
Budj Bim Cultural Landscape (Australia) No 1577

Official name as proposed by the State Party

Budj Bim Cultural Landscape

Location

Glenelg and Moyne

State of Victoria

Australia

Brief description

The Budj Bim Cultural Landscape is situated within the traditional Country of the Gunditjmara, an Australian aboriginal nation, in the south-west of the State of Victoria. The property comprises the Budj Bim volcano and Budj Bim lava flows, which extend over 50 km west and southwards, Tae Rak (Lake Condah) and Killara (Darlot Creek). The lava flows, which connect the three property components, provided the basis of a complex aquaculture network developed by the Gunditjmara, based on deliberate redirection, modification and management of waterways and wetlands. This aquaculture system has provided a six millennia-long economic and social base for Gunditjmara society.

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 3 sites.

In terms of the *Operational Guidelines for the Implementation of the World Heritage Convention* (July 2017) paragraph 47, it has also been nominated as a *cultural landscape*.

1 Basic data

Included in the Tentative List

20 January 2017

Background

This is a new nomination.

Consultations and Technical Evaluation Mission

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

Comments on the natural attributes of this property, and their conservation and management were received from IUCN on 20 December 2018 and have been incorporated into relevant sections of this report.

An ICOMOS technical evaluation mission visited the property between 3 and 7 September 2018.

Additional information received by ICOMOS

A letter was sent to the State Party on 10 October 2018 requesting further information about the composition and rationale for selection of serial components and the future plans for management of wild boar populations to prevent damage caused by the boars rooting. The State Party responded on 7 November 2018, addressing all questions posed. The additional information has been incorporated into the relevant sections below.

An Interim Report was provided to the State Party on 22 December 2018 summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: specifications on the legal mechanisms in place to guarantee the continuity and quality of the overall water system, as well as to prevent land-use changes in plots neighbouring the property. ICOMOS further requested the submission of a hydrological study on sources and movements of water flows, which was said to have been undertaken. Lastly, the Interim Report requested additional information on what the State Party refers to as an “unlimited” buffer zone mechanism.

Additional information was received from the State Party on 28 February 2019, including responses to all questions raised in the Interim Report and two annexed reports: (1) a hydrological feasibility study of the Lake Condah restoration project; and (2) recommendations developed towards the environmental water requirements by the Glenelg Hopkins Catchment Management Authority. This information has been incorporated into the relevant sections of this evaluation report.

Date of ICOMOS approval of this report

13 March 2019

2 Description of the property

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

Description and history

The Budj Bim Cultural Landscape is situated within Gunditjmara Country in the Glenelg and Moyne Shire Councils. The property is proposed in three separate serial components, which are connected by the continuous lava stream of Budj Bim.

The description and history of the Budj Bim Cultural Landscape provided in the nomination dossier draws on two distinct, though intersecting, knowledge systems and cosmologies: Gunditjmara traditional knowledge, and Western knowledge traditions dominated by scientific empirical data.

The Budj Bim Cultural Landscape is a result of a creational process narrated by the Gunditjmara as a “deep time” story. During the time of creation, Gunditjmara Country was inhabited by beings which were sometimes human, sometimes animal, sometimes neither and which brought the Country into life. From an archaeological perspective, “deep time” refers to a period of at least 32,000 years that Aboriginal people have occupied and lived on the Western Victorian Volcanic Plains. Over this time, the Gunditjmara developed and maintained aqua-cultural practices which are illustrated in the nominated property.

The last major eruption of Budj Bim volcano occurred between 39,000 and 30,000 years ago, when the key present landscape features were formed. However, today much of the lava flow is underwater due to sea level rises between 18,000 and 6,000 years ago. Earliest archaeological evidence of the Gunditjmara aquaculture tradition dates back 6,600 years.

Gunditjmara people conceive this landscape as imbued with meaning and a sense of purpose. Elders narrate stories of: Ancestral Creation Beings revealing themselves in the landscape, as erupting volcanoes, tsunamis, mountains forming and rivers changing; the relationship between people, animals and plants; the abundant natural resources; settlements and aquaculture; and the arrival of other people to Gunditjmara Country.

The nominated serial components comprise four different landscape types, recognized by their traditional owners as Woorrowarook Mirring or Forest Country, Bocara Woorrowarook Mirring or River Forest Country, Koonang Mirring or Sea Country, and Tungatt Mirring, or Stone Country. The latter is focused on the dramatic volcanoes and lava flows. Their shared element is the presence of complex aquaculture systems, composed of constructed channels, weirs and dams used to contain flood waters and create holding and growing ponds for *kooyang* (short-finned eel – *Anguilla australis*). The systems aimed at confining the fish to a restricted area allowing for them to be kept as live storage for consumption over longer periods. Apart from the aquaculture systems, the nominated property presents Gunditjmara settlement structures and is the focus of manifold cultural traditions and associations practiced and narrated up until the present day.

The northern component, Budj Bim, is by far the largest and contains the Budj Bim volcano (the origin of the lava flows), Lake Condah Mission and parts of the Budj Bim Indigenous Protected Area, wholly owned by the Gunditjmara (freehold title), who also co-manage Budj Bim National Park located in this component. It lies alongside the lava flow landscape (Stone Country) and contains dry forests and woodlands as well as inland waters and wetlands. Six archaeological Gunditjmara aquaculture complexes are found in this component, which include 6,600 year-old fish traps.

The second and central component of the Budj Bim Cultural Landscape is named Kurtonitj, which means ‘crossing place’. The Gunditjmara hold freehold title to this component, which is situated entirely within the Budj Bim

lava flow. It is characterized by wetland swamp and low-lying depressions as well as a number of shallow valleys. Within the Kurtonitj component are two weirs and a dam associated with trapping and holding *kooyang*.

The third, southern component comprises the Tyrendarra Indigenous Protected Area (owned by Winda-Mara Aboriginal Corporation) and a part of the Budj Bim Indigenous Protected Area (owned by Gunditj Mirring Traditional Owners Aboriginal Corporation, GMTOAC). This component is dominated by stony ridges and large swamps. In terms of aquaculture systems, the component includes an inter-connected complex of 18 stone wall dams/weirs and seven excavated channels, as well as numerous swampy depressions used for trapping and holding *kooyang*.

In the mid-19th century new settlers arrived in Gunditjmara Country and claimed property, which led to a period of extreme violence and conflict. Initially, the Stone Country of the Budj Bim lava flows remained largely inaccessible to the new settlers and hence a stronghold of aboriginal resistance. Two locations within the property bear witness to the massacres which occurred. The 20th century was a very difficult period for the Gunditjmara in and beyond the property boundaries as a result of unfavourable Australian government policies. Children were forcibly removed from their families, their land became increasingly privatized and as late as the 1970s the Gunditjmara were unable to access most of their aquaculture complexes. Following intense activism since the 1980s, much of the property has now been returned to its traditional owners. Gunditjmara native title determinations were issued in 2007 and 2011, which returned significant areas to the Gunditjmara, who now are given full right of access to and use of the land and water resources, including the margins of Tae Rak where most aquaculture complexes are located.

Boundaries

The area of the three components totals 9,935 ha. The boundaries of the proposed serial property are primarily determined by ownership – the land is either owned by the Gunditjmara Traditional Owners and designated as Indigenous Protected Areas, or managed as the Budj Bim National Park by the State Government through Parks Victoria in cooperation with the Gunditjmara.

ICOMOS notes that the property boundaries do not presently include the entirety of the related water system or the Budj Bim lava flow system, both essential elements of the landscape continuity and management approach. The overarching story of the Budj Bim Cultural Landscape, being an interaction between people and their environment, therefore likely extends beyond the proposed boundaries. The water flow is a key element of the subsistence economy, and the lava flow underpins the establishment of the aquaculture system and complexes. Both connect the three serial components but extend between these and into Portland Bay. For example, the Condah swamp to the north of the property is an important context of the overall *kooyang* aqua-culture system.

In terms of the Gunditjmara “deep time” narrative of the property, the southward journey of the lava flows created by the Budj Bim Ancestral Beings expressed the creative powers of dreaming spirits. Like the lava flows, this spirit-scape extends further south into Portland Bay, more precisely up to the sacred site of Deen Mar (Lady Julia Percy Island), where the forbidding cliffs guard the final resting place of the spirits of Gunditjmara people when they die.

ICOMOS in its request for additional information enquired about the rationale for the present boundaries’ designation and the opportunities for an extended, continuous property delimitation along the Budj Bim Lava Stream. The State Party responded on 7 November 2018 indicating that the three serial components include all physical elements of the aquaculture system and is considered to be sufficient in size to also incorporate the cultural features and ecological processes that illustrate the multiple spiritual, geological, hydrological and ecological contexts of interaction. While ICOMOS is satisfied with the response provided, it recommends to continue studies on cultural heritage features along the entire lava flow and to consider a future boundary modification of the property if further features contributing to the proposed Outstanding Universal Value are identified.

The property is not surrounded by a delineated buffer zone. The State Party reasons that the setting is protected by the Australian Government’s Environment Protection and Biodiversity Conservation Act of 1999 which provides sufficient protection and that therefore no buffer zone is required. ICOMOS notes that this act indeed protects the environmental and biodiversity values of the property from negative influences, which may originate outside its boundaries. However, ICOMOS also notes that this legislation does not necessarily cover all identified attributes of the proposed Outstanding Universal Value.

In the additional information received on 28 February 2019 in response to the questions raised in ICOMOS’ Interim Report, the State Party clarified that, based on the Environment Protection and Biodiversity Conservation Act, once a property gains World Heritage status, the statement of Outstanding Universal Value becomes the benchmark of legal protection, regardless of whether this emphasizes environmental or cultural values. Subsequently, the protective designation covers all potential negative impacts from activities outside the property boundary, regardless of their respective distance from the property. ICOMOS considers that this system can be understood as an unlimited buffer zone, provided that monitoring mechanisms are well elaborated and consistently applied.

State of conservation

The serial components of the nominated property are in a good state of conservation. Most environmental and cultural negative impacts of the 20th century, which followed the access restrictions of the Gunditjmara and artificial drainage schemes designed to reduce the swampy

areas and create new lands for agriculture, have now been reversed. In the 1950s the Tae Rak (Lake Condah), originally 250 hectares in size, held only 5 percent of its water capacity, which led to an invasion of pest plant species. Archaeological excavations, which commenced in the 1970s and identified evidence of the Gunditjmara aquaculture system, increased over time the appreciation of the Gunditjmara traditional form of land use.

Since the 1980s the traditional owners have initiated schemes to restore the water levels and water flows at Tae Rak based on Aboriginal heritage values. In 2010, the vision of the Gunditjmara was implemented through construction of a weir, which raised the water levels at Tae Rak to 52.4 metres above the Australian Height Datum over the following two years. Likewise, the re-granting of access to significant areas and the return of land ownership enabled them to restore the traditional cultural landscape use. The restoration and revival of Tae Rak has enabled much of the Gunditjmara aquaculture system to be reactivated.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation of attributes within the property boundaries is generally good with active dedicated and appropriate conservation measures, pest control and strong awareness in relation to associated cultural values. The Budj Bim Cultural Landscape is largely free of serious conservation challenges. Only the recent population increase of wild boars raises concerns, as the herds’ rooting activities may cause threats to the archaeological remains. However, in the additional information provided, the State Party made assurances that this recent phenomenon is adequately addressed by pest control strategies already in place (see Factors affecting the property below).

Factors affecting the property

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that main factors affecting the property are not of immediate concern, with perhaps the exception of the recently observed wild boar populations, which have the capacity to destroy heritage features, such as archaeological aquaculture sites or weirs and dams, whilst rooting. In the additional information provided by the State Party on 7 November 2018, it is outlined that the presence of feral pigs is a very recent phenomenon. Feral pigs have been declared pest animals within the property and Victoria’s Catchment and Land Protection Act of 1994 requires land owners to prevent the spread of and eradicate as far as possible, feral pigs on their land. The State Party assures that an intensive trapping programme commenced in 2016 and that damage from the boars is confined to areas which are absent of volcanic rocks and hence the aquaculture features have not been affected.

Climate change could also become a significant impact factor. Other factors, which have been identified but cannot be considered significant, include development pressures in terms of agriculture, forestry and pastoralism, as well as resource extraction. A small basalt stone quarry continues to operate in an area theoretically within the boundaries which has, however, been excluded for this reason.

In terms of natural catastrophes, potential risks of flooding are considered minor whereas those of wildfires are considered high. Controlled cultural burns are undertaken by the Gunditjmara to reduce such risk. Currently visitation of the property by tourists is a relatively minor pressure, which might however increase should the property be inscribed. The estimated number of visitors to Budj Bim National Park is 30,000 people per year. However, *the Budj Bim (Tourism) Master Plan* identifies ambitious target visitation numbers for the Budj Bim Cultural landscape: approximately 86,000 visitors by 2030.

3 Proposed justification for inscription

Proposed justification

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

- The Budj Bim Cultural Landscape contains one of the world's oldest and most extensive aquaculture systems, managed by the Gunditjmara for at least 6,600 years.
- This aquaculture system illustrates practices of kooyang (short-finned eel) management, storage, and harvesting; as well as the associated modification and management of the environment.
- Budj Bim Cultural Landscape has sacred origins. Its creation is written in the land and known through the traditions and cultural practices of the Gunditjmara.

Comparative analysis

The comparative analysis is presented in two key parts: the comparison with sites within Australia and the immediate Pacific Region; and the comparison including World Heritage and Tentative List properties of other areas throughout the world with a comparable combination of proposed Outstanding Universal Value and attributes.

The comparative analysis is rather exhaustive in its comparison of World Heritage properties and considers not only landscapes with aquaculture systems but also other cultural landscapes which are indicative of the longevity of systems of knowledge and cultural practices expressed through interaction with the environment. Likewise, on the Tentative lists relevant sites were identified and cover sites of other regions including Zambia, Canada and Denmark.

Merely at a regional level, the comparative analysis could have been improved by considering the eel aquaculture in Maori traditional practices beyond the sites currently listed in New Zealand. Extensive documentation on the eel and Maori culture exists, with similar aquaculture systems in which the Maori also built weirs, made special ponds and used torches, nets and spears. That being said, based on its own review and academic consultations, ICOMOS confirms that these Maori eel-storage and catching sites are not as extensive or as well preserved as in the Budj Bim Cultural Landscape. The nomination also does not explore the significance of the eel to other neighbouring cultures in the Pacific region. Eels are attributed high cultural significance in Fiji, Samoa and other Pacific nations. However, ICOMOS agrees that no aquaculture systems of similar size, extent and longevity exist within the Pacific region or elsewhere.

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

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;*

This criterion is justified by the State Party on the grounds that the Budj Bim Cultural Landscape bears exceptional testimony to the cultural traditions, knowledge, practices and ingenuity of the Gunditjmara. Their aquaculture practices have been shown to reach back at least 6,600 years and continue to be used today. They are amongst the oldest, perhaps the oldest, and most extensive, aquaculture traditions in existence.

ICOMOS considers that Budj Bim Cultural Landscape is physically and spiritually imprinted with cultural traditions that have defined the Gunditjmara people. The physical archaeological remains of their historic aquaculture systems, as well as the physical expressions of the contemporary continuation of aquaculture practices, testifies to this long and continuous interaction between people and natural resources, which form not only a cultural tradition but part of the spirituality and well-being of the Gunditjmara.

ICOMOS considers that criterion (iii) 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 Budj Bim Cultural Landscape is a rare, intact and representative example of a cultural landscape that has survived through the continuity of Gunditjmara cultural

and social practices and traditional management approaches. The attributes within the property are seen as an outstanding example of a traditional human interaction with the environment and form a representative example of an organically-evolved, continuing cultural landscape.

ICOMOS considers that the exceptional interaction of the Gunditjmara with their lands was created throughout their ancestral history and continues to the present day. The contemporary guardians of the land express this continuity of land-use by means of modifying and maintaining an extensive hydrological engineering system which redirects water flows in order to trap, store and harvest kooyang that migrate seasonally through the system. Beyond the physical elements, such as channels, weirs, dams, ponds and sinkholes, this interaction between people, animals, plants and land features is supported and maintained through Gunditjmara narratives and cultural traditions.

ICOMOS considers that criterion (v) has been justified.

ICOMOS considers that the nominated property meets criteria (iii) and (v).

Integrity and authenticity

Integrity

The State Party considers that Budj Bim Cultural Landscape meets integrity as the serial selection demonstrates completeness in that the three components include the eight largest and a representative selection of other smaller Gunditjmara aquaculture complexes. For this reason, the State Party is of the view that the 9,935-hectare serial property is sufficient in size to incorporate the cultural features and ecological processes that illustrate the ways multiple systems – social, spiritual, geological, hydrological and ecological – interact and function and demonstrate Gunditjmara aquaculture. This was reiterated in the response provided to ICOMOS' request for additional information on 7 November 2018, which enquired whether a possible future extension could be envisaged. The State Party indicated that the selected areas covered the most representative elements of the traditional water management and that ownership contexts prevented further extensions at present. The authors further highlight that, based on the cooperative management between the National Park and the traditional owners, the property is basically free of threats and adverse effects.

ICOMOS agrees that the Budj Bim Cultural Landscape is free of relevant threats that might affect its future intactness. However, ICOMOS also notes the potential for features of the proposed Outstanding Universal Value, physical and associated, to extend beyond the current property boundaries. The lava flow, the basis of the water management complexes but also the narrative of creation and cultural significance to the Gunditjmara, connects the three components and continues its physical presence

between and beyond these three. Whilst ICOMOS notes that the most significant and best preserved aquaculture complexes are located within the three components, the wetland and riverscape extends beyond them, the water management features extend towards the Lake Condah swamps in the North, while the ancestral embodiment of Budj Bim Cultural Landscape extends further southwards to Deen Mar (or Lady Julia Percy Island) in Portland Bay. ICOMOS therefore recommends, in the short- to medium-term, undertaking further studies to determine whether additional, relevant features of the proposed Outstanding Universal Value might be located outside the property boundaries and possibly consider a boundary modification in this regard.

Authenticity

Authenticity of Budj Bim Cultural Landscape is based on its continuity of use and function and traditional management as well as, at times, of material, substance, location, setting and intangible cultural associations and practices. The nomination attributes a high degree of authenticity to the Budj Bim Cultural Landscape based on millennia of oral tradition and continued cultural practices of the Gunditjmara people. Authenticity in addition is said to find expression in the physical evidence of the Gunditjmara aquaculture system, which retains the form and functionality it has had during the past millennia and in relation to the underlying lava flow, the continued functioning of the water flows, and the presence of kooyang.

ICOMOS considers that while authenticity of use and function as well as ownership and traditional management practices was historically partially interrupted for much of the 20th century, with the recent restitution of property rights to the Gunditjmara Traditional Owners – and with it the refilling of Tae Rak and reestablishment of continued use of aquaculture complexes – much of this former weakness in terms of authenticity has been reduced. ICOMOS notes that the section located within the Budj Bim National Park has not yet been returned to sole management by the Gunditjmara and with it full opportunity of traditional interaction with the environment. However, the cooperative management approach ensures that attributes retained are sustainably managed and preserved, which is considered sufficient for the demonstration of authenticity for this section of the property also.

ICOMOS also notes that whilst authenticity has been successfully strengthened within the property boundaries, additional features which might contribute to the proposed Outstanding Universal Value but which do not enjoy the same level of authenticity, may remain located outside the designated boundaries.

If such future studies would demonstrate that integrity could be strengthened through the inclusion of further features presently located outside the nominated property's boundaries, ICOMOS would recommend consideration of a future boundary modification to more adequately recognise the indivisibility of the place's use and meaning.

ICOMOS considers that the requirements of integrity and authenticity have been met for the proposed serial nomination.

Evaluation of the proposed justification for inscription

The Budj Bim Cultural Landscape provides largely intact physical evidence for one of the world's oldest and most extensive aquaculture systems, dating back to at least 6,600 years ago and based on kooyang harvesting and management. The property illustrates the complexity of traditional interaction with the environment and management of aquaculture systems on the Australian continent and therefore is important for understanding the range and complexities of eco-cultural relationships that the Gunditjmara have and had with managing their local environments and resources. This ongoing dynamic relationship is nowadays carried by knowledge systems retained through oral transmission, continuity of practice and documentation, in spite of past colonial dispossession and loss. All these aspects bear clear evidence for Outstanding Universal Value and the proposed nomination justifies criteria (iii) and (v).

Attributes

Physical attributes and features of the Budj Bim Cultural Landscape's Outstanding Universal Value include the Budj Bim volcano, the lava flows and the constructed evidence of aquaculture, both archaeological and contemporary, along the waterways and wetlands formed by the Budj Bim lava flows. These include modified channels (*yereoc*), weirs (stone and wood), dams, ponds and sinkholes developed to manage water and water flows in order to systematically trap, store and harvest kooyang. Attributes further include the traditional management practices and cultural associations of the Gunditjmara, who retain an exceptional interrelationship with their natural environment.

ICOMOS considers that the nominated property demonstrates Outstanding Universal Value and meets criteria (iii) and (v), as well as the conditions of integrity and authenticity.

4 Conservation measures and monitoring

Conservation measures

The most recent large landscape conservation measure was the removal of an artificial drainage system at Tae Rak in 2010 which allowed for the lake to be flooded, and with it the reutilization of the Gunditjmara aquaculture complexes. The management plan sets out that similar initiatives are to follow as it formalises the goal to "Restore cultural water flows to prioritize aquaculture channels and functioning eel traps that support cultural tourism and commercial use in the Budj Bim National Heritage Landscape". ICOMOS considers these measures essential but also sees these as opportunities to identify potential additional attributes outside the currently-designated property boundaries.

The continuity of associated Gunditjmara practices, traditions and knowledge – expressed through oral traditions, dance, landscape management methods such as cultural burning, and resource utilisation, such as basket weaving and rock building – is essential to the conservation of the nominated property. This memory resides with elders of the Gunditjmara and the young people are being mentored to continue traditions and practices. ICOMOS considers that this is indeed of critical importance and that further conservation routines for the archaeological remains should be designed.

Monitoring

A monitoring system with indicators is presented by the State Party. It is focused on ensuring the continuity of documentation, cultural practices, land management and aquaculture with indicators related to vegetation features and the condition of the physical aquaculture structures. Additional indicators are set aimed at monitoring climate change, water flows, pest controls, native flora and fauna and wildfire risks. The monitoring indicators will be incorporated into the *Budj Bim Cultural Landscape World Heritage Strategic Management Framework*, if the property is inscribed on the World Heritage List.

ICOMOS considers that while the current indicators presented are suitable for monitoring key aspects of the state of conservation of the nominated property, additional indicators are needed to assess other factors that affect the property. These might include the extent of continuity and change of cultural traditions, practices and associative values, the variation in the involvement of youth in traditional land-use practices, skills, festivals or celebratory events, as well as possible changes in the ways the property values and management schemes are appreciated by the relevant communities of interest and respected by visitors.

ICOMOS considers that current conservation activities and monitoring schemes are suitable but could be further augmented to ensure and monitor the continuity of traditional land management and cultural practices.

5 Protection and management

Documentation

In archaeological terms, an initial inventory and state of conservation report on the evidence of Gunditjmara aquaculture (channels, dams, weirs and ponds) was undertaken at the time of the first archaeological field surveys in the late 1970s and 1980s. In 1989-1990, archaeologist Anne Clarke revisited many of the previously-recorded sites and documented a number of new sites. Her inventory study provided basic condition assessments for 88 aquaculture features, 129 stone circles and 7 stone artefact scatters and provided baseline data against which future assessments could be compared. Subsequent archaeological surveys and investigations undertaken by Aboriginal Victoria (2004) and Monash University (since 2006) focussed on particular elements of the Tae Rak

aquaculture complexes, documenting the condition of the aquaculture features. Recently a condition report of trees growing in or besides aquaculture features was added.

The Gunditjmara traditional land management practices as well as social and cultural traditions related to the land are not formally inventoried in written resources but are handed on through oral traditions. While this is the most adequate method of knowledge transmission, ICOMOS considers that those aspects of the cultural and management traditions which can be shared outside the community could ideally be integrated in a GIS database. A GIS database of Budj Bim Cultural Landscape does exist under the administration of Aboriginal Victoria, but is barely referenced in the nomination. ICOMOS considers that the complex and multi-layered documentation capacity of the GIS database could make important contributions to management and conservation efforts and provide content for communication and interpretation.

Legal protection

The nominated property enjoys various levels of legal protection at local, regional and national level. A large part of the nominated property (about 90% of the Budj Bim component and about half of the Tyrendarra component) was included on the National Heritage List of Australia in 2004. The remaining Kurtonitj component and other sections are merely protected in their natural heritage values by means of the Australian Environment Protection and Biodiversity Conservation Act of 1999, under which cultural heritage values will be recognized once the property is inscribed on the World Heritage list. This is supported by local planning schemes. Glenelg and Moyne Shires have established a 'special use zone' over parts of the Budj Bim component, including Tae Rak. The purpose of the special use zone is to provide for the development of land consistent with the protection and management of the natural and Aboriginal cultural values.

ICOMOS considers that it would be desirable to have all components and proposed property areas recognized on the Australian Heritage List as well as being covered by the 'special use zone' of the Glenelg and Moyne Shires.

With the exception of the Budj Bim National Park, which is under a co-management arrangement between the Gunditjmara and the Victorian Government, the Budj Bim Cultural Landscape is wholly within the Country of the Gunditjmara and is subject to the traditional and customary rights and obligations of the Gunditjmara Traditional Owners. These rights are recognised under the Australian Government's Native Title Act 1993 and the Victorian Government's Aboriginal Heritage Act 2006.

Management system

The management system is to be coordinated by the Budj Bim Cultural Landscape World Heritage Steering Committee, which is yet to be established and prepared for following the property's World Heritage inscription. This Committee will have a majority of Gunditjmara Traditional Owners and include local community representatives to advise on the management of the property. A Budj Bim

Cultural Landscape World Heritage Framework will also be finalised and adopted by all relevant parties (GMTOAC, Winda-Mara Aboriginal Corporation, Australian and Victorian Governments) and will be the basis of the work of the Steering Committee.

On the ground, management is undertaken by a range of professional and service staff, employed by Parks Victoria, Aboriginal Victoria, the Department of Environment, Land, Water and Planning, the GMTOAC and the Winda-Mara Aboriginal Corporation. Notable among the institutional management arrangements is the Budj Bim Ranger Programme, which is managed through the Winda-Mara Aboriginal Corporation and employs 11 full-time rangers. Two Gunditjmara Elders mentor these rangers and provide them with traditional and cultural knowledge and support. These young people are actively encouraged to take up leadership responsibilities for the people and Country. This is the strongest management arrangement of Budj Bim Cultural Landscape which allows for on-the-ground management approaches to be guided by the traditional guardian communities in line with cultural traditions and practices.

The overarching management plan, which has been submitted as an annex to the nomination, is entitled the Ngootyoong Gunditj Ngootyoong Mara South West Management Plan. This plan, which dates to 2015, does not explicitly reference the attributes of the Outstanding Universal Value of the property nor does it reference the serial property components. Rather, it is described as a strategic guide for managing and protecting over 130 parks, reserves and Indigenous Protected Areas in south-west Victoria, covering over 116,000 hectares of land. Two additional management plans apply to parts of the property: Budj Bim Indigenous Protected Area Plan of Management 2015-2019 applies to the Budj Bim Indigenous Protected Area; and the Tyrendarra Indigenous Protected Area Management Action Plan 2015-2018 applies to the named area, which is owned and managed by the Winda-Mara Aboriginal Corporation. ICOMOS considers that, while the management plans outline some general strategies of relevance to Budj Bim Cultural Landscape as a whole and specific aspects to partial areas, the combination of the three does not function as a comprehensive management tool for the property.

With a series of other planning documents at local and federal level in existence, the anticipated *World Heritage Strategic Management Framework* will be essential to provide comprehensive site management guidance, or at least a collation of the relevant management documents, to ensure consistent and effective work, to prevent duplication of effort, and to clarify the relationships between, and hierarchy of, documents and responsible institutions. ICOMOS recommends developing the anticipated strategic management framework as a priority.

Risk preparedness and disaster response measures include actions against pests and invasive species, flood and wildfire controls. For wildfire prevention, the Gunditjmara carry out burning practices (termed 'cultural

burns'), based on traditional ecological and cultural knowledge. Cultural burns consist of controlled, mosaic 'cool' burning of small areas carried out in low-risk weather conditions, usually in autumn and winter.

Visitor management

The *Budj Bim (Tourism) Master Plan*, which covers the whole of the Budj Bim Cultural Landscape, was prepared in 2014. It presents a vision for the conservation and sustainable use of the nominated property for cultural, touristic and community purposes.

The Budj Bim Tours, an enterprise operated by Windamara Aboriginal Corporation, provides a range of tours and other visitor experiences to the landscape. The visitor experience is in part led by a Budj Bim ranger or a Gunditjmara interpretative guide. In ICOMOS' view, this is an important part of the visitor experience, as the visitor is provided with knowledge, stories, interpretation and understanding of the cultural practices and traditional management schemes of the property.

The visitor destination areas within the nominated property generally have a moderate level of site infrastructure and access to some areas is only permitted as part of guided experiences. Six 'visitor experience areas' within the nominated property are recognised as priority precincts that support a range of visitor uses, activities, experiences and delivery of visitor programmes and services. Visitor numbers registered by the tour organizers have multiplied fivefold between 2009 and 2016, more precisely from 648 visitors to 4,000 visitors respectively. These sorts of numbers can be managed with ease but significant increases are to be expected following a World Heritage recognition of this property.

Community involvement

The community involvement in the preparation of the nomination dossier as well as in the management of the property is remarkably strong and can be considered an exemplar of good practice. More than involvement, the nomination and management arrangements are mainly led by the Gunditjmara, who also have had returned full ownership rights to large parts of the property, and access for their cultural traditions and land-use in all parts.

Evaluation of the effectiveness of the protection and management of nominated property

ICOMOS considers that at present the property is free of major threats and is well protected and managed. However, while all property components are protected at national level in terms of environmental laws, only parts of the property are formally recognized as cultural heritage sites at the highest national level. Likewise, the "special use zone" created by the two local municipalities does not completely cover the entire area of the three property components. ICOMOS recommends that the entire property be recognized in the National Heritage Register.

The strong commitment towards traditional management approaches of the Gunditjmara, implemented by the Gunditj Mirring Traditional Owners Aboriginal Corporation is an asset. However, the more formal management approaches by the national park administration are less exclusively tailored towards the needs of the Outstanding Universal Value.

ICOMOS considers that while traditional protection and management by the Gunditjmara are adequate, formal legal protection as national cultural heritage should ideally cover all property components, and the strategic management framework, or at least a collation of all relevant management tools and strategies, should be finalized.

6 Conclusion

Budj Bim Cultural Landscape is mainly owned and managed by the Gunditjmara Traditional Owners, who initiated the nomination and lead the management efforts. The nominated property provides largely intact physical evidence for one of the world's oldest and most extensive aquaculture systems, dating back to at least 6,600 years ago and based on kooyang eel harvesting and management. The property has international significance for its contribution to understanding the range and complexities of eco-cultural relationships of hunter-gatherer societies with their natural environments and resources, as well as the Gunditjmara's capacity to continue traditional practices to the present day.

The comparative analysis and justification of criteria (iii) and (v) confirm the Outstanding Universal Value of the nominated property. Whilst integrity and authenticity are also met, ICOMOS recommends that the State Party also continues studying if additional attributes might exist beyond the current boundaries of the property. Expected future water system restoration initiatives, highlighted in the Ngootyoong Gunditj Ngootyoong Mara management plan, would offer opportunities to do so. In the event that additional features are identified, ICOMOS considers that they should be protected, including through the possibility of making boundary modifications to the property.

In terms of protection and management, the traditional protection and land-management practices of the Gunditjmara are exemplary. The formal legal protection and management strategies, however, could be improved. In particular, all property components should be listed as heritage sites at the national level, be fully covered by the local 'special use zone' within the local administrative context, and be managed within the announced property-specific strategic management framework, which is to be finalized.

7 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that Budj Bim Cultural Landscape, Australia, be inscribed as a cultural landscape on the World Heritage List on the basis of **criteria (iii) and (v)**.

Recommended Statement of Outstanding Universal Value

Brief synthesis

The Budj Bim Cultural Landscape is located within the traditional Country of the Gunditjmara, an Australian aboriginal nation, in south-western Australia. It is a serial property of three components, comprising the northern component of Budj Bim, with the Budj Bim volcano and Tae Rak (Lake Condah), the central component of Kurtonitj, located approximately 5 km south along the lava flow, and the southern Tyrendarra component, bordered by the Pallawara and Killara Rivers. The Budj Bim lava flows, which connect the three components, provided the basis for a complex aquaculture system developed by the Gunditjmara, based on deliberate redirection, modification and management of waterways and wetlands to harvest Kooyang (short-finned eel, *anguilla australis*). The property presents one of the world's most extensive and oldest aquaculture networks, which has provided a six-millennia-long economic and social base for Gunditjmara society.

This deep time interrelationship of Gunditjmara cultural and environmental systems is documented through present-day Gunditjmara cultural knowledge, practices, and material culture, as well as scientific research and historical documents. It is evidenced in the aquaculture system itself and in the interrelated geological, hydrological and ecological systems. The Budj Bim Cultural Landscape is the result of a creational process narrated by the Gunditjmara as a “deep time” story. From an archaeological perspective, “deep time” refers to a period of at least 32,000 years that Aboriginal people have lived in the Budj Bim Cultural Landscape. The ongoing dynamic relationship between the Gunditjmara and their land is nowadays carried by knowledge systems retained through oral transmission and continuity of cultural practices.

Criterion (iii): The Budj Bim Cultural Landscape bears an exceptional testimony to the cultural traditions, knowledge, practices and ingenuity of the Gunditjmara. The extensive networks and antiquity of the constructed and modified aquaculture system of the Budj Bim Cultural Landscape bears testimony to the Gunditjmara as engineers and kooyang fishers. Gunditjmara knowledge and practices have endured and continue to be passed down via their Elders and are recognisable across the wetlands of the Budj Bim Cultural Landscape in the form of ancient and elaborate systems of stone-walled kooyang husbandry (or aquaculture) facilities. Gunditjmara cultural traditions, including associated storytelling, dance and basket weaving, continue to be maintained by their collective multigenerational knowledge.

Criterion (v): The Budj Bim Cultural Landscape is a rare, intact and outstanding representative example of human interaction with the environment and testimony to the lives of the Gunditjmara, documenting land modification strategies, which challenge the division of hunter-gatherer and agricultural societies. The Landscape was created by the Gunditjmara, who purposefully harnessed the productive potential of the patchwork of wetlands on the Budj Bim lava flow. They achieved this by creating, modifying and maintaining an extensive hydrological engineering system that manipulated water flow in order to trap, store and harvest kooyang that migrate seasonally through the system. Beyond the physical elements, such as channels, weirs, dams, ponds and sinkholes, holistic interaction with the environment is supported and maintained through Gunditjmara narratives and cultural traditions.

Integrity

Budj Bim Cultural Landscape includes the eight largest Gunditjmara aquaculture complexes and a representative selection of the most significant and best-preserved smaller structures. The property is free of major threats and is sufficient in size to illustrate the ways in which multiple systems – social, spiritual, geological, hydrological and ecological – interact and function. While the property contains a dense and representative collection of attributes, which are sufficient to demonstrate Outstanding Universal Value, the property might have potential for future expansion. The lava flow, basis of the water management complexes but also the narrative of creation and cultural significance to the Gunditjmara, connects the three components but continues its physical presence between and beyond these three. If future surveys and studies determine additional features located within the lava flow but outside the property boundaries, these should become included by means of a boundary modification request.

Authenticity

Authenticity of Budj Bim Cultural Landscape is based on its continuity in use and function and traditional management as well as, at times, of material, substance, location, setting and intangible cultural associations and practices. The Gunditjmara aquaculture system retains the form and functionality it has had during the last millennia in relation to the underlying lava stream, the continued functioning of the water flows, and the presence of kooyang. Despite historical interruption for much of the 20th century, the property has retained its authenticity. Recent restitution of property rights to the Gunditjmara lands' traditional owners, the refilling of Tae Rak and reestablishment of continued use of aquaculture complexes, have enhanced the condition of the property. The cooperated management approach in the Budj Bim National Park, which is not under Gunditjmara ownership, ensures that attributes retained are sustainably managed and preserved, which sufficiently demonstrates authenticity for this section of the property.

Management and protection requirements

The property enjoys legal protection at the highest national level according to the Australian Environment Protection and Biodiversity Conservation Act of 1999, and a large part of the property, about 90% of the Budji Bim component and about half of the Tyrendarra component, were listed as cultural heritage sites on the National List of Australia in 2004. It is desirable to also have the remaining parts designated on the national heritage register in the near future. This is supported by local planning schemes. Glenelg and Moyne Shires have established a 'special use zone' over parts of the Budj Bim component, including Tae Rak. The purpose of the special use zone is to provide for the development of land consistent with the protection and management of the natural and Aboriginal cultural values.

The management system is to be coordinated by the Budj Bim Cultural Landscape World Heritage Steering Committee, which will act as a communication and shared decision-making body between the local customary guardians (represented through GMTOAC, Budj Bim Council and Winda-Mara Aboriginal Corporation) and the state heritage and environmental authorities, which include the Victorian Aboriginal Heritage Council, the GMTOAC Registered Aboriginal Party and the Victorian Heritage Council, as well as the national level, here represented by the Australian World Heritage Advisory Committee.

On the ground, management is undertaken by a range of professional and service staff, employed by Parks Victoria, Aboriginal Victoria, the Department of Environment, Land, Water and Planning, the GMTOAC, and the Winda-Mara Aboriginal Corporation. Notable among the institutional management arrangements is the Budj Bim Ranger Programme, which is managed through the Winda-Mara Aboriginal Corporation and employs full-time rangers, who are mentored by Gunditjmara Elders to provide them with traditional and cultural knowledge and support. This management arrangement of Budj Bim Cultural Landscape allows on-the-ground management approaches to be guided by the traditional guardian communities in line with cultural traditions and practices.

Additional recommendations

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

- a) Continuing to undertake surveys and studies on cultural heritage features along the entire lava flow and, in cases where additional features contributing to the Outstanding Universal Value are identified outside the property boundaries, considering submitting a boundary modification to include these,
- b) Listing all property components as cultural heritage in the Australian National Heritage Register and extend the 'special use zone' established in local planning schemes to cover the property components and areas,
- c) Finalizing the property-specific strategic management framework,
- d) Augmenting the monitoring system to include indicators on the continuity or change in land management practices, youth involvement, and property valuation by the Gunditjmara guardian community;



Map showing the boundaries of the nominated property



Aerial view of Lake Condah



Aquaculture channel and pond



Netting of a kooyang (eel) in Tae Rak pools



Gunditjmara land managers placing an eel basket at Kurtonitj fish trap