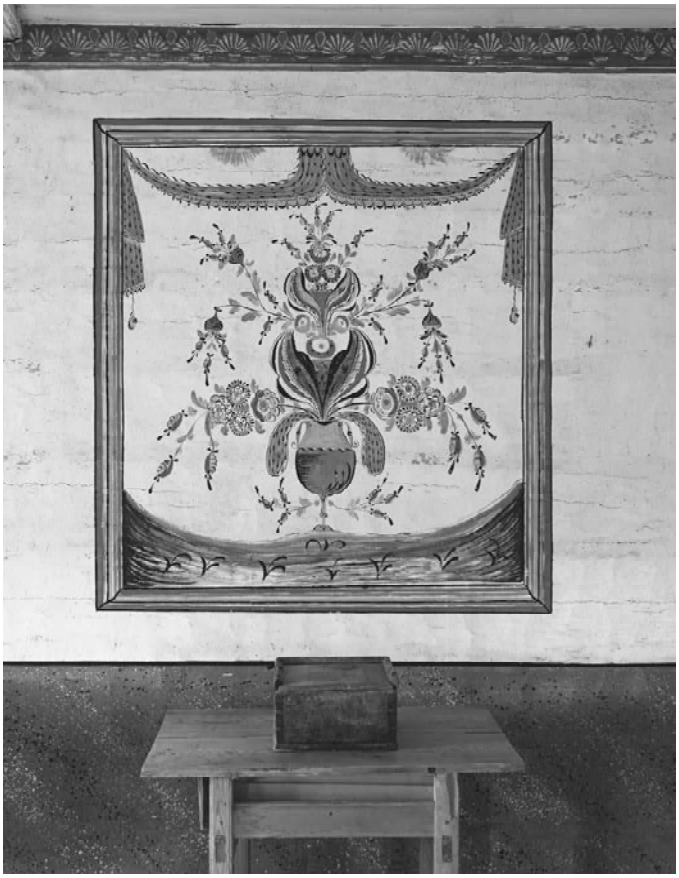


Map showing the location of the nominated properties



Erik-Anders – general view

Kristofers – interior of the festivities room



Bortom åa - detail of a ‘Dalecarlian rose painting’
in the festivities room

Pallars – interior of the guest house

Kiev: Saint Cyril's and Saint Andrew's churches (Ukraine)
No 527ter

Official name as proposed by the State Party
Kiev: Saint Sophia Cathedral with Related Monastic Buildings, St. Cyril's and St. Andrew's Churches, Kiev Pechersk Lavra

Location
Kiev
Ukraine

Brief description
In addition to Saint-Sophia Cathedral and Kiev Pechersk Lavra, the Churches of Saint Cyril and Saint Andrew bear witness to the historic and spiritual importance of the city of Kiev in the development of Eastern Christianity from the Middle Ages to the modern era. Saint Cyril's Church is a 12th century fortified church, in which there still remains extensive internal painted mural decoration. Built in the 18th century, Saint Andrew's Church is a unique synthesis of Western Baroque and influences specific to the Eastern Slav Orthodox world.

Category of property
In terms of categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, these are two *monuments*.

1 Basic data

Included in the Tentative List
26 January 2009

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
26 January 2009
28 January 2011

Background
This is a nomination for the extension of Kiev: Saint-Sophia Cathedral and Related Monastic Buildings, Kiev Pechersk Lavra which was deferred (34 COM, Brasilia, 2010).

The World Heritage Committee adopted the following decision (34 COM 8B.36):

The World Heritage Committee,
1. Having examined the documents WHC-10/34.COM/8B and WHC-10/34.COM/INF.8B1,
2. Defers the examination of the nominated extension for Kiev: Saint Sophia Cathedral and Related Monastic Buildings to include Saint Cyril's and Saint Andrew's Churches, Ukraine, on the World Heritage List, to enable the State Party to

a) Review and expand the comparative analysis: for Saint Cyril's Church with Byzantine churches and for the mural scheme; for Saint Andrew's Church the stylistic genesis and then its influence in the Orthodox Christian world;
b) Review the boundaries around Saint Cyril's Church in order to extend it so as to include the former walled monastery and form a homogeneous and coherent ensemble separated from the hospital;
c) Consider creating a buffer zone north-east of Saint Andrew's Church, on the hillside below the building. This point should be considered in conjunction with the recommendation of Decision 33 COM 7B.125 concerning the buffer zone for Saint-Sophia Cathedral;
d) Clarify the texts and responsibilities for the implementation of protection for the property's various components and the buffer zones, and specify the legal status of the Reserve (or National Conservation Area) of Saint Sophia of Kiev. This point should be considered in conjunction with the recommendations of Decision 33 COM 7B.125;
e) Implement a unique system of management which involves the various stakeholders of the properties (the two ministries involved, the Reserve, the museums, the Municipality, the local communities, etc.) in response to the current fragmented management, and in accordance with Decision 33COM7B.125;
f) Implement a unified management plan for the properties, buffer zones, and landscape protection of the Orthodox Metropolate of Kiev; through its implementation, focus on resolving the problems of unregulated urban development, already raised and highlighted by the reactive monitoring mission to the property already inscribed (March 2009) and Decision 33 COM 7B.125; define and implement a town-planning system that is compatible with the property's values; and implement the cultural and landscape project;
g) Consider developing a comprehensive works strategy for the medium term for the wet and fragile soil under the foundations of Saint Cyril's Church;
h) Defer the project for heavy intervention on the unstable soil supporting Saint Andrew's Church and study more the context in order to identify better the work required, considering the least intrusive solutions, preferably focusing on the causes of the instability;
i) Confirm for Saint Andrew's Church the presence of fire-alarm systems, and whether there is a specific surveillance team for the property other than the museum staff; state for Saint Cyril's Church the number and status of the active guards and the location of the fire brigade in the event of a fire;
j) Implement quantified monitoring of the interior and exterior architectural and decorative components and murals of the churches;
k) Provide a summary in French or in English of the applicable texts concerning the protection of the properties, the proposed extensions, and the buffer zones

The state of conservation of the property already inscribed was the subject of decisions at the 28th, 29th, 32nd, 33rd, 34th and 35th sessions of the World Heritage Committee (28 COM 15B.99; 29 COM 8B.56; 32 COM 7B.111; 33 COM 7B.125; 34 COM 7B.103 and 35 COM 7B.112). It has been the subject of two joint reactive monitoring missions by the World Heritage Centre and ICOMOS, from 2 to 7 March 2009 and from 9 to 13 November 2010.

The State Party submitted a revised proposed extension nomination dossier on 28 January 2011.

Consultations
ICOMOS consulted its International Scientific Committee on Wall Painting and independent experts.

Literature consulted (selection)

Angold, M. (ed.), *Eastern Christianity,* Cambridge, Cambridge University Press, 2006.

Magocsi, P.R., *A History of Ukraine*, Toronto, University of Toronto Press, 1996.

Rauschenbach, B. V., The Christianization of ancient Russia: a millennium, *The UNESCO Courrier,* Paris, UNESCO, June 1988, pp. 3-29.

Zagrebelnyi, P., Paton, B., Nalivaiko, D., and Vissotski, S., Kiev, 1,500 years of culture, *The UNESCO Courrier,* Paris, UNESCO, April 1982, pp. 4-27.

Technical Evaluation Mission
An ICOMOS technical evaluation mission visited the property from 17 to 22 October 2011.

Additional information requested and received from the State Party
None

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
The proposed extension to the property already inscribed of Saint Sophia Cathedral and Kiev Pechersk Lavra includes two churches and their surroundings. Saint Cyril's Church is a monument located away from the inscribed property, 4.5km to the north-west of Saint-Sophia; it is built at the end of a promontory. Saint Andrew's Church is located inside the current buffer zone of Saint Sophia Cathedral, at its northern boundary, on the edge of the plateau overlooking the Dnieper Valley.

Saint Cyril's Church

Saint Cyril's Church was designed in the 12th century as a fortified church located on a high point providing advanced defence for the medieval city of Kiev.

The church's basic plan, which is close to square, is Byzantine in inspiration. The building has three naves: the central nave is extended by a semi-circular choir and the two lateral naves are extended by two apses, also semi-circular. The church has a narthex at its west entrance and a baptistery. The walls are thick, ranging from 1.7m to almost 2m, and are made of brick with thick mortar joints. Its central dome rests on imposing pillars. This reflects a development in Christian religious architecture within the area of the Principality of Kiev, and more broadly in the Old Russian world. It is a development that extends and replaces the initial Byzantine influence that is well represented in Saint-Sophia Cathedral and Kiev Pechersk Lavra.

After being devastated in the medieval period, followed by a complex stage in the history of the building about which little is known, repairs and reconstruction become noticeable, starting in the 17th century. The upper parts of the building, the façades, the roofs, and the dome were rebuilt in the 18th century giving the church the external appearance of a monument from that period.

The contemporary interior of the church has retained the initial plan and architectural structure, clearly discernible in its lower sections. It has a large series of murals that cover a surface area of almost 2,400m^2, of which around 800m^2 date from the initial 12th century decoration. The paintings recount the lives of the saints, especially Saint Cyril and Saint Athanasius of Alexandria. It is typical of the spiritual expression of this period of Russian and Ukrainian Christianity, marking a stylistic change from the Byzantine and Balkan styles of the same era. The subsequent restorations and additions sought to continue the same themes within the same stylistic approach as the originals, while introducing new colour.

The interior work carried out at the end of the 19th century began by revealing the 12th century murals. The focus was subsequently on restoring the paintings using oil to brighten the colours, without, however, too extensively affecting the initial heritage. This work added extensive painted decoration, notably on the intrados of the vaults, by which it was manifestly influenced, using the same religious themes and style. The lower level of Saint Cyril's Church today bears witness to the internal appearance of a 12th and 13th century church, linked to the feudalism of the Principality of Kiev and the spread of the religious and cultural values of Slav Orthodox Christianity.

The monastery associated with Saint Cyril's Church was converted into a hospital in the 18th century; many old buildings in close proximity to the church were demolished or modified in the 20th century and others have recently been built close by. The current boundary, in the form a concrete and iron fence, does not correspond to the monastery's historical boundary, but it has been adopted to define the property boundary.

Saint Andrew's Church

Saint Andrew's Church is a religious monument built in the mid-18th century by Empress Elizabeth, as part of the Kiev Imperial Residence. The building was designed by the Italian architect Francesco Bartolomeo Rastrelli, one of the builders of Saint Petersburg, and was erected by the Russian architect Ivan Michurin.

The church is located on the north-eastern edge of the plateau on which the historic city is built, overlooking the

Dnieper Valley. From this elevated position, in an environment of gentle wooded slopes and with its elegant silhouette, Saint Andrew's Church provides a characteristic visual point of reference within the historic urban panorama viewed from the riverside and which completes the panorama offered by the silhouettes of Saint Sophia and the Kiev Pechersk Lavra.

The complex geographical location and the presence of underground water required the construction of an impressive pentagonal base using backfilled masonry. From the outside, it appears as a vast terrace construction upon which the elegant religious building stands. The base encloses the foundations and crypts of the church; it provides an access terrace and a promenade around the church, and is reached via an imposing metal staircase with three successive flights of stairs. The base includes housing for the priests, providing the external appearance of a building façade.

The church is cruciform in plan; its nave is a little longer than its transept. Four large buttressed pillars support the large central dome, which is flanked by four lateral decorative domes in accordance with Orthodox tradition. The building is 50m high, whereas its greatest floor length is barely 32m.

The exterior openings and their decorative elements are typical of a Baroque style imported from Western Europe and applied to Ukrainian Orthodox churches. The facades are punctuated with Corinthian and Ionic columns; their decorative elements are made of cast iron, one of the first instances of the use of this material in Eastern Europe.

The interior painted decoration of Saint Andrew's Church is also characteristic of a mixed Baroque style. It is complemented by gilded stucco and wood-carvings. The murals were completed in the 19th century, and are in sympathy with the initial décor. The interior character of the church is emphasized by the use of white and turquoise blue paint, highlighted with gilding. In contrast, the iconostasis has a red background for its icons and sculptures.

Saint Andrew's Church has been conserved in an architectural and decorative state that complements its construction. It bears witness to the formation of a mixed architectural style, a combination of the Western Baroque and Slav Orthodox cultures. This style spread widely in the second half of the 18th century and the start of the 19th century throughout Ukraine, Russia, and the Balkans, and as far as the monasteries on Mount Athos, for the construction and the decoration of Orthodox religious buildings. This style was sometimes referred to as 'Elizabethan Baroque' in reference to the Empress.

Extension

Designed to rival Hagia Sophia in Constantinople, Kiev's Cathedral symbolizes the 'New Constantinople,' capital of the Christian Principality of Kiev, which was created in the 10th and 11th centuries in a region evangelized, notably by St Vladimir, at the end of the 10th century. It includes in particular exceptional internal decoration in the form of mosaics covering 260 m^2 and around 3,000 m^2 of murals. It played an important role in the construction of medieval Kiev and had a considerable influence in the development of monumental religious architecture in Old Russia (contemporary Russia, Ukraine and Belarus). It is the oldest religious building of the Slav people in these regions. Byzantine architectural forms and construction techniques found new expression here under the influence of Slav culture and the tastes of the Princes of Kiev. Saint-Sophia was the Metropolitan's cathedral, the main temple of Old Russia, as well as its social and cultural centre; it was also the princely family's sepulchre.

The Kiev Pechersk Orthodox monastic ensemble (or Lavra catacombs), jointly with Saint Sophia, was a major centre from which the Orthodox Christian faith spread throughout Eastern Europe. It includes buildings dating from the 11th century, such as the Dormition Cathedral, the Church of the Saviour, and the Trinity Church. A series of catacombs survive from this period, whereas the original religious buildings were reconstructed during the renaissance of the monastic community in the 17th and 18th centuries, and its extension to form a vast ensemble with religious and cultural functions.

History and development

Kiev, one of the Varangian principalities established among the Eastern Slavs, was founded in the 9th and 10th centuries. Located on the Dnieper, it developed very early because of its role as a centre of trade between the nascent Russian world and Constantinople. It was seen in the 10th century as the capital of a principality that ruled the entire central Dnieper Basin.

Byzantine Christianity was spread to Kiev from the 10th century, starting with the Regent Olga (945-64), and then Prince Vladimir (980-1015). The Constantinople Patriarchate raised Kiev to the status of Metropolate for all Rus' in 991. In the 11th century the influence of Kiev extended from the Baltic to the Black Sea, forming a vast kingdom for which it was both the religious and the political capital. Construction of Saint Sophia Cathedral was undertaken during the reign of Yaroslav the Wise (1019-54), within a vast urban ensemble that styled itself the new Constantinople of the North. With the wealth from its trade and its role as the capital, the city covered itself in churches and monasteries, the most famous of which is Kiev Pechersk Lavra. Kiev was at this time a major centre of Slav culture, notably in terms of its religious influence.

From the second half of the 12th century the city had to fight off repeated attacks from the nomads of the southern plains. The fortified Church of Saint Cyril and its monastery were built against this background, when Prince Vsevolod Cyril Olgovych took control of Kiev in 1139. The Church of St Cyril became, following Saint Sophia Cathedral, the venue for the coronation and

interment of the Princes of Kiev. The city was pillaged for the first time in 1169, then again in 1240 by the Mongol Tatars. The Saint Cyril Monastery was affected by these events and suffered some destruction. In the mid-13th century the city was under the yoke of a Mongol governor. Its function as the centre of political and religious power within the Eastern Slav world migrated towards the basins of the Upper Volga and the Moskva.

From the 14th to the 17th centuries Kiev and its region were part of various alliances, including the Polish-Lithuanian Union and then the Union of Lublin.

Saint Cyril's Church was repaired in the early 17th century in the reign of Prince Ostrozky, but was devastated in 1651 and then suffered from a fire. The church's external architectural envelope was rebuilt in two stages, around the turn of the 17th and 18th centuries, and then in 1750-60, when it assumed its current Baroque exterior. At the same time, the residual monastic ensemble was also restored and restructured, but it evolved towards use as a hospital at the end of the 18th century. This function led to extensive changes to the building and the floor plan of the former monastery in the 19th and above all the 20th centuries, with the virtually complete disappearance of the old monastery buildings.

The medieval murals in Saint Cyril's Church were rediscovered in the 1860s, under later layers. Work on uncovering and restoring them was undertaken in 1884. The walls also have tempera paintings from the 17th century. The iconographic programme was completed at this stage, respecting the original styles but using oil paint.

As already mentioned, Empress Elizabeth ordered the building of Saint Andrew's Church in Kiev around 1744. Located on a rocky spur with legendary associations, the main building was not completed until 1751, because of the unstable and wet subsoil. The interior and exterior decorations also took a rather long time to complete, using various sophisticated painting, stucco, wood-carving, and cast-iron decorative elements. After its consecration in 1767, the church was soon transferred out of the Imperial domain and the following year handed over to the City of Kiev.

Saint Andrew's Church underwent numerous and extensive repairs in the 19th and 20th centuries, but without any major alterations: the roofs were repaired and provided with metal frames; the exterior wooden stairs were replaced by new iron stairs (1845). During work on the foundations, a crypt was installed in the base, under the main church (1867).

A circular drainage system was installed in 1926. Damage during World War II led to repairs around 1950. The roofs were replaced in accordance with the original plans in 1978-79. Several restoration campaigns on the interior decoration took place in the 1990s, to consolidate the stucco on the iconostasis and repair the floors in particular. Additional drainage work and consolidation of the hillsides were carried out in the 1970s. Heavy consolidation work on the foundations using concrete piles, removing the surface overburden on the hill and strengthening the existing walls has been carried out since 2009.

In the 20th century the Churches of Saint Cyril and Saint Andrew became museums housing their own internal decoration, and that remains their current use. Religious ceremonies are sometimes held in them. Saint Andrew's Church is also a popular venue for religious services.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The State Party compares Saint Cyril's Church with five old Orthodox churches in Ukraine: Borys-Hleb Cathedral, Cathedral of Yeletsky Monastery in Chernigiv, Saint George's Cathedral in Kaniv, Assumption Cathedral in Volodymyr-Volynsk, and Saint Basil's Church in Ovruch. The study focuses in particular on the murals and interior decoration. The comparison in this respect is extended to include the Russian Saint George's Church in Lagoda, and the Church of Our Saviour in Nereditsa-Novgorod (inscribed 1992, criteria (ii), (iv) and (vi)), together with the Belarus Spaso-Preobrazhensky Church in Polotsk.

The State Party considers the murals in Saint Cyril's Church to be unique, notably in terms of the iconographic scheme depicting the lives of Saint Cyril and Saint Athanasius. They reflect an original view of the world in the 12th century that distinguishes the Kiev community from both the other Slav principalities and from Byzantium and the Balkans.

A comparison is made with other Byzantine Orthodox churches of the same period, some of which are inscribed on the World Heritage List. It refers to the Chora Monastery Church and Saint Sophia in the ancient Byzantine capital (Istanbul, Turkey), Pantokrator Monastery on Mont Athos and Saint Pantaleon in Thessalonica (Greece), and Saint Mark's in Venice (Italy).

For Saint Andrew's Church, which dates from an entirely different period, the comparison is made with three other churches by the same architect, Rastrelli: Smolny Cathedral in Saint Petersburg (1990, criteria (i), (ii), (iv) and (vi)), Saint Catherine Cathedral in Tsarskoye Selo Palace, and the Palace Church in Petergoff near Saint Petersburg, and also with the Cathedral of the Nativity of the Blessed Virgin in Kozelets (Ukraine), attributed to the Russian architect Kvasov.

What distinguishes Saint Andrew's Church is its position on a promontory and the presence of a raised base with a monumental staircase leading to the entrance porch. Saint Andrew's Church ushers in a Baroque Orthodox style that mixes Western influences with elements of

Slav inspiration. The homogeneity and the completeness of its internal decoration are also remarkable. It is also one of the best preserved examples. It served as a model as far away as the Balkans, Moldavia, Serbia, and Bulgaria.

ICOMOS considers that, in accordance with the decision 34 COM 8B.36, point 2.a) of the World Heritage Committee, the comparative analysis has been extended and expanded, on the one hand, with Byzantine churches and for the subjects of the murals in Saint Cyril's Church and, on the other hand, for the stylistic genesis and then the influence of Saint Andrew's Church in the Christian Orthodox world, in an adequate manner.

The initial nomination dossier for Kiev: Saint Sophia Cathedral and its monastic buildings (1989) did not include a comparative analysis as such, and the two monuments included for the current nominated extension are therefore not mentioned.

ICOMOS considers that the comparative analysis has been completed and that it justifies consideration of approving the nominated property extension.

Justification of Outstanding Universal Value

The property proposed for the extension is considered by the State Party as contributing to the Outstanding Universal Value already recognized for Kiev: Saint Sophia Cathedral and Related Monastic Buildings, Kiev Pechersk Lavra for the following reasons:

- The proposed extension to include Saint Cyril's and Saint Andrew's Churches strengthens the integrity of the panorama of Kiev as a religious centre for more than a thousand years. On its promontory overlooking the Dnieper, this panorama has been enriched throughout the centuries, within the continuity of its spiritual function, and today, seen from the river plain, it affords a unique and emblematic cultural landscape.
- Saint-Cyril's Church bears witness to a 12th century fortified church project, located at the edge of the urban ensemble of the ancient Kiev Metropolate. It also testifies to Byzantine influence, as well as a nascent style of building specific to the Old Russian Orthodox Church. The church has a very large group of 12th century interior murals, based on unique or rare subjects. They were completed in the 17th and 19th centuries, respecting the original Orthodox style. Its history is directly linked to the final phase of the Kiev Metropolate and the capital of the whole of Old Russia; it was the site of the coronation and interment of the Princes of Kiev, after Saint-Sophia.
- Saint Andrew's Church is a unique monument created by the Italian architect Rastrelli; it is an outstanding 18th century example of the coming together of the Western Baroque style and Russian and Orthodox architectural influences, sometimes referred to as Elizabethan Baroque. The church also has a complete and homogeneous interior ornamentation comprising paintings, stucco, and carved woodwork. Its typical exterior architecture is enhanced by the early use of cast-iron decorative elements

The two churches nominated for the extension to the property testify to historical periods that complement that of Saint Sophia, at the end of the period of the Kiev Metropolate of Ancient Rus and at the time of the Baroque influence for Saint Andrew's. They complete the historic panorama of the Kiev Religious Metropolate, offering a unique cultural landscape.

Justification of the property already inscribed:
Designed to rival Hagia Sophia in Constantinople, Kiev's Saint Sophia Cathedral symbolizes the 'New Constantinople', capital of the Christian principality of Kiev, which was created in the 11th century in a region evangelized after the baptism of St Vladimir in 988. The spiritual and intellectual influence of Kiev Pechersk Lavra contributed to the spread of Orthodox thought and the Orthodox faith in the Russian world from the 17th to the 19th centuries.

ICOMOS considers that this justification is appropriate as the two churches nominated for the extension testify to the spiritual rise of Kiev as an Orthodox Metropolate, mainly in the 12th-13th centuries, and the 18th century, alongside the founding testimony of Saint Sophia Cathedral and Kiev Pechersk Lavra. Nonetheless, only Saint Andrew's contributes in an outstanding manner to the urban panorama.

Integrity and authenticity

Integrity

Only the interior of Saint Cyril's Church provides evidence of the 12th century, notably in terms of its Byzantine floor-plan and the building's load-bearing structures, up as far as the top of the first level. A certain fragility of the foundations could eventually threaten the building's integrity (see threats).

The church was restored in the 18th century, giving it a Baroque type exterior appearance. It presents the homogeneous form of an Orthodox church of this period. Its close environment is penalised by the disappearance of the monastic buildings at the same period and by the proximity of recent mediocre hospital buildings.

Inside the church, only 30% of the 12th century murals are in fact still present. Painted elements were added in the 17th century, and extensive restoration at the end of the 19th century affected the murals shortly after they were uncovered. The restorations have always been carried out in accordance with the original subjects and styles, in a context of continuous expression of the Russian-Ukrainian Orthodox faith and respecting its traditions. From this point of view, and in association with the structural integrity of the interior, Saint Cyril's Church provides a homogeneous and complete painted environment, illustrating the spirituality of Eastern European Orthodox Christianity since the 12th century.

It has already been said that Saint Cyril's Church does not really contribute to Kiev's urban panorama, as it is too distant and ultimately not very visible.

The architectural and decorative integrity of the 18th century Saint Andrew's Church has been conserved, without any notable alteration throughout the various works of the 19th and 20th centuries. The roofs have been replaced but their form and visual appearance have been retained. The elements most affected (dome) have recently been restored in a spirit that is more in keeping with the original. The stairs leading to the entrance platform were also replaced with a metal version in the 19th century.

The integrity of the foundations has always been under threat, in the past and still today, because of the unstable and wet nature of the subsoil, requiring specific work on several occasions (see threats).

The many components of the interior decoration form a very complete ensemble that has been maintained, with its more fragile components (stucco, wood-carvings, gilding, etc.) recently restored using the original materials, forms, and techniques.

Given its lofty position overlooking the Dnieper Valley, Saint Andrew's Church plays a very important role in the overall panorama of the historic city and Orthodox Metropolate of Kiev, viewed from the riverside, and contributes to the integrity of this unique monastic landscape.

ICOMOS considers that the architectural integrity of Saint Cyril's Church, as a 12th century monument, is only partial as it is limited in the interior by the lower part of the building; that of its 18th century Baroque restoration is undermined by the total disappearance of the monastery with which it was once associated. Through its various restorations and additions to the original 12th century paintings, always in accordance with the religious traditions, the vast ensemble of murals provides a very complete iconographic testimony to Orthodox spirituality.

The conditions of integrity of Saint Andrews Church, as a testimony to the 18th century spiritual renaissance, are satisfactory. Only this church contributes to strengthening the visual integrity of the overall monastic landscape of Kiev seen from the Dnieper Plain.

ICOMOS considers that the conditions of visual integrity of the two buildings are compromised by the many poorly or uncontrolled development projects within their immediate environment or in the buffer zones. The conditions of integrity of the foundations of both buildings are not entirely assured by the current work, as the causes of their weakness have not been fully identified.

Authenticity

In Saint Cyril's Church, numerous 12th century structural components have been replaced throughout its complex and not always well-known history. Nonetheless, the lower structures, when viewed from inside the church, provide authentic architectural evidence of the medieval construction of a 12th century fortified church.

The church was restored in the 17th and 18th centuries, and Baroque elements were added which mainly affect the external appearance of the façades and roofs, mainly because of the addition of the four lateral domes.

The monastery buildings surrounding the church have disappeared and only their foundations remain. The church's immediate environment no longer has any authenticity today.

The authenticity of the material conservation of the partially conserved 12th century murals, which had subsequently been extensively restored and completed, is strongly altered. The spiritual subjects have been conserved, and the original style guided and influenced the restorations.

The authenticity of Saint Andrew's Church, when considered as a religious building, emblematic of an 18th century Orthodox Ukrainian style is adequate. The various restoration campaigns for the church's exterior have conserved a high degree of authenticity. The use of metal to replace traditional materials is notable for the roof and access stairs, but retains shapes that are compatible with the property's original values. Its interior is fully preserved, only the floor has been redone. The interior decorations have been preserved with a high degree of authenticity, largely because of their spiritual value.

ICOMOS considers that there is no doubt as to the authenticity of those parts of the architecture of Saint Cyril preserved from the 12th century. The conservation and restoration of the original murals, from the same period, have not altered the conditions of authenticity and spiritual testimony and have respected the topics and drawings; on the other hand, the brighter colours created through the use of later techniques somewhat affect the expression of this authenticity. Saint Andrew's Church as an 18th century monument and decorated ensemble has good overall conditions of authenticity.

ICOMOS expresses its concern for the rapid deterioration of the conditions of landscape integrity and authenticity of the environment around both these monuments.

ICOMOS considers that the conditions of authenticity have been met but that the conditions of integrity are only partially so and are moreover vulnerable because of the absence of any management of the areas around the churches.

Criteria under which inscription is proposed

The property is nominated on the basis of the same cultural criteria (i), (ii), (iii) and (iv) as those used for the inscription of the original nomination.

Criterion (i): represent a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that Saint Cyril's Church presents an architectural ensemble and unique and exceptional murals that are representative of the human creative genius of the 12th century, complementing those of Saint-Sophia Cathedral and Kiev Pechersk Lavra.

Saint Andrew's Church bears exceptional architectural and decorative witness to the birth of Ukrainian Baroque; it displays remarkable decorative particularities and it occupies an exceptional and emblematic site. In the same way as Saint-Sophia Cathedral and Kiev Pechersk Lavra, Saint Andrew's Church is perceived as a masterpiece.

ICOMOS considers that the architectural and decorative contributions of the two churches are important testimonies that complete those already provided by the inscribed property, but without achieving in themselves the level of a masterpiece of creative genius. Saint Andrew's Church contributes value to the outstanding urban and monastic panorama, viewed from the Dnieper Valley, and in this respect strengthens criterion (i) already recognised for Saint Sophia Cathedral and the Kiev Pechersk Lavra.

ICOMOS considers that the property proposed for the extension contribute to the expression of criterion (i) recognised for the ensemble already inscribed, especially through its contribution to the urban and monastic panorama.

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that Saint Cyril's Church presents original and unique characteristics in terms of its construction, its decoration, and its historic and religious role. It marks the transition from Byzantine Orthodox influences to an architectural style and spiritual art specific to the Slav and Russian world.

In terms of its 18th century architecture and unique decoration, Saint Andrew's Church is a particularly successful and harmonious combination of the influences of Western Baroque, modern Russia, and the Orthodox faith in the Ukraine. The result is an architectural model for the development of the Orthodox Baroque in Eastern Europe and the Balkans.

ICOMOS considers that, within the general context of the role of the Kiev Orthodox Metropolate of the Eastern Slavs, Saint Cyril's Church bears witness to the exchange of major influences, mainly in the 12th century. Saint Andrew's Church is a notable example of the dissemination and adaptation of the European Baroque in the 18th century all over Russia at the time.

ICOMOS considers that the properties proposed for the extension significantly reinforce this criterion.

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

This criterion is justified by the State Party on the grounds that Saint Cyril's Church is one of the rare monuments of the 'Old Russian' style, like Saint Sophia Cathedral and Kiev Pechersk Lavra, to have survived through to the present day. The church bears witness to the religious and cultural traditions of the 12th and 13th centuries in the Russian world that was in the process of being created. The monument is testimony to the architecture, building techniques, painting, and medieval writing of Old Russia.

Saint Andrew's Church bears witness to the religious and cultural traditions within the Russian Empire in the mid-18th century. It is a remarkable example of the creation and the dissemination of a specific architectural and decorative religious style: the Russian-Ukrainian Orthodox Baroque.

ICOMOS considers that Saint Cyril's Church completes the testimony of the property already inscribed with regard to the cultural tradition linked with the medieval Kiev Orthodox Metropolate of the Eastern Slavs. Saint Andrew's Church bears witness to the permanency and renewal of this tradition in the modern period.

ICOMOS considers that the properties proposed for the extension significantly reinforce this criterion.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

This criterion is justified by the State Party on the grounds that Saint Cyril's Church is an outstanding example of the Russian medieval church with three naves, a central dome, and an extensive scheme of interior murals. Its architecture is a synthesis of the Byzantine style with elements of European Romanesque architecture, forms specific to Slav architecture, and finally the Ukrainian Baroque. Its murals also bear witness to the synthesis of many influences, from medieval Byzantine art to 17th century Ukrainian portraiture and the revival of Orthodox religious painting in the 19th century.

Saint Andrew's Church, a masterpiece of Elizabethan Baroque, illustrates an important period in the history of Orthodox religious architecture. It bears witness to the adoption and a particularly accomplished interpretation of architectural and decorative styles from Western Europe.

ICOMOS considers that the testimony of the two churches may contribute significantly to the expression of this criterion recognised for the property already inscribed.

ICOMOS considers that the properties proposed for the extension significantly reinforce this criterion.

ICOMOS considers that the two properties proposed for the extension significantly reinforce the criteria (ii), (iii) and (iv), and that they contribute to the expression of criterion (i). The conditions of authenticity are met but the conditions of integrity are only partially met and are very vulnerable because of the absence of any management of the areas around the churches.

Description of the attributes

Saint Cyril's and Saint Andrew's Churches reinforce the attributes of the main property already inscribed. They contribute testimonies of religious architecture and decoration from complementary historical periods to that of Saint Sophia and the Kiev Pechersk Lavra.

- Saint Cyril's Church is testimony to a 12th century fortified church project at the meeting point between Byzantine influences and a nascent tradition specific to the Old Russian Orthodox Church. Its history is directly linked to the last phase of Kiev as a religious Metropolate and the capital of the Rus'.
- Saint Cyril's Church has a vast ensemble of 12th century interior murals depicting unique or rare subjects. They were completed in the 17th and 19th centuries but respecting the initial Orthodox style.
- Saint Andrew's Church is a unique 18th century monument that testifies to the meeting between the Western Baroque and Russian and Orthodox architectural traditions. Its typical external architecture is completed by the early use of cast-iron decorations.
- Saint Andrew's Church provides a unique ensemble of architecture and interior decoration comprising murals, stucco and wood-carvings.
- Saint Andrew's Church provides a significant contribution to the urban and monastic panorama of the old city of Kiev, on a promontory overlooking the Dnieper.

4 Factors affecting the property

Development pressures

ICOMOS notes that the absence of any control over construction projects within the vicinity of the two churches, in the buffer zones, and even a deterioration since 2010 despite the many recommendations from the World Heritage Committee, is reason for serious concern. It seriously affects the visual integrity of the two sites nominated for the extension and of the property itself. The threats already noted in previous missions have continued and further compromise the monastic landscape viewed from the Dnieper.

This refers in particular near Saint Cyril's Church, to:

- The development of the hospital which has not been slowed or directed to other areas;
- Inappropriate buildings have been erected or are planned near the property, affecting it visually, such as the project to rebuild a bell tower of the former monastery.

Saint Andrew's Church is exposed to all the negative effects of urban pressure that has continued unabated during the past few years, near and within the buffer zone of the property already inscribed. This is reflected in the on-going construction of tall buildings, whereas it had been announced that they had been stopped and the size of some was even going to be reduced. Within the immediate vicinity, this refers to:

- The on-going restructuring project for Andreevsky Spusk street, alongside the church;
- The visual effects from works to consolidate the hill and restructure the access road to the church along the hill;
- Totally uncontrolled automobile traffic and parking within the immediate vicinity of the property.

Tourism pressures

Too many visitors could affect the hygrometric conditions in the two churches and compromise the conservation of the murals. The number of visitors at any one time is as a result limited to 90, and a daily total of 450, for Saint Cyril's Church, and 50, and a daily total of 250, for Saint Andrew's Church.

Nonetheless, in the first of these churches, the current fragility of the subsoil could be threatened by an excessive number of visitors. In the second, the excessive use of tapers and candles continues, blackening and damaging the already fragile painted and decorative elements. There has been no agreement on this point between the property's manager and the church authorities.

The immediate surroundings of the church have been invaded by a large number of unsightly tourist booths, which are subject to no regulations and lie outside any tourism infrastructure project.

Environmental pressures

ICOMOS notes that even if considerable progress has been made in shoring up the foundations of Saint Cyril, the bases of this church with its numerous underground galleries remain fragile and it continues to subside. There is still little understanding of these underground structures.

The issue of Saint Andrew's unstable foundations has been known since its construction, because of the outcrop of aquifers. Throughout its history, it has been the subject of several drainage and consolidation projects. The situation seems to be a delicate one in the opinion of ICOMOS, which had advised against the heavy and rapid

intervention, projected in 2009 (see Committee decision 34 COM 8B.36 point 2. h)), pending clarification of the hydrological causes and the associated soil dynamics. This intervention nonetheless took place, with the removal of all plant cover, the installation of a row of deep (18 m) reinforced concrete piles, concrete retaining walls to hold back the earth, etc. Opinions differ on the technical results obtained, even within the State Party. It would seem that the soil subsidence and the horizontal slippage of the surface layers of the hill have not been stopped.

Natural disasters

Apart from the issue of potential landslides and unstable subsoil, both for Saint Cyril's Church and Saint Andrew's Church (see above), the sites are not subject to any major threat from natural disasters. The Kiev region has low seismic activity. Fire risk is relatively low owing to the limited use of timber in both buildings - for example, the metal roof frame in Saint Andrew's Church. There is no risk of flooding.

Impact of climate change

The State Party does not mention this threat.

ICOMOS considers that the main threats to the properties proposed for the extension are: the project to build a bell tower at Saint Cyril's Church and urban projects in the immediate environment of Saint Andrew's Church, and more generally uncontrolled urban development and construction in the buffer zones. The Committee and the various missions have already raised this issue on several occasions without there having been any changes made.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

Saint Cyril's Church and its surroundings form the first of the two sites proposed for the extension. It occupies a surface area of 1.683 ha. There are no inhabitants. The buffer zone has a surface area of 37.334 ha; it is separate from the buffer zone of the property already inscribed.

Saint Andrew's Church and its surroundings form the second site for the nominated extension; it has a surface area of 0.496ha. There are some twenty inhabitants in the dwellings associated with the church. Its buffer zone corresponds to that of Saint Sophia Cathedral already inscribed (111.81 ha), extended to the west and the north by 0.838 ha, bringing the total buffer zone to 112.648 ha.

In accordance with decision 34 COM 8B.36 point 2. b), the State Party had been requested to review the boundary of Saint Cyril's Church to extend it to include the entire fenced area of the former monastery, in order to form a homogeneous and coherent ensemble. It was also recommended to give consideration to creating a buffer zone to the northeast of Saint Andrew's Church, on the hillside below the level of the building (34 COM 8B.36 point 2. c)).

In both cases, ICOMOS notes that the revised extension nomination dossier retains the site boundaries as they were presented in 2009. However, new definitions and new maps are apparently being put together. The State Party needs to clarify this situation.

ICOMOS considers that the situation with regard to the boundaries of the two sites, especially for Saint Cyril and the buffer zones, needs to be clarified. ICOMOS reiterates the recommendation to give consideration to creating a buffer zone to the northeast of Saint Andrew's Church.

Ownership

The Churches of Saint Cyril and Saint Andrew are both owned by the State. Ownership is exercised by the state entity Saint Sophia of Kiev National Conservation Area.

Protection

Legal protection

The state entity Saint Sophia of Kiev National Conservation Area, formerly called the Saint Sophia Reserve, is responsible for implementing the protection measures in consultation with the Ministry for Regional Development, the Ministry of Culture and the Municipality of Kiev.

Protection of the buffer zones is the responsibility of the Municipality of Kiev and the Ministry of Regional Development.

The two sites depend specifically on the following laws and decisions:

- The "museum" status (Saint Cyril's in 1929, Saint Andrew's in 1968) provides protection of their architectural and artistic value;
- In 1962, the Act of ownership transfer to a new public authority, and then their transfer as departments (museums) to Saint Sophia Reserve (January 1968);
- The boundaries of the Reserve components were specified in Act No 920 of July 1979, and then completed by a Municipal Decision in May 2002 on their respective buffer zones;
- Recognition of their status as a national property occurred as part of the Saint Sophia Reserve (Presidential Decrees Nos 586 and 587 of October 1994), then their inscription as non-transferrable national monuments under Ministerial Decision No 1761 of December 2001;
- The conservation and management of the properties in the Saint Sophia Conservation Area organised by Ministerial Decisions No 500 of May 1996, No 624 of

April 2003, No 1103 of July 2003 and by the Presidential Decree No 1885 of December 2005;
- The *Kiev General Plan*, notably with a view to the preservation and protection of its heritage is currently under preparation by the Institute of Urban Development; the section dealing with the protection of its historical urban panorama was approved by Ministry of Culture Decision No 58 of February 2010.

The general laws and acts to which protection for both sites refer are mainly:

- The Act for the Protection of Monuments and Architecture (1963); as updated and incorporated in the Law on the Preservation of Cultural Heritage (1993, as amended in 2000);
- The Law on the Implementation of the State Programme for the Conservation and Use of Cultural Heritage (2004);
- The Law and List of Cultural Heritage Monuments that may not be privatized (2001);
- The Law ratifying the European Landscape Convention
- The Law on Regional Development;
- The Laws on Regulation of Architectural Activity;
- The Ukrainian property code;
- The administrative violations code.

ICOMOS notes that the above laws and acts have been subject to amendment since the 2009 dossier was written, with regard to:

- The management of museums, Law No 1709-VI of November 2009;
- The preservation of cultural heritage, by Law No 2518-V of September 2010 and Presidential Decree of April 2011; these make provision for the transfer of the exercise of ownership and management of national heritage properties to the Ministry of Culture;
- A draft amendment to the Law on Urban Planning (2001) announced for 2011.

Traditional protection

It is noteworthy that a large number of Kiev residents, and more generally of the Ukrainian population, are attached to the old places of Orthodox worship in Kiev and their history. In the context of religious revival linked to recent history, this provides an element of traditional protection and assurance of the interest the population places in the value of the property. Regular religious services are no longer held in either of the two churches. Saint Andrew's Church may be considered a place of popular piety.

Effectiveness of protection measures

ICOMOS considers that the overall protection measures have recently been improved and that the process is on-going; significant legal measures are being taken, such as the reform of the town planning regulations. ICOMOS is concerned about the absence of any effective protection for the buffer zones in Kiev, a situation that does not seem to be being resolved as things progress, as the final decisions appear to be essentially of a municipal order, without any clear intervention and or suspensive effect on the part of the Ministry of Culture. There is some fear of a form of legalisation resulting in abuses in property development as witnessed in recent years inside the buffer zone of the property already inscribed, for which the existing protection measures have proven ineffectual. Clarification of the existing texts or those soon to be passed for the protection of the property's sites is needed. It is also necessary to stipulate which institutions and authorities are in charge of their application.

ICOMOS considers that the legal protection is heading in a positive direction, but that certain guarantees and clarifications about the texts in force, or soon to be passed, must be made in accordance with the decision 34 COM 8B.36 point 2. d); the Ministry of Culture's role of being consulted on construction projects in the buffer zone must be guaranteed, and its suspensive powers clearly confirmed. Clarification regarding the texts in force and the authorities in charge of their application is needed.

Conservation

Inventories, recording, research

The Saint Sophia Conservation Area has written archives, old plans and a large collection of engravings and photographs relating to the two monuments. It also has some fifteen reports on the conservation, restoration and supervision of the two churches with regard to the work carried out since 2000.

Present state of conservation

The programmes of previous years and the current programmes ensure a good level of conservation of the architecture, decoration and paintings at both churches. At Saint Cyril's, the situation with the moisture levels in the subsoil has been improved, but the subsoil and the foundations remain fragile because of the underground galleries. At Saint Andrew's, extensive work has been undertaken to correct the chronic instability of the building's load-bearing ground (around USD 3 million in three years). In both cases, ICOMOS notes that the real causes of instability have not yet been totally identified.

Active conservation measures

The conservation of the sites has been managed under the 2003-2010 *Conservation Programme* for the entire Saint Sophia Conservation Area. This programme is currently being carried forward for the period 2011-2015, in the form of a research and works programme. It was recently allocated financial consolidation under the Ukraine's international projects (UEFA European Football Championship). In particular, there are plans to continue the studies of the subsoil at both monuments and implement an advanced monitoring system using three-dimensional scanning.

At Saint Cyril's, the intervention programme for the exterior façades and roofs has been completed and the monitoring system for the subsoil is now in place.

At Saint Andrew's, monitoring of the subsoil consolidation work will be implemented along with restoration of the external aspects of the hill. The programme includes conservation work on the church's architectural structure, murals and decorative ensemble.

Maintenance

Standard maintenance of the buildings and their immediate exterior surroundings is provided by the employees of each of the museums. Maintenance of the exterior public spaces is provided by municipal employees. Surveillance of the buildings is provided by the building personnel, with a warning system, and by the city police. There is, however, no video-surveillance system.

Effectiveness of conservation measures

ICOMOS considers that the conservation measures for the architecture (façades and roofs) decorative exterior and interior ensembles and murals, taken over the past decade or so, are satisfactory. The situation regarding subsoil instability at Saint-Cyril's Church has significantly improved, in accordance with decision 34 COM 8B.36 point 2. g), but its monitoring and additional studies are still needed. The chronic instability of the subsoil at Saint Andrew's and its complex hydrological situation have been the subject of extensive intervention since 2010, for which rigorous scientific monitoring is needed to determine whether it is providing a solution to this chronic problem.

ICOMOS considers that it would be desirable to submit a detailed presentation of the *Preservation programme* for the extended property (2011-2015), including an implementation schedule. The project to rebuild a bell tower to replicate an 18th century building at Saint Cyril's Church should be abandoned.

ICOMOS considers that the property's conservation is adequately provided by the State Party for the architectural and decorative components and for the unstable subsoil, for which study and monitoring efforts need to be pursued; it would be desirable to submit a detailed presentation of the *Preservation programme* for the extended property (2011-2015), including an implementation schedule; the project to rebuilt a bell tower to replicate an 18th century building at Saint Cyril's Church should be abandoned.

Management

Management structures and processes,
including traditional management processes

The property is managed by the National Conservation Area of Saint-Sophia of Kiev, for a long time part of the Ministry for Regional Development, but it was recently transferred to the Ministry of Culture (2011). The Conservation Area incorporates all the component sites of the property already inscribed and the two nominated extensions. Each of the sites is managed by a *museum*, considered as a department of the Conservation Area, but always under the scientific and cultural supervision of the Ministry of Culture.

The other partners in the property's management are:

- The Orthodox Churches: the Moscow Patriarchate for Saint Cyril's; and the Ukraine Autocephalous Orthodox Church and the Kiev Patriarchate for Saint Andrew's; usage agreements have been signed between these churches and the Conservation Area, owner of the property's sites;
- The administrative services of Kiev municipality.

ICOMOS considers that for the extended property, the new situation of incorporating all the property's sites under the sole supervision of the Ministry of Culture has brought to an end the dualism in the property's management, and to the underlying dualism in the vocabulary used by the two ministries (Area – Reserve, Department – Museum), and to the contradictions noted between the contents of the extension nomination dossier and the opinions received by ICOMOS. This dysfunction was also noted by the World Heritage Committee and the reactive monitoring missions. An administrative reform is underway on this new basis. The State Party must ensure that it involves all the other partners in the management, especially the Orthodox Churches and the Municipality of Kiev.

Buffer zone

The World Heritage Committee and the various missions have regularly drawn attention to the pressure from uncontrolled urban development in the buffer zones, especially tall buildings that fairly seriously alter the sites' visual environment and the urban panorama viewed from the Dnieper Valley. In the words of the State Party itself, this panorama is one of the major attributes of the property's Outstanding Universal Value and to a large extent justifies the extension nomination. The current reform to the *Law on Town Planning w*ould significantly strengthen the municipal authority's powers with regards to building permits, while the role of the Ministry of Culture would be marginalised.

ICOMOS considers that within the context of the current legal and institutional reforms concerning the sites' buffer zones, it is extremely important to ensure referral of proposals to the Ministry of Culture so that it can assess the impact of urban and construction projects, and guarantee its opinions have suspensive power. Otherwise, there can be no other conclusion than the resurgence of a new dualism between the management of the property and its buffer zone, which may therefore be excluded from all conservation measures to safeguard the visual surrounds and panorama of the property's sites.

Policy framework: management plans and arrangements, including visitor management and presentation

The properties are managed under the Programme for the Preservation of Properties of the National Conservation Area of Saint Sophia of Kiev (2011–2015). This is mainly a draft conservation project for the property and not a comprehensive management plan. No precise projects and implementation schedule are presented for this programme. A section dealing with the property's presentation and promotion is also announced, but for the time being it is no more than a brief declaration of intention.

The immediate public environment around the monuments and the buffer zone come under the *Kiev General Plan*, published by the Institute for Urban Development which is part of the Town Planning, Architecture and Environment Authority of the City of Kiev. It plans the city's future development areas. In particular, it includes a section on the preservation and protection of historic heritage that has been approved by the Ministry of Culture and which should guarantee the protection of the property's landscape.

ICOMOS reiterates its concern for the management of the property's buffer zone and panorama, which have not been satisfactorily controlled in recent years. It is also necessary to improve tourism facilities outside the properties, especially at Saint Andrew's where the quality of the church's environment is under threat (tourist booths, parking, etc.).

Risk preparedness

The properties are equipped with fire alarms that make possible a rapid response by emergency services. Their operation is checked regularly. There is a fire brigade responsible for the Saint Sophia of Kiev zone. Confirmation is needed of the possibility for an appropriate rapid response in the event of a fire at Saint Cyril's in accordance with the decision 34 COM 8B.36 point 2 i).

Involvement of the local communities

The involvement of the local population is mainly expressed through their attachment to the two churches and their attendance at religious services. Greater effort needs to be made to lift the local population's awareness of the property's values.

Resources, including staffing levels, expertise and training

The structure of *Saint Sophia Conservation Area* includes around twenty departments and services that have regional scope well beyond the extended property, or are specialised in particular areas. In particular, the latter include a conservation research department, a restoration department and a historical research department. They provide a high level of expertise in history, archaeology, museums, architectural restoration, painting restoration, etc.

The Area may occasionally call on specialists from the Ministry of Culture, Kiev universities, and the Academy of Fine Arts and Architecture. Saint Cyril's Museum has thirteen permanent employees, while Saint Andrew's has twelve. The financial resources needed for conservation are provided out of the *Saint Sophia Conservation Area's* budget.

The service personnel of the Municipality of Kiev operate in the public areas of the properties and the buffer zones.

Effectiveness of current management

The management system has been clarified since the 2009 extension nomination dossier, in particular the authorities in charge of the property, and the management of the monumental sections of the two sites for the property's extension are efficient, fully integrated with that of the property already inscribed, in accordance with 34 COM 8B.36 point 2. e).

Today, it is the management of the immediate surroundings of the sites and the development of real estate projects in the buffer zone that pose a problem. These projects continue to be totally uncontrolled by the bodies responsible for the property's conservation, being under the sole responsibility of the municipal town planning authorities and the Ministry for Regional Development. Deferral to the Ministry of Culture must be institutionalised and made mandatory; its opinions must have suspensive powers.

ICOMOS considers that writing a *Management Plan* for the entire extended property that clearly indicates the property's management system in force and which provides a summary of the legal protection for the extended property and its buffer zones, the commitments for the protection of its landscape value, the detailed and planned programme for its conservation and a genuine project for visitor facilities has still to be instituted in accordance with the decision 34 COM 8B.36 point 2. f).

ICOMOS considers that the management system for the property overall is adequately structured, but that it is not effective for the immediate environment of the monuments and for the management of real estate pressure in the buffer zone, for which the right of suspensive intervention by the Ministry of Culture must be recognised and applied. ICOMOS also recommends implementing a unified Management Plan for the entire extended property in accordance with decision 34 COM 8B.36 point 2. f).

6 Monitoring

Monitoring of the property's sites is provided by the personnel of the Reserve's specialist departments or by

Ukrainian scientific institutions specialising in hydrology and geology. The key indicators listed in the management plan for both the churches nominated for the extension are:

- Aquifer level (monthly);
- Soil moisture levels around the foundations (continuous);
- Cracks and deviations from verticality (quarterly);
- Temperature and relative humidity (continuous).
- Monitoring the conservation of the interior decorations and murals (frequency not specified);
- Photographic monitoring (frequency not specified);
- Laser scan monitoring and 3D modelling of the structures and interior decoration of Saint Cyril's Church.

ICOMOS considers that the monitoring has been improved in accordance with decision 34 COM 8B.36 point 2. j) of the World Heritage Committee.

ICOMOS considers that the property's monitoring is adequate but that indicators could be more precise and frequencies specified in many cases.

7 Conclusions

ICOMOS recognises that the Churches of Saint Cyril and Saint Andrew in Kiev significantly strengthen the Outstanding Universal Value already recognised for Saint Sophia Cathedral and Kiev Pechersk Lavra. This refers in particular to completing the value of the unique urban panorama the historic Kiev Orthodox Metropolate with the silhouette of Saint Andrew's Church and the contribution of the remarkable architectural components and the very extensive decorative scheme of Saint Cyril's Church from the 12th and 13th centuries, and extending the affirmation of the religious role of the Kiev Orthodox Metropolate by means of the architectural and aesthetic initiatives of the Orthodox Baroque style of Saint Andrew's Church in the 18th century.

The property's conservation has been improved, its management has been clarified, subject to the implementation of a protection plan and unified management for the entire extended property. However, the management of the immediate surroundings of the two churches is not effective and the management of pressure from real estate development in the buffer zone will only be satisfactory when the Ministry of Culture's right of suspensive intervention is recognised and instituted. Reconstruction projects in the vicinity of Saint Cyril's Church and property constructions in the vicinity of Saint Andrew's church must be stopped forthwith.

Recommendations with respect to inscription

ICOMOS recommends that the examination of the proposed extension of Kiev: Saint-Sophia Cathedral and Related Monastic Buildings, Kiev Pechersk Lavra to include St. Cyril's and St. Andrew's Churches, Ukraine, to the World Heritage List be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- Clarify the situation with regard to Saint Cyril's Church boundaries;

- Consider creating a buffer zone northeast of Saint Andrew's Church, on the hillside below the building;

- Confirm that the right of ownership of the extended property was transferred to the Ministry of Culture in 2011;

- Confirm that the ministerial responsibility over the body in charge of the extended property, the Saint Sophia Conservation Area, was transferred to the Ministry of Culture in 2011;

- Clearly indicate the legal protection in place and the management system responsible for its application, and include the conservation schedule;

- Put an end to the absence of control over construction work in the buffer zone, guarantee under the new draft Law on Town Planning Regulations that all new projects in the buffer zone will be examined by the Ministry of Culture, which will have a suspensive power in the event of a threat to the environmental and landscape values of the property's sites;

- Implement a unified Management Plan for the properties, buffer zones, and landscape protection of the Orthodox Metropolate of Kiev;

- Stop the project to rebuild a bell tower at Saint Cyril's Church;

- Implement forthwith a moratorium on the restructuring of Andreevsky Spusk street, alongside Saint Andrew's Church, in order to manage better the visual impacts on the site.

ICOMOS considers that any revised nomination should be examined by a mission to the site.

ICOMOS further recommends the State Party give consideration to the following:

- Continuing the research and monitoring efforts for the unstable subsoil at both churches;

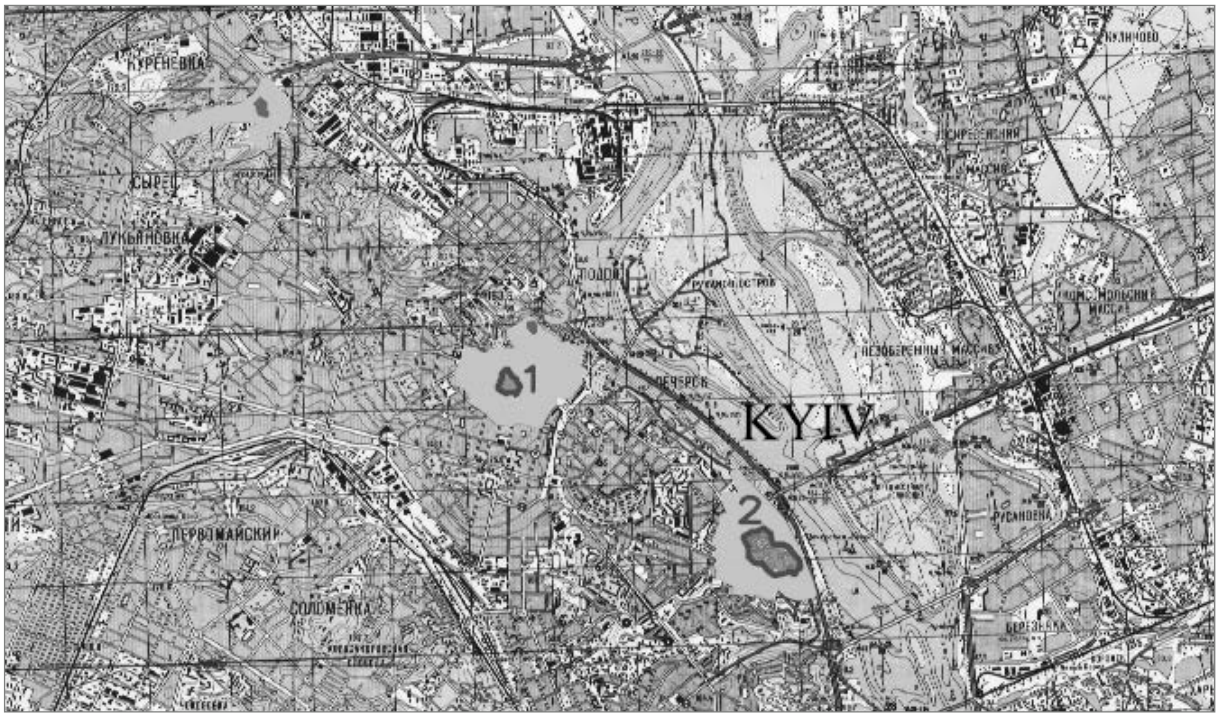
- Confirming the possibility for rapid intervention of emergency services in the event of a fire at Saint Cyril's Church;

- Settling the issue of the abundant use of tapers and candles that are blackening and damaging the already fragile painted and decorative schemes;

- Regulating automobile traffic and parking within the perimeter of Saint Andrew's Church;

- Improving tourist facilities outside these two churches, especially Saint Andrew's, where the environmental quality of the church is threatened (booths, parking, etc.)

- Ensuring the property's overarching authority, the *Saint Sophia National Protection Area*, involves the other parties in the property's management, notably the Orthodox Churches and the municipality of Kiev, as well as the local population.



Map showing the boundaries of the nominated properties

Saint Cyril’s Church – general view

Saint Cyril’s Church – interior view

Saint Andrew’s Church – general view

Saint Andrew’s Church – interior view of the dome

IV Cultural properties

Rio de Janeiro
(Brazil)
No 1100rev

Official name as proposed by the State Party
Rio de Janeiro, Carioca Landscapes between the Mountain and the Sea

Location
Rio de Janeiro City and State
Rio de Janeiro Metropolitan Area
Brazil

Brief description
The city of Rio de Janeiro, shaped by interaction with mountains and sea in the narrow strip of alluvial plain between Guanabara Bay and the Atlantic Ocean, has developed into an exceptionally dramatic landscape that is perceived to be of great beauty by artists, architects and writers.

The serial nomination encompasses all the key natural, structural elements that have constrained and inspired the development of the city. These stretch from the highest points of the mountains of the Tijuca National Park, down to the sea, and include the Botanical Gardens, Corcovado mountain, with its statue of Christ, and the chain of dramatic step green hills such as Sugar Loaf around Guanabara Bay, as well as the extensive designed landscapes on reclaimed land along Copacabana Bay which, together with Flamengo and other parks, have contributed to the outdoor living culture of the city.

The boundary includes all the best view points to appreciate the way nature has been shaped to become a significant cultural part of the city.

Category of property
In terms of the categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of 4 *sites.*

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (January 2008) paragraph 47, it is nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List
7 August 2001

International Assistance from the World Heritage Fund for preparing the Nomination
None

Date received by the World Heritage Centre
29 February 2002
27 January 2011

Background
This is a deferred nomination (27 COM, Paris, UNESCO Headquarters, 2003).

The World Heritage Committee adopted the following decision (Decision 27 COM 8C.12):

The World Heritage Committee,
1. Decides not to inscribe Rio de Janeiro: Sugar Loaf, Tijuca Forest and the Botanical Gardens, Brazil, on the World Heritage List on the basis of natural criteria;
2. Defers consideration of the cultural criteria of Rio de Janeiro: Sugar Loaf, Tijuca Forest and the Botanical Gardens, Brazil, encouraging the State Party to:
(a) undertake an appraisal of the cultural values of Rio's setting in order to inform a re-definition of the boundaries of the proposed World Heritage property, so as to protect the overall back-drop of the city more effectively, and
(b) put in place an integrated management plan, including revisions to the legislative protection and boundaries of the proposed property, as recommended by IUCN and ICOMOS;
3. Further encourages the State Party to re-nominate the property as a cultural landscape, subject to the caveats outlined above.

The first nomination was for a mixed property while the revised nomination is for a cultural landscape, as encouraged by the World Heritage Committee.

The name of the property has been changed from 'Rio de Janeiro: Sugar Loaf, Tijuca Forest and the Botanical Garden' to 'Rio de Janeiro, Carioca Landscapes between the Mountain and the Sea' in order to reflect the inclusion of urban areas bordering the sea and the idea of an overall cultural landscape.

Consultations
ICOMOS has consulted its International Scientific Committees on Cultural Landscapes and Historic Towns and Villages and several independent experts.

Technical Evaluation Mission
For the first nomination a joint ICOMOS/IUCN technical evaluation mission visited the property in September 2002. For the revised nomination, an ICOMOS technical evaluation mission visited the property from 4 to 8 October 2011.

Additional information requested and received from the State Party
On 26 September 2011 ICOMOS wrote to the State to request further information on how the requirement for an

over-arching management system for the four sites that make up the serial nomination will might be met and the time-frame for its implementation. The State Party responded on 24 October 2011.

On 6 December 2011, ICOMOS wrote to the State Party to request further information on the following:

- When the Steering Committee for the property will be inaugurated, what its responsibilities will be and when its Executive and Technical sub-committees will be established and start functioning;
- When work will commence on the drafting of the Management Plan and what it will be managing in relation to attributes of proposed Outstanding Universal Value, views, sustainable development and the buffer zone and how it will address threats such as antennae, water pollution and illegal settlements;
- The 'Vision' for the Management plan and how it will be approved and implemented within the existing legislative and planning system;
- Documentation of the attributes of Outstanding Universal Value;
- Details of Areas of Cultural and Environmental Protection (APAAC) created in 2009 and how these relate to the nominated sites;
- Complementary Law no 111 of February 2011 and how it relates to the nominated sites;
- The possibility of minor extensions to the property boundaries to encompass areas visually linked to the nominated sites;
- How the Buffer Zone will provide additional protection and what constraints apply to the designated buffer zone and how these constraints are or will be managed and the possibility of enlarging it in two places;
- Details and a timetable for conservation work;
- How the threat of housing development near the Botanical Garden will be addressed.

On 2nd March 2012, the State Party responded to this request and details of its response are included in this evaluation report.

Date of ICOMOS approval of this report
14 March 2012

2 The property

Description
Rio de Janeiro is punctuated by a series of forested mountains that tower over the city, rising to the uppermost peak of the Tijuca massif at 1,021 m high, and cascading down to the coast where the steep cone shapes of Sugar Loaf [*Pão de Açúcar*], Urca, Cara de Cão and Corcovado frame the wide sweeps of Guanabara Bay that shelters Rio from the Atlantic Ocean.

Cradled between these mountains and Guanabara Bay, the urban landscape of the city has been shaped by significant historical events, influenced by a diversity of cultures, is perceived to be of great beauty, and is celebrated in the arts, through painting and poetry in particular.

The first nomination in 2002 included the mountains of the Tijuca National Park (within which is the Statue of Christ the Redeemer on Corcovado mountain, and the Botanical Garden on the lower slopes of Mount Tijuca) and three headlands around Guanabara Bay, including *Pão de Açúcar* (Sugar Loaf).

The present nomination dossier includes these same 'green' structural elements of the city, the mountains covered with lush vegetation, and the peaks of Sugar Loaf, Pico, Leme and the Glória hills. The new sites that have been included are Flamengo Park, Copacabana beach promenade and various other open spaces on the coast associated with the landscape architect Burle Marx, as well as the Guanabara Bay system of historic fortifications that gave Rio de Janeiro the character of a fortified city.

The nominated sites stretch from the southern area of the city to the western tip of Niterói across Guanabara Bay.

The city's densest buildings sit on the narrow strips of alluvial land between the mountains and the sea laid out in irregular clusters of tall white blocks which contrast vividly with the green vegetation of the mountains and the blue of the sea. None of these buildings are included in the nominated area, but a significant number are included in the buffer zone.

In detail the nominated property consists of the following component sites:

- Tijuca National Park
- Botanic Garden
- Flamengo Park
- The mouth of the Guanabara Bay
- Copacabana Beach Front

These are considered separately:

Tijuca National Park

The Tijuca National Park is around the Tijuca and Carioca mountain ranges. The three physically separate areas of the National Park are essentially mountainous, afforested and uninhabited.

The Park contains historical elements representing the early history of coffee and sugar plantations on land carved out of the forest. It also includes a significant section of the Atlantic Forest, some of which was re-afforested through innovative restoration efforts in the mid-19th century – see History section. The Park is now considered to be one of the world's most successful

examples of the re-afforestation of an urban park that combines ecological and recreational needs.

The southern part of the Forest of Tijuca is littered with both natural and artificial features – for example, waterfalls, caves and lookouts on the one hand, grottoes, ruins and fountains on the other – the whole accessible by carefully contrived roads and paths. It shares characteristics of Romantic parks and gardens elsewhere, and was influenced by European ideas.

The Serra da Carioca and the Floresta da Gávea Pequena are, in contrast, essentially wild (though the vegetation is generally not indigenous).

The Carioca mountain range includes the Corcovado Peak which was opened to the public in 1885 with the inauguration of the Corcovado railway. In 1931, the monumental statue of Christ the Redeemer was installed on its peak. The 704 metres high art deco statue was designed by the architect Heitor da Costa e Silva under the supervision of the French artist Paul Landowsky.

Botanic Garden

The Botanical Garden was established on the lower slopes of the Tijuca Massif in 1808. It consists of a forest reserve (83 ha) and a formal garden. Fifty-three hectares of its overall 137 hectares of forest reserve, are open to the public, the remainder being used as a centre for an on-going research programme on the Atlantic forest.

The garden includes an arboretum, with a large collection of Amazonian trees, internationally significant collections of several plant families, particularly palms. a national herbarium, and a research library. Unlike in European botanical gardens, the warm climate of Rio allowed the collections of plants from around the world to be grown outdoors rather than in glazed hot houses.

The design of the garden is neo-classical with straight avenues, some framed by immensely tall palm trees, a landmark of the gardens.

Flamengo Park

Flamengo Park was created between 1961 and 1965 by razing to the ground the hill of Santo Antonio. The Park provides an extensive open space (1.2 million sq metres) between the City and Guanabara Bay. Its creation is credited to Maria Carlota Macedo Soares. A large team of specialist architects, engineers and botanists worked on the Park including the landscape architect Burle Marx, who was in charge of landscape design. The Park was extensively planted with over eleven thousand trees. The design incorporated an expressway, the existing Santos Dumont airport (1944), the Museum of Modern Art (1956) and the monument to the soldiers who died in World War II (1956).

The mouth of the Guanabara Bay

This area includes prominent tall rocky formations to each side of the bay. Sugar Loaf, Cara de Cão, Urca and Babilônia hills on the western shore (Rio de Janeiro) and Pico hill on the eastern shore (Niterói) (across the Bay), all of which were initially employed for defensive purposes. There is a group of Portuguese forts on Niterói.

Copacabana Beach Front

The occupation of the Copacabana area of Guanabara Bay as a seaside resort began with the construction of the Prefeito Alaor Prata Tunnel (*Túnel Velho*) in the late 19th century. The current coastline is the result of land reclamation in the 1970s, when the road around the bay was doubled in width, the pavement broadened and the beach widened.

The layout of the Copacabana beachfront, and its distinctive mosaic paving, was designed by Burle Marx. His work at Flamengo Park and then at Copacabana were considered very innovatory for their time and became model landscaping solutions that were copied elsewhere.

What is nominated is around 4.5km of the flat promenade and road but not the buildings that fringe the bay, above which can be seen the green hills.

Buffer Zone

The extensive buffer zone covers the densely populated, built-up area between the sea and the mountains. It encompasses hills which rise above Copacabana, the green areas bordering Flamengo Park, Rodrigo de Freitas Lagoon and the Jardim Botânico district, bordering the Tijuca National Park and the Botanical Gardens, and the district of Urca which borders of Sugar Loaf peak.

History and development

The history of the overall Rio urban landscape is a history of the way the landscape has been used and shaped to become a cultural part of the city and how the city in turn has been shaped by the landscape of mountains and sea.

The first European settlement, Rio, was founded at the foot of Sugar Loaf in 1565. The second was on Castelo Hill, whence the city spread west along the coast and then north and northwest inland. Its expansion and shape were strongly influenced by the way the newly acquired land was allotted in grants around the Tijuca massif. This last was itself practically untouched into the middle of the 17th century but areas on it were thereafter cleared for sugar plantations.

Water supply to the growing city became a major problem in the 18th century: the Carioca River was canalised from 1720, carrying water into the city centre eventually via the Carioca viaduct (1750, now disused).

Coffee cultivation and water supply on the Tijuca came into conflict following the arrival of the Portuguese Royal Family and Court (20,000 persons) in 1808: the demand for both increased enormously. Yet in the same year an 'acclimatization garden' was created to help the establishment of exotica in what was the beginning of the Botanical Gardens.

The early 19th century saw a big increase in contact with Europe and other parts of the world as diplomatic, scientific and artistic missions arrived in Rio. The Tijuca massif became fashionable for its 'Alpine' climate; it became popular to climb Sugar Loaf. Water supply remained the crucial question, however, a serious drought in 1843 led to governmental expropriation of the mountain springs and a change in policy to revive the forest. 90,000 trees were planted between 1861 and 1874, and thereafter landscaping was added to re-afforestation. Glaziou, fresh from working on the Bois de Boulogne, Paris, tackled Tijuca; and the Corcovado railway was inaugurated.

Between 1889 and 1961, the Tijuca Mountains were semi-abandoned and, as the city below was regulated and modernized, it came to rely less on Tijuca for its water. As it expanded still further, recreational fashion changed and people began to flock to the city's beaches rather than to its mountains and forests.

Forest restoration began again in the 1940s, but by then the relationship between the city and the montane forest now in its middle demanded more profound attention. In the words of the nomination, the dilemma between *'the forest that wants to grow and the city that also wants to grow'* needed to be resolved.

The Tijuca National Park was created in 1961, *'a zone above the 100-meter mark.'* Ten years later the Forest Garden in Gávea (Sector B) was merged with the Botanical Garden. The Forest Reserve now contains 83 ha of reconstituted parts of the remnants of the Atlantic Forest. Though under great pressure for habitation as the city has expanded, the National Park is virtually uninhabited: 36 dwellings contain 156 persons, mostly employees.

The Botanical Garden flourished after its founding in 1808. It is now one the oldest and most renowned botanical gardens in the new world, and throughout its history has remained closely linked to the Tijuca National Park. In addition *'to supplying the shoots for replanting Tijuca, the Botanical Garden, as a public garden and scientific institution, was to be an area that [legitimised] the forest as a laboratory for forestry and botany...'* For nearly 200 years the Botanical Garden has served as one of the most important institutions studying and conserving Brazilian flora, through its living collections, herbarium, and library.

Since 1995, the arboretum has been revitalized, a National School of Tropical Botany created, a new herbarium building constructed, according to international technical standards, to shelter properly the institution collection, and an impressive education program initiated. The herbarium includes a large number of specimens from the national Brazilian flora as well as representative species of various countries from the European, Asian, African, and American continents. *'The Herbarium keeps both national and international interchange with similar institutions … and owns important collections of nomenclature types, photographs and preserved fruit collections.'*

The Atlantic Forest Program was created in 1989 with its basic mission to further knowledge about the plant communities of the Atlantic Forest remnant, by carrying out academic and applied research. In 1998, the name of the Botanical Garden, as part of the Ministry of the Environment, was changed to Rio de Janeiro Botanical Garden Research Institute. In 2001, the Rio de Janeiro Botanical Garden Research Institute became an autonomous institute linked to the Ministry of the Environment

The areas adjacent to the bay and the ocean were largely constructed on reclaimed land. The first constructions were two forts at the foot of Pico and Sugar Loaf hills. Later other forts were added at Rio Branco and Imbuí.

In 1783, *Passeio Público* was created near the bay, the first park in Brazil designed by Mestre Valentim. It was remodelled in 1862 by the landscape artist Auguste Glaziou, in the English style. (This park is in the buffer zone.)

In the 20th century land reclamation intensified. Open areas were developed along and near the new man-made shore to provide better circulation spaces and parks for leisure – notably the Copacabana beach area and its nearby parks.

3 Outstanding Universal Value, integrity and authenticity

Comparative analysis

The nomination dossier compares the key attributes of Rio – an urban landscape with a forest at its centre, underpinned by dramatic hills and framed by sea - with other major cites interfacing with the sea – both those inscribed on the World Heritage List and others. It also provides comparisons between the Botanical Garden and other botanical gardens. The canvas within which the comparators are sought is global.

The analysis sets out mainly to find similarities with the chosen comparators rather than differences. It also has not been structured to address first inscribed sites, and then to consider others.

The analysis sets out similarities that can be perceived with cities such as Cape Town and Naples, in terms of their overall landscape of urban buildings, mountains

and sea as a reflection of the way human societies have overcome the challenges inherent to settlement and adaptation of the environment. It outlines these similarities and also difference arising from the existence of tropical forests in the heart of the city of Rio.

Hong Kong, San Francisco and Buenos Aires are also considered as examples of bay settlements. Hong Kong has parks on its hilltops, but the views are obscured by the skyscrapers around them. For the other two cities the difference is seen to be the way that they developed in fairly regular patterns along a relatively smooth shoreline.

The analysis also considers certain specific elements of the landscape. For instance Rio de Janeiro and New York are seen to have certain similarities related to tow of their parks: Flamengo Park and Riverside Park. However the latter is not seen to have the distinctiveness of Flamengo Park.

The Tijuca forest is also compared to the Forest of Sintra, Portugal, as both were re-afforested in the 19th century.

Further comparisons are made between the Botanic Garden and others around the world such as Padua and Kew, both World Heritage properties. What is seen to set the Botanic Garden at Rio apart is its size – being larger than the other two - and the way its plant collections are grown in the open air.

What the comparative analysis does not provide are any overall formal conclusions as to whether there are similar sites already inscribed, or whether there are other sites that are similar that might be considered for nomination in the future.

Also justification is provided for the choice of components in the serial nomination.

ICOMOS considers that although Rio de Janeiro contains elements similar to those found in other urban contexts, it is as a whole ensemble of forested mountains, parts of the city and sea that the site is extraordinarily distinctive, in the way the conjunction of those three elements has come to be seen as a landscape of great beauty, widely acknowledged around the world, and for the way the natural landscapes has been modified and given cultural meaning. There are no other landscapes in urban areas already inscribed that can be said to display the combination of value and attributes that Rio manifests.

Furthermore ICOMOS does not consider that there are other landscapes that might be nominated in the future that could be said to be similar to Rio in terms of the articulation of nature and culture, and the strong sense of identity that this fusion has created.

In terms of the choice of the components of the series, ICOMOS considers these are adequate to convey the green natural framework that has become interwoven with the city and to represent the open spaces – parks and the reclaimed shores that have provided space for outdoor living that has come to define the culture of the city. As set out below, it is considered that the boundaries of these component parts need some adjustment.

ICOMOS considers that comparative analysis can justify consideration of this property for the World Heritage List and that the selection of component sites is justified.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- Rio is an exceptional example of a natural landscape that has developed over half a millennium from the interactions brought about by human settlements and the development of the city.
- Rio has given rise to an extraordinary set of urban public landscapes, composed of gardens, parks and protected natural landmarks whose natural scientific significance and cultural associations grant them unique value.
- The Botanical Garden presented a transformation of the landscape where the plant collections from around the world were grown in the open air.
- Scientific knowledge of the native plant life, allied to the Romantic ideals prevalent in the second half of the 19th century, and increased concerns about environmental preservation led to the reforestation of the Tijuca massif resulting in an urban forest of unique features. The man-made transformations of the landscape, the mountain and the seafront have made the city a point of reference the world over.
- The quality of the successive interventions to a site of such great beauty has earned the landscape heritage of Rio de Janeiro city international recognition.

ICOMOS considers that this justification is broadly appropriate although the Outstanding Universal Value does need to be related to a fusion of these attributes that together have come to be seen as a landscape of great beauty. ICOMOS considers that the serial approach of sites around the city that encapsulate the interaction with its natural framework is also appropriate.

Integrity and authenticity

Integrity

The nominated sites encompass all the key natural, structural elements that have constrained and inspired the development of the city of Rio, stretching from the highest points of the Tijuca mountains down to the sea, and including the chain of dramatic step green hills around the Guanabara Bay, as well as the extensive designed landscapes on reclaimed land around the Bay,

that have contributed to the outdoor living culture of the city.

ICOMOS considers that none of these elements is under threat, although the interface between these natural elements and the built-up city is vulnerable to urban pressures, the higher peaks are marred by a profusion of antennae and the Lake Rodrigo da Freitas Lake (in the buffer zone) and the sea are subject to a degree of water pollution.

Authenticity

The mountains and open green areas of the Tijuca National Park, together with Corcovado and the hills around the Guanabara Bay still retain a similar combination of forest and open observation points as at the time of colonisation and allow access to vistas of the city from many high vantage points that demonstrate very clearly the extraordinary fusion between culture and nature in the way the city has developed.

The Botanical Garden has retained its original neoclassical design with its special alignments and the fortresses keep alive the memory of the Portuguese settlements, engraved and described by the travellers that navigated the marine routes that focused on Rio de Janeiro.

The landscape designs of Burle Marx around almost the entire coast of Guanabara Bay, comprising Flamengo Park and the reconstruction of Copacabana beaches conserve entirely the landscape morphology of their original designs and still confer high social benefits to the city.

However, in some instances elements of the designed landscape are vulnerable to incremental change – such as the paving and planting along Copacabana, where missing trees and mosaics need replacing, and in the Botanical Garden where the Imperial Palms along the main avenue are dead and need replacing.

ICOMOS considers that the conditions of integrity and authenticity have been met although they are vulnerable to incremental changes.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i), (ii) and (vi).

Criterion (i): represents a masterpiece of human creative genius;

This criterion is justified by the State Party on the grounds that the designed landscapes in the nominated areas are of high quality. These are the re-afforested Tijuca National Park with its formal landscaping associated with Romantic ideals and the landscape designs of Burle Marx in the Flamengo Park and around the Copacabana beach.

Whereas ICOMOS considers that Burle Marx had a profound impact on the development of landscape architecture in the 20th century, and the re-afforestation of Tijuca also had an impact in influencing approaches to the development and conservation of urban forests in the 19th century, the designed landscape of Tijuca is not outstanding if compared with other urban parks of the 19th century nor is the Botanical Garden exceptional in design terms. The landscape of Burle Marx in Rio and particularly the Copacabana beach are now considered important for what they contribute to the identity of Rio and the culture they have inspired and Flamengo Park provides on a massive scale a highly satisfactory fusion between urban structures and landscape.

The focus of the nomination goes beyond the design of individual components to encompass the grand landscape vistas of that part of the city of Rio that faces towards Guanabara Bay and the way the natural landscape has supported and constrained its development to produce an outstanding cultural landscape that works for the city. This creative fusion between culture and nature at a macro scale is better reflected in other criteria.

ICOMOS considers that this criterion has not been justified.

Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

This criterion is justified by the State Party on the grounds that what is being nominated is not the whole city but its major open spaces in the form of forests, botanical gardens, parks and beachfront that reflect the way the city has developed around its natural landmarks, between the high mountains of the Tijuca forest and the sea. This development has not been passive, but rather an active engagement with nature that reflect an array of influences from Europe and the way these have been adapted to create something new in the context of Rio.

The re-afforestation of the Tijuca hills combined European ideas of designs with environmental approaches that sustained the water resources of the city and led to the development of guiding principles for urban parks that were disseminated in various Brazilian and American cities. The Botanical Gardens supported the re-afforestation process through providing the necessary trees as well as being the focus of an interchange of scientific ideas with leading researchers of the 19th century.

ICOMOS considers that on the other hand, the works of Burle Marx were strongly based on a study of nature, particularly Brazilian botany and thus his ideas of landscape design were arguably a product of Brazil rather than being the result of an interchange of ideas

from elsewhere, although they did go on to influence landscape design elsewhere.

ICOMOS considers that the whole landscape of Rio is perceived to be an almost unique creation and valued as such rather than being seen to reflect a dominant interchange of ideas.

ICOMOS considers that this criterion has not been justified.

Criterion (v): be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

This criterion has not been proposed by the State Party.

ICOMOS considers that the development of the city of Rio has been shaped by a creative fusion between nature and culture. This interchange is not the result of persistent traditional processes but rather reflects an interchange based on scientific, environmental and design ideas that led to innovative landscape creations on a major scale in the heart of the city during little more than a century. These processes have created an urban landscape perceived to be of great beauty by many writers and travellers and one that has shaped the culture of the city.

ICOMOS considers that this criterion has been justified.

Criterion (vi): be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;

This criterion is justified by the State Party on the grounds that the landscape of Rio is unrivalled in terms of its beauty, and the quantity of images that have been generated by professional and amateur artists, Brazilian and foreign alike.

ICOMOS considers that the beauty of Rio has spawned countless reproductions of its landscape in many media since the early 19th century.

Its dramatic scenic quality has provided inspiration for many forms of art, literature, poetry, and music. It is undoubtedly the case that images of Rio, which show the bay, Sugar Loaf and the statue of Christ have had a high worldwide recognition factor, since the middle of the 19th century. Such high recognition factors can be either positive or negative: in the case of Rio, the image that was projected, and still is projected, is one of a staggeringly beautiful location for one of the world's biggest cities.

Such high recognition of the physical form of Rio's landscape setting must give it a certain universal value.

ICOMOS considers that this criterion has been justified.

ICOMOS considers that the serial approach is justified and that the selection of sites is appropriate.

ICOMOS considers that the nominated property meets criteria (v) and (vi) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

Description of the attributes

The attributes that convey Outstanding Universal Value are the framework of green hills that have shaped the development of the city, the reclaimed Atlantic forests that clothe the Tijuca mountains, the design of the Botanical gardens and other designed landscapes within Tijuca, the statue of Christ on Corcovado, the design of the Flamengo Park and the Copacabana promenade with its mural pavements, framed by green hills above an almost continuous curve of buildings. A clear description of the attributes needs to be set out for each of the component parts.

4 Factors affecting the property

Development pressures

Part of the hills of Rio have been occupied, since the end of the 19th century, by inhabitants of scarce resources who did not have access to urban lands registered for development. Many of these early settlements were well integrated into the geomorphology of the territory, such as around the ascent to the statue of Christ the Redeemer on Corcovado, and are not un-harmonious.

However after the mid-20th century, the population of Rio increased so rapidly that new unregistered settlements, known as *Favelas,* flowed onto less stable land and across watercourses, leading to land erosion, floods and the consequent collapse of buildings.

The most affected areas have been the promontories of Tijuca and other hills located in the buffer zone; Since the 1990s, the local and state authorities have established a program of urbanisation of *Favelas* (the Favela-Bairro Programme) that aims to integrate these settlements into an urban order, and improve their infrastructure. Starting in 2010, a project called Ecological limits has been launched to re-introduce vegetation into the surroundings of the *Favelas*.

ICOMOS notes that an Operations Centre of the Municipality of Rio was inaugurated in March of 2011 to monitor the urbanised and natural area of the territory under its protection. This allows identification in real time of new settlements in the landscape and urban protection areas; as well as the areas of risk from floods and landslides. The Centre controls urban growth in the nominated area and in the proposed buffer zone.

There is still a need for individual areas such as the Tijuca National Park to patrol its boundaries to stop illegal trespass.

A further problem affecting scenic views is antennae on the summit of the mountains in the Tijuca National Park. The Park management has an inventory of these antennae and it aims to ensure that managers of the different branches will install fewer master antennae. Supplementary information provided by the State Party underscored the tight controls that are now in place.

Tourism pressures

The city receives very high levels of visitors to the landscape areas and parks and also to the Carnivals. The infrastructure and the size of the public spaces mean that for the most part these numbers do not impact adversely on the property.

Environmental pressures

The sea around the city of Rio, mainly Guanabara Bay and the port area, are affected by water pollution, due to discharges of waste water, fuel spill from ships and oil from the floating refineries that are located in the port.

A medium term project to clean the Guanabara Bay through containing water pollution is on-going. Regarding the beaches of Copacabana and Ipanema, the quality of water is largely adequate, because the discharges of the city are channelled away from the coast. In different points of the beaches, electronic monitors are located indicating the quality of water. However, in the rainy season it is acknowledged that the wastewater joins rainwater and drains to the beaches.

Supplementary information provided by the State Party stated that a specific Management Committee meeting will be held to address the issue on 29 May 2012. Monitoring of the Lagoon's waters was resumed in December 2011.

Natural disasters

During the summer, Rio de Janeiro is exposed to torrential rains, which cause floods, and landslides in certain parts of the territory. The Operations Centre of the Municipality of Rio does monitor the risk areas and classifies them according to the problem; there is an alarm system in operation with 32 stations. Climate change could exacerbate this problem.

Fire is also a cause of risk, mainly in the north of the Tijuca National Park, so air and ground inspection tours are made to detect the beginning of a fire and to act according to the protocol established by the Park administration.

Finally, the Park faces illegal hunting, the proliferation of domestic animals such as dogs and cats and the illegal extraction of plants. These actions are combated with periodic inspections and by environmental education, in the Educational Centre at the Park Museum.

ICOMOS considers that the main threats to the property are urban pressures, illegal trespass, sea pollution, and the impact of extreme climatic conditions.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries of the property are clearly defined in the series of plans, maps, development, zoning and conservation plans.

The delimitation of the nominated areas and buffer zones was undertaken in a way that ensures that the boundaries correspond to regulatory and administrative zones in each level of government, national, state and municipal; this means that all national and international regulations converge and that there is no confusion over responsibilities for acting within the territory.

ICOMOS considers that the boundaries of the nominated property encompass the main attributes of Outstanding Universal Value and that the buffer zone is adequate.

Ownership

The entire nominated property is owned by the Federal Republic of Brazil.

Protection

Legal Protection

The Tijuca National Park was created by Federal Decrees in 1961, with the name of National Park of Rio de Janeiro (*Parque Nacional do Rio de Janeiro*). Its current name was approved by the Federal Decree 60.183 of February 8 of 1967.

The Research Institute of the Botanical Garden was created by a federal autarchy under the auspices of the Ministry of Environment by a Law of 2001, which establishes its legal statutes, objectives, its structure of management and administration.

The *Pão de Açúcar* (Sugar Loaf) and Urca were declared national monuments under the Law Nº 9.985, of June 18 of 2000.

The Institute of the National Historical and Artistic Heritage (IPHAN) and its predecessors have catalogued, since 1938, the entirety of the nominated sites and defined individual structures for national protection. These are listed in the nomination dossier. They include as well as Tijuca National Park and the Botanical Gardens, the Parque Lage mansion, Flamengo Park, Cara de Cão, Babilônia, Urca, Sugar Loaf, Dois Irmãos and Pedra da Gávea hills, São João fort, Santa Cruz

fort, and the urban landscape of Leme, Copacabana, Ipanema and Leblon beaches.

The Decree of IPHAN Nº 127 of 30 April 2009 – established the designation of Brazilian Cultural Landscape. The Executive Committee for the Nomination, in May 2009 requested an examination by IPHAN for the designation of the Rio de Janeiro Landscape, as a Brazilian Cultural Landscape.

In the 20th century, high buildings were regulated through the creation of a norm establishing that it was not allowed to build more than twelve stories in height. In the 1970, planning instruments were adopted to control urban growth toward the hills in order to protect the nature conservation areas, sanctioned in 1976. This means that construction is not allowed beyond 60 meters above the sea level in the surroundings of the *Pão de Açúcar* (Sugar Loaf) and in Urca and the limit of no more than 100 meters above the level in the other hills of the city, considered areas of forest reserve.

However the nomination dossier states that: *'With a commitment to respect the city's landscape, ensuring a balance between the city and its natural features, the latest town planning has sought to correct certain errors of recent years, including the lifting of the 12-storey limit in certain areas'.* ICOMOS notes that the implications of this are unclear.

Subsequent to the submission of the nomination dossier, the Master Plan for Sustainable Urban Development of the City of Rio de Janeiro enacted through Complementary Law No. 111 of 1 February 2011, substitutes the Ten Year Master Plan for the City of Rio de Janeiro.

This new Master Plan includes the following principles and guidelines:

- sustainable development as a means to promote economic development, social equity, and environmental and landscape preservation;
- valuing, protecting, and sustainable use of the environment, landscape, and natural, cultural, historical, and archeological heritage in the city's development and management;
- conditioning of urban occupation to preservation of the city's identity and cultural landscapes.

Land use and occupation will be regulated by limitations of density, of economic activities, of the right to enjoy the natural landscape of the city and of the quality of the urban environment.

A series of articles on the protection of the cultural sites and of the cultural landscapes including Articles 167, 168, 169 and 170 that establish that:

- the Landscape of Rio de Janeiro represents the most valuable asset of the city,
- heights of buildings shall be defined by the preservation and conservation of the integrity of the natural landscape.

Based on these new guidelines, in 2011 the Municipal Government began to apply the landscape concepts as a parameter of urban planning, for example through the implementation or new rules on the occupation of preserved properties in the Leblon neighbourhood.

However, the Master Plan is a general instrument that serves to establish planning policies and guidelines for the entire municipality. Only after such policies have been adopted in the different areas of the city including through specific laws, will implementation of the Plan be possible.

The Management Committee is working to ensure the adoption of possible additional protection measures for the nominated sites, enforced through enhanced preservation structures.

Buffer Zone

ICOMOS notes that the suggested buffer zone encompasses large areas that provide context for the nominated sites. Some of these areas appear to provide threats to the nominated area rather than protection. The real benefit of the buffer zone would appear to be in terms of protecting views and the broad setting of the nominated areas.

In 1992, the Ten Year Master Plan established Cultural Environment Protection Areas (APACs). These are defined as "*lands with a structural ensemble of relevant cultural interest, the occupation and renovation of which must be compatible with the protection and conservation of the environment and socio-spatial characteristics identified as relevant to the city's memory and the diverse urban occupation forged over time."* Each APAC is supposed to develop a management plan. Large areas of the low lying Buffer Zone is covered by APACs. However few of these currently have a management plan.

In the supplementary information provided, the State Party stated that if the property is inscribed each APAC will develop a Management Plan setting out stricter guidelines on preservation, and, if found necessary by the Committee, more restrictive soil utilization and occupation parameters for the respective complexes.

Further the State Party states that the Management Plan now under development will have the critical role of combining existing legislation on the protection of those areas encompassed within the property and its Buffer Zone with the correction of potential threats and possible remaining gaps in protection, so that preservation of the overall cultural landscape might be achieved.

Effectiveness of protection measures

The nominated areas all have adequate legal protection. Adequate protection for the Buffer Zone in terms of operationalising the APACs and extending them to cover all the Buffer Zone still needs to be put in place.

ICOMOS considers that the legal protection in place for the nominated sites is adequate. Appropriate protection for the Buffer Zone, in which lack of control could threaten the nominated areas, still needs to be put in place.

Conservation

Inventories, recording, research

Details are provided of inventories of protected structures but no reference is made to inventories of key components of the cultural landscape which are needed to form a basis for monitoring. In supplementary information provided by the State Party it is indicated that all current data will be converted into digital format.

The whole property has been extensively researched.

Present state of conservation

Tijuca National Park conserves the characteristics of the reforestation that was carried out in the 19th century. Some of its components such as roads and paths require maintenance, although fountains and springs, lakes and belvederes, are in good condition.

In terms of the issue of illegal settlements within the Park, the State Party in its supplementary information stated that the forty-six residential structures are inhabited primarily by former Park employees and their families. Measures to transfer residents are in the process of being developed, within the applicable legal and financial limits, and include possible compensation payments and/or social rent, among others. In 2011, a working group was established to address the transfer issue.

The scenic views from Christ the Redeemer in the Corcovado Mountain are safeguarded. ICOMOS notes that there is a project to improve services in the basement of the sculpture and considers that a cultural heritage impact assessment will be necessary before any detailed plans are agreed.

In general terms the conservation of the Botanical Garden is satisfactory. A renovation plan has been drawn up for the arboreal, shrubbery and herbaceous vegetation. For example, the imperial palms that are almost dead are to be substituted by other new ones raised in the garden.

The ICOMOS mission was made aware of illegal occupation around the Botanical Gardens. In its supplementary information, the State Party stated that this issue will be the subject of discussion within the Management Committee on 12 May. It is also stated that there are logistical and legal difficulties that prevent quick action. Over seventy final judicial decisions ordering removal of the residences in question have been handed down, but that execution of the orders by the Federal Public Prosecutor's Office has proved challenging, even with the assistance of the Brazilian Federal Police Department. The Federal Secretariat of Heritage has established a working group with the Botanic Garden to negotiate the removal of the families from the Park.

The *Passeio Público* reflects Romantic designs of the 19th century. All its original characteristics are present such as bridges, lake, channels, tree line, fountains and parterres. However ICOMOS notes that it requires more maintenance to its paths and hard landscaping.

Within the Flamengo Park the hard landscape features of Burle Marx's designs as well as the gardens of the Santos Dumont Airport, the Museum of Modern Art, the Paris square and the monument to the Dead in the Second World War, all of which are incorporated into the Park, are reasonably well conserved.

The landscape designs carried out by Burle Marx at Copacabana are generally in a good state of conservation. However ICOMOS notes that the mosaics require levelling and there is a need to reinstate missing pieces. There are also some spaces where trees need replacing to complete the original designs.

Up until a few years ago the coastline had been invaded by temporary constructions with unfortunate visual impacts. The Municipality is now controlling the urban furniture, such as kiosks and parasols.

At *Pão de Açúcar* (Sugar Loaf) the acrylic covers at the terminals of the cable car in the Urca Mountain as well as on the summit of Sugar Loaf are extremely deteriorated and need attention. The coloured lighting should also be removed because it contaminates the surrounding landscape.

Effectiveness of conservation measures

Currently conservation is patchy and tends to address different aspects of the attributes. ICOMOS considers that there is a need for an overall conservation strategy that is related to both the cultural and natural dimensions of the various sites.

In some specific areas, ICOMOS considers that there is also a need for specific conservation projects to restore aspects of the property such as the paving and planting along Copacabana, paths in Tijuca National Park, some of the key structural plants in the Botanical Gardens, the hard landscaping of the *Passeio Público* and the roofing of parts of the Cable car at Sugar Loaf.

In the supplementary information provided, the State Party indicated that these projects were already under development.

Although the nomination is about landscape on a grand scale as a backdrop to the city, there is still a need to ensure that the details of the individual sites are conserved so that their cultural value is not eroded and they can be appreciated on foot, at close quarters, and not just in long views.

ICOMOS considers that there is a need for an overall Conservation Plan or Conservation approach for the property and for Conservation projects at various sites to conserve their important details.

Management

Management structures and processes, including traditional management processes

The Tijuca National Park is managed by the Chico Mendes Institute for the Conservation of Biodiversity (ICMBio) under the auspices of the Ministry of the Environment.

Botanical Garden has its own management structure.

There are plans to establish a coordinating group to manage the Flamengo Park, the beach of Urca and the sea front of Copacabana.

The fortresses are managed by the Brazilian Army. Most of the fortresses are open to the public.

The challenges facing the enormous area of landscape included in the nomination are immense. A coordinated response that brought together all the agencies currently involved in the management of the separate parts could have huge benefits in terms of collaboration.

Supplementary information provided by the State Party stated that IPHAN had published a Decree to set up a Management Committee for the property in December 2011. This Committee had its inaugural meeting on 10th January 2012 and will initially meet twice monthly.

The Committee will be coordinated by IPHAN and will include representatives of the Ministry of Culture, IPHAN, the Botanic Gardens, the Tijuca National Park, the Ministry of Defence, the Rio de Janeiro State Government, the Rio de Janeiro Municipal Government, the Niterói Municipal Government and the University of Rio de Janeiro.

The main objectives of the Committee are to:

- Achieve compatibility between delimitation of the protected areas designated at the different levels of government and the area identified in the candidacy for World Heritage listing;
- Determine the joint management structure for the area;
- Develop the joint management plan for the area.

This Committee will initially be a Technical Committee whose main role is to deliver the Management Plan. An Executive Committee to carry out the Management Plan will be set up once the Plan has been completed. This will include representatives of those bodies exercising decision-making powers at the three levels of government in the nominated sites.

Policy framework: management plans and arrangements, including visitor management and presentation

The various elements of the series each have their own management arrangements and only some have management plans.

The Management Plan of the Tijuca National Park was completed in 2008. The Plan establishes actions to conserve the natural aspects of the Forest and to control its uses.

The Management Plan of *Pão de Açúcar* (Sugar Loaf) and Urca, was begun in September 2011 by the Brazilian Fund for Biodiversity (FUNBIO), and should be completed in March 2012. It will include: strategies for conservation, development and presentation.

In the supplementary information provided by the State Party it is stated that the new Steering Committee will draw up a Coordinated Management Plan for the whole property by October 2013.

In order for the Management Plan to be effective it needs to be based on a clear definition of the attributes of Outstanding Universal Value. Supplementary information provided by the State Party stated that between February and April 2012 each of the component sites would be delivering a detailed analysis of the attributes within their site. There will also be a need to identity attributes that over-arch individual properties and allow the property to be perceived as a whole cultural landscape.

The Management Plan will be approved by the President IPHAN, the President of the Chico Mendes Institute for Biodiversity, the Governor of the State of Rio de Janeiro, the Mayor of the City of Rio de Janeiro, and the other administrative authorities of the nominated property.

The Tijuca National Park receives around 1,2 million visitors a year.

The Christ the Redeemer on the Corcovado mountain and the *Pão de Açúcar* (Sugar Loaf) are some of the most emblematic and visited sites in the city of Rio. In the year 2006, 434,047 people visited the Corcovado arriving by train, while the *Pão de Açúcar* (Sugar Loaf),

which provides a view of Guanabara Bay, receives 35,000 visitors a month.

The number of visitors to the Botanical Garden and fortresses is not given.

Risk preparedness

There is a Heavy Rainfall and Landslide Alert System, monitored 24 hours a day and a fire alert system in the Tijuca National Park. ICOMOS notes that there is no overall Risk Preparedness strategy for the Property.

Effectiveness of current management

ICOMOS considers that without detailed inventories and recording of the assets of the landscape and without an overall framework for the coordination of management across all the component sites of the nomination yet in place, the effectiveness of management in addressing the need to sustain attributes of Outstanding Universal Value is limited. Undoubtedly some of the individual sites are well managed, but the lack of a coordinated and collaborative mechanism means that the real challenges that all sites as a whole face in sustaining the intactness of the cultural landscape cannot be adequately addressed. It also means that opportunities to consider management within the framework of sustainable development drawing in ecological and social, as well as cultural dimensions, cannot be given a high profile.

The State Party has stated that such a collaborative management framework in the form of an Executive Committee will be established once the Management Plan is completed in October 2012.

There is a need for this Committee to have the highest support at national and regional level in order to allow the management of the property to be taken forward in an inter-disciplinary way through reasoned responses to the many challenges that it faces.

The way the buffer zone is to be managed also needs to be defined as well as precisely what is being managed.

It is indicated that the Management Plan will be accompanied by Management Fund but few details are provided.

ICOMOS considers that the management system for the overall property is not yet adequate; there is a need to finalise the Management Plan and to put in place an overall management framework for the property that enjoys national and regional support and draws together all stakeholders. Furthermore, ICOMOS also considers that that further details need to be elaborated as to how the extensive buffer zone will be managed and what the aims of their management are.

6 Monitoring

Monitoring indicators exist for the Tijuca National Park, the Botanical Gardens and the forts but no overall adopted indicators have been identified for the whole property related to the attributes of Outstanding Universal Value. However some draft indicators are listed within the framework for management.

Supplementary information provided by the State Party states that monitoring indicators will be developed as part of the Management Plan as well as a system for responsibilities for monitoring.

ICOMOS considers that monitoring indicators need to be further developed for the property.

7 Conclusions

It is not the city of Rio de Janeiro that is being nominated but the natural landscape within which the city developed, and the way this natural landscape has been shaped and extended over time to become an intensely valuable cultural assert for the city, which defines its identity and which is perceived to be of great beauty.

The focus of the nomination is the creative fusion between culture and nature at a macro scale: the grand landscape vistas of that part of the city of Rio that faces towards Guanabara Bay.

The revised nomination extends the scope of the property to include land around Guanabara Bay and thus the crucial interface between the city and the sea as well as between the city and its hills and mountains.

The nomination is for a series of four sites, the three areas of the Tijuca National Park, including Corcovado hill and the statue of Christ and the Botanical Gardens, and Guanabara Bay, including the Copacabana area and Flamengo Park to its west and Niterói Forts to its east. In considering views of Rio de Janeiro, these four areas cannot be perceived as being separate: they are part of one overall cultural landscape covering that part of the city that faces the sea. The nature of the landscape punctuated by hills and mountains overlooking the Bay means that views of this overall landscape can be had from many viewpoints, as is clearly identified in the nomination dossier.

The second crucial aspect of this landscape is the tight interaction between the open areas of the city and its built areas – which en masse contribute to this landscape but are excluded from the nomination.

A third equally crucial aspect is the benefits that these open areas deliver to the city in terms of open air living and a sense of place.

All of these factors point to the need for the nominated areas to be understood, documented, protected and managed together as facets of one landscape and for the interface between the landscape and buildings to be a key focus of management.

ICOMOS further considers that although the cultural landscape is drawn on a large canvas, its management does need to respect the smaller details of the component parts and to this end detailed records and inventories are necessary to underpin conservation and adaptive.

In its supplementary information the State Party has set out how the newly established Management Committee will draw up the Management Plan by October 2013 and, once it is adopted, an Executive Committee will be put in place to deliver the Plan. The supplementary information also states how the Management Committee will clearly define the attributes of Outstanding Universal Value and develop monitoring indicators and it will also consider the protection offered by the Buffer Zone and address any gaps in its protection, as well as putting in place management plans for the various APACs that are in place.

Currently therefore progress has been made towards an overall coordinating body for the various component sites of the serial property, in line with the requirements of the *Operational Guidelines*, but this is still not in place.

Recommendations with respect to inscription

ICOMOS recommends that the nomination of Rio de Janeiro, Carioca Landscapes between the Mountain and the Sea, Brazil, be **referred back** to the State Party in order to allow it to:

- Put in place an overall management framework for all the component parts of the serial property that draws together the management of the component sites and involves all key stakeholders in line with the requirements of *Operational Guidelines*, paragraph 114.

- Complete the Management Plan for the property;

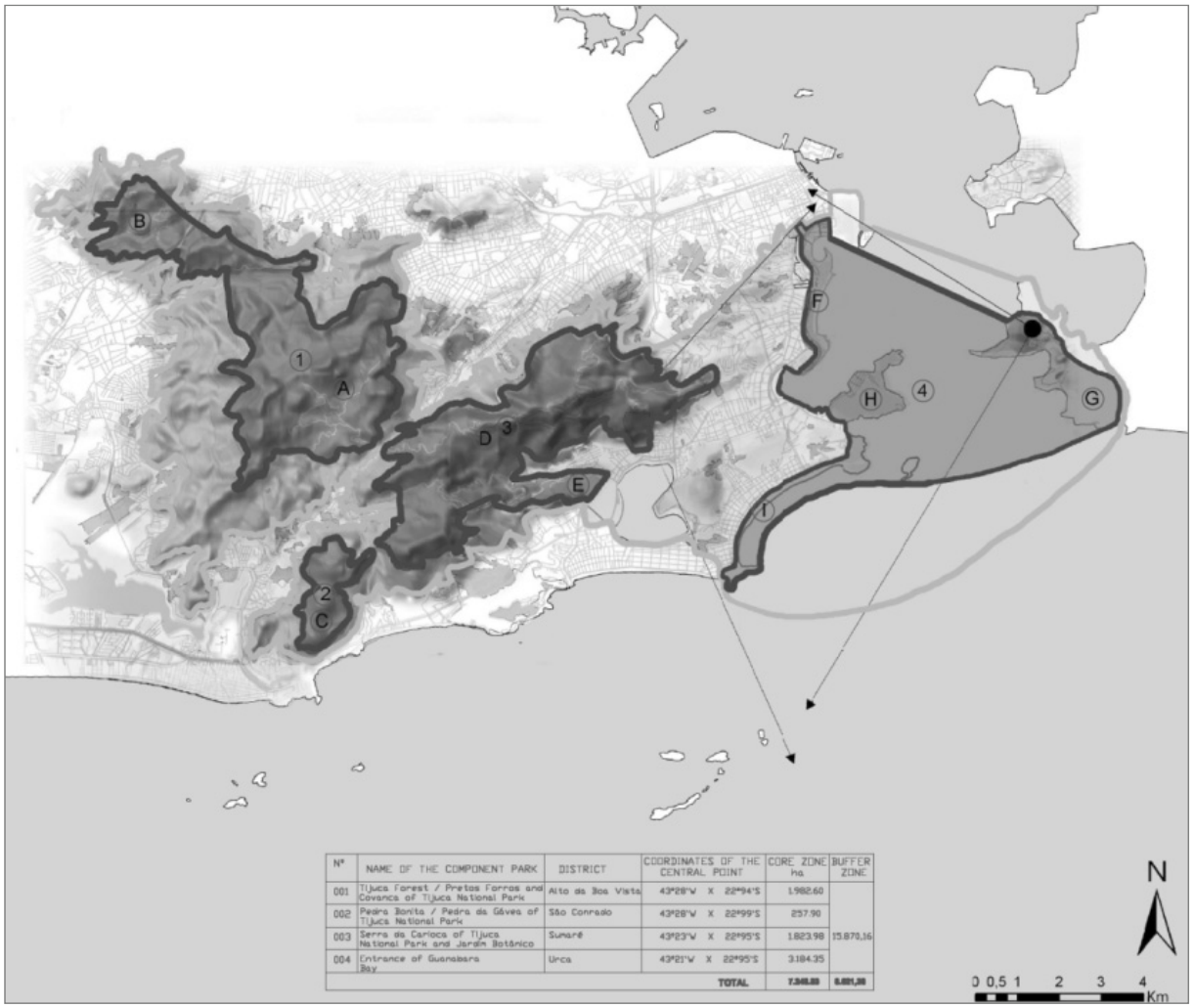
- Provide details as to how the buffer zone will be protected and managed;

- Put in place a system for defining, recording and inventorying the key components of the overall cultural landscape;

- Define monitoring indicators related to the attributes of Outstanding Universal Value;

- Provide more details on plans to address water pollution.

ICOMOS further recommends that the State Party give consideration to developing an overall Conservation Plan or Conservation approach for the property.



Nº	NAME OF THE COMPONENT PARK	DISTRICT	COORDINATES OF THE CENTRAL POINT	CORE ZONE ha	BUFFER ZONE
001	Tijuca Forest / Pretos Forros and Covanca of Tijuca National Park	Alto da Boa Vista	43°28'W X 22°94'S	1.982.60	
002	Pedra Bonita / Pedra da Gávea of Tijuca National Park	São Conrado	43°28'W X 22°99'S	257.90	
003	Serra da Carioca of Tijuca National Park and Jardim Botânico	Sumaré	43°23'W X 22°95'S	1.823.98	15.870,16
004	Entrance of Guanabara Bay	Urca	43°21'W X 22°95'S	3.184.35	
			TOTAL	7.248,83	8.681,38

Map showing the boundaries of the nominated property

Corcovado Peak – Christ Redeemer

Copacabana Beach from Leme Fort

Flamengo Park

Guanabara Bay