

Lake Bindegolly National Park Management Statement 2013

Park size:	12,500ha
Bioregion:	Mulga Lands
QPWS region:	South West
Local government estate/area:	Bulloo Shire
State electorate:	Warrego

Legislative framework

✓	<i>Aboriginal Cultural Heritage Act 2003</i>
✓	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
✓	<i>Native Title Act 1993 (Cwlth)</i>
✓	<i>Nature Conservation Act 1992</i>

Plans and agreements

✓	Bonn Convention
✓	China–Australia Migratory Bird Agreement
✓	Japan–Australia Migratory Bird Agreement
✓	Republic of Korea–Australia Migratory Bird Agreement

Thematic strategies

✓	Level 2 fire management strategy
✓	Level 2 pest management strategy

Vision

Lake Bindegolly National Park will be managed to conserve the quality and integrity of the representative mulga land ecosystems it contains including a series of permanent and ephemeral salt and freshwater wetlands. These habitats provide an important refuge for threatened flora and fauna, and migratory and non-migratory water birds in an arid part of Queensland.

Conservation purpose

The park was established in 1991 to protect the *Acacia ammophila*, a tree species listed as vulnerable under both the Queensland *Nature Conservation Act 1992* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The species grows along the sand dunes fringing the eastern side of the lakes in the park, which is the location of one of two known populations of the species.

The lakes also play an important role in supporting migratory bird species recognised under the *Environment Protection and Biodiversity Conservation Act 1999* due to listing in international treaties. The lake system forms part of an inland route for migratory birds and provides important habitat for the near threatened freckled duck *Stictonetta naevosa*. Lakes Bindegolly and Toomaroo within the park are recognised as being of national significance in the Directory of Important Wetlands in Australia.

Protecting and presenting the park's values

Landscape

Lake Bindegolly National Park is located in South West Queensland, approximately 1,100km west of Brisbane within the Bulloo catchment. The park is located in the mulga lands bioregion, and is characterised by a diverse range of habitats including samphire flats, claypans, sand dunes, hard and soft red mulga country, gidgee woodlands and *Eremophila* shrublands. It is surrounded by sheep and cattle grazing properties. An oil pipeline with a 40m easement bisects the park, passing through Lake Toomaroo in the north.

Three large lake systems (lakes Hutchinson, Toomaroo and Bindegolly) and an aggregation of small ephemeral lakes dominate the park's landscape, which are known locally as the Dynevor Lakes. These lakes occur in a closed catchment system, that anecdotally only flows into the Paroo River system in extreme flood events. The lakes and associated swamp areas are an important source of water in an arid region and an important drought refuge for waterbirds. The wetlands have diverse characteristics—being permanent or ephemeral; and fresh, brackish or saline in nature.

Regional ecosystems

Eight regional ecosystems are conserved in Lake Bindegolly National Park, of which three are considered of concern at the present time (Table 1). Two of the of concern regional ecosystems, 6.3.10a and 6.3.11b, are closely associated with wetland areas on the park which include claypans, vegetated swamps and lake areas that run the entire length of the park from north to south.

Most of the park consists of dunefields and sand plains supporting budda *Eremophila sturtii* and sticky hopbush *Dodonaea viscosa* subsp. *angustissima* shrublands. Samphire low shrublands and herbfields occur on the lake margins and adjacent alluvial plains, with undulating hills and plains and low hills supporting a variety of mulga *Acacia aneura* communities.

Native plants and animals

Lake Bindegolly National Park supports large populations of eastern grey *Macropus giganteus* and red kangaroos *M. rufus*. Western grey kangaroos *M. fuliginosus*, wallaroos *M. robustus*, dunnarts *Sminthopsis* spp. and echidnas *Tachyglossis aculeatus* have also been seen on the park, with more than 22 species of mammals recorded. Other fauna recorded include 40 species of reptile, 14 species of frog and 205 species of bird.

As well as supporting large populations of the freckled duck *Stictonetta naevosa*, other aquatic bird species recorded include blue-billed ducks *Oxyura australis*, musk ducks *Biziura lobata* and banded stilts *Cladorhynchus leucocephalus*. The lakes are also important breeding sites for black swans *Cygnus atratus*; and provide valuable habitat for migratory waders such as sharp-tailed sandpipers *Calidris acuminata* and red-necked stints *Calidris ruficollis*. Other birds of note recorded on the park include blue-winged parrots *Neophema chrysostoma*, peregrine falcons *Falco peregrinus*, Major Mitchell's cockatoo *Lophochroa leadbeateri* and black-breasted buzzards *Hamirostra melanosternon*.

The park also protects the largest known population of *Acacia ammophila*, a tree species listed as vulnerable under both Queensland and Commonwealth legislation. The species has increased in numbers since the removal of grazing from the park. Seedlings are however threatened by severe drought.

Aboriginal culture

Lake Bindegolly National Park is part of the traditional country of the Budjiti people. The area served as an important drought refuge, has hunting and gathering sites and convergence sites for Aboriginal groups moving through the area. The large wetland areas were considered a reliable source of food, water and stone tool materials. A native title claim is currently active over the park and awaits determination (claim no: QC07/002; Federal Court no: QUD53/07).

The park contains good examples of tools and hearths. The location of Aboriginal places in relation to water, vegetation and soil types is considered representative of western Queensland landscapes. Potential exists for materials to be lost through vandalism and souveniring, but there are no records of this occurring on the park.

Some knowledge and connection to the area remains with local Traditional Owners, but there is potential to further re-establish ties with the park. The involvement of Traditional Owner groups will form an important component of all management and interpretive activities.

Shared-history culture

The park contains relics that demonstrate pastoral practices of early settlers and graziers in the area including examples of early stock-handling yards, fencing, camps and survey sites/trees from 1890s. Copies of old survey maps are also held by Queensland Parks and Wildlife Service (QPWS). These values are under little threat except from natural weathering processes and the potential of fires.

Tourism and visitor opportunities

Lake Bindegolly National Park offers visitors the opportunity to enjoy recreational activities such as bushwalking and nature photography in a reasonably remote and largely undisturbed arid landscape. It is easily reached by two-wheel drive and is beside a sealed road close to Thargomindah. The park has abundant bird life and is popular with bird-watchers and those interested in nature observation. A small number of commercial operators use the park.

The park is a day-use area with no public vehicle access through the park. Even though current visitor numbers are low, problems with waste disposal, particularly toilet waste, are evident, especially in areas close to the lake's edge. Other problems that may accompany increased visitor numbers include the accumulation of rubbish and damage to trees. The low dune systems and samphire flats of the park are particularly fragile, as are the soils which are easily erodible. Even low levels of vehicle traffic on these areas causes significant disturbance—one vehicle traverse can leave a permanent scar.

Education and science

Education and research opportunities within the park are numerous. These include studies on the ecology of *Acacia ammophila* (monitored since 1995) and other uncommon or biogeographically important species; ecology and population dynamics of waterbirds—Birds Australia has maintained yearly records of wader populations; the geomorphology and limnology of the lakes system; re-vegetation and changes in vegetation composition after de-stocking (which occurred in 2002); and other ecological studies relating to the mulga lands.

Researchers from Newcastle University, University of Queensland, Griffith University and Southern Cross University have permits and study sites on the park. Information obtained from this research is useful in guiding future park management.

Partnerships

Partnerships between state and local governments, organisations and leaseholders that utilise land in or surrounding the park are needed to ensure the values and benefits of the wetlands systems and other ecological features contained within the park are recognised and managed appropriately.

Other key issues and responses

Pest management

Pest plants of major concern include Bathurst burr *Xanthium spinosum*, Mexican poppy *Argemone mexicana* and noogoora burr *Xanthium occidentale*. Noogoora burr is the primary threat to wetland integrity. Pest plant populations are generally low but increases are likely during the wet season and after rains events, through runoff from adjacent upstream properties and grazing areas. An oil pipeline and its maintenance track which traverses the park through the narrowest part of Lake Toomaroo, in the northern part of the park, is a potential source of weeds.

The major pest animal species found on the reserve include foxes *Vulpes vulpes*, cats *Felis catus*, rabbits *Oryctolagus cuniculus*, pigs *Sus scrofa*, goats *Capra hircus* and European honey bees *Apis mellifera*. Pigs, foxes and cats prey on waterbirds, particularly during breeding times, and pigs also cause significant damage to fragile lake shores, wetland areas and waterbird nesting sites. Grazing habits of goats and rabbits can impact on plant growth and survival, and can be detrimental to the regeneration of the threatened species *Acacia ammophila*. The park is fully fenced and mostly stock-free, although incursions do occur.

Pest animals pose a moderate but continuing threat to wildlife and the park's ecosystems but the level of control is currently adequate and successful in reducing pest numbers. A monitoring program for feral animal incidence and control is in place. Current management strategies include trapping, shooting and baiting. Feral animal numbers, especially of pigs, are likely to increase during wet years, so continual vigilance in control is essential.

Fire management

Fire has not been recorded on the park since 1952 and the low fuel loads during drought periods make burning difficult. The potential role of fire on the wetlands and other ecosystems within the park needs further investigation. However, local research conducted on the germination requirements of *Acacia ammophila* has determined that fire is not necessary for the propagation of this species.

Other management issues

In the past the park was heavily grazed but it is recovering slowly since the park was destocked in 2002. After years of grazing exclusion and vegetation monitoring it provides a useful model and benchmark for mulga lands and wetland management for the local grazing community.

An oil pipeline, installed in 1986, with a 40m easement through Lake Toomaroo (in the north) traverses the park. Where the pipeline crosses natural drainage channels, erosion problems occur, particularly on the western side of the park. The pipeline owner manages erosion occurring along the pipeline. While no oil spills have occurred, any spill would have serious consequences and cause ecological impacts on the park.

Management directions

Desired outcomes	Actions and guidelines
<p>Native plants and animals</p> <p>The integrity of flora and fauna communities and species are improved or maintained .</p> <p>Knowledge of the plant communities and species is increased to assist their conservation.</p>	<p>A1. Encourage and support research into and monitoring of the distribution, abundance and habitat condition of species of conservation significance and use findings to adapt park management where appropriate.</p>
<p>Aboriginal culture</p> <p>Aboriginal cultural values of the park are identified and protected.</p>	<p>A2. Encourage Traditional Owners to participate in management of the national park; including the documentation, mapping and conservation of places of Aboriginal cultural significance.</p>
<p>Tourism and visitor opportunities</p> <p>Visitor vehicle use will not impact on the values of the park.</p> <p>Information is provided to the visitor to improve knowledge of the park's natural and cultural resources.</p>	<p>A3. Maintain the existing walking track to its current standard.</p> <p>A4. Assess requests and demand for new nature-based recreational opportunities as they arise (including bird hides).</p> <p>A5. Seek capital funding for the construction of toilet facilities for the increasing visitor demand and subsequent impacts.</p> <p>A6. Provide visitor information at the car park shelter to increase visitor awareness of the park's geological, biological and cultural heritage processes, birdlife and specific park management practices.</p> <p>A7. Continue to exclude camping from the park due to the fragile nature of the landscape.</p> <p>A8. Limit disturbance to bird colonies and other sites of ecological or cultural significance through visitor management and education.</p> <p>A9. Manage vehicle access for official purposes and permitted researchers. This includes driving being allowed on areas with stable soils only and monitoring for signs of degradation.</p>
<p>Pest management</p> <p>Effective pest management is implemented to reduce impacts on natural values of the park.</p>	<p>A10. Maintain holding yards (near Lake Toomaroo and on the western boundary) of the park for use in mustering and removal of stock and feral goats.</p>

Tables – Conservation values management

Table 1: Endangered and of concern regional ecosystems

Regional ecosystem number	Description	Biodiversity status
6.3.10	<i>Halosarcia</i> spp. open succulent shrubland on alluvium	Of concern
6.3.11	<i>Eleocharis pallens</i> +/- short grasses +/- <i>Eragrostis australasica</i> open herbland on clays, associated with ephemeral lakes, billabongs and permanent waterholes	Of concern
6.6.1	<i>Atalaya hemiglauca</i> +/- <i>Acacia aneura</i> +/- <i>Acacia</i> spp. +/- <i>Corymbia terminalis</i> tall open shrubland on low dunes over alluvium	Of concern

Table 2: Species of conservation significance

Scientific name	Common name	Nature Conservation Act 1992 status	Environment Protection and Biodiversity Conservation Act 1999 status	Back on Track status
Plants				
<i>Acacia ammophila</i>	-	Vulnerable	Vulnerable	Low
<i>Ptilotus pseudohelipteroides</i>	-	Near threatened	-	Low
Animals				
<i>Chalinolobus picatus</i>	little pied bat	Near threatened	-	Medium
<i>Lophochroa leadbeateri</i>	Major Mitchell's cockatoo	Vulnerable	-	High
<i>Lophoictinia isura</i>	square-tailed kite	Near threatened	-	Low
<i>Rostratula australis</i>	Australian painted snipe	Vulnerable	Vulnerable	Medium
<i>Stictonetta naevosa</i>	freckled duck	Near threatened	-	Low

Table 3: Species listed in international agreements

Scientific name	Common name	Bonn	CAMBA	JAMBA	ROKAMBA
<i>Acrocephalus australis</i>	Australian reed-warbler	✓	-	-	-
<i>Ardea modesta</i>	eastern great egret	-	✓	✓	-
<i>Arenaria interpres</i>	ruddy turnstone	✓	✓	✓	✓
<i>Calidris acuminata</i>	sharp-tailed sandpiper	✓	✓	✓	✓
<i>Calidris ferruginea</i>	curlew sandpiper	✓	✓	✓	✓
<i>Calidris ruficollis</i>	red-necked stint	✓	✓	✓	✓
<i>Calidris subminuta</i>	long-toed stint	✓	✓	✓	✓
<i>Charadrius veredus</i>	oriental plover	✓	-	✓	✓
<i>Chlidonias leucopterus</i>	white-winged black tern	-	✓	✓	✓
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	-	✓	-	-
<i>Hirundapus caudacutus</i>	white-throated needletail	-	✓	✓	✓
<i>Hydroprogne caspia</i>	Caspian tern	-	✓	✓	-
<i>Limosa limosa</i>	black-tailed godwit	✓	✓	✓	✓
<i>Merops ornatus</i>	rainbow bee-eater	-	-	✓	-
<i>Plegadis falcinellus</i>	glossy ibis	✓	✓	-	-

Scientific name	Common name	Bonn	CAMBA	JAMBA	ROKAMBA
<i>Pluvialis fulva</i>	Pacific golden plover	✓	✓	✓	✓
<i>Tringa glareola</i>	wood sandpiper	✓	✓	✓	✓
<i>Tringa nebularia</i>	common greenshank	✓	✓	✓	✓
<i>Tringa stagnatilis</i>	marsh sandpiper	✓	✓	✓	✓

Bonn – Bonn Convention

CAMBA – China–Australia Migratory Bird Agreement

JAMBA – Japan–Australia Migratory Bird Agreement

ROKAMBA – Republic of Korea–Australia Migratory Bird Agreement