Pumicestone National Park Management Statement 2013

Park size:	475.8ha
Bioregion:	South Eastern Queensland
QPWS region:	Sunshine and Fraser Coast
Local government estate/area:	Moreton Bay Regional Council, Sunshine Coast Regional Council
State electorate:	Glass House

Legislative framework

✔	*Aboriginal Cultural Heritage Act 2003*
✔	*Environment Protection Biodiversity Conservation Act 1999* (Cwlth)
✔	*Fisheries Act 1994*
✔	*Nature Conservation Act 1992*

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

Pumicestone National Park will remain a vitally important part of the extensive tidal wetland complex that is continuous with Moreton Bay Marine Park and overlaps with wetland areas recognised as internationally and nationally significant. The high tide roost sites for migratory and resident wading birds, along with some of the last remnants of wallum vegetation and intertidal wetland from the once extensive wetlands of the northern Caboolture plain, will be protected from disturbance by human activity, pest plants and feral and domestic animals.

Conservation purpose

The park currently consists of five separate parcels of land along the mainland side of the Pumicestone Passage. However additions to this national park may occur in the future.

As any additional areas become part of Pumicestone National Park, their values, issues and actions will be included in this management statement.

On a landscape level, Pumicestone National Park lies adjacent to Moreton Bay Marine Park, and either adjacent to or within parts of the Moreton Bay Ramsar site—a wetland recognised as being of international importance under the Ramsar Convention. The Ramsar Convention is an international treaty which aims to promote wetland conservation worldwide. As a signatory to the Ramsar Convention Australia has a number of responsibilities, as outlined in the *Environment Protection and Biodiversity Conservation Act 1999*. The Queensland Parks and Wildlife Service (QPWS) will implement these with respect to land and water management where appropriate.

Areas within the park also contain nationally significant Directory of Important Wetlands in Australia sites—the Upper Pumicestone Coastal Plain (QLD-188) and Pumicestone Passage (QLD-136). These wetland sites contain some of the last remnants of wallum and intertidal wetland from the once extensive wetlands of the northern Caboolture plain as well as a diversity of wetland types (Department of Sustainability, Environment, Water, Population and Communities 2012). They have been conserved for research and protected from development.

The area hosts a very large number of wildlife species, including migratory birds, and provides valuable refuge habitat for wildlife. The area has high cultural significance to Aboriginal people and for research and education purposes.

Protecting and presenting the park's values

Landscape

The national park contributes to the scenic, forested coastline along Pumicestone Passage creating high natural amenity values as green space. It also protects mangrove communities important for the health and maintenance of aquatic ecosystems and provides vital roosting and feeding sites for resident and migratory waders.

The areas of intact foreshore vegetation act as a filter and a buffer, regulating water quality in the estuarine tributary creeks, including Coochin Creek, Halls Creek, Glass Mountain Creek and Saltwater Creek. These creeks all discharge into Pumicestone Passage.

A major threat facing the national park is the reduction in water quality from nutrient and sediment pollution as a result of changed land uses upstream, pest plants and feral animals. Current land-uses surrounding the national park include pine plantations, horticulture, poultry farms, cattle grazing, pineapple farms, strawberry farms and residential development. QPWS mapping shows acid sulphate soils are present in the soil profile on most sections of the park.

Regional ecosystems

Pumicestone National Park conserves significant areas of tidal wetlands and *Melaleuca quinquenervia* communities and their associated swamp wetlands typically found in Moreton Bay. These wetland communities are considered of state biodiversity significance under the biodiversity planning assessment for the South East Queensland bioregion either as part of a bioregional corridor or a significant wetland. They contain core habitat for conservation significant species such as the water mouse *Xeromys myoides*.

These communities are regionally significant as large areas of coastal wetlands have been removed in southern Queensland for canal developments, marinas, and harbour development. In particular, melaleuca wetlands are continuing to be cleared and fragmented leaving remaining areas more prone to disease and pest plants.

Wetlands in general are also under pressure from more extreme weather events. Reducing stresses on the parks natural systems will make them more resilient. Securing habitat between protected areas is an important factor in creating some resilience within the vegetation communities and their associated wetlands and species.

Nine regional ecosystems occur throughout the park and can be grouped into two main vegetation associations:

1. tidal wetland associations including claypans, saline sedgelands and grasslands, mangrove communities, marshland, *Casuarina glauca* communities
2. *Melaleuca quinquenervia* associations.

Six regional ecosystems are conservation significant (Table 1).

Native plants and animals

There is one conservation significant plant species *Sannantha similis* recorded on the park. It has been found on the new Donnybrook land as well as in unallocated state land to be transferred to national park. It is a South East Queensland priority taxa. However there is potential for other significant species to be discovered with further plant survey work.

Four animals of conservation significance have been recorded on the park (Table 2). Native animal surveys have focused on bird lists so more surveys are needed to record mammals, reptiles and amphibians. The park supports the vulnerable water mouse *Xeromys myoides*. This species has a very limited distribution, being found predominately along mangrove foreshores. They construct 'mound nests' and feed on marine crustaceans and fish along the foreshore.

Pumicestone Passage tidal wetlands and surrounding areas provide roosting, staging and feeding sites for resident and migratory waders. Nineteen species of waders recorded in the park are scheduled in international treaties that aim to protect and conserve migratory bird species (Table 3). Only Bullock Creek Conservation Park provides a king tide roost site.

Incidental records occur for the endangered little tern *Sternula albifrons* on the Donnybrook section (Lot 26) around Glass Mountain Creek. This species normally inhabits sheltered inlets, sandy beaches and estuaries, especially where exposed sandbanks occur. Nests are usually a scrape in the sand between the high-tide mark and shore vegetation. The eggs and chicks can be vulnerable to predation by foxes *Vulpes vulpes*, dogs *Canis lupus familiaris*, cats *Felis catus* and rats *Rattus rattus* as well as accidental damage from four-wheel-drive vehicles, people fishing and walking.

The endangered Australian fritillary butterfly *Argyreus hyperbius inconstans* has been recorded in the vicinity of Ningi Creek and Toorbul Conservation Park. It feeds on the wild violet *Violacea betonicifolia* which is found in melaleuca wetlands.

All the park sections lie adjacent to designated fish habitat areas. The mangrove communities on some sections are important nursery areas for the juvenile stages of a range of estuarine species, providing both food and shelter.

Linking remnants of vegetation connect some of the park sections and are considered of regional conservation significance. They also allow the movement of animals along both the tidal and non-tidal wetland areas. Conservation efforts to secure these vegetated links are a priority for management.

Aboriginal culture

The park is covered by a native title claim (QC2013/003) on behalf of the Kabi Kabi First Nation. The Pumicestone plain contains numerous sites of artefact scatters, scarred trees and middens. Particular concentrations of shell middens occur in the southern sections of the national park. The wetlands provided abundant fish and vegetable foods for Aboriginal people. Cultural heritage surveys have not been undertaken in all sections of the national park.

Opportunities exist to improve relationships with local Traditional Owner groups and involve them in park management.

Tourism and visitor opportunities

Much of the area is low lying and prone to inundation thereby reducing opportunities for active recreation. Passive opportunities arise from the sense of isolation and remoteness in some sections and include scenic viewing and bird watching.

Management of the park for recreation will be conservative. Assessment of recreation in this region has concluded the park is suitable for non-motorised recreation which is based primarily on nature conservation.

Further visitor infrastructure will not be developed on the park to maintain the parks natural landscape value and self-sufficient experience.

Other visitor issues

Some sections of the park are only being used by people to access fishing spots on Moreton Bay. This has created impacts including erosion, rubbish dumping and illegal fires and campsites. These impacts have been slowly increasing over time especially with the expansion of residential development in surrounding areas. Other illegal activities occurring on the park include the use of motorbikes, construction of mountain bike trails and the dumping of garden waste.

Education and science

The park provides a living laboratory for the study of tidal wetland ecology and its many elements. Birds Australia conduct surveys in sections of the park and the Wader Study Group also undertake shorebird surveys four times a year. Other research has focused on the mangrove communities, water mouse populations and the impacts of drainage alteration on the vegetation composition.

One section of the park (previously Scientific Area 14) was one of four areas set aside from logging to provide ecological reference sites to demonstrate coastal wallum conditions prior to logging and understand the evolution of wallum habitats.

Partnerships

QPWS supported the Pumicestone Passage Foreshore Planning and Protection Coastcare Project 2008–2010 developed by SEQ Catchments. QPWS is also involved in the development of a catchment action plan for the Pumicestone Passage coordinated by the Sunshine Coast Regional Council as part of their Sunshine Coast Waterways and Coastal Management Strategy 2011–2021.

Other key issues and responses

Pest management

A level 2 pest management strategy has been developed for the park. Pest species most affecting the wetland communities include groundsel *Baccharis halimifolia*, summer grass *Digitaria ciliaris*, red natal grass *Melinis repens*, signal grass *Brachiaria decumbens*, *Ipomoea cairica*, silver leaf desmodium *Desmodium uncinatum* and slash pine *Pinus elliottii*. The adjacent pine plantations provide a constant source of pine wildlings on the park.

The dumping of garden waste along the edge of the park is also leading to the establishment of pest plants such as balsam *Impatiens walleriana*, taro *Colocasia esculenta*, umbrella tree *Schefflera actinophylla* and corky passionflower *Passiflora suberosa*. Taro has the potential to invade the park and become a serious pest plant issue.

The mangrove, saltmarsh and melaleuca communities are experiencing feral pig *Sus scrofa* damage and there has also been pig hunting on the park. A pest animal control program will need to include resources for managing pigs.

Foxes *Vulpes vulpes*, feral cats *Felis catus* and dogs *Canis familiaris* threaten native animals in general and in particular roosting wader birds.

Fire management

A level 2 fire management strategy has been developed for the park. In some park sections fire management tracks have caused minor vegetation fragmentation and access to areas which are unsuitable for visitors. Areas such as the Emmanuel section, which was previously an exotic pine plantation, had extensive firebreaks and these have gradually been allowed to revegetate.

A number of cases of arson have been detected in the area. Forest Plantations Queensland carry out a crime stoppers arson blitz periodically. Improved fire management may help reduce the impacts from arson.

Liaison with neighbours including neighbouring land management agencies will also be important to link fire management infrastructure and practices on and off park.

References

Department of Sustainability, Environment, Water, Population and Communities, 2012, Directory of Important Wetlands in Australia, Commonwealth of Australia.
http://www.environment.gov.au/water/topics/wetlands/database/diwa.html

Management directions

Desired outcomes	Actions and guidelines
Landscape Landscape management is integrated with other natural areas for conservation purposes.	A1. Limit disturbance to soils, particularly in the riparian and intertidal zones to prevent acidification. A2. Seek to conserve additional areas of foreshore vegetation to link with the existing park including the Donnybrook land (Lot 39).
Native plants and animals Plant community integrity is maintained or enhanced. The park continues to be utilised by migratory waders. Knowledge of conservation significant animals is increased.	A3. Undertake vegetation and animal surveys on any additions to the national park, to increase baseline information. A4. Undertake water mouse surveys in likely habitat and assess any impacts from feral animals, visitors and fire. A5. Monitor the Emmanuel section for the continued presence of the endangered little tern.
Aboriginal culture Aboriginal cultural values are identified and protected.	A6. Encourage Traditional Owners to identify and document values, sites, artefacts and places of cultural heritage significance so that management strategies and decisions relating to fire regimes, access and track maintenance minimise potential threats to these values.
Tourism and visitor opportunities Opportunities are provided for self-reliant visitors to enjoy natural values.	A7. Rationalise road access/fire breaks to support management intent. Focus on the sensitive intertidal and adjacent areas. A8. Remove any illegal structures on the park. A9. Develop a communication strategy to outline the appropriate uses and behaviours expected on the park to enable users to enjoy natural and cultural values.
Education and science Park visitors appreciate the natural and cultural values of the park. Research and monitoring efforts add to the knowledge base for decision making.	A10. Investigate the option to place small interpretation facilities at key sites to increase awareness of the ecological importance of wetland, estuarine and intertidal natural systems including the areas importance as part of the Moreton Bay Ramsar site. A11. Continue to support research projects related to shorebirds and other conservation significant plant and animals. A12. Prevent disturbance to wader bird sites through interpretive materials and education.
Pest management Pest management reduces the extent of existing pest plant species and prevents establishment of new species. Pest management reduces the impact of pest animals	A13. Take action to eradicate setaria on the park. A14. Prevent further dumping of garden waste by delineating the park boundary and liaising with neighbours. A15. Increase efforts to control pigs in the park. A16. Liaise with local governments on actions to keep the park free of domestic dogs and cats. A17. Seek opportunities to establish coordinated control of pest animals across the landscape such as pigs, foxes and wild dogs.

Tables – Conservation values management

Table 1: Endangered and of concern regional ecosystems

Regional ecosystem number	Description	Location	Biodiversity status
12.1.1	*Casuarina glauca* open forest on margins of marine clay plains	Ningi Creek CP, Bullock Creek CP, Hall Bay Road section, Roys Road section	Endangered
12.2.7	*Melaleuca quinquenervia* or *M. viridiflora* open forest to woodland on sand plains	Hall Bay Road section	Of concern
12.3.4	*Melaleuca quinquenervia, Eucalyptus robusta* open forest on or near coastal alluvial plains	Pumicestone NP	Of concern
12.3.5	*Melaleuca quinquenervia* open forest on coastal alluvium	Hall Bay Road section, Roys Road section Coochin Creek section, Pumicestone NP, Ningi Creek CP, Bullock Creek CP	Of concern
12.3.13	Closed heathland on seasonally waterlogged alluvial plains usually near coast	Pumicestone NP	Of concern
12.5.3	*Eucalyptus tindaliae* and/or *E. racemosa* open forest on remnant Tertiary surfaces	Ningi Creek CP, Bullock Creek CP	Endangered

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
Animals				
Numenius madagascariensis	eastern curlew	Near threatened	-	low
Pteropus poliocephalus	grey-headed flying-fox	-	Vulnerable	critical
Sternula albifrons	little tern	Endangered	-	high
Xeromys myoides	water mouse	Vulnerable	Vulnerable	high

Table 3: Species listed in international agreements

Scientific name	Common name	BONN	CAMBA	JAMBA	ROKAMBA
Acrocephalus australis	Australian reed-warbler	✓	-	-	-
Ardea modesta	eastern great egret	-	✓	✓	-
Calidris ferruginea	curlew sandpiper	✓	✓	✓	✓
Calidris ruficollis	red-necked stint	✓	✓	✓	✓

Scientific name	Common name	BONN	CAMBA	JAMBA	ROKAMBA
Calidris tenuirostris	great knot	✓	✓	✓	✓
Haliaeetus leucogaster	white-bellied sea-eagle	-	✓		-
Hydroprogne caspia	Caspian tern	-	-	✓	-
Limosa lapponica	bar-tailed godwit	✓	✓	✓	✓
Merops ornatus	rainbow bee-eater	-	-	✓	-
Monarcha melanopsis	black-faced monarch	✓	-	-	-
Numenius phaeopus	whimbrel	✓	✓	✓	✓
Pandion cristatus	eastern osprey	✓	-	-	-
Pluvialis fulva	Pacific golden plover	✓	✓	✓	✓
Rhipidura rufifrons	rufous fantail	✓	-	-	-
Symposiarchus trivirgatus	spectacled monarch	✓	-	-	-
Tringa brevipes	grey-tailed tattler	✓	✓	✓	✓
Tringa nebularia	common greenshank	✓	✓	✓	✓
Tringa stagnatilis	marsh sandpiper	✓	✓	✓	✓
Xenus cinereus	terek sandpiper	✓	✓	✓	✓

BONN – Bonn Convention

CAMBA – China–Australia Migratory Bird Agreement

JAMBA – Japan–Australia Migratory Bird Agreement

ROKAMBA – Republic of Korea–Australia Migratory Bird Agreement