

# Muundhi (Jack River) National Park (Cape York Peninsula Aboriginal Land)

**Management Statement**

2013

Prepared by: **Queensland Parks & Wildlife Service (QPWS), Department of Environment, Science and Innovation**

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*The department is committed to respecting, protecting, and promoting human rights, and our obligations under the Human Rights Act 2019.*

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The Jack River National Park Management Statement 2013 has been extended in 2024 in line with the Queensland *Nature Conservation Act 1992* (s120G). Minor amendments have been made, including acknowledgement that the estate is now named Muundhi (Jack River) National Park (Cape York Peninsula Aboriginal Land) (gazetted November 2013). There has been no change to the plan's original management intent and direction.

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Park size:	164,800ha
Bioregion:	Cape York Peninsula
QPWS region:	Northern
Local government estate/area:	Cook Shire
State electorate:	Cook

**Legislative framework**

✓	<i>Aboriginal Cultural Heritage Act 2003</i>
✓	<i>Aboriginal Land Act 1991</i>
✓	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
✓	<i>Land Protection (Pest and Stock Route Management) Act 2002</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

Throughout the Muundhi (Jack River) National Park (Cape York Peninsula Aboriginal Land) Management Statement 2013 (this document) the term 'Muundhi (Jack River) National Park (CYPAL)' is used to refer to the protected area estate (gazetted 29 November 2013 under the *Nature Conservation Act 1992*).

## Vision

Muundhi (Jack River) National Park (Cape York Peninsula Aboriginal Land) (CYPAL) is managed to conserve its natural and cultural values, with particular emphasis on maintaining the quality and integrity of its wetland systems.

The aspirations and cultural responsibilities of the Traditional Owners is recognised and reflected in park management.

Muundhi (Jack River) National Park (CYPAL) is transferred to Aboriginal freehold under the *Aboriginal Land Act 1991* and jointly managed in perpetuity by the Queensland Parks and Wildlife Service (QPWS) and the relevant Aboriginal land trusts.

## Conservation purpose

Muundhi (Jack River) National Park (CYPAL) was conserved in 2005 to protect most of the Jack Lakes wetlands, with the exception of the Top Lake. The Jack Lakes Aggregation is the most extensive permanent lake system in the Laura Basin, south-eastern Cape York Peninsula.

## Protecting and presenting the park's values

### Landscape

Muundhi (Jack River) National Park (CYPAL) is located north-north-west of Cooktown in the Laura Basin catchment. Most of the property drains into the Normanby River. Landscape features include Jack Lakes, located in the park's west, and Jack River which runs through the middle of the park.

Two nationally significant wetland areas, the Jack Lakes Aggregation and the Marina Plains - Lakefield Aggregation, occur in the south-western section and to the west of the park. Both of these wetlands are listed and described in the Directory of Important Wetlands in Australia. Jack River flows south-east into the Normanby River, and then flows north to Princess Charlotte Bay and the Coral Sea. It is yet to be confirmed whether the park is a recharge area for the Laura Basin.

Mountainous terrain dominates the park's south east. Alluvial fans occur in the north east and south. Numerous watercourses criss-cross the park to form ephemeral wetlands.

The larger lakes occur primarily in the north west. Birdlife is abundant around these lakes when they hold water. Pigs root around the edges of the lakes, eat frogs and the bulbs of lilies, and increase the turbidity of the water.

Muundhi (Jack River) National Park (CYPAL) is adjoined by Rinyirru (Lakefield) National Park (Cape York Peninsula Aboriginal Land) to the west; Kalpowar Aboriginal Land, Wakooka Aboriginal Land and Cape Melville National Park to the north; Starcke National Park to the east and Melsonby (Gaarraay) National Park and Gaarraay Aboriginal Land to the south. State land dealings may further increase the amount of adjacent conservation land.

The park was grazed until the 1960s to 1970s. Pest plants occur along drainage flats in areas where cattle were intensively grazed.

Some fires entering the park from adjacent lands can reduce the effectiveness of the QPWS planned burning programs by changing the fuel structure and causing high-intensity and damaging fires in vulnerable ecosystems; while others complement conservation outcomes.

## Regional ecosystems

Forty-six regional ecosystems are mapped within Muundhi (Jack River) National Park (CYPAL). Some of these are unique variants on the more widespread regional ecosystem types. Six are of concern communities (Table 1). The remaining ecosystems are not of concern at present.

Vegetation communities on the park are very heterogeneous and as such change quickly. The park supports swampy areas with *Melaleuca*, heath, elevated areas with scarlet gums *Eucalyptus phoenicea*, a mosaic of eucalypt woodlands primarily on sandstones and spectacular wetlands in the western half of the park. Small patches of vine thicket and rainforest occur in the north-eastern extremities of the park.

Jack River and the associated downstream riparian forest support a distinct vegetation type not found anywhere else within the Jack Lakes area. At the confluence of Jack River and the drainage channels of the lower lakes, melaleuca-dominated vegetation meets riparian evergreen notophyll vine forest. The contiguousness of these two significantly different habitat types is unusual (CYMAG Environmental 2009).

The dissected and rugged sandstone ridges and valleys which occur in the eastern half of the park range in elevation from 50 metres (m) to 420m and have numerous rocky outcrops. Scarlet gum, which is only known to occur on the sandstones of the Laura Basin and in the Northern Territory, occurs throughout the park.

Eucalypt woodlands appear to be in healthy condition. Vine thickets are generally found on more fertile soils in valleys protected from fire. Cattle *Bos* sp. and pest plants are evident within ecotone areas adjoining these vine thickets.

In the south west of the park, melaleuca woodlands to open woodlands occur on a variety of different substrates. Feral pigs *Sus scrofa* dig up bulbs and roots in some areas.

## Native plants and animals

Muundhi (Jack River) National Park (CYPAL) is currently known to protect seven species of state or national conservation significance (Table 2), and 10 species which are listed in international agreements (Table 3).

Many rare, threatened and endemic species, including the bare-rumped sheath-tail bat *Saccolaimus saccolaimus nudicluniatu*s and grey goshawk *Accipiter novaehollandiae*, have been recorded from the area.

The following species have specific management actions identified through the:

- Action Plan for Australian Bats 1999—bare-rumped sheath-tail bat and eastern long-eared bat *Nyctophilus corbeni*
- The Action Plan for Australian Birds 2010—black-necked stork *Ephippiorhynchus asiaticus* and radjah shelduck *Tadorna radjah*.

Few small mammals and reptiles have been recorded from Muundhi (Jack River) National Park (CYPAL). It is suspected that this may reflect the fact that the entire area floods annually.

A suite of aquatic macrophytes including *Aponogeton elongatus*, *A. queenslandicus*, *Astonia australiense* and *Vallisneria gracilis* are plants species of conservation significance within the Jack Lakes system (CYMAG Environmental 2009).

In terms of abundance and diversity, Jack Lakes appears to be a hotspot for flying insects of the order Diptera such as flies and mosquitoes. Less flying insects tend to occur around wetlands with the greatest pig impact and water turbidity (CYMAG Environmental, 2009)

CYMAG Environmental (2009) indicates that the Jack Lakes system may represent a significant ecological resource and resting reserve for migrant shorebirds, noting that disturbance to feeding, nesting and in particular to migrant birds, would be detrimental to the lakes as an avifaunal reserve.

Few surveys have occurred on the park and very little collection work has been conducted.

## Aboriginal culture

Places of cultural significance to the Traditional Owners are known by QPWS to exist on Muundhi (Jack River) National Park (CYPAL).

Native Title determination application QC97/048 exists over the entirety of the park. An Indigenous Land Use Agreement (QI2005/028) also covers the entire park.

Currently, no formalised management arrangements have been established with the Traditional Owners of the area.

Subject to successful negotiation with Traditional Owners, the park is identified for future transfer to Aboriginal ownership under the *Aboriginal Land Act 1991*. A joint management regime will be established under the framework provided by the *Nature Conservation Act 1992* for the Cape York Peninsula Region.

## Shared-history culture

European explorers travelled into the region from the 1840s. In the 1870s the Palmer River gold rush brought large numbers of non-Aboriginal people into nearby areas.

The area now gazetted as Muundhi (Jack River) National Park (CYPAL) was part of the Kalpowar Pastoral Holding Lease from the mid 1900s. Remains of pastoral infrastructure such as Jack and Jenny's stockyards are reminders of this history.

Bores belonging to the old Kalpowar Station have been decommissioned.

## Tourism and visitor opportunities

Muundhi (Jack River) National Park (CYPAL) is a remote park with no visitor facilities or other departmental infrastructure. The key visitor attraction within the park is Jack Lakes and its associated wildlife. Birdlife on the lakes is most prolific during the wet season and early dry season.

The park is only accessible during the dry season, generally between May and November. On-ground management is also limited to this period.

Most of Muundhi (Jack River) National Park (CYPAL) is inaccessible by vehicle. Eastern areas of the park are very rugged and the landscape is suited to hiking by experienced bushwalkers. Access for four-wheel drive vehicles can be gained to the western section of the park.

Few people currently use the park. A group of Vietnam veterans have a camp on the Kennedy River and occasionally travel to Jack Lakes to camp. It is assumed that other local residents and Traditional Owners also occasionally access this site for camping.

Given the park's remote location, people using the park should be adequately experienced and prepared.

## Education and science

Knowledge gained from research and monitoring programs improves staff knowledge and guides future park management, and is an integral part of adaptive park management. Given the natural and cultural significance of the park, collation of existing information and ongoing monitoring and survey work should be a priority.

## Partnerships

QPWS staff maintain working relationships with neighbouring properties, Aboriginal Land Trusts and the Cape York Marine Advisory Group to ensure protected area values are appropriately managed. Nearby QPWS management units occasionally assist with park projects.

It is important for QPWS staff to continue to establish and maintain working relationships with the neighbouring Land Trusts to cooperatively manage fire.

Where possible, park staff share knowledge and observations with nature refuge officers.

## Other key issues and responses

### Pest management

#### Pest plants

Pest plants on Muundhi (Jack River) National Park (CYPAL) appear to be largely confined to areas that were previously intensively grazed such as around old stock yards and on the edge of vine thickets where cattle used to shelter and along some drainage lines.

A number of pest plants including Chinese burr *Triumfetta rhomboidea*, urena burr *Urena lobata* and hyptis *Mesosphaerum suaveolens* have been observed at Jack Lakes.

The CYMAG Environmental report (2009) identifies grader grass *Themeda quadrivalvis* as a high threat to the area and rubber vine *Cryptostegia grandiflora*, a class 2 declared pest plant and weed of national significance (WONS) as having a high potential to become established in disturbed areas, particularly where cattle impacts are prevalent. Potential also exists for sicklepod *Senna obtusifolia* (Class 2 declared pest plant) to be transported on vehicles from Kalpowar Station into the park.

#### Pest animals

Cattle and pig activity has reduced the grass and sedge communities around the wetland margins and shallow areas. Their impacts have also increased sediment re-suspension and increased water turbidity (CYMAG Environmental 2009)

The shores of all lakes readily accessible to cattle *Bos* spp. and pigs *Sus scrofa* are being deeply trodden and rooted up as water levels fall. When this mud is sun-dried, it cannot be probed by birds foraging in the wet zone of the lake shores and limits the ability of aquatic plants to germinate (CYMAG Environmental 2009)

Pigs have also been observed in the 'channel country' to the east of Jack Lakes. It is assumed that they impact wetter areas throughout the entire park.

Feral cattle and feral horses *Equus caballus* have been observed in the western section of the park. Their impacts

are mostly evidenced by compacted areas around heavily used wetlands. In softer areas, their hoof prints can extend out from the water edge for several metres. It is assumed that they are also impacting wetland plants.

Boundary fencing is in place on the park's southern boundary with Mount Jack Holding.

Cane toads *Rhinella marina* are widespread across the lakes in the north west of the park. The northern laughing tree frog *Litoria rothii* is considered seriously at risk of being poisoned by cane toads (CYMAG Environmental 2009). Other species identified by CYMAG Environmental (2009) as 'probably' at risk from cane toads include the ornate burrowing frog *Platyplectrum ornatum*, red tree frog *Litoria rubella*, slaty-grey snake *Stegonotus cucullatus*, black bittern *Ixobrychus flavicollis* and blue-winged kookaburra *Dacelo leachii*.

## **Fire management**

QPWS staff manage fire on Muundhi (Jack River) National Park (CYPAL) primarily through the use of aircraft.

Late season wildfires after big wet seasons have the potential to burn the whole park at one time, due to the large amount of cured fuel. This could significantly alter habitat and threaten ecosystems.

## **Other issues management**

### **Safety**

Muundhi (Jack River) National Park (CYPAL) presents many safety hazards for park visitors and park managers, especially in steep and isolated gorge environments. Potential exists for interactions with dangerous wildlife and from other natural hazards.

## **References**

CYMAG Environmental Incorporated 2009, Jack Lakes Wetlands Biodiversity Assessment, November 2007 and June 2008. [www.cymag.com.au](http://www.cymag.com.au)

Reside AE, van der Wal J and Kutt AS 2012, Projected changes in distributions of Australian tropical savanna birds under climate change using three dispersal scenarios, *Ecology and Evolution*, Vol. 2 (4), pp. 1–14.

## Management directions

Desired outcomes	Actions and guidelines
<p><b>Landscape</b></p> <p>The health and diversity of plant and animal communities on the protected areas are maintained.</p> <p>The health and integrity of the park's wetlands are maintained.</p>	<p>Maintain habitat heterogeneity and ecosystem health through appropriate burning regimes and pest programs.</p> <p>Liaise with park neighbours and relevant catchment groups with respect to the control of pest plants external to the park, especially with respect to species that have the potential to significantly impact on the park's wetland values.</p> <p>Improve knowledge and understanding of the park's natural resources to enhance management effectiveness.</p>
<p><b>Native plants and animals</b></p> <p>Critical habitat for species of conservation significance is protected.</p>	<p>Implement fire and pest programs that aid the protection of critical habitat for species of conservation significance such as bare-rumped sheath-tailed bat.</p>
<p><b>Aboriginal culture</b></p> <p>Muundhi (Jack River) National Park (CYPAL) is jointly managed by the Traditional Owners and QPWS and the partners have a strong collaborative working relationship.</p>	<p>Establish and implement a formal joint management regime with Traditional Owners under the statutory framework provided by the <i>Nature Conservation Act 1992</i> and the <i>Aboriginal Land Act 1991</i> for the Cape York Peninsula Region.</p> <p>Following formal establishment of joint management arrangements, work with the Traditional Owners to protect sites and places of particular cultural significance.</p> <p>Maintain cooperative working relations with nearby land trusts to maximise management effectiveness of Muundhi (Jack River) National Park (CYPAL) and adjacent traditional country.</p> <p>Improve knowledge and understanding of the park's cultural resources.</p>
<p><b>Shared-history culture</b></p> <p>Sites of cultural and historical significance are appropriately protected and presented.</p>	<p>Allow relics of pastoral history to deteriorate naturally, where they have no feasible management use or other significance.</p>
<p><b>Tourism and visitor opportunities</b></p> <p>Muundhi (Jack River) National Park (CYPAL) offers a range of recreational opportunities which are appropriate to the remote character of the park.</p>	<p>Provide bushcamping opportunities in the Jack Lakes area.</p> <p>In consultation with relevant Traditional Owner groups, determine the appropriateness of allowing visitor use of sites of material culture and places of spiritual significance.</p> <p>Emphasise the hazards and risks presented by the natural environment, the need for visitors to be self-sufficient and to take appropriate precautions before and during park visits in written materials relating to the park.</p>
<p><b>Education and science</b></p> <p>Research and monitoring programs increase understanding of park values and provide information to improve management decisions.</p>	<p>Identify information gaps and identify natural and cultural research opportunities for the park.</p> <p>Support research activities where demonstrated benefits to the management of the park exist.</p>
<p><b>Partnerships</b></p> <p>Park staff maintain good working relationships with community partners and other stakeholders.</p>	<p>Establish and maintain a good working relationship with neighbouring property owners including nature refuge holders, adjoining Aboriginal Land Trusts and neighbouring landholders and, where possible, cooperatively undertake fire and pest management programs.</p>
<p><b>Pest management</b></p> <p>The integrity of native plant and animal communities is maintained by coordinating pest management across the landscape.</p>	<p>Focus vertebrate pest control activities on species which pose the greatest threat to the park's wetland values, namely feral pigs, feral cattle and, to a lesser degree, feral horses.</p> <p>Progressively fence the park boundary to reduce the impacts of stray stock wandering on the park.</p> <p>Focus pest plant management around transport corridors, with particular emphasis on eradicating pest plants that threaten the integrity of the park's wetland systems.</p> <p>Implement pest plant hygiene measures.</p>
<p><b>Fire management</b></p> <p>The natural biological diversity and integrity of native plant and animal communities on the park is promoted.</p>	<p>Minimise impacts from late season, large-scale and high intensity fires by implementing suitable fire regimes with relation to the frequency, intensity and timing of burns for natural communities and populations within the park.</p> <p>Coordinate planned burns with neighbouring properties where possible.</p>



## Tables – Conservation values management

**Table 1: Of concern regional ecosystems**

Regional ecosystem number	Description	Biodiversity status
3.3.66a	Permanent lakes and lagoons, frequently with fringing woodlands or sedgeland	Of concern
3.5.20	Simple evergreen notophyll vine forest with <i>Eucalyptus pellita</i> on sandstone plateaus	Of concern
3.5.30	<i>Themeda arguens</i> , <i>Dichanthium sericeum</i> closed tussock grassland on low undulating rises	Of concern
3.5.58	<i>Austeromyrtus lysicephala</i> , <i>Thryptomene oligandra</i> open heath on pediment fans	Of concern
3.10.5	Deciduous notophyll/microphyll vine thicket ± <i>Gyrocarpus americanus</i> on sandstone hills	Of concern
3.10.7	<i>Eucalyptus phoenicea</i> ± <i>Corymbia nesophila</i> woodland on wetter sandstone	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
<b>Plants</b>				
<i>Dendrobium bigibbum</i>	Cooktown orchid	Vulnerable	Dendrobium bigibbum	Cooktown orchid
<b>Animals</b>				
<i>Accipiter novaehollandiae</i>	grey goshawk	Near Threatened	-	Low
<i>Crocodylus porosus</i>	estuarine crocodile	Vulnerable	-	Low
<i>Ephippiorhynchus asiaticus</i>	black-necked stork	Near Threatened	-	Low
<i>Nyctophilus corbeni</i>	eastern long-eared bat	Vulnerable	Vulnerable	Medium
<i>Saccolaimus saccolaimus nudicluniatu</i>	bare-rumped sheath-tail bat	Endangered	Critically Endangered	High
<i>Tadorna radjah</i>	radjah shelduck	Near Threatened	-	Low

**Table 3: Species listed in international agreements**

Scientific name	Common name	BONN	CAMBA	JAMBA	ROKAMBA
<i>Ardea ibis</i>	cattle egret	-	✓	✓	-
<i>Ardea modesta</i>	eastern great egret	-	✓	✓	-
<i>Calidris acuminata</i>	sharp-tailed sandpiper	✓	✓	✓	✓
<i>Calidris ruficollis</i>	red-necked stint	✓	✓	✓	✓
<i>Crocodylus porosus</i>	estuarine crocodile	✓	-	-	-
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	-	✓	-	-
<i>Merops ornatus</i>	rainbow bee-eater	-	-	✓	-
<i>Plegadis falcinellus</i>	glossy ibis	✓	✓	-	-
<i>Rhipidura rufifrons</i>	rufous fantail	✓	-	-	-
<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