Willandra Lakes Region

2020 Conservation Outlook Assessment

SITE INFORMATION

Country: Australia
Inscribed in: 1981
Criteria: (iii) (viii)

The fossil remains of a series of lakes and sand formations that date from the Pleistocene can be found in this region, together with archaeological evidence of human occupation dating from 45–60,000 years ago. It is a unique landmark in the study of human evolution on the Australian continent. Several well-preserved fossils of giant marsupials have also been found here. © UNESCO

SUMMARY

2020 Conservation Outlook

GOOD

Finalised on 02 Dec 2020

World Heritage values appear to remain well preserved and stable and while some minor concerns exist, with minor additional conservation measures the site’s values are likely to be essentially maintained over the long-term. However, the condition and trend of some of the key attributes of the Outstanding Universal Value need to be better understood. The main conservation measure required is increased feral animal control and to reduce total grazing pressure on stabilizing vegetation. Additional management action and research is needed to address the threats posed by erosion, feral animals, grazing pressure, increased visitor numbers and climate change.
FULL ASSESSMENT

Description of values

Values

World Heritage values

► Largely unmodified relic Pleistocene lake systems  
   

► Evidence of past climatic change  
   
   The Willandra Lakes contain an outstanding record of the glacial-interglacial climatic oscillations of the late Pleistocene, particularly over the last interglacial cycle commencing c.130,000 years ago, including fossil dunes and lake sediments and salinity fluctuations (IUCN, 1981; State Party of Australia, 2002; NSW Department of Environment and Conservation, 2006; NSW Department of Planning, 2010; World Heritage Committee, 2013).

► Fossil evidence of extinct marsupial species including megafauna  
   
   The Willandra Lakes Region contains fossil evidence of giant extinct marsupial species, such as the Tasmanian tiger, giant short-nosed kangaroo, Zygomaturus sp. and Genyornis sp. dating from the period when humans became dominant in Australia and the large species of wildlife became extinct. Research continues to elucidate what role humans played in these events (IUCN, 1981; State Party of Australia, 2002; NSW Department of Environment and Conservation, 2006; NSW Department of Planning, 2010; World Heritage Committee, 2013).

► Earth history  
   

Other important biodiversity values

► Threatened species  
   
   Endangered and threatened species listed under the Biodiversity Conservation Act 2016 (NSW).

Assessment information

Threats

Current Threats  

Low Threat

Total grazing pressure (from sheep, feral animals and kangaroos) and uncontrolled visitor impacts might pose a serious threat to the site. However, these threats can be controlled if sufficient resources are available on an ongoing basis.
Visitors to the national park are causing damage to the dunes and fragile sites (World Heritage Committee, 2013; NSW National Parks and Wildlife Service, 2008).

Main animals of concern are rabbits and goats. Feral animals and weeds are currently affecting the revegetation required to stabilize the landscape (World Heritage Committee, 2013; NSW National Parks and Wildlife Service, 2008; NSW National Parks and Wildlife Service, 2010; Barrett et al., 2016). Foxes and cats prey on wildlife (NSW National Parks and Wildlife Service, 2010). Goat control on the national park has been consistently applied with some success and has provided employment opportunities for family members of the three tribal groups (IUCN Consultation, 2020).

Mungo National park is a conservation area. Many Aboriginal Cultural Heritage sites are not fenced, as livestock is meant to be excluded from the National Park. However, occasional boundary incursions of livestock, and/or unauthorised access for goat poaching/mustering has the potential to damage sites (IUCN Consultation, 2020). Additionally, grazing of sheep on private leasehold property is limiting vegetation regeneration (World Heritage Committee, 2013), however stocking rates are low. Individual Property Plans have been prepared (WLRWHA IPPs 1996, 2010) with stock reduced in some areas and, in cases removed from the fragile areas (State Party of Australia, 2002; World Heritage Committee, 2013; NSW National Parks and Wildlife Service, 2016).

Grazing pressure from kangaroos limits revegetation. Research is required into optimal numbers of kangaroos to maintain vegetation cover on fragile dunes (World Heritage Committee, 2013; NSW Department of Environment and Conservation, 2006; NSW National Parks and Wildlife Service, 2010; Eldridge et al., 2017).

Accelerated erosion is occurring, and is being controlled where practical (World Heritage Committee, 2013; Barrett et al., 2016).

Proposed mining outside the WHS requiring the extraction of large volumes of water from within the WHS could have significant direct impacts on landforms and associated values. However, no recent information on the status of the project is available.

Proposed and existing small-scale mineral sand (bentonite) mining operations outside the World Heritage site requiring the extraction of large volumes of water from within the site could have significant direct impacts on landforms and associated values (State Party of Australia, 2002; World Heritage Committee, 2013).
Hunting and trapping

(Hunting of native animals)

Hunting protocols, which are to be developed with indigenous communities for Mungo NP (NSW Department of Environment and Conservation, 2006) should minimize any impacts.

Overall assessment of threats

Grazing pressure from goats and rabbits is continuing to impact on revegetation, which is affecting stabilization of the landscape. Impacts from increasing visitation is another threat which can also be controlled if sufficient resources are available on an ongoing basis. Proposed mining outside the site requiring the extraction of large volumes of water from within the site is a high potential threat which could have significant direct impacts on landforms and associated values. However, no recent information on the current status of the project is available.

Protection and management

Assessing Protection and Management

Management system

Seventy percent of the area comprises pastoral stations leased from the State and administered by Crown Lands. The remaining land contains a large part of Mungo National Park, which is managed by the NSW National Parks and Wildlife Service (NSW NPWS), both agencies are within NSW Department of Planning, Industry and Environment (IUCN Consultation, 2017). The management plan for Mungo National Park addresses values, objectives and management issues (NSW Department of Environment and Conservation, 2006). NSW NPWS is developing a strategic management plan (SMP) which will provide a high level strategic direction for the Willandra Lakes Region World Heritage Area. This will a). apply to the entirety of the WHA, and b). will then inform any replacement or amendment of the 1996 park plan of management (IUCN Consultation, 2020).

Effectiveness of management system

The area of land managed by the NSW National Park and Wildlife Service within the World Heritage site has increased from 4.2% at the time of inscription to 29.9% of the World Heritage site, following the purchase of additional properties (World Heritage Committee, 2013). Most of this area is gazetted as National Park. The remainder of the World Heritage site comprises pastoral properties (World Heritage Committee, 2013). Every three to five years condition and management effectiveness is assessed through the NSW NPWS State of the Parks program, allowing for ongoing adaptive management (IUCN Consultation, 2017).

Boundaries

Revised boundaries were approved by the World Heritage Committee in 1995 on the basis that it would better define the area containing World Heritage values (World Heritage Committee, 1995). Signage has been erected at the site’s boundaries along the main access roads acknowledging the Aboriginal Traditional Owners and the World Heritage Area (IUCN Consultation, 2020).

Integration into regional and national planning systems

The NSW Government has been working towards developing a new State Environmental Planning Policy (SEPP) for the protection and management of its natural environment. The proposed new SEPP will be a consolidated SEPP and proposes to simplify the planning rules for a number of places including the Willandra Lakes Region (Willandra Lakes Regional Environmental Plan No. 1 – World Heritage Property (2001). The Explanation of Intended Effects (October 2017) sets out the proposed updates relating to
planning arrangements for the Willandra Lakes Region (IUCN Consultation, 2020).

**Relationships with local people**

Mostly Effective

The Mungo Aboriginal Joint Management Committee and Willandra Lakes Elders Council dissolved in 2013. The Willandra Lakes Region Aboriginal Advisory Group formed in 2015 via an open, transparent community election. This Group contains representatives from each of the three tribal groups who are the traditional owners of the Country: Barkandji/Paakantyi, Mutthi Mutthi and Ngiyampaa. Members of this group also sit on the Willandra Lakes Region World Heritage Advisory Committee (NSW Department of Planning, Industry and Environment, 2020).

Members of the tribal groups are also employed on the National Park. Aboriginal people are also employed by the NSW NPWS and special grants from the Commonwealth Government fund some NPWS Aboriginal staff to work in the wider World Heritage site (NSW Department of Environment and Conservation, 2006). A new Willandra Lakes Region World Heritage Advisory Committee was appointed in 2018 and has 50% Aboriginal representation (IUCN Consultation, 2020).

**Legal framework**

Mostly Effective

The World Heritage values of the Willandra Lakes Region are protected as a matter of national environment significance under the Australian Government’s Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Any new development proposal in the World Heritage site will be subject to assessment and approval under the EPBC Act if an action is considered likely to have significant impacts on World Heritage values. 30% of the World Heritage site is protected in national parks under NSW state legislation (IUCN Consultation, 2017). 70% of the site is manged as private pastoral leases that graze sheep including dorpers (an arid-adapted sheep breed). The pastoral lands are Western Lands Leases and fall under the Crown Land Management Act 2016. Relevant legislation also includes State Heritage Register listing, NSW National Parks and Wildlife Act 1974 (WHinNSW 2010), and National Heritage listing (World Heritage Committee, 2013). A NSW Regional Environmental Plan for the World Heritage site was gazetted in 2001 and provides the statutory basis for management (State Party of Australia, 2002). The legal framework is therefore enforced through both Australian and NSW government legislation (World Heritage Committee, 2013).

**Law enforcement**

Mostly Effective

Enforcement is overall effective.

**Implementation of Committee decisions and recommendations**

Mostly Effective

A management plan for the whole area, requested by the World Heritage Committee upon listing, was finalized in 1996 (World Heritage Committee, 2013). Review of the Plan is a priority of the new Advisory Committee (IUCN Consultation, 2020).

**Sustainable use**

Some Concern

Agreement has been reached with most landholders to protect the most significant sites (State Party of Australia, 2002). There is ongoing engagement with landholders to identify significant areas and test assess past management practices (Barrett et al., 2016). Mining and associated water extraction from areas surrounding the World Heritage site has the potential to have major impacts on World Heritage values (State Party of Australia, 2002; World Heritage Committee, 2013). It is unclear whether the proposed new State Environmental Planning Policy will provide adequate protection of World Heritage values, as it is still in an early stage of development.

**Sustainable finance**

Mostly Effective

Annual funding is provided for the National Park by the NSW Government. There is some concern about on-going funding to protect World Heritage values (State Party of Australia, 2002; IUCN, 2003). On 27 September 2017 the Australian Government announced funding of AUD $330,000 per annum for five years from July 2018 to assist with management of the Willandra Lakes Region. The Australian Government funding supports a project officer role and operation of the Advisory Committee,
The site has adequate staff employed by the NSW NPWS who carry out operational and program management for the national parks portion of the site (30%) (IUCN Consultation, 2017). In addition, the site is supported by Australian Government grants that provide for four staff members to administer the advisory bodies, community programs and site conservation works (IUCN Consultation, 2017). However, the only two conservation staff employed to work on the private land portion of the World Heritage site (70%) are funded externally through a competitive grant scheme. If these positions were lost, there would be no capacity for conservation work in the private portion of the site.

Interpretive facilities included a self-guided visitor centre at Mungo National Park, a guidebook and website. Improvements in interpretive materials were completed as part of an upgrade to the visitor centre and Zanci pastoral precinct on Mungo National Park in 2010/2011. An upgraded audio-visual room was completed in 2010 and audio-visual content upgrades are ongoing (IUCN Consultation, 2020). New interpretation has been installed to educate visitors on the impact of the removal of artefacts (IUCN Consultation, 2017). Additional interpretation is being developed with the Willandra Lakes Region Aboriginal Advisory Group to showcase the significance of the Willandra Lakes Fossil Trackway site.

There is a visitor centre, visitor facilities, brochures, and self-guided and guided tours available for the national park which is the only area open to visitors in the WHS. A small commercial tourist accommodation resort is located on an adjoining property. In the early 2000s, to mitigate risk to tourists and cultural heritage the Walls of China car park was relocated and a new boardwalk and viewing platform constructed (State Party of Australia, 2002). New signage was installed at key visitor sites around the park in 2010/2011 (IUCN Consultation, 2020).

Low resolution monitoring of the World Heritage values is occurring, although on a limited scientific basis. Monitoring programs have existed in the past, but lack of dedicated resources has seen them cease. Recent efforts have been made to observe landscape change through time using satellite imagery to model broad changes in total ground cover (Barrett et al., 2016). An ongoing/ recurrent budget for site monitoring and management is considered a major requirement (State Party of Australia, 2002).

It is essential to encourage environmental research, especially in agricultural sciences and land management, as well as to continue archaeological, paleontological and geological research and the importance of the site for such purposes needs to be emphasized in its management. At the time of listing in 1981, it was noted that research strongly aligned with archaeology with a need to investigate the natural elements of the World Heritage site. This is still the trend and plans are underway to develop a research prospectus with the newly appointed Advisory Committee to address this shortfall (IUCN Consultation, 2020).

Protection and management of the site is mostly effective overall. The majority of the area comprises pastoral stations leased from the State and administered by the New South Wales (NSW) Crown Lands, Department of Planning, Industry and Environment. The remaining land contains a large part of the Mungo National Park, which has grown from 4.2% of the World Heritage site at the time of inscription to 29.9% in 2012. Improvements in funding, research and monitoring, and updating of management plans can help improve protection and management.
and research is needed to address the threats posed by erosion, feral animals, total grazing pressure, increased visitor numbers and climate change.

**Assessment of the effectiveness of protection and management in addressing threats outside the site**

Concern has been expressed that the off-site mining to the east of the site may impact significantly on the site (IUCN Consultation, 2020).

**Best practice examples**

In 2019, a large scale rabbit control programme commenced. The programme is a partnership with the NSW Local Lands Service, Willandra Landholders Alliance Landcare group and NSW National Parks and Wildlife Service, and foresees systematical mapping of rabbit warrens and sites of significance within the Willandra Lakes Region (NSW Government Local Land Services, 2019). Once Aboriginal Cultural Heritage sites are identified, a range of control options can be deployed depending on the sensitivity of the sites and terrain. The project aims to mitigate any damage to the World Heritage values and was funded by an AUD $1.2million grant through the Australian Government’s National Landcare Program.

### State and trend of values

**Assessing the current state and trend of values**

**World Heritage values**

**Largely unmodified relic Pleistocene lake systems**

Visitation is continuing to cause some inadvertent damage. Total razing pressure is continuing to impact on revegetation, which is affecting stabilization of the landscape (NSW National Parks and Wildlife Service, 2010; Barrett et al., 2016).

**Evidence of past climatic change**

The values of the site appear to be at similar levels as at the time of inscription and remain stable (IUCN Consultation, 2017).

**Fossil evidence of extinct marsupial species including megafauna**

The fossil values of the site are well-preserved and remain in good condition and stable (IUCN Consultation, 2017).

**Earth history**

The values of the site appear to be at similar levels as at the time of inscription and remain stable (IUCN Consultation, 2017).

### Summary of the Values

**Assessment of the current state and trend of World Heritage values**

World Heritage values appear to be at similar levels as at the time of inscription. The limited
information available indicates that the overall condition of the site is stable, and there have been improvements in managing visitor impacts. However, the condition and trend of some of the key attributes of the Outstanding Universal Value need to be better understood.

**Assessment of the current state and trend of other important biodiversity values**

Cats and foxes are having impacts on native species and ecological processes (NSW National Parks and Wildlife Service, 2010).

### Additional information

#### Benefits

**Understanding Benefits**

1. **History and tradition,**
   - Sacred natural sites or landscapes,
   - Cultural identity and sense of belonging

   The great antiquity and richness of Aboriginal cultural heritage has brought about a re-assessment of the deep history of Australia. The Aboriginal people of the Willandra Lakes Region take great pride in their cultural heritage and maintain their connection through modern day cultural, social, science and economic practices. The area also contains sites related to early European settlement of the area.

2. **Outdoor recreation and tourism**
   - Tourism generated by the National Park provides revenue for management of the park. It also provides income to a range of tourism providers based locally and afar.

3. **Direct employment**
   - The National Park provides a range of employment opportunities with designated positions for members of the three traditional tribal groups as well as for rangers and staff from outside the area.

#### Summary of benefits

The site has important cultural values for which it is included on World Heritage list. It is a focus for tourism in the local area which has resulted in jobs and income for local communities.

### Projects

**Compilation of active conservation projects**

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<th>Organization</th>
<th>Brief description of Active Projects</th>
<th>Website</th>
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<tr>
<td>2</td>
<td>NSW National Parks and Wildlife Service</td>
<td>Drones have recently been deployed for high resolution mapping of targeted areas. This is to monitor changes through erosion and also to assess the effectiveness of control activities such as rabbit control efforts and site conservation works.</td>
<td><a href="https://www.nationalparks.nsw.gov.au/">https://www.nationalparks.nsw.gov.au/</a></td>
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<td>3</td>
<td>NSW National Parks and Wildlife Service</td>
<td>Landsat imagery has been used annually to assess yearly changes in total ground cover to identify areas that may be more prone to erosion.</td>
<td><a href="https://www.nationalparks.nsw.gov.au/">https://www.nationalparks.nsw.gov.au/</a></td>
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## REFERENCES

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<td>1</td>
<td>Australian Government. (2012). Willandra Lakes Region Map</td>
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