IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 09 November 2017

Please note: this is an archived Conservation Outlook Assessment for Willandra Lakes Region. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Willandra Lakes Region

SITE INFORMATION

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

Site description:
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

2017 Conservation Outlook

Good

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, total grazing pressure, increased visitor numbers and climate change.

Current state and trend of VALUES

Good
Trend: Stable

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.

Overall THREATS

Low Threat

Grazing pressure from goats and rabbits are 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.

Overall PROTECTION and MANAGEMENT

Mostly Effective

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 NSW Land and Property Management Authority. The remaining land contains a large part of the Mungo National Park, which has grown from 4.2% of the property at time of inscription to 29.9% in 2012. Improvements in funding, research and monitoring, and updating of property management plans can help improve protection and management. Additional management action and research is needed to address the threats posed by erosion, feral animals, total grazing pressure, increased visitor numbers and climate change.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ **Largely unmodified relic Pleistocene lake systems**
Criterion:(viii)

The Willandra Lakes Region contains a relict lake system whose sediments, geomorphology and soils contain an outstanding record of a low-altitude, non-glaciated Pleistocene landscape, including lunettes, channels and dunes (IUCN Evaluation 1981, Periodic report 2002, Mungo NP POM 2006, WHinNSW 2010, SoOUV 2013).

▶ **Evidence of past climatic change**
Criterion:(viii)

The Willandra Lakes contain an outstanding record of the glacial-interglacial climatic oscillations of the late Pleistocene, particularly over the last 100,000 years, including fossil dunes and lake sediments and salinity fluctuations (IUCN Evaluation 1981, Periodic report 2002, Mungo NP POM 2006, WHinNSW 2010, SoOUV 2013).

▶ **Fossil evidence of extinct marsupial species including megafauna**
Criterion:(viii)

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 Evaluation 1981, Periodic report 2002, Mungo NP POM 2006, WHinNSW 2010, SoOUV 2013).

▶ **Earth history**
Criterion:(viii)

The Willandra Lakes Region contains paleontological evidence of changes in the earth's magnetic field: the Mungo geomagnetic excursion (IUCN Evaluation 1981, Periodic report 2002, Mungo NP POM 2006)

Other important biodiversity values

▶ **Threatened species**

Endangered and threatened species listed under the NSW Threatened Species Conservation Act 1995 (Mungo NP POM 2006)

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.

▶ **Tourism/ visitors/ recreation**
Low Threat
Inside site, scattered(5-15%)

Visitors to the national park are causing damage to the dunes and fragile

sites (SoOUV 2013, Mungo NP SoP, 2008)

▶ Invasive Non-Native/ Alien Species

High Threat
Inside site, widespread(15-50%)

Main animals of concern are rabbits and goats. Feral animals and weeds are currently affecting the revegetation required to stabilize the landscape (SoOUV 2013, Mungo NP SoP 2008, Mungo NP SoP 2010, Sustaining Willandra II (2016). Foxes and cats prey on wildlife (Mungo NP SoP 2010).

▶ Livestock Farming / Grazing

Low Threat
Inside site, extent of threat not known

Grazing of sheep on private property is limiting vegetation regeneration (SoOUV 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 (Periodic report 2002, SoOUV 2013, Sustaining Willandra II 2016).

▶ Hyper-Abundant Species

Very Low Threat
Inside site, scattered(5-15%)

Grazing pressure from kangaroos limits revegetation. Research is required into optimal numbers of kangaroos to maintain vegetation cover on fragile dunes (SoOUV 2013, Mungo NP POM 2006, Mungo NP SoP 2010, Eldridge et al. 2017).

▶ Erosion and Siltation/ Deposition

Low Threat
Inside site, scattered(5-15%)

Accelerated erosion is occurring, and is being controlled where practical (SP Report 1991, SoOUV 2013, Sustaining Willandra II 2016).

Potential Threats

Data Deficient

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.

► Mining/ Quarrying

Data Deficient
Outside site

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 (Periodic Report 2002, SoOUV 2013). No recent information on the status of the project is available.

► Hunting (commercial/subsistence)

Very Low Threat
Inside site, extent of threat not known

Hunting protocols, which are to be developed with indigenous communities for Mungo NP (Mungo NP POM 2006) should minimize any impacts

Protection and management

Assessing Protection and Management

► Relationships with local people

Mostly Effective

The Mungo Joint Management Committee dissolved in 2013. An Aboriginal Advisory Group wasestablished for the World Heritage Area in 2015. This Group contains representatives of the traditional tribal groups. Members of the tribal groups are also employed on the National Park. (Mungo NP Joint Management Agreement 2004, Mungo NP POM 2006). A new Willandra Lakes Region World Heritage Area Advisory Committee has been recently approved

following a restructuring of previous committees (IUCN Consultation, 2017). The new committee has yet to be appointed.

► 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 property 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 property is protected in national parks under NSW state legislation (IUCN Consultation, 2017). 70% of the property is manged as private pastoral leases that graze sheep and dorpas (a type of goat). The Pastoral Lands are Western Lands Leases and fall under the NSW Western Lands Act. Relevant legislation also includes State Heritage Register listing, NSW National Parks and Wildlife Act (WHinNSW 2010), and National Heritage listing (SoOUV 2013). A NSW Regional Environmental Plan for the WHS was gazetted in 2001 and provides the statutory basis for management (Periodic Report 2002). The legal framework is therefore enforced through both State and Commonwealth legislation (SoOUV 2013).

► Enforcement

Mostly Effective

Enforcement is overall effective.

► Integration into regional and national planning systems

Some Concern

A proposed new State Environmental Planning Policy (SEPP) requires consultation with the NSW Heritage Council before approval of an activity that will impact on World Heritage values (WHinNSW 2010).

► Management system

Mostly Effective

Seventy percent of the area comprises pastoral stations leased from the

State and administered by the NSW Department of Industry – Lands. The remaining land contains a large part of Mungo National Park, which is managed by the NSW National Parks and Wildlife Service (NPWS) (IUCN Consultation, 2017). The management plan for the Mungo national park addresses values, objectives and management issues (Mungo NP POM 2006). The Strategic Management Framework (SMF) of New South Wales will provide a high level Strategic plan for Willandra Lakes Region World Heritage Area which will update the current Plan of Management for WLRWHA, now outdated (IUCN Consultation, 2017).

► Management effectiveness

Mostly Effective

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

► 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 (SoOUV 2013). It has been stated that this plan requires review (Periodic Report 2002, IUCN 2003). Once appointed, the review of the Plan will be a priority of the new committee (IUCN Consultation, 2017).

► Boundaries

Some Concern

Revised boundaries were approved by the Committee in 1995 on the basis that it would better define the area containing World Heritage values. There are no buffer zones (Periodic Report 2002). New signage has been erected at WH boundaries (acknowledging traditional owners) (IUCN 2003).

► Sustainable finance

Mostly Effective

Annual funding is provided for the national park by the State government. There is some concern about on-going funding to protect World Heritage values (Periodic Report 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 World Heritage Area. The Australian Government funding supports an Executive Officer and Advisory Committee, and associated activities (IUCN Consultation, 2017).

► Staff training and development

Some Concern

The site has adequate staff employed by the NSW National Parks and Wildlife Service of the Office of Environment and Heritage who carry out operational and program management for the National Parks and Wildlife portion of the site (30%) (IUCN Consultation, 2017). In addition to the NSW Office of Environment and Heritage, the property is supported by 2 Australian Government grants that provide for four staff members to administer the advisory bodies, community programs and site conservation works (IUCN Consultation, 2017).

► Sustainable use

Some Concern

Agreement has been reached with most landholders to protect the most significant sites (Periodic Report 2002). There is ongoing engagement with landholders to identify significant areas and test assess past management practices (Sustaining Willandra II). Mining and associated water extraction from areas surrounding the WHS has the potential to have major impacts on WH values (Periodic Report 2002, SoOUV 2013). It is unclear whether the proposed new SEPP will provide adequate protection of WH values.

► Education and interpretation programs

Mostly Effective

Interpretive facilities included a self-guided visitor centre at Mungo NP and a guidebook, website and interactive CD-Rom. Improvements in interpretive materials proposed to be completed by June 2003 with new brochures, maps, an upgraded audio-visual room (Periodic Report 2002, IUCN 2003). New interpretation has been installed to educate visitors on the impact of the removal of artefacts (IUCN Consultation, 2017).

► Tourism and visitation management

Mostly Effective

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. However some damage was still occurring and a survey in 2002 found low levels of awareness of the WHS. As a result the car park was relocated and a new boardwalk and viewing platform constructed (Periodic Report 2002, IUCN 2003). Implementation of the national park plan will result in further improvement of information and visitor facilities (Mungo NP POM 2006).

► Monitoring

Some Concern

Monitoring is occurring, although on a limited scientific basis. An ongoing/ recurrent budget for site monitoring and management is considered a major requirement (Periodic Report 2002, IUCN 2003).

► Research

Some Concern

Research required into grazing pressures and optimum grazing numbers (Mungo NP POM 2006) does not appear to have occurred. 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.

Overall assessment of protection and management

Mostly Effective

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 NSW Land and Property Management Authority. The remaining land contains a large part of the Mungo National Park, which has grown from 4.2% of the property at time of inscription to 29.9% in 2012. Improvements in funding, research and monitoring, and updating of property management plans can help improve protection and management. Additional management action 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

Some Concern

Concern has been expressed that off-site mining may impact significantly on the site. However, no recent information on the current status of the project is available.

► Best practice examples

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State and trend of values

Assessing the current state and trend of values

World Heritage values

► Largely unmodified relic Pleistocene lake systems

Low Concern
Trend:Stable

Visitation is continuing to cause some inadvertent damage. Grazing pressure from goats and rabbits are continuing to impact on revegetation, which is

affecting stabilization of the landscape (Mungo NP SoP 2010; Sustaining Willandra II 2016).

▶ **Evidence of past climatic change**

Good
Trend:Stable

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**

Good
Trend:Stable

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

▶ **Earth history**

Good
Trend:Stable

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**

Good

Trend: Stable

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

Low Concern

Trend: Stable

Cats and foxes are having impacts on native species and ecological processes (Mungo NP SoP 2010).

Additional information

Benefits

Understanding Benefits

▶ **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 prehistory of Australia and its place in the evolution and dispersal of humans across the world. The Aboriginal people of the Willandra Region take great pride in their cultural heritage and maintain their connection through modern day cultural, social and economic practices. The area also contains sites related to early European settlement of the area.

▶ **Outdoor recreation and tourism**

Tourism generated by the national park provides revenue for management of the park. It also provides income to a nearby property which has built tourist accommodation and to the local towns.

▶ **Direct employment**

The national park provides jobs for members of the 3 traditional tribal groups as well as for rangers and staff from outside the area.

Summary of benefits

The site has important cultural values which have been included in its listing on the World Heritage list. It has regional value for conserving rare animals, and 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

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	.		Systematic recording of site condition data was initiated in 2002 with the selection of 10 locations for detailed monitoring (IUCN 2003)
2	.		NPWS have collated data on visitor numbers since 1981 through road & pedestrian counters (an average of 3.3 people per vehicle is used), vehicle surveys, and analysis of visitor book signatures (IUCN 2003)
3	.		In 1995 23 points were identified to measure the rate of erosion near burial locations (IUCN 2003)
4	.		Monitoring indicators established prior to 2002 include: (i) rangeland assessment plots (RAPs) at 11 locations; (ii) transects & photo points to monitor vegetation change; (iii) autumn studies of kangaroo populations (IUCN 2003)

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	.	Archaeological and palaeontological research will be encouraged and promoted for management decision making and broader education and interpretive purposes	

№	Site need title	Brief description of potential site needs	Support needed for following years
2	.	Encourage research into the ecological role of fire in the park, particularly the fire response of significant or threatened plant species and communities and the fire requirements of the flora and fauna they support	
3	.	Conduct visitor surveys both on park and in key regional centres to research visitor patterns, expectations and satisfaction levels	
4	.	The impacts of upstream developments/extraction on the park	
5	.	Ongoing research into the rich record of environmental changes and human response to change	
6	.	Evaluation of fire history and impacts, research and development of mallee fire ecology guidelines for fuel load management as well as biodiversity outcomes	
7	.	Survey and mapping of introduced species, and research into their ecological impacts	
8	.	Establishment of reference areas for baseline data collection and ongoing monitoring programs to measure efficacy of various management regimes for fire, weed control, threatened species recovery and total grazing pressure	
9	.	Production of a comprehensive vegetation map on NPWS GIS	
10	.	An active program aimed at the recovery of threatened Acacia species (Acacia loderi and A. melvillei) on the park, including evaluation of impacts of grazing pressure by macropods	
11	.	An evaluation of macropod densities in relation to pre European settlement levels current impacts on ecosystems and biodiversity	
12	.	A study into the distribution of artificial waters and their impacts on the park’s ecosystems and its biodiversity values	
13	.	A comprehensive survey of flora and fauna, particularly threatened species, across all vegetation types	
14	.	Collation of Aboriginal knowledge of flora and fauna	

REFERENCES

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