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UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION

CONVENTION CONCERNING THE PROTECTION OF THE WORLD CULTURAL AND NATURAL HERITAGE

WORLD HERITAGE COMMITTEE

Twenty-third session
Marrakesh, Morocco
29 November - 4 December 1999

Information Document: Report of the Expert Meeting to recommend digital and cartographic guidelines for World Heritage site nominations and state of conservation reports, London, United Kingdom, 15 October 1999.

SUMMARY

At its twenty-second session in Kyoto, Japan (December 1998), the World Heritage Committee requested that the format of geographic information to be presented in Periodic Reports by States Parties should be further examined by the Bureau. To this end, an Expert Group was convened in London on 15 October 1999, to examine a proposal that would improve the quality of mapping and presentation of geographic information for World Heritage properties.

The Expert Group concluded that the accuracy and detail in maps and boundary information submitted with many of the early nominations was inadequate for modern mapping purposes and that new maps should be provided by the States Parties for most sites. The group also agreed that the cycle of periodic reporting established by the Committee was the best means of compiling this information. It is proposed that a detailed assessment of geographic information in each site file will be prepared in consultation with the Advisory Bodies and submitted to the relevant States Parties (see workplan item III.1 in WHC-99/CONF.209/15.) The text of the Group's recommendations is attached as Annex I to this document.

As noted in WHC-99/CONF.209/9, the Committee may wish to (i) note the report of this Expert Meeting and (ii) request the Expert Meeting on the Rationalization of the Operational Guidelines (United Kingdom, April 2000) (see WHC-99/CONF.209/17) to consider the specific proposals made herein for revisions to the *Operational Guidelines*, the *Format for the nomination of cultural and natural properties for inscription on the World Heritage List* and the *Format of the periodic reporting of the application of the World Heritage Convention* to ensure the adequate provision of geographic information in nominations and periodic reports submitted by States Parties in the future, for submission to the twenty-fourth sessions of the Bureau and Committee in 2000.

Meeting to recommend digital and cartographic guidelines for World Heritage site nominations and state of conservation reports

English Heritage Headquarters, London, United Kingdom, 15 October 1999

Background

At the World Heritage Committee meeting in 1998, the Hungarian Delegation drew to the attention of the Committee the need to develop a more standardised approach to the mapping of World Heritage sites (Annex XI.2 - Remarks on document WHC-98/CONF.203/15). Following this request, the World Heritage Centre discussed the current situation with the Advisory Bodies and the World Conservation Monitoring Centre. As a result an *ad hoc* meeting of experts was organised, and kindly hosted by English Heritage.

Objectives

The meeting sought to identify a way forward on five related objectives:

1. To ensure that a recommendation goes forward from the next World Heritage Committee meeting, asking States Parties to make adequate maps available as part of their nominations and state of conservation reports.

2. To draft guidelines for maps and geographic descriptions that should form part of such a recommendation, and be subsequently incorporated into the Operational Guidelines and explanatory notes for nominations and state of conservation reports.

3. To make recommendations on the review of currently available information and possible mechanisms for collecting maps where adequate information is not currently available.

4. To make recommendations on appropriate mechanisms for making map-based information more widely available to those who may need it.

5. To identify ways to facilitate increased use of geographic information systems (GIS) in World Heritage site planning and management.

Participation

The meeting was attended by Ambassador Janos Jelen, Denes Jankovich-Besan, Robert Kuszinger and Szilvia Odor (Department of Cultural and Scientific Cooperation, Hungary), Claudio Volpi and Maria Vaghi (Touring Club of Italy), Christopher Young, Dave Batchelor, Nick Burton, Alphena Gordon and Neil Lang (English Heritage, United Kingdom), Regina Durighello (ICOMOS), Simon Blyth and Jeremy Harrison (World Conservation Monitoring Centre), Paul Box (UNESCO GIS Consultant), and Peter Stott (UNESCO World Heritage Centre). Jeremy Harrison was also representing IUCN. The meeting was chaired by Christopher Young, and Jeremy Harrison acted as Rapporteur.

Overview of the current situation

Over recent months both the World Heritage Centre (WHC) and the World Conservation Monitoring Centre (WCMC) have been reviewing the available mapped information on inscribed World Heritage sites. In doing so it has become very apparent that the available information varies considerably.

The WHC has been undertaking a programme to scan nomination dossiers so that they can be stored and accessed electronically. In doing so it has become apparent that many dossiers are incomplete, that in

some cases there is no map, in others the map is a photocopy or sketch map and of little value in the accurate location of a site and its boundaries.

WCMC has been developing a prototype Internet Map Server incorporating mapped information on natural World Heritage sites. In doing so it has become apparent that for many sites neither WCMC nor the WHC has clear information on current boundaries. According to ICOMOS the same situation is true for cultural sites.

The adequacy of the information is of concern because the location of boundaries of the World Heritage site and any zones within and around it is essentially legal information. It is vital that the WHC and the Advisory Bodies know what constitutes an inscribed World Heritage site. This information is equally important within the nomination so that a proper evaluation can be carried out.

As a result of the increase in size and variability of nominations in general, guidelines are being prepared for States Parties on recommended formats for both nominations and state of conservation reports. This advice does not currently cover recommendations on the submission of geographic information, and this needs to be added based on the conclusions of this meeting.

Advice based on the experience of participants

The experience of participants ranged widely from those working at the international level in information management, to those working at national and site levels. These participants were invited to share their experiences with the meeting, and in a series of short presentations the following was covered:
- Experience in developing a global biodiversity map library and internet map server
- Experience of using GIS in site management in Hungary and Cambodia
- Experience of using GIS in site management in the UK
- Experience in using site mapping at the national level in the UK
- Experience of producing maps locating sites of key interest in Italy
- Experience of using GIS in Laos and other parts of South East Asia

This sharing of experience resulted in the identification of a number of generic points of relevance to the present discussions, including the following:

a) *Time-dependent data:* Maps display a single point in time, but the information used in compiling them is dynamic in nature. This has important messages for both periodicity of monitoring and handling of metadata.

b) *Degree of resolution:* The resolution required in mapping varies significantly depending on the purpose for which the map is required. Maps for management will require significant detail, while those required for nomination and state of conservation reporting only need to be detailed enough to ensure clear identification of the site.

c) *Access to base maps:* Appropriate base maps at a relevant scale may not exist in many countries, or access to them may be strictly controlled. This may be solved in part by developing partnerships with the military, or other agencies with strong mapping interests.

d) *Adequacy and accuracy of maps:* Issues of adequacy and accuracy of maps are true at all levels, and there may be significant cost implications involved in improving the existing information. This is also true when information has to be re-registered against different base maps.

e) *Technical support and capacity building:* In many parts of the world the development of appropriate maps for development of nominations, let alone for management purposes, is a capacity building exercise. Inclusion of stronger requirements in the nomination and state of conservation reporting requirements may lead to opportunities for increased technical support in this area.

f) *Negotiated access to global datasets:* There are opportunities for the WHC to help States Party by negotiating with organisations that can supply global or regional datasets. This applies, for example, to access to remote sensing imagery.

g) *Negotiated partnership with GIS producers:* There are opportunities for the WHC to negotiate with GIS developers such as ESRI, for their support in increasing access to GIS technology for World Heritage site managers.

h) *Sovereignty issues:* Because of the nature of the Convention, it is necessary to use officially sanctioned data wherever possible. Also, availability and provision of maps may be a sovereignty issue in some countries - the Convention must be sensitive to this.

i) *Timing:* It is important to link the compilation of improved map-based information on inscribed World Heritage sites to the timetable for State of Conservation reporting. The first reports are expected from the Arab countries, and there is a need to get the guidance to them rapidly if they are to take advantage of the new guidance. Hence the need to get input to the Committee meeting later this year.

j) *Purpose of maps:* The information required for mapping will differ significantly depending on the purpose for which the map is required. For example, there is a significant difference between maps and associated information required for presentation purposes and those required for legal purposes.

Response to the first objective (Committee Recommendation)

It was agreed that a recommendation would be drafted for consideration by the World Heritage Committee at its meeting later this year. This recommendation would concern modification of the Operation Guidelines and the explanatory notes for nominations and state of conservation reporting, and would refer to recommended formats agreed at this meeting.

Responsibility for finalising this recommendation would rest with Peter Stott for the Secretariat, and with Christopher Young and Janos Jelen., and this group would also liaise on how best to insert the paper into the meeting agenda.

Response to the second objective (Guidelines)

A draft of the guidelines or explanatory notes was prepared in advance by Simon Blyth and Peter Stott, and tabled at the meeting. This was reviewed section by section, modified and agreed by participants. The agreed text is appended.

Responsibility for producing a final version of the text was given to Peter Stott, and Christopher Young, Janos Jelen and Jeremy Harrison were asked to review the final text to ensure that all changes had been incorporated.

Response to the third objective (filling gaps in current information)

It was agreed that there would be no systematic attempt to fill current gaps in the available information through contact with States Party following agreement on the guidelines, but that this would have to await the results of the state of conservation reporting process.

On the other hand, WHC, the Advisory Bodies and WCMC should review the information that they currently have available, so that when state of conservation reports are received they can quickly assess whether they have the necessary information. Where appropriate it may be more effective for these geographic assessments to actually be submitted to the relevant States Parties in sufficient time so that omissions in cartographic information can be rectified when the States Parties send in

their reports. These suggestions would require that the WHC and Advisory Bodies carry out reviews to the same timetable as the state of conservation reporting.

Response to the fourth objective (access to map-based information compiled)

There are a number of ways in which the map-based information collected on World Heritage sites can be made more widely available, ranging from published maps to Internet map servers and CD ROM. All media should be considered.

It was agreed that a small working group should consider the options for increasing access to maps of World Heritage sites, and develop a plan and proposals for developing information access and services. This working group would advise the Secretariat on a way forward, using the participants in the current *ad hoc* meeting as a review panel for the ideas developed.

Jeremy Harrison would lead this working group, which would comprise Regina Durighello, Peter Stott and Alphena Gordon. Maria Vaghi offered to advise on publication-related issues.

Response to the fifth objective (GIS in site management and planning)

It was agreed that a working group should be set up to discuss and prepare the agenda for a future workshop on the use of GIS in the planning and management of World Heritage sites. This group would also agree on the aims and objectives of such a meeting, and the products and the ways in which they would be used. This working group would advise the Secretariat on a way forward, using the participants in the current *ad hoc* meeting as a review panel for the ideas developed.

Dave Batchelor and Chris Young would ensure the facilitation of this working group, which would also comprise Robert Kuszinger, Paul Box and Peter Stott. A manager from a natural World Heritage site familiar with the use of GIS would also be included in the group.

In order to ensure some funding for this meeting, it is necessary to get it into the work programme for next year, and the meeting asked Peter Stott to try to ensure that this was done.

Closure of the meeting

In closing, English Heritage was thanked for hosting the meeting, and the UNESCO World Heritage Centre was thanked for facilitating the participation of a number of people. The outcome was generally felt to be very useful, thanks to the chairmanship of the meeting by Christopher Young, and the advance preparation by WCMC and the UNESCO World Heritage Centre.

Text to be incorporated into "Explanatory Notes" for

Nomination of Properties for Inclusion on the World Heritage List

1. Identification of the Property
...

    d.   Exact location on map and indication of geographical coordinates to the nearest second

    e.   Maps, and plans if available[1,] showing boundary of area proposed for inscription and of any buffer zone

...

INTRODUCTION

Insert the following text, and renumber the succeeding paragraphs accordingly:

(ii)   States Parties are encouraged to read these notes thoroughly and are requested to seek clarification and/or technical assistance if necessary.

...

1.   Identification of the Property
....

Replace Section 1.2 with the following new sections, renumbering the succeeding paragraphs accordingly:

1.2 **Geographical Coordinates**

    Coordinates may be given in either Latitude/Longitude (degrees, minutes, seconds, or decimal degrees) or in UTM coordinates (meters). Coordinates should be given to the nearest second, or decimal degrees to 5 places, if possible. UTM coordinates including the relevant zone, should be given to the nearest 10 meters if possible.
    E.g., 45°15'39" N, 12°54'31" E or 18/^{5}21560.^{45}67800

1.3   The number of sets of coordinates necessary for a given nomination or report will vary according to the type of site and its size. A single property occupying <u>less than 10 ha</u>. will require only one central set of coordinates. <u>Larger areas</u> can be approximately identified by giving the coordinates of the southwest and northeast corners. Please also identify the coordinates of the central point of the site.
<u>Serial nominations</u> (two or more separate properties in one nomination) should have separate sets of coordinates for each distinct property, including a central point. Clearly label each set of coordinates with the parcel that each corresponds to.

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[1] This change, replacing "and/or plans", removes the possibility that plans may be substituted for maps. This text is part of paragraph 64 of the *Operational Guidelines* describing the nomination format. It should also be inserted into paragraph 78 describing the Format for periodic monitoring so as to make the two formats sections equivalent. Both will acquire formal approval as part of other changes being proposed to the *Operational Guidelines*.

<u>Linear nominations</u> (transportation corridors and other linear features) should be identified by their endpoints and a central point If the property has more than two endpoints (branches to the main stem, for example), give the coordinates of each branch endpoint.

All coordinates should be indicated on the appropriate accompanying map.

1.4   **Maps**

All nominations and reports should be accompanied by at least one topographic map clearly showing the boundaries of the site and any buffer zone. The guidelines below will facilitate digitalization of these maps for inclusion in Geographic Information Systems (GIS) when no digital coordinates (see Section 1.8) can be provided. Maps should not be trimmed, thus permitting reviewers to consult any printed marginal notes or coordinate ticks. To allow subsequent digitalization without distortion, the map should be an original print and not photocopied. Each map provided should show scale, orientation, projection, datum, proposed site name, date and graticule. The delineation of administrative boundaries is desirable.

1.5   These are the optimal scales for the following sizes of site:

Size of site (ha)	Preferred scale of map
> 1,000,000	1:1,000,000 or better
100,000 to 1,000,000	1:500,000 or better
50,000 to 100,000	1:250,000 or better
10,000 to 50,000	1:200,000 or better
1,000 to 10,000	1:25,000 or better
1 to 1,000	1:5,000 or better

1.6   **Other map versions**

A location map, showing the location of the site within the State Party, is essential. Plans of the site, where available can be very helpful. Multiple maps should be clearly identified on a smaller scale index map.

To facilitate copying and presentation to the Advisory Bodies and the World Heritage Committee, it is extremely helpful to include three other versions of the principal map(s):
        a) a color photocopy of the map reduced to A4 size
        b) A 35mm transparency
        c) a TIFF file or other digital image file

Please identify other maps available within the bibliography.

1.7   **Text boundary description**

A detailed description of the boundaries of the site should be provided, indicating topographic and other legally defined national, regional, or international boundaries followed by the site boundaries. In the case where detailed topographic maps are not available, this detailed

description will make it possible to generate an outline map. A text description, however, is not a substitute for the best map available.

Please indicate if the site boundary coincides with other existing protected designations.

1.8   __Digital Boundary Description__

States Parties are also encouraged to submit geographic information in digital form, suitable for incorporation into a Geographic Information System (GIS). Boundary and buffer zone delineation should be presented in vector form, prepared at the largest scale. Boundary and buffer zone information will be made publically available. Other information, whether vector or raster based, should be submitted on one or more separate layers at the largest scale possible. The information relating to file format(s) and layering conventions must be attached.

1.9   __Confidentiality__

States Parties may request that certain map information be withheld from the public if it contains sensitive locational information (archaeological finds, security management, etc.)

<p style="text-align:center">Text to be incorporated into "Explanatory Notes" for</p>

<p style="text-align:center">Format for Periodic Reporting on the State of Conservation</p>

SECTION II.   STATE OF CONSERVATION OF SPECIFIC WORLD HERITAGE PROPERTIES

*Text in **bold** should be inserted and paragraphs renumbered where appropriate:*

(ii.vi) This section should be completed for each individual World Heritage property. **States Parties are encouraged to read these notes thoroughly and are requested to seek clarification and/or technical assistance if necessary.** States Parties are invited to provide information under the following headings:
...

II.1. Introduction
...

    c.   Geographic coordinates to the nearest second
    d.   Maps, and plans if available, showing boundary of area proposed for inscription and of any buffer zone
...

II.1.c <u>Geographical Coordinates</u>

Coordinates may be given in either Latitude/Longitude (degrees, minutes, seconds, or decimal degrees) or in UTM coordinates (meters). Coordinates should be given to the nearest second, or decimal degrees to 5 places, if possible. UTM coordinates including the relevant zone, should be given to the nearest 10 meters if possible.

E.g., 45°15'39" N, 12°54'31" E   or   18/^{5}21560.^{45}67800

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<u>Serial nominations</u> (two or more separate properties in one nomination) should have separate sets of coordinates for each distinct property, including a central point. Clearly label each set of coordinates with the parcel that each corresponds to.
<u>Linear nominations</u> (transportation corridors and other linear features) should be identified by their endpoints and a central point If the property has more than two endpoints (branches to the main stem, for example), give the coordinates of each branch endpoint.

All coordinates should be indicated on the appropriate accompanying map.

II.1.d Maps

All nominations and reports should be accompanied by at least one topographic map clearly showing the boundaries of the site and any buffer zone. The guidelines below will facilitate digitalization of these maps for inclusion in Geographic Information Systems (GIS) when no digital coordinates (see Section 1.8) can be provided. Maps should not be trimmed, thus permitting reviewers to consult any printed marginal notes or coordinate ticks.   To allow subsequent digitalization without distortion, the map should be an original print and not photocopied. Each map provided should show scale, orientation, projection, datum, proposed site name, date and graticule. The delineation of administrative boundaries is desirable.

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Other map versions

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**Meeting to Recommend digital and cartographic guidelines
for World Heritage
English Heritage Headquarters, 23 Savile Row, London**

15 October 1999

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