IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 13 November 2014

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

2014 Conservation Outlook

Good

World Heritage values appear to be at similar levels as at the time of inscription and while some minor concerns exist, especially in relation to the impacts of possible future mining on nearby lands, with minor additional conservation measures the site's values are likely to be essentially maintained over the long-term. The main conservation measure required is increased feral animal control to reduce grazing pressure on stabilizing vegetation.

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.

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.

Overall PROTECTION and MANAGEMENT

Mostly Effective

Protection and management of the WHS is mostly effective. 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 is managed jointly by the NSW National Parks and Wildlife Service (NPWS) and Traditional Tribal Groups under a Joint Management Agreement, and 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 will improve protection and management.

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 giant extinct marsupial species**
Criterion:(viii)

The Willandra Lakes Region contains fossil evidence of giant extinct marsupial species, such as the Tasmanian tiger and giant short-nosed kangaroo, 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.

▶ **Invasive Non-Native/ Alien Species**
High Threat
Inside site

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). Foxes and cats prey on wildlife (Mungo NP SoP 2010).

► Tourism/ visitors/ recreation

Low Threat
Inside site

Visitors to the national park are causing damage to the dunes and fragile sites (SoOUV 2013, Mungo NP SoP, 2008)

► Livestock Farming / Grazing

Low Threat
Inside site

Grazing of sheep on private property is limiting vegetation regeneration (SoOUV 2013), however stocking rates are low, Individual Property Plans have been prepared and stock have been removed from the most fragile areas (Periodic report 2002, SoOUV 2013).

► Hyper-Abundant Species

Very Low Threat
Inside site

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)

► Erosion and Siltation/ Deposition

Low Threat
Inside site

Accelerated erosion is occurring, and is being controlled where practical (SP Report 1991, SoOUV 2013)

Potential Threats

High Threat

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.

▶ **Mining/ Quarrying**

High Threat
Inside site
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)

▶ **Subsistence hunting**

Very Low Threat
Inside site

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**

Highly Effective

The Willandra Lakes Region World Heritage Area Consultative Committee and Community Management Council contain representatives of the Traditional Tribal Groups, local landholders, government and a peak conservation group (Periodic Report 2002, IUCN 2003). A joint management advisory committee has also been established for the national park which contains representatives of the traditional tribal groups and a local landholder, and members of the tribal groups are employed on the national park (Mungo NP Joint Management Agreement 2004, Mungo NP POM 2006).

▶ **Legal framework and enforcement**

Mostly Effective

State Heritage Register listing, NSW National Parks and Wildlife Act, Commonwealth Environment Protection and Biodiversity Conservation 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).

► 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

The management plan for the Mungo national park addresses values, objectives and management issues (Mungo NP POM 2006). There is also a non-binding property management plan that needs review and Individual Property Plans (Periodic Report 2002, SoOUV 2013).

► 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). Monitoring of management effectiveness of land outside the national park does not appear to have been undertaken.

► 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).

► 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

Funding from the Commonwealth is on an annual project basis. 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).

► Staff training and development

Some Concern

Training is provided by NSW NPWS on an ‘as needs basis’ (IUCN 2003).

► Sustainable use

Some Concern

Agreement has been reached with landholders to protect the most significant sites (Periodic Report 2002). 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 with audio-visual ‘touch-screen’ computers (Periodic Report 2002, IUCN 2003).

► Tourism and interpretation

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 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 WHS is mostly effective. 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 is managed jointly by the NSW National Parks and Wildlife Service (NPWS) and Traditional Tribal

Groups under a Joint Management Agreement, and 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 will improve protection and management.

▶ **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. Proposed new SEPP (WHinNSW 2010) is unlikely to provide additional protection.

▶ **Best practice examples**

The Advisory Committees involving the traditional tribal groups and local landholders have brought together a range of stakeholders who would not normally get together.

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).

▶ **Evidence of past climatic change**

Data Deficient
Trend:Stable

The values of the site appear to be at similar levels as at the time of

inscription.

▶ **Fossil evidence of giant extinct marsupial species**

Good
Trend:Stable

The fossil values of the site are well-preserved.

▶ **Earth history**

Good
Trend:Stable

The values of the site appear to be at similar levels as at the time of inscription.

Other important biodiversity values

▶ **Threatened species**

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

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.

▶ **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

Key conservation issues

▶ **Control of feral animals, such rabbits and goats, and weeds**
Local

Grazing feral animals and weeds impact on the natural vegetation and natural features such as the lunettes. A good vegetative cover helps prevent erosion.

▶ **Mineral sands mining and associated water extraction**
National

Proposed mining on nearby lands will directly affect the landscape and vegetative cover, resulting in increased erosion, as well as potentially requiring water from within the WHS which will affect the landscape.

▶ **Grazing of sheep**
Local

Grazing of sheep on private property, when combined with the impacts from feral animals and kangaroos, impact on the natural vegetation and natural features.

▶ **Visitor impacts**
Local

Visitors to the national park at times walk on fragile features and remove artifacts.

Benefits

Understanding Benefits

► History and tradition

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.

► Is the protected area valued for its nature conservation?

The site contains endangered and threatened animal species

► 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.

► Does management of the site provide jobs (e.g. for managers or rangers)?

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	.	Collation of Aboriginal knowledge of flora and fauna	
2	.	A comprehensive survey of flora and fauna, particularly threatened species, across all vegetation types	
3	.	A study into the distribution of artificial waters and their impacts on the park’s ecosystems and its biodiversity values	
4	.	An evaluation of macropod densities in relation to pre European settlement levels current impacts on ecosystems and biodiversity	
5	.	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	
6	.	Production of a comprehensive vegetation map on NPWS GIS	
7	.	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	

№	Site need title	Brief description of potential site needs	Support needed for following years
8	.	Survey and mapping of introduced species, and research into their ecological impacts	
9	.	Evaluation of fire history and impacts, research and development of mallee fire ecology guidelines for fuel load management as well as biodiversity outcomes	
10	.	Ongoing research into the rich record of environmental changes and human response to change	
11	.	The impacts of upstream developments/extraction on the park	
12	.	Conduct visitor surveys both on park and in key regional centres to research visitor patterns, expectations and satisfaction levels	
13	.	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	
14	.	Archaeological and palaeontological research will be encouraged and promoted for management decision making and broader education and interpretive purposes	

REFERENCES

№	References
1	Australian Government (2002) Australian National Periodic Report, Section II, Willandra Lakes Region (Periodic Report)
2	Australian Government (2012) Willandra Lakes Region Map
3	IUCN (1981) World Heritage Nomination, IUCN Technical Review (IUCN Evaluation)
4	IUCN (2003) State of Conservation of the World Heritage Properties in the Asia-Pacific Region
5	IUCN (2013) Statement of Outstanding Universal Value (SoOUV)
6	NSW Department of Environment and Conservation (2006) Mungo National Park Plan of Management (Mungo NP POM)
7	NSW Department of Planning (2010) World Heritage in NSW Discussion Paper (WHinNSW)
8	NSW National Parks and Wildlife Service (2004) Mungo National Park Joint Management Agreement 2nd Edition
9	NSW National Parks and Wildlife Service (2008) Mungo National Park State of the Parks data (Mungo NP SoP)
10	NSW National Parks and Wildlife Service (2010) Mungo National Park State of the Parks data (Mungo NP SoP)