

Naree Budjong Djara Management Plan

Incorporates: Naree Budjong Djara National Park,
Naree Budjong Djara Conservation Park, Myora Conservation Park,
Main Beach Conservation Park and Minjerribah Recreation Area



September 2020

This management plan has been prepared jointly by **Quandamooka Yoolooburrabee Aboriginal Corporation (QYAC) and Queensland Parks and Wildlife Service and Partnerships (QPWS&P), Department of Environment and Science**

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Front cover photo: Jagun (Rainbow Serpent) Billabira (Lightning) Jalo (Fire) © Joshua Walker, Quandamooka, 2020

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Jagun (Rainbow Serpent) Billabira (Lightning) Jalo (Fire)
Painting and story by Quandamooka artist Joshua Walker



“Every Tribe in Australia has a resident Rainbow Serpent in their country that is responsible for them. When laws/lores are broken, Rainbow Serpents gather in the Sky Country and debate about the people of different tribes breaking the law/lore. Rainbow Serpents argue and fight, whipping their tails at each other, cracking and making Lightning that strikes the ground creating fire.”

Rainbow Serpents depicted in the centre. Three concentric circles represent the three Tribes that live on Minjerribah—Ngugi, Nunakal and Gorenpul. Footprints represent Joint Management between QYAC Indigenous Rangers and QPWS colleagues working together, Treading Lightly on Country, looking after Country. Lightning throughout the painting is a Female Spirit of the Sky World known as BILLABIRA, which translates as Spear from Sky. Red semi-circle design represents the sand dunes that run south-east to north-west created by Mirragin, the South East Wind Spirit.”

Yura ngiyara
Nunagal, Goenbal, Ngugi Quandamookajen jara yari balga
Minjerribah dada dimanggalijara.
Berren nginda gagum jarala
Ngali yari nginda ngundu numbai marumba.



Greetings to you all
The Nunagal, Goenbal, Ngugi People of Quandamooka Country
say Welcome to Quandamooka Country.
Minjerribah is a strong sacred Country.
Now you are here on Country
we ask you to show only good.

Aunty Sandra Delaney

“The embedding of our Jandai language on Country is so important for us and our children’s children so it is relevant to be reminded of where it comes from time to time.

The place-names of the Quandamooka Country are invested with the breath and stories of our Ancestors, the Jandai language names are traces of their presence.

The breath of our Quandamooka Ancestors made verbal marks on Quandamooka Country that define it as a place. These place-names are a form of footprints that invest the land with Quandamooka history and culture, creating a map that renders the path of the past visible in the present.

We are receiving an inheritance in learning the place-names of Quandamooka Country, both by activating the speech of our Ancestors and adding to their speech with our own voice.”



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1. Introduction

Nunagal, Goenbal and Ngugi People have always protected our Quandamookadjara (Quandamooka Country) and managed the health of the ecosystems to allow all species to flourish. QYAC and QPWS aim to provide best practice joint management of Naree Budjong Djara, to ensure lands and culture stay healthy for our children and for the benefit of all the people of Queensland. We pay our respects to the Elders past, present and emerging for their wisdom and knowledge of the land and sea on which we work, live and walk.



Figure 1. The intent of joint management arrangements is to meet common goals of protecting cultural and natural values through activities undertaken together, including fire management © QYAC 2019



1.1 Indigenous joint management arrangement

In recognition of strong and continuing cultural connections, the Quandamooka People and the Queensland Government have established perpetual partnerships, ensuring that both the natural and cultural values of protected areas are conserved for the benefit of all. On Quandamookadjara, this includes the joint management of designated protected areas as Indigenous Joint Management Areas (IJMAs), managed in accordance with an Indigenous Management Agreement (IMA) and other agreements between the Quandamooka Yoolooburrabee Aboriginal Corporation (QYAC) and the State of Queensland. Queensland Parks and Wildlife Service (QPWS) is the operational stream of the Queensland Parks and Wildlife Service and Partnerships (QPWS&P) division within the Department of Environment and Science (DES). QPWS will be referred to throughout this document as the State's representative in the joint management arrangement, which gives effect to this management plan at an operational level.

1.1.1 Indigenous Management Agreement

The Quandamooka People were recognised as native title holders for the majority of the Minjerribah (North Stradbroke Island) region on 4 July 2011. On 8 December 2011, an Indigenous Land Use Agreement (ILUA) between the State and the Quandamooka People was registered. The ILUA provides for an IMA between QYAC (the Registered Native Title Body Corporate for the determination) and the State. The IMA formalises the joint management framework with QPWS for Naree Budjong Djara (My Mother Earth) National Park and other IJMAs in the determination area (see section 2 for more information about the Quandamooka People, native title determination and QYAC).

The joint management arrangements established under the IMA set out how QYAC, representing the Quandamooka People, and QPWS will make joint decisions and work together to manage and provide for appropriate use of IJMAs.

1.1.2 Indigenous Joint Management Areas

An IJMA is created when land owned and controlled by the State is transferred to freehold Aboriginal land under the *Aboriginal Land Act 1991*, and subsequently gazetted as jointly managed national parks (or other relevant protected area classification) under the *Nature Conservation Act 1992* (NCA) for areas of high conservation significance. In addition, existing protected area estate is converted to IJMAs, with transfer to Aboriginal freehold as the underlying tenure. Within the Quandamookadjara under this plan, both new and existing NCA tenures have been created as IJMAs.

QYAC and QPWS have jointly developed the *Minjerribah Protected Area Expansion Strategy* to identify further significant IJMA additions to the estate in the foreseeable future.

1.1.3 Recreation Area

The Minjerribah Recreation Area is a designated *Recreation Areas Management Act 2006* (RAMA) area that overlays the IJMA's Main Beach Conservation Park and part of the Naree Budjong Djara National Park. It includes the highly visited holiday parks, camping areas and four-wheel drive beaches that are outside of these protected areas. Minjerribah Camping Pty Ltd, a business entity of QYAC, under service agreement with QPWS, manages the camping, day-to-day operations and the administering of permits within the Minjerribah Recreation Area.

1.2 Naree Budjong Djara

Naree Budjong Djara refers to the planning area in this management plan. It is located in Moreton Bay, South East Queensland, in the state electorate of Oodgeroo and the local government area of Redlands City Council.

Naree Budjong Djara National Park was declared on 25 March 2011 and includes the area previously known as Blue Lake National Park. Through a joint process of protected area expansion, Naree Budjong Djara National Park now covers approximately 50 per cent of Minjerribah, including some formerly mined areas under rehabilitation. In continuing to implement the *Minjerribah Protected Area Expansion Strategy*, it is expected that the total area of Minjerribah gazetted as a joint-managed protected area will reach approximately 80 per cent.

The Naree Budjong Djara planning area covers the terrestrial IJMAs on Minjerribah that are jointly managed by QYAC and QPWS within Quandamookadjara. This includes:

- Naree Budjong Djara National Park
- Naree Budjong Djara Conservation Park
- Myora Conservation Park
- Main Beach Conservation Park

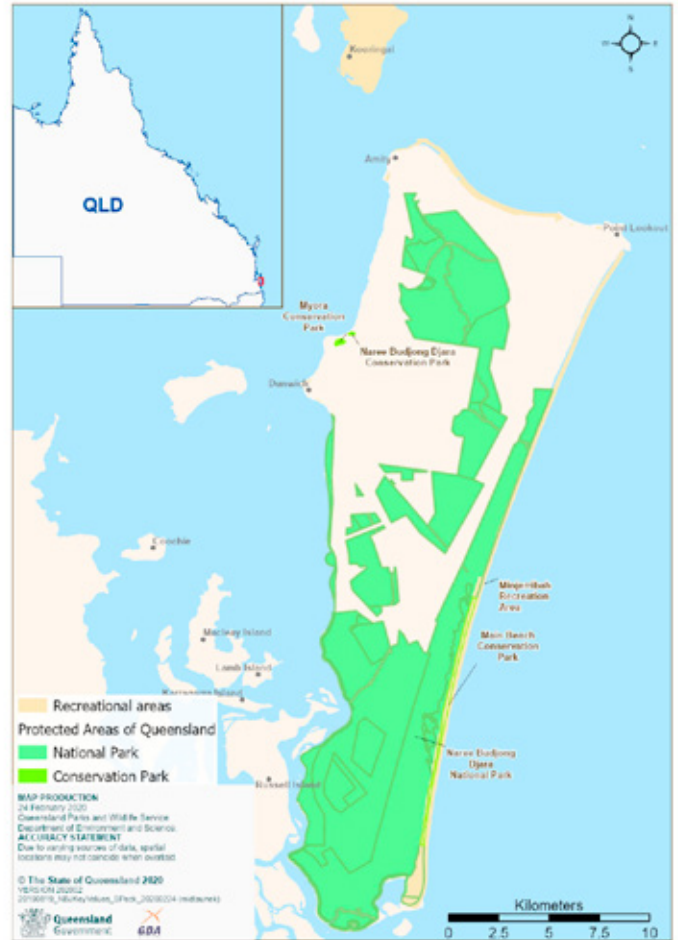
as well as natural coastal areas managed under service agreement with QPWS by Minjerribah Camping Pty Ltd within:

- Minjerribah Recreation Area.

Teerk Roo Ra (Peel Island) National Park, Teerk Roo Ra (Peel Island) Conservation Park, Goat Island Conservation Park, Muppanbillawah (Bird Island) Conservation Park and sea Country within Moreton Bay Marine Park will be addressed in a separate planning process. Future IJMA additions identified in the *Minjerribah Protected Area Expansion Strategy* that are amalgamated with existing NCA tenure will be covered by the strategic directions set out in the management plan.

The management directions outlined in this plan do not apply to the exercise of native title right for current or future Quandamooka living areas agreed to in the ILUA and IMA.

Naree Budjong Djara will be managed in accordance with the IMA, NCA, RAMA and the service agreement with Minjerribah Camping Pty Ltd.



Map 1. Naree Budjong Djara planning area location map



1.3 Management planning arrangement

A key deliverable of the IMA is a jointly prepared management plan under section 112 of the NCA. The NCA sets out the ‘cardinal principle’ for managing national parks: ‘A national park is to be managed to provide, to the greatest possible extent, for the permanent preservation of the area’s natural condition and the protection of the area’s cultural resources and values.’ Further, if a national park is an IJMA, it is to be managed, as far as practicable, in a way that is consistent with any Aboriginal tradition applicable to the area, including any tradition relating to activities in the area.

The *Naree Budjong Djara Management Plan* has been developed to be consistent with the management principles for national parks, conservation parks and recreation areas, as defined in the NCA, RAMA and relevant state and Commonwealth legislation and supporting regulations. It complements and is consistent with the *Quandamooka Indigenous Land Use Agreements 2011*, *QYAC Indigenous Management Agreement* and other joint management arrangements between QYAC and QPWS, and aims to strengthen the joint management partnership that supports Quandamooka People’s aspirations and a shared vision for looking after Country.

Joint management provides an equal role for Quandamooka People in park operational decision-making and the management planning process. The IMA’s joint management governance structure includes an Operational Implementation Working Group (OIWG) to jointly deliver operational management for the IJMA, and a Senior Implementation Working Group (SIWG) to jointly deliver strategic business direction for the IJMA. This first draft of the management plan has been prepared by OIWG and submitted to SIWG for review and recommendation to the Minister.

1.4 Approach to best practice management

Queensland’s parks, forests and reserves are places we want to protect for future enjoyment and wellbeing. What makes these places special is the presence of diverse natural, cultural, social and economic values. These areas experience natural cycles—they live and breathe—and therefore our management needs to be dynamic too. QPWS applies a contemporary management process that is based on international best practice and targets management focusing on the most important features of each park: their **key values**. In acknowledging QPWS as a good partner for the protection of their lands’ high cultural and natural values, QYAC has agreed to adopt this joint management planning approach as the landowners and joint managers.

The **Values-Based Management Framework (VBMF)** is an **adaptive management** cycle that incorporates planning, prioritising, doing, monitoring, evaluating and reporting into all areas of our business. This enables the agency to be more flexible and proactive and to improve management effectiveness over time. We want to keep our parks, forests and reserves healthy by:

- managing and protecting the things that matter most—our key values
- strategically directing management effort towards priorities
- delivering our custodial obligations as a land manager
- setting a level of service for all parks, forests and reserves
- building systems that support decision-making for adaptive management
- building support for what we do through accountability and transparency
- striving for improvement through structured learning and doing.

QYAC and QPWS have a joint management obligation to ensure the protected area estate is managed to provide appropriate and safe access, protect life and property, be a good neighbour and work cooperatively with partners across the landscape. The joint managers address this through the setting of levels of service for the park. Levels of service are management standards that consider an area’s values, threatening processes, respective management obligations, risks and overall management complexity.

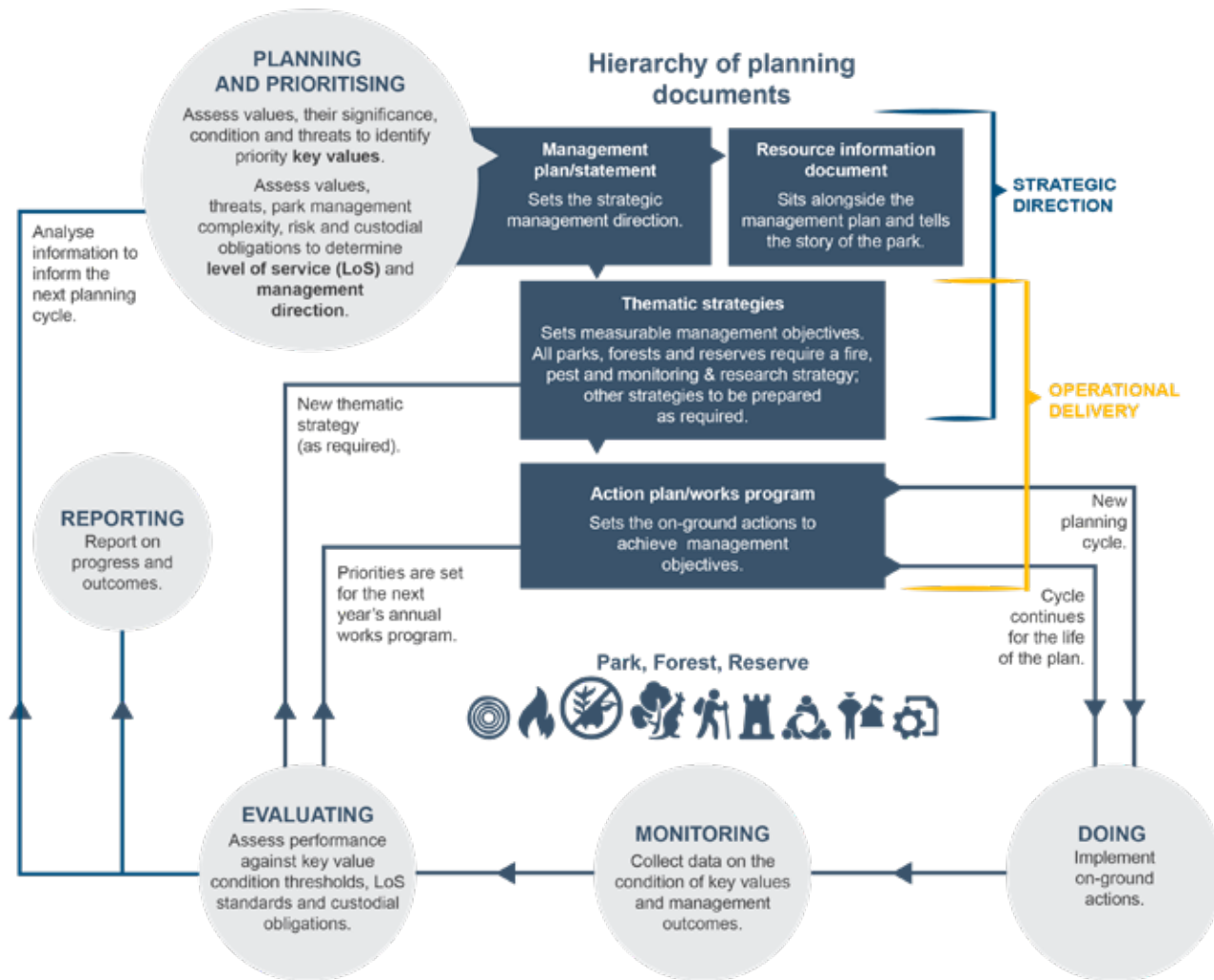


Figure 2. Phases of the VBMF cycle for planning and the hierarchy of planning documents



By assessing an area's key values and levels of service, QYAC and QPWS can prioritise management efforts, balancing the importance of the values and the threats with respective custodial obligations. Each year, we track work programs, monitor the condition of values and evaluate our performance across all aspects of management. The evaluation process documents how efficiently and effectively we are working toward achieving the objectives we set for managing the parks, and how the condition of key values is responding to our management efforts. This evaluation supports transparent and accountable reporting, enabling us to continuously improve park management and demonstrate outcomes to the community. Figure 2 illustrates phases of the VBMF cycle for management planning. A glossary of the key concepts (in **bold**) used throughout the document is listed in Appendix 2.

1.5 Management plan and thematic strategies

The *Naree Budjong Djara Management Plan* provides the strategic management direction for managing its key values (section 4) and meeting our management obligations across nine **management themes** (section 5). The plan is supported by the Naree Budjong Djara Resource Information document, a compendium of park information that tells the story of the park.

The strategic management directions set out in this management plan link to a set of thematic strategies that detail management objectives, providing the connection between high-level strategies and on-ground operations. The complexity of a park's values and custodial obligations determines the requirements for specific strategies.

Naree Budjong Djara has six thematic strategies:

- Quandamooka cultural heritage
- fire
- pest
- monitoring and research
- visitor
- community, partnerships and other stakeholders.

In addition to the management plan's thematic strategies, other documents produced through joint management, and by QPWS and QYAC individually, have contributed to the direction of this management plan. These documents include:

- *Minjerribah Protected Area Expansion Strategy*
- *Gudjundabu Marumba Gubiyiyanya – Tourism For a Glad Tomorrow*
- Quandamooka Jarlo Fire Project
- QYAC Aboriginal Traditional Knowledge Project
- Quandamooka Cultural Health Indicators
- QYAC strategic plans
- *Minjerribah Township Fire Management Strategy*.

2. The Quandamooka People

The Quandamooka People have managed and protected Naree Budjong Djara, the surrounding lands and waters of Minjerribah (North Stradbroke Island) and Quandamooka (Moreton Bay) since time immemorial.



Figure 3. Quandamooka Dancers at Yura Opening Ceremony of the Quandamooka Festival © QYAC 2019



2.1 The Quandamooka People

The Quandamooka People have managed and protected Naree Budjong Djara, the surrounding lands and waters of Minjerribah (North Stradbroke Island) and Quandamooka (Moreton Bay) since time immemorial. The Quandamooka People consist of three clan groups, Nunagal, Goenbal and Ngugi, all speakers of Jandai language dialects. A native title consent determination formally recognised the Quandamooka People’s native title over waters of Moreton Bay, and the islands of Minjerribah, Teerk Roo Ra (Peel Island), Muppanbillawah (Bird Island) and Goat Island on 4 July 2011 (Map 2), and Mulgumpin (Moreton Island) by Federal Court decision on 26 November 2019.

Quandamookadjara extends beyond the scope of the *Naree Budjong Djara Management Plan* and to other areas that are currently under claim.

The Naree Budjong Djara IJMAs were created during negotiations with the Queensland Government to protect the native title lands of the Quandamooka People as an agreed approach for the future use of those areas of high conservation and cultural significance. The Quandamooka People continue to use these areas for cultural activities and have ongoing rights, interests, commitments and cultural obligations to the park’s care and management. The continued connection to Country, and ongoing use, knowledge and protection of cultural resources, is an exercise of their native title rights. An ILUA over Naree Budjong Djara recognises the continuing rights and interests of the Quandamooka People.

Naree Budjong Djara contains a wide range of Quandamooka cultural heritage sites, the type, size and densities varying across the area. The Quandamooka People have the oldest published archaeological occupation site on the east coast of Australia, substantiating their continual relationship with the environment since the Pleistocene epoch approximately 26 000 years before the present. The importance of cultural sites to Quandamooka People varies, with some specific to men, women and children, and containing valued natural and cultural resources. These may include plants, animals, carefully managed landscapes, shell middens, artefact scatters, occupation and camp sites, scar trees, burial sites, fish traps, ceremonial grounds, pathways, and important resource environments, both the physical and living evidence of long-term and continuing occupation. The Quandamooka People are progressively recording these sites through the QYAC Cultural Heritage Unit.

The Quandamooka People will continue to manage and protect Naree Budjong Djara.

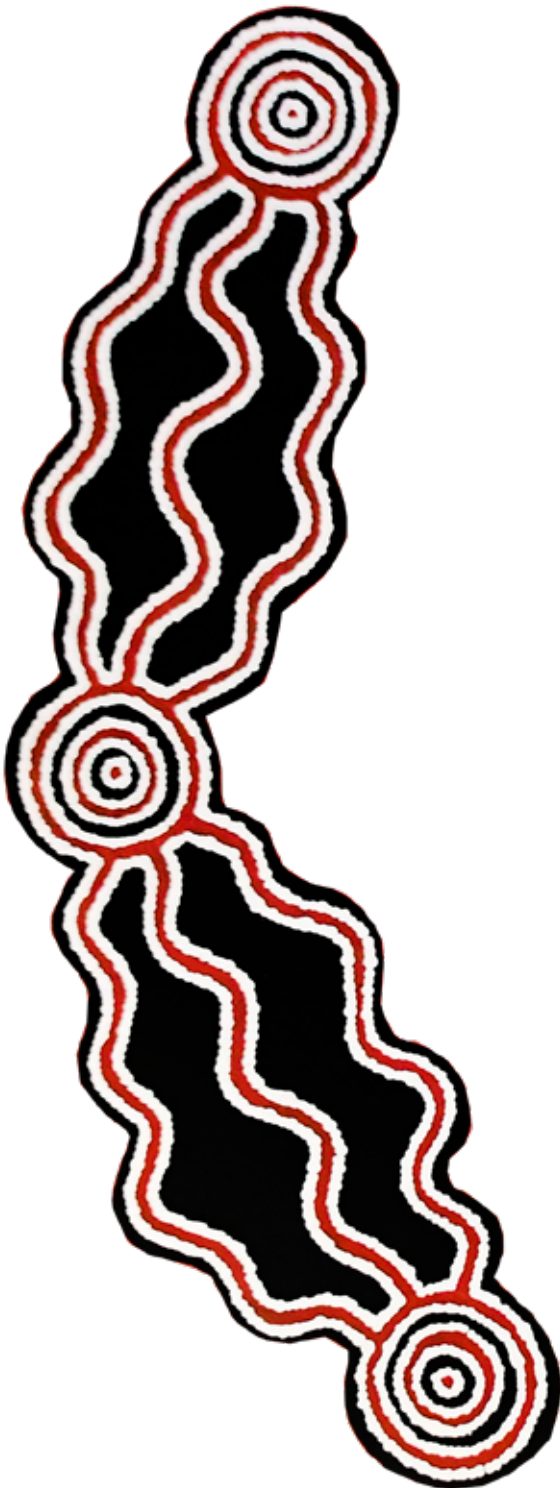


Figure 4. Three concentric circles represent the three tribes that live on Minjerribah—Ngugi, Nunagal and Gorenpul © Joshua Walker 2020



Map 2. Quandamooka People's 2011 native title determination area



2.2 Native title and the Quandamooka Yoolooburrabee Aboriginal Corporation

2.2.1 Native title

In January 1995, the Quandamooka People lodged a native title claim over land and sea encompassing much of Minjerrabah, a southern portion of Mulgumpin (Moreton Island), Teerk Roo Ra, Goat and Muppanbillawah Islands, covering State land comprising national parks, unallocated State land, council reserve, and lease lands—all lands not identified as freehold tenure. This native title claim, Quandamooka People #1, was registered in September 1995. A second claim was lodged with the Federal Court over land parcels in the north and a large area in the south of Minjerrabah in September 1999, and registered as Quandamooka People #2 with the National Native Title Tribunal in June 2000.

On 4 July 2011, the Federal Court made consent determinations for Quandamooka People #1 and #2 claims at Goompi (Dunwich), Minjerrabah, and recognised the continuing native title rights over approximately 54 000 hectares of Quandamooka land and sea Country. These determinations took effect upon registration of the ILUA on 9 December 2011. His Honour Judge Dowsett noted in handing down these determinations:

I have not come here today to give anything to the Quandamooka People. These orders give them nothing. Rather, I come on behalf of all Australian People to recognise their existing rights and interests, which rights and interests have their roots in times before 1788, only some of which have survived European settlement. Those surviving rights and interests I now acknowledge.

Judge Dowsett, 4 July 2011

The Quandamooka People have non-exclusive possession rights over the majority of the determination area. They also have areas of exclusive possession lands (approx. 2264 ha) that have underlying Crown title (radical title) and recognise their rights to possession, occupation, use and enjoyment to the exclusion of all others from entering lands and controlling access.

The Quandamooka People's native title rights over exclusive and non-exclusive lands include:

- the right to live and be present on the area
- the right to conduct ceremonies
- the right to maintain places of importance and areas of significance to the native title holders
- the right to teach on the area about the physical and spiritual attributes of the area
- the right to light fires for domestic purposes such as cooking
- the right to take, use, share and exchange traditional natural resources and seawater for any non-commercial purpose.

Traditional natural resources include animals and plants as defined within the NCA; seaweed, charcoal, shells and resin, any clay, soil, sand, ochre, gravel or rock on or below the surface of the determination area.

As part of the Quandamooka People's native title rights and in retaining a connection to Country, the IMA provides for the establishment of temporary and permanent living areas within the existing, and any future additions to, Naree Budjong Djara. This management plan recognises these rights and confirms their importance as a component of a number of the Naree Budjong Djara's key values. Future living areas will be authorised through an NCA authority where required, while existing living areas are provided for in this management plan and within the IMA. Public access into these living areas is restricted and are managed exclusively by QYAC.

The Quandamooka People's Country extends beyond the scope of this management plan. A native title consent determination for Mulgumpin (Quandamooka People #4 claim) was handed down to the Quandamooka People on 27 November 2019. Other claims have been lodged across Quandamookadjara.



2.2.2 Quandamooka Yoolooburrabee Aboriginal Corporation

Prior to the determination in July 2011 and subsequent ILUA, QYAC was formed as the Registered Native Title Body Corporate under the *Corporations (Aboriginal and Torres Strait Islander) Act 2006* (Cwlth) to act as agent for the native title interests of the Quandamooka People across recognised Quandamooka Land and Sea Country for both the 2011 and 2019 determinations. QYAC holds in trust the underlying Aboriginal freehold of IJMA tenure, as well as maintaining responsibilities as the registered cultural heritage body.

The Jandai word ‘Quandamooka’ represents Moreton Bay, the mainland and the islands within it, with ‘Yoolooburrabee’ meaning the ‘people of the sand and the sea’. QYAC is agent and legal entity for the native title interests of the Quandamooka People, land rights, cultural heritage matters and agreements, and holds joint responsibilities with QPWS for planning and works within the IJMAs.

As outlined in the *QYAC Strategic Plan*:

The Quandamooka have never ceded sovereignty of their Country and this issue remains live for the Quandamooka Peoples. The Quandamooka Peoples continue to operate under their own distinct system of laws and customs. The Quandamooka Peoples are also recognised within the Australian legal system under its Native Title Laws. The Federal Court of Australia formalized this recognition on 4 July 2011, when Justice Dowsett made a binding order on all governments to recognize the society known as the Quandamooka Peoples and its enduring connection to a claim area comprising waters, islands and land on and around Minjerribah:

‘I find that the Quandamooka Peoples are descended from a society of Aboriginal people who were in occupation of the land and waters of the determination area at the time of first assertion of British sovereignty. Those people formed a society, united in and by their acknowledgment and observance of traditional laws and customs. Through the observance of these traditional laws and customs, the Quandamooka People have maintained a connection with the Determination Area.’

It remains key to joint management that, with their continuing connection to Country, the Quandamooka People continue to be empowered through the joint management process and IMA to manage Quandamookadjara for its cultural and natural values.

Figure 5. Quandamooka ranger Claudia preparing for bushfire response © QYAC 2019





Desired outcome and strategic management direction

Desired outcome		
<p>The Quandamooka People’s governance of Country will be improved by strengthening partnerships, enhancing public communication, and supporting the Quandamooka People’s interests and values of Naree Budjong Djara.</p>		
Threatening processes	Strategic management directions	Priority
Loss of Quandamooka People’s determination in management of Country	Strengthen the joint management partnership between QPWS and the Quandamooka People to ensure effective co-stewardship of natural and cultural values.	1
	Support the Quandamooka People by facilitating the timely implementation of commitments within the Indigenous Management Agreement.	1
	Provide sufficient space and time so that Quandamooka People always have access to enjoy Country and cultural resources, and to undertake cultural activities.	1
	Promote understanding, recognition and respect for Quandamooka culture and values, and the role that language plays.	1
	Encourage tourism, researchers and business operators on Quandamookadjara to practise ethical behaviour, support reconciliation, respect culture, and recognise and protect intellectual property and traditional knowledge of the Quandamooka People.	1
	Promote innovative approaches to raise awareness of Quandamookadjara, Quandamooka culture and the significance of Naree Budjong Djara’s plants and animals.	1
	Improve connection to Country by ensuring QYAC is involved in planning, implementing, monitoring and evaluating park management across Quandamookadjara.	1
	Enhance the Quandamooka People’s connection to Country through the implementation of traditional land management practices and the use of cultural resources.	1
	Increase capacity and knowledge of both QPWS and QYAC through joint participation in park management activities.	1
	Increase support and provide opportunities for Quandamooka People to get back on Country at Naree Budjong Djara.	1
	Maximise opportunities for Quandamooka People through employment, contracting and training opportunities.	1
	Support the Quandamooka People to develop ecologically and commercially sustainable cultural enterprises, including cultural interpretation, visitor management and tourism services.	1
	Improve the protection of Quandamookadjara values by securing significant cultural values where needed through regulation of access by various mechanisms.	1
	Support the Quandamooka People in providing cultural awareness programs to enhance visitor appreciation of Quandamooka culture through language and other cultural information.	1
Support capabilities of QPWS staff, stakeholders and community to understand Quandamookadjara, its values and Quandamooka culture through QYAC developed and presented training programs.	1	

See Appendix 2. Glossary for priority rating definitions.

3. Wetlands of International Importance

The Moreton Bay Ramsar Area within Naree Budjong Djara National Park provides critical ecological services and environmental benefits.



Figure 6. Eighteen Mile Swamp extends from the southern side of Point Lookout (Mooloomba) to Swan Bay at the southern end of Minjerrabah © QYAC 2019

3.1 Wetlands of International Importance (Ramsar site)

Australia is a signatory to the Convention on Wetlands of International Importance (Ramsar Convention), and has listed 66 wetland sites under the Convention, including five in Queensland. The Convention seeks to stop the global loss of wetlands and to conserve remaining wetlands through wise use and site-appropriate management. As a signatory to the Convention, Australia agrees to manage these wetlands to protect their unique ecological character. The *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) provides legislative protection for the Australian-listed Ramsar wetland sites. The Australian Ramsar management principles are outlined in Schedule 6 of the *Environment Protection and Biodiversity Conservation Regulations 2000* and cover the preparation of a Ramsar site management plan and community consultation processes (Australian Government n.d.).

Australia is also a signatory to a number of international migratory bird agreements including the East Asian–Australasian Flyway Partnership, Japan–Australia Migratory Bird Agreement, China–Australia Migratory Bird Agreement, Republic of Korea–Australia Migratory Bird Agreement and Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention). Migratory species identified in these agreements are also identified in the EPBC Act and provide further support for the protection of the critical ecosystem services and environmental benefits of the Moreton Bay Ramsar site.

Moreton Bay was listed under the Ramsar Convention on 22 October 1993.

Naree Budjong Djara forms a part of the Moreton Bay Ramsar site and contributes to critical ecological services and environmental benefits for the Ramsar site including:

- a unique diversity of habitats, with many different wetland types including window lakes, perched lakes, surface expressions and wet heathlands
- Quandamooka cultural heritage values (including significant places, resources, stories)
- a wildlife refuge in drought conditions for amphibians, fish, reptiles, birds and mammals
- wetland bird and shorebird diversity, abundance and habitat values
- habitat for threatened wetland-dependent fauna (such as eastern curlew, Oxleyan pygmy perch, water mouse, acid frogs)
- notable diversity of native wetland fauna of the bioregion
- rare and threatened species (such as the lesser swamp orchid, yellow swamp orchid, swamp daisy)
- opportunities for education and research on wetlands
- clean drinking water for south-east Queensland
- cultural and ecological recreation, education and research opportunities.

The Moreton Bay Ramsar site satisfies nine criteria for Ramsar nomination, as outlined in the *Moreton Bay Ramsar Information Sheet* (RIS, 2019). Table 1 lists the ecological values within Naree Budjong Djara for each criteria and identifies the corresponding key values. The management of key values, which covers and protects Ramsar wetland features, are described in section 4.



Table 1. Wetland of International Importance criteria and corresponding key values

Wetland of International Importance criteria	Key value
<p>Contains a representative, rare, or unique examples of a natural or near-natural wetland type found within the appropriate biogeographical region.</p> <ul style="list-style-type: none"> Lakes, window water table lakes, perched lakes, surface expressions and wet heathlands, also including wallum habitat, peat swamps and clay plains. 	<p>4.1 Quandamookadlara values</p> <ol style="list-style-type: none"> Cultural landscape values of Quandamooka People and Country Kaboora (Blue Lake) Burogari (Cypress) Camps cultural complex <p>4.4 Wetlands</p> <ol style="list-style-type: none"> Estuarine clay plains and wetlands Wet heath and sedgeland coastal swamp <i>Melaleuca quinquenervia</i> open woodlands
<p>Supports vulnerable, endangered, or critically endangered species or threatened ecological communities (listed nationally or under international frameworks).</p> <p>Threatened ecological communities:</p> <ul style="list-style-type: none"> Littoral rainforests and coastal vine thickets of eastern Australia Subtropical and temperate coastal saltmarsh <p>Threatened species:</p> <ul style="list-style-type: none"> Swamp daisy <i>Olearia hygrophila</i> Yellow swamp orchid <i>Phaius bernaysii</i> Lesser swamp orchid <i>Phaius australis</i> Eastern curlew <i>Numenius madagascariensis</i> Oxleyan pygmy perch <i>Nannoperca oxleyana</i> Water mouse <i>Xeromys myoides</i> Acid frog species: <ul style="list-style-type: none"> Cooloola sedgefrog <i>Litoria cooloolensis</i> Wallum rocketfrog <i>Litoria freycineti</i> Wallum sedgefrog <i>Litoria olongburensis</i> Wallum froglet <i>Crinia tinnula</i> 	<p>4.3 Mixed microphyll/notophyll rainforest</p> <p>4.4 Wetlands (a, b & c)</p>
<p>Supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.</p> <ul style="list-style-type: none"> Biological diversity is supported by the habitat types found within the site, with notable native wetland fauna and flora species of the bioregion. 	<p>4.2 Open heath on dunes</p> <p>4.3 Mixed microphyll/notophyll rainforest</p> <p>4.4 Wetlands (a, b & c)</p>
<p>Supports plant and/or animal species at a critical stage in their life cycles or provides refuge during adverse conditions.</p> <ul style="list-style-type: none"> Functions as wildlife refuge in drought conditions, supports migratory shorebirds and supports the entire life cycle of acid frog species, water mouse and Oxleyan pygmy perch. 	<p>4.3 Mixed microphyll/notophyll rainforest</p> <p>4.4 Wetlands (a, b & c)</p>
<p>Regularly supports 20 000 or more waterbirds.</p> <ul style="list-style-type: none"> Supports waterbird and shorebird species. 	<p>4.4 Wetlands (a & b)</p>
<p>Regularly supports one per cent of the individuals in a population of one species or subspecies of waterbird.</p> <p>Contributes to supporting:</p> <ul style="list-style-type: none"> Bar-tailed godwit <i>Limosa lapponica</i> Curlw sandpiper <i>Calidris ferruginea</i> Grey-tailed tattler <i>Heteroscelus brevipes</i> Red-necked stini <i>Calidris ruficollis</i> Australian pied oystercatcher <i>Haematopus longirostris</i> Whimbrel <i>Numenius phaeopus</i> Sharp-tailed sandpiper <i>Calidris acuminata</i> Lesser sand plover <i>Charadrius mongolus</i> Double-banded plover <i>Charadrius bicinctus</i>. 	<p>4.4 Wetlands (a, b & c)</p>
<p>Significant and representative fish.</p> <ul style="list-style-type: none"> Freshwater and wallum habitat for fish and crayfish species. 	<p>4.4 Wetlands (a, b & c)</p>
<p>Fish spawning grounds, etc.</p> <ul style="list-style-type: none"> Freshwater and wallum habitat for fish and crayfish species. 	<p>4.4 Wetlands (a, b & c)</p>
<p>Supports 1% of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species.</p> <ul style="list-style-type: none"> Wallum froglet, Cooloola sedgefrog, wallum sedgefrog, wallum rocketfrog, Oxleyan pygmy perch and water mouse. 	<p>4.4 Wetlands (a, b & c)</p>

4. Key values

All parks, forests and reserves have an array of natural, cultural, social and/or economic values that are important and contribute to the state's comprehensive and representative protected area and forest estate. The VBMF supports a process for identifying and protecting the most important values, the key values, and this directs the allocation of resources.



*Figure 7. Quandamooka ranger Kathryn collecting heather *Boronia falcifolia*, a cultural resource, from Canalpin Swamp © QYAC 2019*



In this section, a **key value statement** is provided for each key value, identifying the current **condition and trend**, and a desired condition. The main threatening processes are identified and rated from high to low. A strategic management direction provides a broad strategy to address the threatening process to achieve the **desired outcome** over time. Each strategic management direction is prioritised according to the need for action to prevent further decline, stabilise current condition, or restore and enhance the value (refer to **priority rating** in Appendix 2).

The condition of all key values is (or will be) assessed through regular **health checks** or other monitoring. The monitoring and research strategy outlines opportunities and needs for scientific monitoring and research programs that will enhance our knowledge. Any change to a key value’s condition will be identified through health checks and/or monitoring, enabling QYAC and QPWS to act quickly, applying best practice adaptive management.

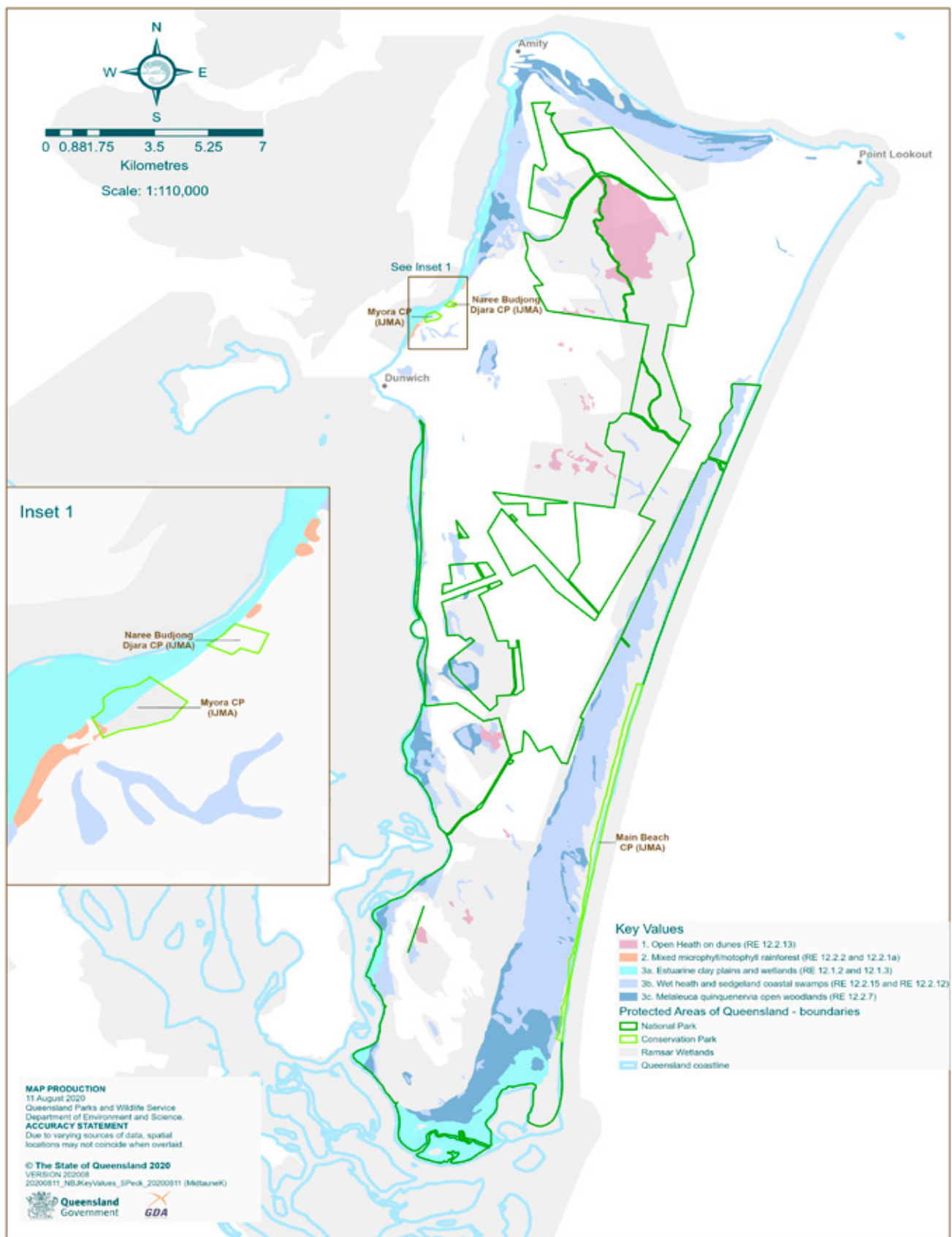
Summary of key values

A summary of the key values for Naree Budjong Djara is detailed below. The location of each key value is shown in Map 3. Figure 8 provides a key to interpreting the condition and trend icons used in this section.

	Current condition	Confidence in condition assessment	Current trend	Confidence in trend assessment	Desired condition
4.1 Quandamookadjara values		Limited	↑	Limited	Short term Long term
a. Cultural landscape values of Quandamooka People and Country	●	⦿	↑	⦿	●●● ●●●●●
b. Kaboora (Blue Lake)	●●●	Limited	↔	Limited	●●●●●
c. Burogari (Cypress) Camps cultural complex	●●●	Limited	↔	Limited	●●●●●
4.2 Open heath on dunes	●●	Inferred	↓	Inferred	●●●●●
4.3 Mixed microphyll/notophyll rainforest	●	Inferred	↓	Inferred	●●
4.4 Wetlands	●●	Inferred	↓	Inferred	●●●●●
a. Estuarine clay plains and wetlands	●●	Inferred	↓	Inferred	●●●●●
b. Wet heath and sedgeland coastal swamps	●●	Inferred	↓	Inferred	●●●●●
c. <i>Melaleuca quinquenervia</i> open woodlands	●●●	Inferred	↔	Inferred	●●●●●
4.5 Quandamooka eco-cultural experience	●●●	Limited	↑	Limited	●●●●●

Figure 8. Key values condition, trend and confidence

Condition of key value	Good ●●●● The value is in good condition and is likely to be maintained for the foreseeable future, provided that current measures are maintained	Good with some concern ●●● The value is likely to be maintained over the long term with minor additional conservation measures to address existing concerns	Significant concern ●● The value is threatened by a number of current and/or potential threats. Significant additional conservation measures are required to preserve the value over the medium to long term	Critical ● The value is severely threatened. Urgent additional large-scale conservation measures are required or the value may be lost
Trend rating of condition	Improving ↑	Stable ↔	Deteriorating ↓	No consistent trend ⊖
Confidence in assessment	Inferred ⦿	Limited ⦿	Adequate ●	



Map 3. Naree Budjong Djara National Park, Naree Budjong Djara Conservation Park, Myora Conservation Park and Main Beach Conservation Park key values.
Note: Microphyll/notophyll rainforest has not been mapped on Minjerribah by the Queensland Herbarium and is not shown on this map; many cultural key values cannot be mapped.



4.1 Quandamookadjara values

Key value statement

The Quandamooka People’s ancestral heritage is tied to Quandamookadjara. This strong connection continues today and has since time immemorial, with evidence dating as far back as at least 26 000 years, representing the oldest published archaeological occupation site on Australia’s east coast (Neal & Stock 1986).

Quandamooka People hold in their custom and lore cultural values for the whole of Quandamookadjara, which includes Naree Budjong Djara. These cultural values are important to the community and are to be supported and respected by those living, working, visiting and making decisions affecting Quandamookadjara.

“Throughout post-colonial time, many agencies, landholders and visitors have treated Quandamooka Country with disrespect and Quandamooka People’s cultural values with contempt. Against the pressures of forced assimilation, removal from Country, and targeted and regressive policy, Quandamooka People have remained strong in their culture and connection to Country.”

Jacob Martin-Doyle
Quandamooka Principal Ranger

Through self-determination and the tenacity of the hard-working community of Quandamooka People, joint management of Naree Budjong Djara occurs with cultural values front of mind. Quandamooka People are in positions within the protected area’s joint management as Joint Management Coordinators, Principal Rangers, Rangers-in-Charge and on-ground ranger staff, ensuring the communities’ values and interests are accounted for in day-to-day management. This extends through to the servicing of campground facilities and the compliance monitoring and management of the Minjerribah Recreation Area by the Minjerribah Camping entity of QYAC.

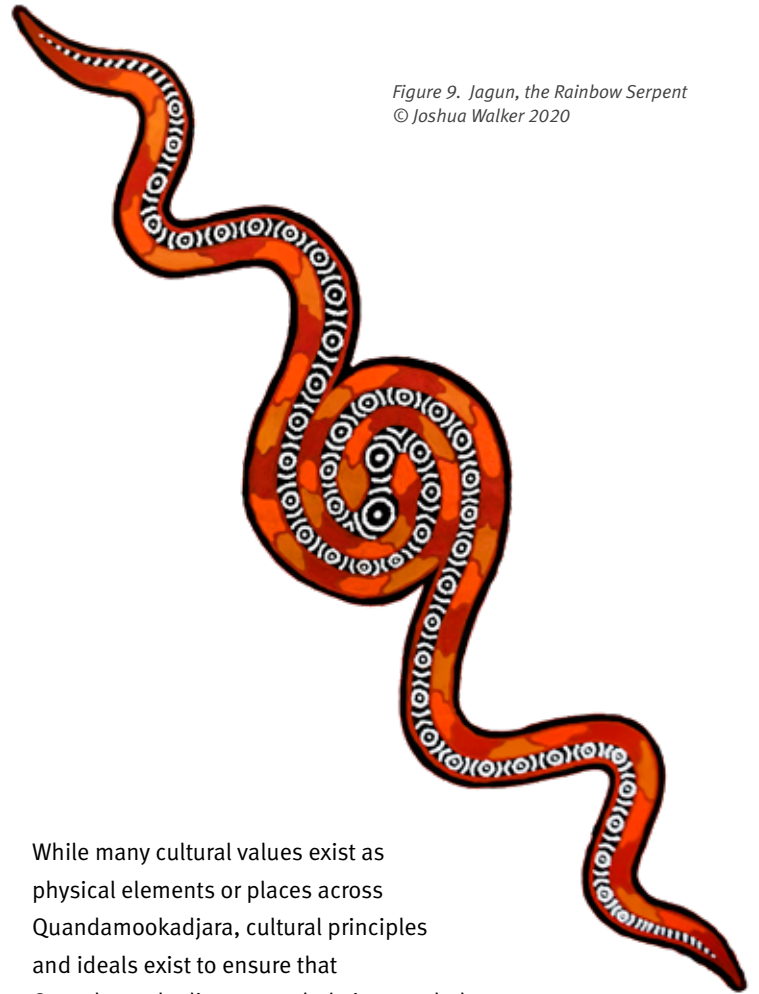


Figure 9. Jagun, the Rainbow Serpent
© Joshua Walker 2020

While many cultural values exist as physical elements or places across Quandamookadjara, cultural principles and ideals exist to ensure that Quandamookadjara as a whole is regarded as a cultural landscape. To respect the cultural landscape, and to maintain unique cultural heritage elements, ecological values and the links between them, overarching protocols outline behavioural expectations of all visitors to Quandamookadjara and, in turn, Naree Budjong Djara.

QYAC, as the cultural heritage body for the Quandamooka estate, has identified many cultural heritage elements in the landscape. As knowledge is always evolving, it should be expected that not all natural and cultural heritage elements are known widely. Many elements may not yet be known at all, and some have details that are not to be disclosed to the wider public due to a range of sensitivities and to protect these elements. For this reason, many elements of Quandamooka cultural values are demonstrated without precision and many will not be identified at all within this management plan. With time, new knowledge will see the adaptation of approaches and management of these values.



a. Cultural landscape values of Quandamooka People and Country

Key value statement

		Current condition	Current trend	Desired condition
Naree Budjong Djara lies within Quandamookadjara, a significant cultural and ecological landscape, with important ties to cultural values held by the Quandamooka People	Condition and trend	2019 		Short term
	Assessment confidence	Limited 	Limited 	Long term

Joint management of Naree Budjong Djara has helped reinvigorate traditional land management practices. The over-reliance on hazard reduction burning at the expense of *jarlo* fire practices has resulted in vegetation thickening and structural change, and an overall decline of significant cultural and ecological environments. The shared vision of a Quandamooka cultural landscape is an appropriately managed landscape using traditional practices, resulting in a fire-managed landscape of open forest that protects sensitive sites and habitats, large old trees and cultural resources, and is free of pests and weeds, presenting overall vibrant and healthy Country with thriving flora and fauna communities.

To respect Quandamooka People’s cultural landscape values throughout Naree Budjong Djara is to respect this place as a sanctuary to protect cultural, ecological and biodiversity values, as well as the links that may exist between them. In doing so, threats to known and potential values are managed through a precautionary approach. Visitors engaging in activities that are inconsistent with respecting and protecting Quandamooka cultural landscape values and inconsistent with the provisions of the NCA present a threat to overall cultural and natural values in the landscape.



Figure 10. View from Bippo Penbean (Mount Bippo) looking north across Minjerribah, Pulan (Amity), South Passage and Mulgumpin © QYAC 2019



Threats

Primary threat: Hot late spring to summer bushfires and lack of *jarlo* burning practices has led to structural change of environments, loss of large old trees, wetland peat layers, and a regrowth of thickened vegetation, perpetuating a hot fire cycle. **Threat rating: Very high**

Secondary threat: Climate change, as the region is predicted to experience an increase in sea level of 80 cm by 2100, increased temperature, decrease in precipitation, increased evaporation and an increase in extreme weather events (Low-Choy et al. 2013). Paired with inappropriate management of non-climate stressors, such as wildfires, hydrological modification and visitor impacts, deterioration of Quandamooka’s landscape values is possible through hot fires, burning dry wetland peat and erosion events. **Threat rating: Very high**


Other threat: Cats, foxes and wild dogs are a threat to the healthy balance of functioning ecosystems across Quandamookadjarra. Invasive animals threaten significant species and critical-weight-range mammals such as water mouse *Xeromys myoides*, and nesting sea turtles and migratory shorebirds. Domestic dogs, either those that are roaming from Minjerribah’s residential areas or those left unrestrained by visitors to Minjerribah Recreation Area where they are permitted, threaten the cultural landscape through attacks on large mammals such as koalas, kangaroos and wallabies, and disturb roosting shorebirds. **Threat rating: Very high**

Other threat: Changes to the water table associated with altered wetland inflows, outflows, and water extraction from Minjerribah and interference with landform are accredited with groundwater-dependent ecosystems’ altered structure, composition and reliability of surface water and water-dependent resources. **Threat rating: Very high**

Other threat: A range of weeds exist across Naree Budjong Djara, some of them potentially ecosystem-changing, such as lantana *Lantana camara*, whisky grass *Andropogon virginicus* and umbrella tree *Schefflera actinophylla*. Without appropriate management, these diminish the aesthetic, functional and cultural values of the natural environment. **Threat rating: Very high**

Other threat: Visitors who do not respect Naree Budjong Djara as part of the Quandamooka People’s cultural landscape—a sanctuary to protect natural and cultural values—threaten the cultural and spiritual linkages and significance of Country and place by engaging in activities inconsistent with, and detrimental to, the cultural and natural values that form the cultural landscape of Naree Budjong Djara and the linkages between them. Examples of inappropriate visitor behaviour include off-road motorcycle riding, vehicle impacts on dunes, inappropriate toileting, littering and informal bushwalking. **Threat rating: High**





Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
	The condition of the Quandamooka cultural landscape of Naree Budjong Djara will be improved through ongoing joint management of fire and by reducing visitor and pest impacts with respect to Quandamooka People’s values.	
Changed fire frequency or intensity	Improve Quandamooka cultural landscape values of healthy open vegetation communities through integration of <i>jarlo</i> (traditional fire management) practices.	1
Climate change	Manage change and improve resilience of Quandamooka cultural landscape values by reducing impacts of non-climate stressors to reduce the rate of expected transition driven by climate change.	1
Barriers to access, management and connection to Country	Improve knowledge of Quandamooka cultural landscape values.	1
	Improve cultural resource management through Quandamooka-led knowledge sharing.	1
Hydrological modification	Improve knowledge on wetland hydrology and manage for change.	1
Inappropriate visitor behaviour	Reduce the impacts of inappropriate visitor behaviour on the Quandamooka People’s cultural landscape values within Naree Budjong Djara.	2
	Improve compliance and enforcement of visitor behaviours impacting on the Quandamooka People’s cultural landscape values.	2
	Minimise impacts of motorcycles on the Quandamooka People’s cultural landscape values within Naree Budjong Djara.	3
Introduced animals	Minimise impacts of unrestrained domestic dogs in Minjerribah Recreation Area on the Quandamooka People’s cultural landscape values.	2
	Reduce the impacts of feral cats and foxes on the Quandamooka People’s cultural landscape values.	2
Introduced weeds	Reduce the impacts of weeds on the Quandamooka People’s cultural landscape values within Naree Budjong Djara.	3

See Appendix 2. Glossary for priority rating definitions.

b. Kaboora (Blue Lake)

Key value statement

		Current condition	Current trend	Desired condition
Kaboora – window lake and men’s site of significance to Quandamooka People	Condition and trend	2019 		
	Assessment confidence	Limited 	Limited 	

“The sacredness of Kaboora through the ancestral relationship of yuri Kabul and the Quandamooka people tells of the connection between the carpet-snake people of Quandamooka and of certain areas of south-east Queensland, in particular Caboolture. Kaboora was the main resting place of jahgon and even though the water continually flows out every day, the level of sacred water stays the same. Kaboora and its jahgon were, to the Quandamooka people, a very special place of cultural significance.”

Aunty Sandra Delaney

From Quandamooka Dreaming, 2013

Many visitors go into these areas without a thought, but traditionally Kaboora was approached with a sense of reverence, caution and respect. The following story was related by Quandamooka Elders Granny Campbell, Granny Mibu and Granny Nooninya, who were living at Moongalba and recorded by the Superintendent of Myora Mission, Mr Benstead, in 1924.

Kaboora

“Many, many years ago some Noonuccal children were playing by the side of the beautiful lake, Kaboora. One of them found a young carpet snake, which seemed so small and harmless (as, in fact, these snakes are) that the little ones decided to make a pet and playmate of it. They delighted in carrying it about with them, lifting up its smooth body with their hands and caressing it on all occasions.

All the young generation of Noonuccal children competed with one another, bringing it food of every kind to eat and so well cared for it that it grew very large. The years passed by and both children and the snake grew up together. The snake was known far and wide for its huge dimensions and voracious appetite and many of the neighbouring clans came over in their bark canoes to see the snake.

The day came, however, that the snake, either through hunger or anger, swallowed up all his benefactors and disappeared in the depths of the lake. Many years later, the self-same snake was found at Gabulture. Whether it had travelled across the blue waters of Quandamooka, no-one knew.

Even to this day there remain stories of Kaboora, which looks so lonely and mysterious, shut in as it is on nearly every side by high hills. There are those who say that no-one yet has been able to fathom the bottom, while others assert that the sides are curved in and that beneath its waters there lives jargon yuri Kabool, which travels about at night.

This creature has, it is alleged, been actually seen and its appearance is that of an ape. On being seen sunning itself on a branch overhanging the lake as it was, it immediately disappeared beneath the waters. It is also quite seriously asserted that a snapshot was once secured of it, but when and by whom no-one knows.”



Figure 11. The Quandamooka cultural site of Kaboora, viewed from afar, invokes awe with its silence and reflective surface © QYAC 2019

Kaboora, meaning ‘silent pool’ or ‘dawn’ (Holmer 1983), is a culturally important site of high significance to the Quandamooka People. The catchment of the water body features forested high dune ridges, old-growth trees, and trails that Quandamooka rangers have constructed and actively manage (Figure 11).

Due to the water body’s significance in Quandamooka culture, visitors are requested not to swim at Kaboora. This activity is considered culturally insensitive and may impact the site through water pollution, such as introducing sunscreen, soap, shampoo and human waste, leaving litter such as bottles, cans and plastics, vegetation damage, bank trampling and erosion. For the Quandamooka People and visitors, Kaboora may offer a cultural experience, an opportunity to enjoy its natural beauty and take time for quiet reflection. Loud behaviour is considered inappropriate at this cultural site. It is asked that visitors to Kaboora respect the wishes of the Quandamooka People and not enter the water at Kaboora.

The lack of traditional burning along much of Naree Budjong Djara’s landscapes, Kaboora and its surrounds, has led to thickening of the scribbly gum and stringy bark woodlands that surround Kaboora, further threatening the cultural values and elements that may exist within the cultural complex of Kaboora. Reinvigorating traditional burning and some direct management of thickened vegetation led by the Quandamooka People helps maintain this cultural site and protects cultural values.

Kaboora is significant in its geology and hydrology. The stability and persistence of Kaboora as a ‘window lake’ over geological timescales and through changing climates has enabled Kaboora to persist as a cultural site, landscape feature and resource site for the Quandamooka People through history. The hydrogeological significance of Kaboora and other lakes of Naree Budjong Djara is discussed further in key value 5.4b.

Quandamooka People leading the management of Kaboora will ensure that these aspirations are considered, and directions applied, to improve the site’s condition.




Threats

Primary threat: Lack of respect for Kaboora as a culturally significant place and people ignoring the wishes of the Quandamooka People to not enter Kaboora’s water body. Once they enter, secondary impacts such as pollution, littering, misbehaviour, and bank and vegetation trampling can occur. **Threat rating: Very high**

Secondary threat: Hot late spring to summer bushfires and lack of *jarlo* burning practices have led to structural change of environments, loss of large old trees, and a regrowth of thickened vegetation such as she-oak, perpetuating a hot fire cycle. **Threat rating: Very high**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
	Kaboora’s water quality and surrounding vegetation is improved, unaffected by contaminants or lack of <i>jarlo</i> burning practices, and the cultural experience on offer is one of quiet reflection.	
Inappropriate visitor behaviour	Improve visitor knowledge of cultural protocols in respecting the Quandamooka People’s cultural values of Kaboora as a significant cultural complex.	1
	Reduce the impacts of inappropriate visitor behaviour on Kaboora and of the Quandamooka People’s aspirations for Kaboora.	2
	Improve visitor compliance and enforcement at Kaboora.	3
Changed fire frequency or intensity	Protect cultural elements and Quandamooka cultural landscape values at Kaboora through applying <i>jarlo</i> fire practices to reduce the risk of wildfire and encourage healthy open forest communities.	1
	Maintain healthy open forest communities and Quandamooka cultural landscape values at the Kaboora complex, including Tortoise Lagoon, through management of vegetation thickening.	1

See Appendix 2. Glossary for priority rating definitions.



c. Burogari (Cypress) Camps cultural complex

Key value statement

		Current condition	Current trend	Desired condition
Burogari Camps and associated significant cultural sites	Condition and trend	2019 ●●●	↔	●●●●
	Assessment confidence	Limited D	Limited D	

The Burogari Camps cultural complex includes interconnected cultural elements throughout a cultural landscape that has largely escaped disturbances from mining, bushfire and development that are seen elsewhere on Minjerribah.

The Burogari Camps are ancient occupation sites evident from extensive middens in open, old-growth burogari forest groves. It is understood that to facilitate their emergence, and for the persistence of these burogari trees from germination to present day, traditional burning in a cool manner—when moisture levels and conditions are right—would have been required. As an occupation site, a desired open yet shaded environment where the use of cooking fires was safe would have required low fuel levels and regular burning (Figure 12).

As a fire-sensitive species, coastal cypress *Callitris collumendaris* rarely survives hot fires. The suppression of Quandamooka People’s access, active management and ability to carry out cultural obligations has led to little fire being applied. With a lack of fire to manage the groves of cypress, shrubby understorey fuel such as banksia built up throughout this landscape, threatening the persistence of these sites if they were to experience any fire.

With sites identified in the Burogari Camps cultural complex, these historically fire-managed landscapes were, and continue to be, actively managed by Quandamooka rangers, with the purpose of upholding the sites’ integrity through cultural practice and reducing the risk from hot fires. Heavy understorey fuel removal by Quandamooka and joint management rangers has allowed small-scale patchy burns to be implemented. The resulting landscape is an open, low-fuel burogari grove with favourable grass and forb species. Given the learnings and success of the methods applied, this has been replicated at other burogari camp sites within the complex, and at other sites of large significant trees and cultural sites across Naree Budjong Djara (Figure 13).



Figure 12. Quandamooka ranger Jarlon Burns carrying out traditional jarlo fire management practices in the cypress camps © QYAC 2019



Within the Burogari Camps cultural complex is a men’s ceremonial site, managed by similar vegetation intervention work to the Burogari Camps, and implemented by Quandamooka and joint management rangers.


Threats

Primary threat: Hot late spring to summer bushfires and the lack of *jarlo* practices have led to structural change of environments, loss of culturally significant large old trees, deterioration of wetland peat layers, and regrowth of thickened vegetation, perpetuating a hot fire cycle. **Threat rating: Very high**

Secondary threat: The Burogari Camps cultural complex is a significant cultural area and is a declared restricted access area under the NCA. Any unauthorised public access is a breach of Quandamooka cultural protocols and the NCA, and can have a physical impact of this sensitive site. **Threat rating: Very high**

Other threat: The remoteness and loss of access to the Burogari Camps cultural complex has led to scattered occurrences of lantana *Lantana camara* throughout cultural sites and ecologically sensitive environments such as the Eighteen Mile Swamp edges—habitat for the lesser swamp orchid *Phaius australis*. Lantana has the ability to both increase fuel load when dry, threatening fire-sensitive cultural elements such as scarred trees and old burogari, and impede the ability to apply *jarlo* fire practices. **Threat rating: Medium**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
	The condition of the Burogari Camps cultural complex is improved and the Quandamooka People’s land management practices restored, particularly <i>jarlo</i> fire practices, resulting in a complex free of disturbance by visitors and weeds.	
Changed fire frequency or intensity	Protect cultural elements and Quandamooka cultural landscape values through applying <i>jarlo</i> fire practices to reduce the risk of wildfire and encourage healthy open forest understorey.	1
Inappropriate visitor behaviour	Maintain healthy open forest communities and Quandamooka cultural landscape values at Burogari Camps cultural complex through vegetation management.	1
Inappropriate visitor behaviour	Improve visitor compliance through increased surveillance and enforcement of public access restrictions to the complex.	2
Introduced weeds	Reduce extent of invasive weeds within the Burogari Camps cultural complex.	3
Barriers to access, control and connection to Country	Improve knowledge on cultural elements throughout the Burogari Camps cultural complex.	3

See Appendix 2. Glossary for priority rating definitions.

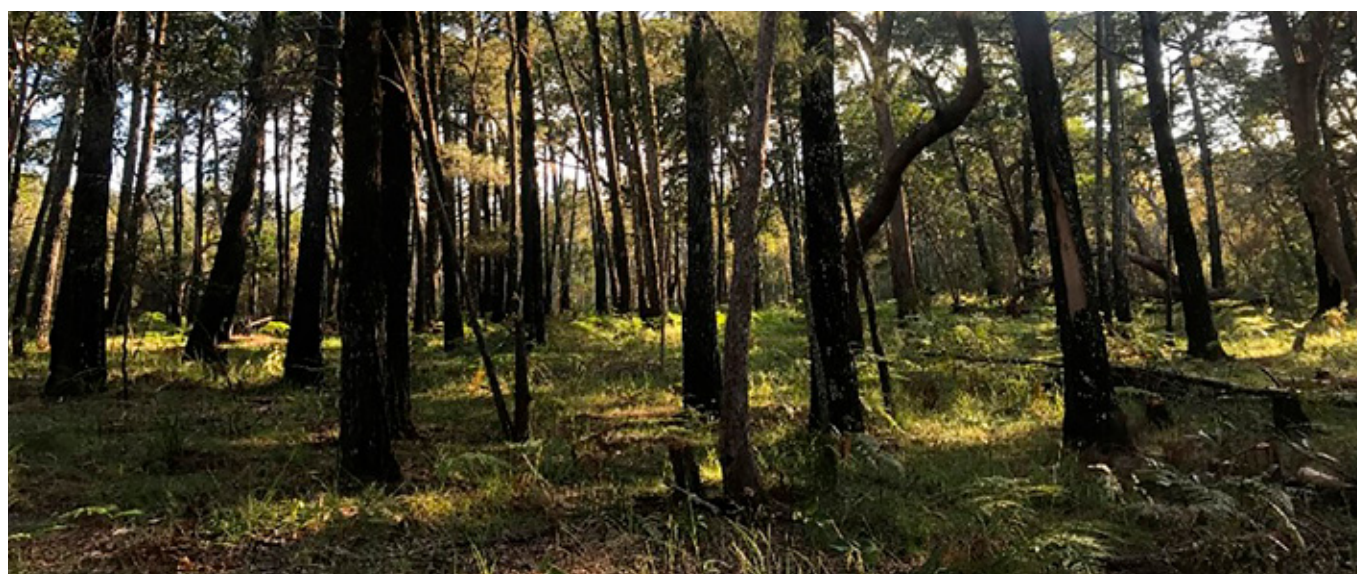


Figure 13. Open and grassy understorey of Quandamooka-managed Burogari Camps following understorey management and implementing traditional burning practices © QYAC 2019

4.2 Open heath on dunes

Key value statement

		Current condition	Current trend	Desired condition
Open heath on dunes	Condition and trend	2019 ●●	↓	●●●●
	Assessment confidence	Inferred ○	Inferred ○	

Open heath on dunes (RE 12.2.13, BVG_1M 29a) is a naturally restricted and floristically diverse community. Naree Budjong Djara contains the largest remaining patch of this threatened community, 244 ha in total, with very few examples within the protected area estate in Queensland. This community is habitat for the vulnerable tiny wattle *Acacia baueri* subsp. *baueri*, which has been recorded within Naree Budjong Djara (Figure 14).

The Quandamooka People have maintained the open heath with the surrounding landscapes through time by applying *jarlo* practices. This mosaic approach to burning has resulted in an age-class diversity supporting a range of important wildflower species important for cultural and ceremonial purposes, such as decoration for weddings and sorry business.

This vegetation community is often characterised by open dune peaks and slopes, an abundance of *Xanthorrhoea johnsonii* and stunted, sparsely arranged wallum banksia. This community occurs in association with mallee woodland, mallee needle stringybark *Eucalyptus planchonia*, red bloodwood *Corymbia gummifera*, scribbly gum *Eucalyptus racemosa* subsp. *racemosa*, wallum banksia *Banksia aemula* woodland on dunes



Figure 14. Open heath on dunes Bippo Oyerpunya (Mount Hardgrave) © QYAC 2019

and sand plains (RE 12.2.10, BVG_1M 29a), as well as in occurrence with the less open but heath-like community *Banksia aemula* low open woodland on dunes and sand plains (RE 12.2.9, BVG1M: 29a). A diverse range of winter- and spring-flowering wildflowers are present in the open heath communities, including pea-flowers of *Pultenaea*, *Gompholobium* and *Dillwynia* species.

Throughout recent history, passive management of the open heath on dunes communities has led to the fire regime in this community being exposed to hot, summer bushfire events every 10–15 years. While the impact of these events on this community is largely unknown, a high level of obligate-seeder recruitment and thickening of wallum banksia canopy cover and individuals did occur following the 2014 bushfire (NPRSR 2013). The extended time between fire events allows the fuel loads in the understorey to increase, and scrambling species such as devil's twine *Cassytha* species to smother the shrub and ground layer. This further increases the risk of future bushfire events and lost resilience in high-intensity burning.

With a predicted drying environment due to climate change, increased temperatures, extended wildfire seasons, severe weather events and *mugara* (thunderstorm) activity pose further risk of unplanned fire in this landscape (Low-Choy et al. 2016). In combination with a lack of applying *jarlo* fire practices, further decline in the condition of this landscape is expected.



On the hill peaks, visitors accessing viewpoints of the surrounding landscape has led to the creation of informal access tracks and the deterioration of this ecosystem in places. When small unauthorised trails are made, their continued and increasing use leads to trail widening and allows transport of pests, both plant and animal. Eventually, they may become wide enough for vehicle access and lead to serious degradation resulting from erosion, such as the degradation evident through the open heath on Bippen Penbean, north of Goompi (Dunwich).

Threats

Primary threat: Frequent severe wildfires causing ecosystem structural and composition changes, such as the death of large, old dakabin *Xanthorrhoea johnsonii*, soil changes and loss of soil nutrients. **Threat rating: High**

Secondary threat: Lack of *jarlo* fire practices resulting in woody thickening by obligate-seeding species and reduced species richness, and threatening the Quandamooka cultural landscape. **Threat rating: High**

Other threat: Inappropriate visitor behaviour including use of motorcycles and four-wheel drives on steep sand dunes containing open heath. Bush toileting and rubbish along roads and tracks through open heath community. **Threat rating: High**


Other threat: While Naree Budjong Djara is gazetted as IJMA, some areas of open heath within the protected area remain under mining lease. **Threat rating: Medium**

Other threat: Climate change, as the region is predicted to experience increased temperature, extended wildfire seasons, decrease in precipitation, increased evaporation, an increase in extreme weather events and *mugara* activity. **Threat rating: Medium**

Other threat: Increase of ecosystem changing weeds such as whisky grass *Andropogon virginicus* along ecosystem edges and along internal tracks. **Threat rating: Low**

Other threat: Clearing of the open heath ecosystem for tracks and other infrastructure. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
	The condition of open heath on dunes will be improved to <i>good</i> through applying <i>jarlo</i> fire practices and preventing encroachment of woodland species, pest plants and informal visitor access.	
Changed fire frequency or intensity	Restore Quandamooka cultural landscape values of healthy open heath on dune communities through applying <i>jarlo</i> fire practices.	2
	Protect Quandamooka cultural landscape values of healthy open heath on dunes by limiting wildfire and/or planned burn encroachment when it is inconsistent with <i>jarlo</i> fire practices for this ecosystem.	2
Work or other activities	Reduce the impacts of informal visitor access on open heath on dune communities.	3
Introduced weeds	Prevent the establishment of ecosystem-changing invasive grasses within open heath on dune communities.	3
Inappropriate visitor behaviour	Minimise visitor impacts caused by unauthorised vehicle use, bush toileting and rubbish on open heath on dune communities.	2
Mining and quarrying	Monitor the impacts of mining on open heath on dune communities.	2
Climate change	Manage change and improve resilience of open heath on dune communities by reducing impacts of non-climate stressors to reduce the rate of expected transition from climate change.	2

See Appendix 2. Glossary for priority rating definitions.



4.3 Mixed microphyll/notophyll rainforest

Key value statement

		Current condition	Current trend	Desired condition
Mixed microphyll/notophyll rainforest	Condition and trend	2019 		
	Assessment confidence	Inferred 	Inferred 	

Notophyll vine forest on beach ridges (RE 12.2.2, BVG_1M 3a) occurs as a naturally restricted and endangered community, and is listed as the Critically Endangered Threatened Ecological Community (TEC) ‘Littoral rainforests and coastal vine thickets of eastern Australia’ under the Commonwealth EPBC Act. A small area of this regional ecosystem is located within Myora Conservation Park.

Patches of piccabeen palm *Archontophoenix cunninghamiana*, cabbage-tree palm *Livistona australis* and pink euodia *Melicope elleryana* closed forest occurring at the base of high coastal dunes (RE 12.2.1a, BVG_1M 4a) have been recorded in association with Eighteen Mile Swamp on the south-eastern slopes of Minjerribah (Figure 15). While some areas are identified and mapped, some are currently mapped as RE 12.2.7a, broad-leaved paperbark *Melaleuca quinquenervia* open forest on sand plains (*Ecological Assessment Report*, Stingaree Island and the lands adjacent to Swan Bay restricted access area n.d.). These areas feature many of the species found in the ‘Littoral rainforests and coastal vine thickets of eastern Australia’ TEC, meeting the conditions for this regional ecosystem to be considered for inclusion under the EPBC listing.



Figure 15. Piccabeen palm and cabbage-tree palm along Eighteen Mile Swamp © QYAC 2019

These patches are significant in their disjunct locations, diversity of both flora and fauna, and as ecosystems in contrast with their surrounding and much drier sclerophyll environments. The range of rainforest plants displays the persistence of important natural, cultural and food resources

for the Quandamooka People, with several cultural heritage sites, including camp and midden sites, near these rainforest patches. Many rainforest patches are closely associated with open bodies of water—culturally important water places—at the base of high dunes, adjacent to sedge-dominated wetlands and broad-leaved paperbark woodlands.

Cultural burning of adjacent woodland and wetland environments using traditional *jarlo* practices has ensured the long-term survival of these rainforest patches. Low-intensity burning in these adjacent environments reduces fuel loads and woody thickening of obligate-seeding species and broad-leaved paperbark encroachment of sedge-dominated wetlands. With appropriate management, the reduction of high fuel loads will reduce fire impacts and mitigate the damage or loss of rainforests in an uncontrolled fire event.

As these patches are spatially restricted, supported by groundwater and surface water supply, and sensitive to fire, it is expected that



a changing climate will increase the severity of current threats. Managing the surrounding environment will be of great importance to the long-term protection of microphyll/notophyll rainforest areas.

Threats

Primary threat: Fire encroachment into this fire-sensitive community and associated cultural sites from adjacent fire-adapted communities. **Threat rating: Very high**


Secondary threat: Climate change, as the region is predicted to experience increased temperature, decrease in precipitation, increased evaporation, an increase in extreme weather events and *mugara* activity. **Threat rating: High**

Other threat: Changes to the water table and surface water persistence associated with landscape modification, altered ground and surface water inflows and outflows, and water abstraction from Minjerrabah (Centre for Coast Management 2002), allowing a thickening of *Melaleuca quinquenervia* swamp fringes. **Threat rating: High**

Other threat: Predation by cats and foxes of mixed microphyll/notophyll rainforest fauna. **Threat rating: High**

Other threat: Increase of ecosystem-changing weeds, such as *Lantana camara*, which can out-compete native species and modify rainforest structure. **Threat rating: High**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
 <p>The condition of mixed microphyll/notophyll rainforest will be improved to <i>significant concern</i> by reducing pest plant impacts and applying <i>jarlo</i> fire practices in adjacent communities.</p>		
Changed fire frequency or intensity	Apply <i>jarlo</i> fire practices to adjacent fire-adapted communities to reduce the risk of wildfire entering this community.	1
Introduced weeds	Contain the spread of basket asparagus fern, Easter cassia, lantana, umbrella tree, leucaena, cherry guava and corky passionfruit in mixed microphyll/notophyll rainforest.	2
Hydrological modification	Monitor the impacts of water draw down on ecosystems adjacent to mixed microphyll/notophyll rainforest through SEQwater monitoring bore data.	2
Introduced animals	Reduce impacts of cats and foxes on the fauna of mixed microphyll/notophyll rainforest.	2
Climate change	Manage change and improve resilience of mixed microphyll/notophyll rainforest communities by reducing impacts of non-climate stressors to reduce the rate of expected transition from climate change.	2

See Appendix 2. Glossary for priority rating definitions.



4.4 Wetlands

a. Estuarine clay plains and wetlands

Key value statement

		Current condition	Current trend	Desired condition
Estuarine clay plains and wetlands	Condition and trend	2019 ●●	↓	●●●
	Assessment confidence	Inferred ○	Inferred ○	

Saltpan vegetation, including grasslands, herblands and sedgelands on marine clay plains (RE 12.1.2, BVG_1M 35b) and mangrove shrublands on clay plains and estuaries (RE 12.1.3, BVG_1M 35a), extend along the western coastal edge and southern areas of Naree Budjong Djara (Figure 16). These saline communities provide a range of important cultural resources to the Quandamooka People, such as mudcrabs and oysters. These environments play an essential role in ensuring the sustainable use of marine resources, as they are the breeding grounds, nurseries, shelter and feeding habitat for the wide diversity of important species in Moreton Bay and further afield.

Mangrove shrublands provide buffering from storm surges and vessel wash, filter surface run-off prior to reaching marine environments, and protect non-estuarine wetlands and forests adjacent to the coastline from saltwater influence. These environments provide essential habitat for the vulnerable water mouse *Xeromys myoides*, evident from its mound-building habits throughout the upper limits of the mangrove forests.

Adjacent to mangrove environments are saltpan grasslands, herblands and sedgelands dominated by species such as prickly couch *Zoysia macrantha*, salt couch *Sporobolus virginicus* and samphire *Sarcocornia quinqueflora*. These areas of the upper intertidal flats and saltmarsh may only be inundated at the highest tides, creating a hypersaline environment devoid of other larger salt-tolerant vegetation such as mangroves. Areas of these saltmarsh are habitat for a wide range of migratory shorebirds, fish and marine invertebrates. This regional ecosystem meets the requirements for ‘Subtropical and Temperate Coastal Saltmarsh’ listed as a vulnerable TEC under the EPBC Act.



Figure 16. Salt couch in salt marine clay plains in southern Naree Budjong Djara © QYAC 2019



Saltmarsh environments on Naree Budjong Djara have experienced decline in extent and are projected to decrease in cover further through mangrove expansion associated with sea level rise (IPCC 2014), increased storm surge influence and reduced groundwater outflows (Low-Choy et al. 2013). With a reduction in extent, these saltmarsh areas require ongoing protection from damaging vessel wash and fire encroachment.

Threats


Primary threat: Climate change, as the region is predicted to experience an increase in sea level of 80 cm by 2100, increased temperature, decrease in precipitation, increased evaporation and an increase in extreme weather events. **Threat rating: Very high**

Secondary threat: Thickening of mangrove communities and encroachment by mangroves into estuarine grassland, herbland and sedgeland. **Threat rating: High**

Other threat: Erosion and/or sedimentation of estuarine clay plains and wetlands by increased wave action caused by vessel traffic and/or increased tidal levels. **Threat rating: High**

Other threat: Fire encroachment on marine grasslands from adjacent communities. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
	The condition of estuarine clay plains and wetlands will be improved to <i>good with some concern</i> by monitoring coastal retrograde, reducing pest plant impacts and implementing <i>jarlo</i> fire practices in adjacent communities.	
Threatening processes	Strategic management directions	Priority
Climate change	Manage change and improve resilience of estuarine clay plain and wetland communities by reducing impacts of non-climate stressors to reduce the rate of expected change from climate change.	2
Coastal retrograde	Monitor the impacts of erosion and/or sedimentation of estuarine clay plains and wetlands.	1
	Work collaboratively with other agencies within marine parks to assess effectiveness of vessel wash reduction measures.	2
Problematic native plants	Monitor the impacts of mangrove thickening on estuarine clay plains and wetlands.	2
Changed fire frequency or intensity	Protect estuarine clay plains and wetlands through application of <i>jarlo</i> fire practices to adjacent fire-adapted communities.	5

See Appendix 2. Glossary for priority rating definitions.



b. Wet heath and sedgeland coastal swamps

Key value statement

		Current condition	Current trend	Desired condition
Wet heath and sedgeland coastal swamps	Condition and trend	2019 ●●	↓	●●●●
	Assessment confidence	Inferred ○	Inferred ○	

Naree Budjong Djara National Park contains significant large areas of sword grass *Gahnia sieberiana*, spreading rope grass *Empodisma minus* and coral ferns *Gleichenia* spp. closed sedgeland in coastal swamps. (RE 12.2.15, BVG_1M 34c) (Figure 17) and closed heath on seasonally waterlogged sand plains (RE 12.2.12, BV_1M 29a). These swamps provide essential habitat for a vast number of threatened species, including the endangered yellow swamp orchid *Phaius bernaysii* and lesser swamp orchid *Phaius australis* (Figure 18), endemics *Olearia hydrophile* and *Eleocharis difformis*, and a fern *Thelypteris confluens*. Due to the low pH of many of these swamps, they are habitat for unique threatened species such as Oxleyan pygmy perch *Nannoperca oxleyana*, Cooloola sedgefrog *Litoria cooloolensis*, wallum rocketfrog *Litoria freycineti*, wallum sedgefrog *Litoria olongburensis* and wallum froglet *Crinia tinnula*.

Many of these coastal swamps and wetlands are associated with sensitive cultural sites, water places and story places, and are of high cultural and spiritual importance to Quandamooka People.

Perched lakes and swamps form many of the wetland systems on Naree Budjong Djara. Decomposing leaf litter, peat and indurated sand layers form a basin where water from groundwater expressions or rainfall is retained on the surface, forming often large bodies of water in valley floors and landscape depressions. Kaboora’s hydrology differs from the perched lakes on Minjerribah as it is a window lake—a depression that sinks below the surrounding landscape and into the groundwater level, presenting a ‘window’ into the aquifer. Only a number of these lakes are present across Queensland, with Kaboora being the only window lake on Minjerribah. Kaboora is



Figure 17. *Gahnia* closed sedgeland in coastal swamp at Arandarawai Creek © QYAC 2019



unique in its stability in both depth and chemistry over millennial timescales, presenting a resilient and persistent cultural and natural resource through dramatic events of climatic change (DES 2019; Barr et al. 2013), and as such, a potential refuge through expected climatic change. Other Gahnia swamp environments present a wallum or wet heath environment, large, open and slightly undulating swamplands on thick peat layers. During late winter and through spring, these wet heaths offer a spectacular display of wildflowers, many of which are used for cultural purposes by the Quandamooka People (Figure 7, page 16).

The diversity of sedge, reed and fern species in these wetlands provides cultural resources for Quandamooka People. Certain reeds and grasses that grow within the wetlands are best for weaving baskets, bags and nets, with nyunggeh *Baumea rubiginosa* being highly regarded for this. Their collection and use is a native title right enjoyed by Quandamooka People.

A number of swamp, wetland and lake ecosystems on Naree Budjong Djara have experienced woody thickening and encroachment of broad-leaved paperbark, most notably throughout open areas of Eighteen Mile Swamp (Specht & Stubbs 2011) due to a combination of extended dry periods, long fire intervals, lack of applying *jarlo* fire practices, and changes to groundwater hydrology through abstraction and modification.

Climate change projections for the south-east Queensland region indicate current and future challenges for protecting the swamps and wetlands of Naree Budjong Djara. These challenges include an increase in temperatures, decreased overall rainfall, an increase in severity of lightning activity and heavy rainfall events, and increased evaporation, leading to a drier, more fire-prone environment (Low-Choy et al. 2013).

Threats


Primary threat: Changes to the water table caused by water abstraction from Minjerribah, and/or damage to perching layers, reduce moisture levels in swamps and dry out peat layers, allowing *Melaleuca quinquenervia* to establish in higher than usual densities. **Threat rating: Very high**

Secondary threat: Without implementing *jarlo* fire practices, these wetlands currently burn during hot unplanned fires, damaging peat layers. **Threat rating: High**

Other threat: Climate change, as the region is predicted to experience an increase in temperature, decrease in precipitation, increased evaporation and an increase in extreme weather events. **Threat rating: Medium**

Other threat: An increase in the abundance and distribution of ecosystem-changing weeds, such as groundsel *Baccharis halimifolia*, which can out-compete native species and modify wetland vegetation structure. **Threat rating: Medium**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
 <p>The condition of wet heath and sedgeland coastal swamps will be improved to <i>good</i> in the long term by monitoring hydrological modification, reducing pest plant impact and applying <i>jarlo</i> fire practices.</p>		
Hydrological modification	Monitor the impacts of hydrological modification on wet heath and sedgeland coastal swamps.	1
Changed fire frequency or intensity	Restore critical structural elements and age-class variation of Quandamooka cultural landscape values of wet heath and sedgeland coastal swamps through targeted application of <i>jarlo</i> fire practices.	2
Introduced weeds	Prevent the establishment or incursion of ecosystem-changing weed species through adoption of appropriate biosecurity practices.	4
Climate change	Manage change and improve resilience of wet heath and sedgeland coastal swamps communities by reducing impacts of non-climate stressors to reduce the rate of expected transition from climate change.	2

See Appendix 2. Glossary for priority rating definitions.



c. *Melaleuca quinquenervia* open woodlands

Key value statement

		Current condition	Current trend	Desired condition
<i>Melaleuca quinquenervia</i> open woodlands	Condition and trend	2019 ●●●	↔	●●●●
	Assessment confidence	Inferred ○	Inferred ○	

Melaleuca quinquenervia open woodlands (RE 12.2.7, BVG_22a) occur on coastal dunes and seasonally waterlogged sandplains, and are closely associated with *Gahnia* closed sedgeland in coastal swamps (RE 12.2.15, BVG_1M 34c). This also occurs as the vegetation community *Melaleuca quinquenervia* low woodland with *Gahnia sieberiana* ground layer on Quaternary coastal sand dunes fringing swamps (Figure 18).

These broad-leaved paperbark woodlands feature many of the natural and cultural values of open *Gahnia* swamps, yet the understorey is afforded more shade and retains greater moisture due to the canopy. In turn, this provides essential habitat for the endangered yellow swamp orchid *Phaius bernaysii* and lesser swamp orchid *Phaius australis*, and the ‘near threatened’ *Duringtonia paludosa* and *Olearia hydrophila*.

As this ecosystem is a woodland environment, the large paperbarks and swamp mahogany *Eucalyptus robusta* provide key food and shelter trees for koalas *Phascolarctos cinereus*. With the lack of *jarlo* fire practices, long fire intervals and repeated wildfires, exacerbated by drier and hotter conditions associated with climate change and altered hydrology, the thickened whipstick paperbark understorey forms heavy fuel loads. This, in turn, threatens the mature and emerging canopy trees essential for supporting koala populations in Naree Budjong Djara’s wetlands.



Figure 18. Swamp orchid *Phaius australis* flowering in *Melaleuca quinquenervia* open woodland understorey © QYAC 2019



Threats


Primary threat: Changes to the water table caused by water abstraction from Minjerribah, and/or damage to perching layers, reduce moisture levels in swamps and dry out peat layers, allowing *Melaleuca quinquenervia* to establish in higher than usual densities. **Threat rating: Very high**

Secondary threat: The lack of implementation of *jarlo* fire practices, resulting in *Melaleuca quinquenervia* thickening. **Threat rating: High**

Other threat: An increase in the abundance and distribution of ecosystem-changing weeds, such as groundsel *Baccharis halimifolia*, which can out-compete native species and modify wetland vegetation structure. **Threat rating: Medium**

Other threat: Climate change, as the region is predicted to experience an increase in temperatures and decrease in overall rainfall. **Threat rating: High**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
	The condition of <i>Melaleuca quinquenervia</i> open woodlands will be maintained as <i>good</i> in the long term by monitoring hydrological modification, reducing pest plant impacts and implementing <i>jarlo</i> fire practices.	
Hydrological modification	Monitor the impacts of hydrological modification on <i>Melaleuca quinquenervia</i> open woodlands.	1
Changed fire frequency or intensity	Restore critical structural elements and age-class variation of Quandamooka cultural landscape values of <i>Melaleuca quinquenervia</i> open woodlands through targeted application of <i>jarlo</i> fire practices.	2
	Manage fire in <i>Melaleuca quinquenervia</i> open woodlands in response to hydrological modification.	1
Introduced weeds	Reduce impacts of ecosystem-changing weeds on <i>Melaleuca quinquenervia</i> open woodlands.	4
Climate change	Manage change and improve resilience of <i>Melaleuca quinquenervia</i> open woodlands communities by reducing impacts of non-climate stressors to reduce the rate of expected transition from climate change.	2

See Appendix 2. Glossary for priority rating definitions.



4.5 Quandamooka eco-cultural experience

Key value statement

		Current condition	Current trend	Desired condition
Quandamooka eco-cultural experience	Condition and trend	2019 		
	Assessment confidence	Limited 	Limited 	

“Quandamooka People have always shared our sanctuary with others who respect our values. We must ensure that there is always sufficient space and time for Quandamooka People to access and enjoy Country and resources and to undertake cultural activities.

While the Quandamooka People will continue to control how our sanctuary is shared, our sincerest wish is for visitors to feel welcome and be enriched through engagement with Quandamooka People, Country and culture.”

Gundjundabu Murumba Gubiyiyanya – Tourism for A Glad Tomorrow (QYAC 2018)

Minjerribah is about 40 km south-east of Brisbane and is a popular tourism destination, with between 320 000 and 380 000 people visiting in 2017 (QYAC 2018). Visitors are encouraged to enjoy learning about Quandamooka culture, landscapes, values and knowledge while visiting, beach-camping at Flinders Beach and Main Beach, bushwalking, appreciating nature and enjoying the four-wheel drive beach experience.

For new eco-cultural tourism opportunities, including commercial activities, the Quandamooka People must be supported to play the lead role in managing and determining aspirational goals to ensure that the cultural, environmental and material benefits are maximised.

Visitors are encouraged to come to Naree Budjong Djara to appreciate the unique eco-cultural landscape and be immersed in a cultural experience. It is asked that visitors respect Naree Budjong Djara as part of the Quandamooka People’s cultural landscape—a sanctuary that protects natural and cultural values. QYAC and QPWS jointly manage the unique eco-cultural visitor experience within Naree Budjong Djara, with QYAC and Minjerribah Camping managing the camping and beach-touring experience within the Minjerribah Recreation Area.

Through joint management, QYAC and QPWS wish to promote, enhance and elevate Quandamooka cultural awareness among visitors to further enrich the eco-cultural experience on offer. Joint management seeks to encourage culturally appropriate and respectful behaviour when visiting or conducting commercial activities on Naree Budjong Djara.

Through visitor management, education and compliance activities, QYAC, QPWS and Minjerribah Camping continue to care for Naree Budjong Djara to ensure that eco-cultural tourism as a value does not become a threat to the cultural and ecological values that make visiting Naree Budjong Djara a unique experience.



Threats

Primary threat: Inappropriate visitor behaviour threatens the cultural significance of Country and place and impacts natural values and visitor experience. **Threat rating: High**

Secondary threat: Unrestrained domestic dogs are a direct threat to wildlife including koalas, kangaroos and shorebirds, and impact on visitor experience. **Threat rating: High**

Other threat: Current visitor facilities and infrastructure are insufficient to meet visitor demands and expectations, having an adverse impact on visitor experience within the Minjerribah Recreational Area. **Threat rating: Medium**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
	The condition of the Quandamooka eco-cultural experience of Naree Budjong Djara will be improved through ongoing joint management by facilitating cultural and ecological appreciation and reducing visitor impacts, with respect to the Quandamooka People's values.	
Inappropriate visitor behaviour	Enhance educational messaging and communication with visitors and commercial operators about appropriate behaviour regarding Quandamooka People's cultural landscape values.	1
	Support the Quandamooka People in ensuring activities and operators are culturally trained and meeting and promoting cultural and ecological values.	1
	Reduce impacts from inappropriate visitor behaviour through improved compliance and enforcement activities.	2
	Minimise impacts on Quandamooka People's cultural landscape values by enhancing communication about motorcycles not being permitted within Naree Budjong Djara.	3
Inappropriate facilities	Improve visitor facilities and infrastructure to reduce impacts on the eco-cultural landscape.	2
Introduced animals	Minimise impacts in Minjerribah Recreation Area on Quandamooka People's cultural and ecological values and other visitors' experience by unrestrained domestic dogs.	2
	Improve communication to visitors on requirements for domestic dogs in the Minjerribah Recreation Area.	2

See Appendix 2. Glossary for priority rating definitions.

5. Management directions

Through joint management, QYAC and QPWS manage Naree Budjong Djara to protect the cultural and natural values and deliver legislative, cultural and management obligations as joint land managers under the NCA and IMA.



Figure 19. QYAC and QPWS rangers working together to remove lantana from the cultural landscape © QYAC 2019



An assessment of levels of service (LoS) allows joint managers to consider the management of Naree Budjong Djara in a state-wide context and determine desired LoS for each management theme in a consistent and equitable way. A desired LoS rating lets joint management staff and the public know what type or level of management activity to expect. There are five LoS ratings ranging from 'acceptable' to 'exceptional': an acceptable rating is the minimum standard required to deliver good management and meet the IMA, legislative and cultural obligations.

The key areas for management in Naree Budjong Djara are joint management and cultural heritage, fire, natural values and community, partnerships and other interests. This section provides a **management direction statement** for each management theme, identifying its current LoS, desired LoS and the strategic management direction for management.

Summary of management direction

A summary of the current and desired LoS for Naree Budjong Djara is shown below; Figure 20 provides a key to the LoS icons.



















	Current LoS	Desired LoS
1. Joint management partnership and cultural heritage management	 Very high	 Exceptional
2. Fire management	 Medium	 Very high
3. Pest management	 Medium	 High
4. Natural values management	 High	 Very high
5. Historic cultural heritage management	 Acceptable	 Acceptable
6. Visitor management	 High	 High
7. Community, partnerships and other interest	 High	 Very high
8. Field management capability	 High	 High
9. Operational planning and management support	 High	 High

Figure 20. Key to LoS icons





5.1 Joint management partnership and cultural heritage management

Management direction statement

Joint management partnership and cultural heritage management of Naree Budjong Djara	<p>Current level of service</p> 
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The Quandamooka People’s rights and interests are key to the joint management arrangements under the IMA. As joint managers, QYAC and QPWS manage Naree Budjong Djara to protect the integrity of the diverse natural and cultural values in accordance with traditional knowledge.

QPWS and QYAC have obligations to each other in supporting the delivery of:

- IMA arrangements for joint management
- cultural heritage management
- the Quandamooka People’s native title rights and interests.

Desired level of service and strategic management direction

Desired level of service



Joint management partnership and cultural heritage management will be managed at an ‘exceptional’ LoS through enhancing knowledge and management capacity and partnerships, to protect and enhance the Quandamooka People’s rights, interests, cultural values and aspirations.

Strategic management directions Priority

Management obligations

Ensure the delivery of provisions under the IMA.	1
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Level of service

Maintain effective joint management partnerships and governance arrangements to ensure the delivery of IMA objectives.	1
Support the Quandamooka People to play a lead role in the management and governance of joint management through QYAC.	1
Improve the capacity of QYAC to undertake and complete cultural heritage management priorities.	1
Maximise employment, procurement, capacity building and participation for Quandamooka People through joint management.	1
Improve the level of understanding, awareness and appreciation of QPWS field officers of the island’s cultural values and the Quandamooka People’s connection to Country.	1

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

5.2 Fire management

Management direction statement


Fire management for Naree Budjong Djara	<p>Current level of service</p> 
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Fire management is core business for QYAC and QPWS, to protect life and property, mitigate wildfires and maintain Naree Budjong Djara’s natural diversity and cultural integrity. This is done in accordance with the NCA, *Fire and Emergency Services Act 1990* (Qld) and traditional ecological knowledge for the control and prevention of fires. QYAC and QPWS work jointly to manage fire across the landscape and collaborate with state and local government agencies, rural fire brigades, adjoining landholders and local communities.

The strategic management direction in this management plan, combined with the Quandamooka People’s knowledge of traditional burning practices (as defined by QYAC’s Quandamooka Jarlo Fire Management project) and the Queensland Government’s *Planned Burn Guidelines: Southeast Queensland Bioregion of Queensland*, guides the formation of the *Naree Budjong Djara Fire Strategy*. The strategy details QYAC and QPWS’s obligations for protecting life and property, and fire management objectives for maintaining key cultural and natural values through using fire management zones.

The *Naree Budjong Djara Fire Strategy* will complement the *Minjerrabah Township Fire Management Strategy*, with a land management agreement between joint management partners for QYAC to manage bushfire risk surrounding townships and develop a network of strategic fire management lines across the protected area estate and other tenure, with agreement from stakeholders. This work supports the management of fire within Naree Budjong Djara and works to significantly reduce fire risk and allow the implementation of traditional *jarlo* fire practices.

Desired level of service and strategic management direction

Desired level of service	
	<p>Fire will be managed to a ‘very high’ LoS through improved knowledge, management capacity and partnerships, to protect and reduce risk of life and property and to protect and enhance Quandamooka cultural values.</p>
Strategic management directions	Priority

Management obligations

Mitigate the potential severity and impacts of wildfire on neighbouring properties by supporting the implementation of the <i>Minjerrabah Township Fire Management Strategy</i> .	1
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Level of service

Improve the current level of fire management knowledge, understanding of <i>jarlo</i> fire practices, and understanding of fire requirements of the natural and cultural key values within QYAC and QPWS.	1
Improve the level of fire management skills within QYAC and QPWS.	1
Improve the capacity of QYAC and QPWS to undertake and complete priority burns in the fire management program.	1
Improve the current level of fire management consultation with neighbours and stakeholders.	2

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

5.3 Pest management


Management direction statement

Pest management for Naree Budjong Djara	<p>Current level of service</p> 
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Pest management is core business for QYAC and QPWS to mitigate the threats to biodiversity in accordance with the NCA and traditional ecological knowledge. QYAC and QPWS have a responsibility under the *Biosecurity Act 2014* (Qld) to take all reasonable and practical steps to minimise the risks associated with plant and animal pests on lands under our control. Recognising that effective management of pests across the landscape is a shared responsibility, QYAC and QPWS acknowledge the partnership with state and local government agencies, landholders and natural resource management groups.

The strategic management direction in this management plan guides the formation of the *Naree Budjong Djara Pest Strategy*. The strategy details pest management objectives for preventing and mitigating pest impacts on key values, and joint management obligations for managing pests and priority pest species. Managing threats from pest plants, pest animals and unrestrained domestic dogs enhances both the cultural and natural values within Naree Budjong Djara and further improves the eco-cultural experience for visitors.

Desired level of service and strategic management direction

Desired level of service	
	Pests will be managed to a ‘high’ LoS through improved knowledge and a more strategic approach to management and protection of the cultural and natural values.
Strategic management directions	Priority

Management obligations

Improve the level of engagement with stakeholders to mitigate the potential impacts of pests on neighbouring properties.	1
Level of service	
Improve the level of pest plant and animal knowledge and understanding of their impacts on cultural and natural key values.	2
Improve pest plant management effectiveness by increasing focus on ecosystem-changing pest plants.	2
Improve the level of pest management skills within QYAC and QPWS.	2
Improve the capacity of QYAC and QPWS to undertake and complete priority pest animal and plant projects in the pest management program.	2

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).



5.4 Natural values management

Management direction statement

Natural values management for Naree Budjong Djara	<p>Current level of service</p> 
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QYAC and QPWS manage natural values in accordance with the NCA, EPBC, *Environmental Protection Act 1994* (Qld) and relevant international agreement guidelines, and by incorporating traditional ecological knowledge.

Naree Budjong Djara has significant natural values, including endangered regional ecosystems, and Quandamooka cultural heritage elements. The condition of natural values will be monitored through the implementation of the *Naree Budjong Djara Monitoring and Research Strategy*.

Threatening processes will be managed through the implementation of Naree Budjong Djara’s fire, pest and visitor strategies.

Naree Budjong Djara’s natural values are closely associated with, or inseparable from, Quandamooka People’s cultural value of healthy Country and landscapes. To manage and improve natural values is to improve the condition of cultural landscape values.

Desired level of service and strategic management direction

Desired level of service	
	Natural values will be managed to a ‘very high’ LoS through improved knowledge and a more strategic approach to management and protection of the natural key values.
Strategic management directions	Priority

Level of service

Improve the current level of knowledge of Naree Budjong Djara’s natural key values.	2
Improve the level of natural resource management skills within QYAC and QPWS as required to protect and maintain the natural key values.	2
Health check monitoring	
Monitor the condition of natural key values through health check monitoring.	1

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).



5.5 Historic cultural heritage management

Management direction statement


Historic cultural heritage management for Naree Budjong Djara	<p>Current level of service</p> 
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QPWS and QYAC manage historical sites in accordance with the NCA and *Queensland Heritage Act 1992* (Qld).

There are no identified heritage sites of significance within Naree Budjong Djara and none listed on the Queensland Heritage Register or Australian National Heritage List. Accordingly, the ‘acceptable’ LoS has been applied.

Sites identified or contained in future planning areas will be managed in accordance with contemporary heritage management provisions.

Desired level of service and strategic management direction

Desired level of service	
	Historic cultural heritage values will be managed to an ‘acceptable’ LoS.
Strategic management directions	
Level of service	
Maintain the current approach to historic cultural heritage management.	M

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).



5.6 Visitor management

Management direction statement

Visitor management for Naree Budjong Djara	<p>Current level of service</p> 
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Queensland’s parks, forests and reserves provide local communities and visitors from around the world with opportunities to experience our rich natural and cultural heritage, as well as diverse recreational and ecotourism opportunities. For Naree Budjong Djara, QYAC and QPWS seek a responsible balance between visitor needs and sensitive park resources in accordance with the IMA, NCA, RAMA, policies and procedures.

A key focus for the Quandamooka People and the Queensland Government is the transition of Minjerribah to an economy based on tourism and promotion of its natural assets. Naree Budjong Djara and the Minjerribah Recreation Area are recognised as playing a strategically important role in this transition. *Gudjundabu Marumba Gubiyiyanya – Tourism for a Glad Tomorrow* (QYAC 2018) is a five-year strategy developed by QYAC and the Queensland Government that places ecological and cultural sustainability as the primary requirement for tourism on Quandamookadjara. Permitted commercial tour activities, agreements and events are administered in accordance with the NCA, RAMA and other relevant legislation, and in keeping with the objectives of this strategy.

The Minjerribah Recreation Area is a designated RAMA area that overlays the Main Beach Conservation Park and part of the Naree Budjong Djara National Park. It includes the highly visited holiday parks, camping areas and four-wheel drive beaches that are outside of these protected areas. QYAC, through Minjerribah Camping Pty Ltd, manages the camping and day use areas and the administering of permits within the Minjerribah Recreation Area.

Visitor vehicle access within Naree Budjong Djara must be in a fully road registered vehicle in areas defined within the *Naree Budjong Djara Visitor Strategy*. Visitor access by motorbike, quad bike and side-by-side vehicle is not permitted unless indicated otherwise for specific areas in the *Naree Budjong Djara Visitor Strategy*.

The strategic management direction in this management plan guides the formation of the *Naree Budjong Djara Visitor Strategy*. The strategy is operationally focused and will complement the objectives of the *Tourism for a Glad Tomorrow* strategy. It outlines management objectives for key values and the desired management outcomes for visitor sites through zoning based on the physical, social and managerial impacts of the visitor experiences and sustainability of the sites. The strategy also explores visitor opportunities that complement other experiences in the landscape and region.

The condition of, and visitor satisfaction with, visitor experiences will be monitored through the implementation of the *Naree Budjong Djara Monitoring and Research Strategy*.



Desired level of service and strategic management direction

Desired level of service



Visitor values will be managed to a 'high' LoS through improved knowledge and a more strategic approach to management and protection of the visitor values.

Strategic management directions

Priority

Level of service


Facilitate the transition of the Minjerribah economy through the delivery of relevant actions within the <i>Tourism for a Glad Tomorrow</i> strategy.	1
Improve the visitor and commercial operator data-sharing and storage models between QYAC, QPWS and Minjerribah Camping Pty Ltd to better understand visitor use and demands and to support joint management.	2
Support the development of eco-cultural tourism opportunities to realise QYAC's tourism aspirations and community benefits.	2
Improve visitor infrastructure, experiences and behaviour (including improvements to beach access and use) to mitigate landscape impacts.	1
Participate in tourism partnerships and program reviews to improve knowledge and to ensure complementary and non-conflicting outcomes for Naree Budjong Djara.	2
Incorporate cultural messaging into all park visitor education material, including online, on-site signs and brochures.	1

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).



5.7 Community, partnerships and other interests


Management direction statement

Community, partnerships and other interests associated with Naree Budjong Djara	<div style="text-align: center;"> <p>Current level of service</p>  </div>
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Naree Budjong Djara provides sustainable environmental, economic and social benefits. QYAC and QPWS are committed to working with the community and other partners to ensure activities and infrastructure are ecologically sustainable and continue to benefit the Quandamooka People, the wider community, and Queensland’s economic and social wellbeing as outlined in QPWS’s *Master Plan* (QPWS 2014). Permitted activities are administered in accordance with the requirements of the NCA, RAMA and other relevant legislation.

Throughout Naree Budjong Djara are bores monitored by SEQwater. QYAC and QPWS authorise the continued use of bores to monitor the level and quality of groundwater across Naree Budjong Djara in perpetuity.

Desired level of service and strategic management direction

Desired level of service	
	Community, partnerships and other interests will be managed to a ‘very high’ LoS through improved engagement.

Strategic management directions	Priority
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Management obligations

Maintain agreement with SEQwater for the continued use of bores to monitor the level and quality of groundwater across Naree Budjong Djara.	1
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Level of service

Improve the level of engagement with community and other stakeholders.	3
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*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).



5.8 Field management capability

Management direction statement

	Current level of service
Field management capability for Naree Budjong Djara	

Managing natural and cultural areas has varying degrees of complexity. Field management capability is a measure of this complexity and considers the significance of the planning area’s values, potential threats, intensity of visitor use and community expectations. It considers the required proximity, frequency and intensity of on-ground management that are needed to manage key values and meet legislative obligations. The rating provides QYAC and QPWS with a means for gauging resource requirements and staff training needs.

Desired level of service and strategic management direction

Desired level of service	
	Field management capacity will be managed to a ‘high’ LoS through additional support to manage, protect and enhance Naree Budjong Djara key values.

Strategic management directions	Priority
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Level of service	
Establish a fit-for-purpose joint operations ranger base.	1
Improve the level of protected area management skills within QYAC and QPWS.	M
Improve the capacity of QYAC and QPWS to deliver priority on-ground park management actions.	M

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).




5.9 Operational planning and management support

Management direction statement

	Current level of service
Operational planning and management support for Naree Budjong Djara	

Operational planning and management support covers all aspects of management direction including information, assessments, systems, tools and monitoring. As with field management capability, Naree Budjong Djara’s values, potential threats, intensity of visitor use and community expectations are considered when determining the appropriate levels of service.

Desired level of service and strategic management direction

Desired level of service	
	Operational planning and management capacity will be managed to a ‘high’ LoS through ongoing support to manage, protect and enhance Naree Budjong Djara key values.

Strategic management directions	Priority
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Level of service

Maintain support from QPWS to deal with key management challenges, issues and planning.	M
Maintain strong governance arrangements between QYAC and QPWS to ensure joint decision-making and planning.	M

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).



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Appendix 1. Summary of strategic management directions

A summary of strategic management directions for Quandamooka People (Table 2), key values (Table 3) and management direction (Table 4).

Table 2. Summary of strategic management direction for Quandamooka People

Threatening processes	Strategic management directions	Priority
Loss of Quandamooka People's determination in management of Country	Strengthen the joint management partnership between QPWS and the Quandamooka People to ensure effective co-stewardship of natural and cultural values.	1
	Support the Quandamooka People by facilitating the timely implementation of commitments within the Indigenous Management Agreement.	1
	Provide sufficient space and time so that Quandamooka People always have access to enjoy Country and cultural resources, and to undertake cultural activities.	1
	Promote understanding, recognition and respect for Quandamooka culture and values, and the role that language plays.	1
	Encourage tourism, researchers and business operators on Quandamookadjara to practise ethical behaviour, support reconciliation, respect culture, and recognise and protect intellectual property and traditional knowledge of the Quandamooka People.	1
	Promote innovative approaches to raise awareness of Quandamookadjara, Quandamooka culture and the significance of Naree Budjong Djara's plants and animals.	1
	Improve connection to Country by ensuring QYAC is involved in planning, implementing, monitoring and evaluating park management across Quandamookadjara.	1
	Enhance the Quandamooka People's connection to Country through the implementation of traditional land management practices and the use of cultural resources.	1
	Increase capacity and knowledge of both QPWS and QYAC through joint participation in park management activities.	1
	Increase support and provide opportunities for Quandamooka People to get back on Country at Naree Budjong Djara.	1
	Maximise opportunities for Quandamooka People through employment, contracting and training opportunities.	1
	Support the Quandamooka People to develop ecologically and commercially sustainable cultural enterprises, including cultural interpretation, visitor management and tourism services.	1
	Improve the protection of Quandamookadjara values by securing significant cultural values where needed through regulation of access by various mechanisms.	1
	Support the Quandamooka People in providing cultural awareness programs to enhance visitor appreciation of Quandamooka culture through language and other cultural information.	1
Support capabilities of QPWS staff, stakeholders and community to understand Quandamookadjara, its values and Quandamooka culture through QYAC developed and presented training programs.	1	

See Appendix 2. Glossary for priority rating definitions.



Table 3. Summary of strategic management direction for key values

Threatening processes	Strategic management directions	Priority
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4.1 Quandamookadjara values

a. Cultural landscape values of Quandamooka People and Country Current ● Desired ●●●●

Changed fire frequency or intensity	Improve Quandamooka cultural landscape values of healthy open vegetation communities through integration of <i>jarlo</i> (traditional fire management) practices.	1
Climate change	Manage change and improve resilience of Quandamooka cultural landscape values by reducing impacts of non-climate stressors to reduce the rate of expected transition driven by climate change.	1
Barriers to access, management, and connection to Country	Improve knowledge of Quandamooka cultural landscape values.	1
	Improve cultural resource management through Quandamooka-led knowledge sharing.	1
Hydrological modification	Improve knowledge on wetland hydrology and manage for change.	1
Inappropriate visitor behaviour	Reduce the impacts of inappropriate visitor behaviour on the Quandamooka People’s cultural landscape values within Naree Budjong Djara.	2
	Improve compliance and enforcement of visitor behaviours impacting on the Quandamooka People’s cultural landscape values.	2
	Minimise impacts of motorcycles on the Quandamooka People’s cultural landscape values within Naree Budjong Djara.	3
Introduced animals	Minimise impacts of unrestrained domestic dogs in Minjerribah Recreation Area on the Quandamooka People’s cultural landscape values.	2
Introduced weeds	Reduce impacts of weeds on the Quandamooka People’s cultural landscape values within Naree Budjong Djara.	3

4.1 Quandamookadjara values

b. Kaboora (Blue Lake) Current ●●●● Desired ●●●●●●

Inappropriate visitor behaviour	Improve visitor knowledge of cultural protocols in respecting the Quandamooka People’s cultural values of Kaboora as a significant cultural complex.	1
	Reduce the impacts of inappropriate visitor behaviour on Kaboora (Blue Lake) and the Quandamooka People’s aspirations for Kaboora.	1
	Improve visitor compliance and enforcement at Kaboora (Blue Lake).	3
Changed fire frequency or intensity	Protect cultural elements and Quandamooka cultural landscape values at Kaboora through applying <i>jarlo</i> fire practices to reduce the risk of wildfire and encourage healthy open forest communities.	1
	Maintain healthy open forest communities and Quandamooka cultural landscape values at the Kaboora complex, including Tortoise Lagoon, through management of vegetation thickening.	1

4.1 Quandamookadjara values

c. Burogari (Cypress) Camps cultural complex Current ●●●● Desired ●●●●●●

Changed fire frequency or intensity	Protect cultural elements and Quandamooka cultural landscape values through applying <i>jarlo</i> fire practices to reduce the risk of wildfire and encourage healthy open forest understorey.	1
	Maintain healthy open forest communities and Quandamooka cultural landscape values at Burogari Camps cultural complex through vegetation management.	1
Inappropriate visitor behaviour	Improve visitor compliance through increased surveillance and enforcement of public access restrictions to the complex.	2
Introduced weeds	Reduce extent of invasive weeds within the Burogari Camps cultural complex.	3
Barriers to access, control and connection to Country	Improve knowledge on cultural elements throughout the Burogari Camps cultural complex.	3







Table 3. Summary of strategic management direction for key values *continued*

Threatening processes	Strategic management directions	Priority
4.2 Open heath on dunes Current Desired		
Changed fire frequency or intensity	Restore Quandamooka cultural landscape values of healthy open heath on dune communities through applying <i>jarlo</i> fire practices.	2
	Protect Quandamooka cultural landscape values of healthy open heath on dunes by limiting wildfire and/or planned burn encroachment when it is inconsistent with <i>jarlo</i> fire practices for this ecosystem.	2
Work or other activities	Reduce the impacts of informal visitor access on open heath on dune communities.	3
Introduced weeds	Prevent the establishment of ecosystem-changing invasive grasses within open heath on dune communities.	3
Inappropriate visitor behaviour	Minimise visitor impacts caused by unauthorised vehicle use, bush toileting and rubbish on open heath on dune communities.	2
Mining and quarrying	Monitor the impacts of mining on open heath on dune communities.	2
Climate change	Manage change and improve resilience of open heath on dune communities by reducing impacts of non-climate stressors to reduce the rate of expected transition from climate change.	2
4.3 Mixed microphyll/notophyll rainforest Current Desired		
Changed fire frequency or intensity	Apply <i>jarlo</i> fire practices to adjacent fire-adapted communities to reduce the risk of wildfire entering this community.	1
Introduced weeds	Contain the spread of basket asparagus fern, Easter cassia, lantana, umbrella tree, leucaena, cherry guava and corky passionfruit in mixed microphyll/notophyll rainforest.	2
Hydrological modification	Monitor the impacts of water draw down on ecosystems adjacent to mixed microphyll/notophyll rainforest through SEQwater monitoring bore data.	2
Introduced animals	Reduce impacts of cats and foxes on the fauna of mixed microphyll/notophyll rainforest.	2
Climate change	Manage change and improve resilience of mixed microphyll/notophyll rainforest communities by reducing impacts of non-climate stressors to reduce the rate of expected transition from climate change.	2
4.4 Wetlands		
a. Estuarine clay plains and wetlands Current Desired		
Climate change	Manage change and improve resilience of estuarine clay plain and wetland communities by reducing impacts of non-climate stressors to reduce the rate of expected change from climate change.	2
Coastal retrograde	Monitor the impacts of erosion and/or sedimentation of estuarine clay plains and wetlands.	1
	Work collaboratively with other agencies within marine parks to assess effectiveness of vessel wash reduction measures.	2
Problematic native plants	Monitor the impacts of mangrove thickening on estuarine clay plains and wetlands.	2
Changed fire frequency or intensity	Protect estuarine clay plains and wetlands through application of <i>jarlo</i> fire practices to adjacent fire-adapted communities.	5
4.4 Wetlands		
b. Wet heath and sedgeland coastal swamps Current Desired		
Hydrological modification	Monitor the impacts of hydrological modification on wet heath and sedgeland coastal swamps.	1
Changed fire frequency or intensity	Restore critical structural elements and age-class variation of Quandamooka cultural landscape values of wet heath and sedgeland coastal swamps through targeted application of <i>jarlo</i> fire practices.	2
Introduced weeds	Prevent the establishment or incursion of ecosystem-changing weed species through adoption of appropriate biosecurity practices.	4
Climate change	Manage change and improve resilience of wet heath and sedgeland coastal swamps communities by reducing impacts of non-climate stressors to reduce the rate of expected transition from climate change.	2



Table 3. Summary of strategic management direction for key values *continued*

Threatening processes	Strategic management directions	Priority
4.4 Wetlands		
c. <i>Melaleuca quinquenervia</i> open woodlands Current  Desired 		
Hydrological modification	Monitor the impacts of hydrological modification on <i>Melaleuca quinquenervia</i> open woodlands.	1
Changed fire frequency or intensity	Restore critical structural elements and age-class variation of Quandamooka cultural landscape values of <i>Melaleuca quinquenervia</i> open woodlands through targeted application of <i>jarlo</i> fire practices.	2
	Manage fire in <i>Melaleuca quinquenervia</i> open woodlands in response to hydrological modification.	1
Introduced weeds	Reduce impacts of ecosystem-changing weeds on <i>Melaleuca quinquenervia</i> open woodlands.	4
Climate change	Manage change and improve resilience of <i>Melaleuca quinquenervia</i> open woodlands communities by reducing impacts of non-climate stressors to reduce the rate of expected transition from climate change.	2
4.5 Quandamooka eco-cultural experience Current  Desired 		
Inappropriate visitor behaviour	Enhance educational messaging and communication with visitors and commercial operators about appropriate behaviour regarding Quandamooka People’s cultural landscape values.	1
	Support the Quandamooka People in ensuring activities and operators are culturally trained and meeting and promoting cultural and ecological values.	1
	Reduce impacts from inappropriate visitor behaviour through improved compliance and enforcement activities.	2
	Minimise impacts on the Quandamooka People’s cultural landscape values by enhancing communication about motorcycles not being permitted within Naree Budjong Djara.	3
Inappropriate facilities	Improve visitor facilities and infrastructure to reduce impacts and improve cultural and natural experiences.	2
Introduced animals	Minimise impacts in Minjerribah Recreation Area on Quandamooka People’s cultural and ecological values and other visitors’ experience by unrestrained domestic dogs.	2
	Improve communication to visitors on requirements for domestic dogs in the Minjerribah Recreation Area.	2

See Appendix 2. Glossary for priority rating definitions.



Table 4. Summary of strategic management direction for management directions

Strategic management directions	Priority
5.1 Joint management partnership and cultural heritage management Current VERY HIGH Desired EXCEPTIONAL	
Ensure the delivery of provisions under the IMA.	1
Maintain effective joint management partnerships and governance arrangements to ensure the delivery of IMA objectives.	1
Support the Quandamooka People to play a lead role in the management and governance of joint management through QYAC.	1
Improve the capacity of QYAC to undertake and complete cultural heritage management priorities.	1
Maximise employment, procurement, capacity building and participation for Quandamooka People through joint management.	1
Improve the level of understanding, awareness and appreciation of QPWS field officers of the island's cultural values and the Quandamooka People's connection to Country.	1
5.2 Fire management Current MEDIUM Desired VERY HIGH	
Mitigate the potential severity and impacts of wildfire on neighbouring properties by supporting the implementation of the <i>Minjerribah Township Fire Management Strategy</i> .	1
Improve the current level of fire management knowledge, understanding of <i>jarlo</i> fire practices, and understanding of fire requirements of the natural and cultural key values within QYAC and QPWS.	1
Improve the level of fire management skills within QYAC and QPWS.	1
Improve the capacity of QYAC and QPWS to undertake and complete priority burns in the fire management program.	1
Improve the current level of fire management consultation with neighbours and stakeholders.	2
5.3 Pest management Current MEDIUM Desired HIGH	
Improve the level of engagement with stakeholders to mitigate the potential impacts of pests on neighbouring properties.	1
Improve the level of pest plant and animal knowledge and understanding of their impacts on cultural and natural key values.	2
Improve pest plant management effectiveness by increasing focus on ecosystem-changing pest plants.	2
Improve the level of pest management skills within QYAC and QPWS.	2
Improve the capacity of QYAC and QPWS to undertake and complete priority pest animal and plant projects in the pest management program.	2
5.4 Natural values management Current HIGH Desired VERY HIGH	
Improve the current level of knowledge of Naree Budjong Djara's natural key values.	2
Improve the level of natural resource management skills within QYAC and QPWS as required to protect and maintain the natural key values.	2
Monitor the condition of natural key values through health check monitoring.	1
5.5 Historic cultural heritage management Current ACCEPTABLE Desired ACCEPTABLE	
Maintain the current approach to historic cultural heritage management.	M



Table 4. Summary of strategic management direction for management directions *continued*

Strategic management directions	Priority
5.6 Visitor management Current HIGH Desired HIGH	
Facilitate the transition of the Minjerribah economy through the delivery of relevant actions within the <i>Tourism for a Glad Tomorrow</i> strategy.	1
Improve the visitor and commercial operator data-sharing and storage models between QYAC, QPWS and Minjerribah Camping Pty Ltd to better understand visitor use and demands and to support joint management.	2
Support the development of eco-cultural tourism opportunities to realise QYAC’s tourism aspirations and community benefits.	2
Improve visitor infrastructure, experiences and behaviour (including improvements to beach access and use) to mitigate landscape impacts.	1
Participate in tourism partnerships and program reviews to improve knowledge and to ensure complementary and non-conflicting outcomes for Naree Budjong Djara.	2
Incorporate cultural messaging into all park visitor education material, including online, on-site signs and brochures.	1
5.7 Community, partnerships and other interests Current HIGH Desired VERY HIGH	
Maintain agreement with SEQwater for the continued use of bores to monitor the level and quality of groundwater across Naree Budjong Djara.	1
Improve the level of engagement with community and other stakeholders.	3
5.8 Field management capability Current HIGH Desired HIGH	
Establish a fit-for-purpose joint operations ranger base.	1
Improve the level of protected area management skills within QYAC and QPWS.	M
Improve the capacity of QYAC and QPWS to deliver priority on-ground park management actions.	M
5.9 Operational planning and management support Current HIGH Desired HIGH	
Maintain support from QPWS to deal with key management challenges, issues and planning.	M
Maintain strong governance arrangements between QYAC and QPWS to ensure joint decision-making and planning.	M

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

Appendix 2. Glossary

Interpreting key values-based management framework concepts

Adaptive management	The process of adjusting and improving how we manage parks, forests and reserves after assessing the outcomes of previous strategies and on-ground actions.
Condition and trend	The condition of a key value is assessed as either good, good with some concern, significant concern or critical. Trend describes what is happening to the condition: is it improving, stable or deteriorating? A key value's current condition is determined during the planning process. A desired condition is a realistic goal for the future condition of the key value. The ongoing condition of key values is assessed with regular health checks, monitoring and scientific assessment.
Custodial obligations	The requirements in legislation and government policies are that we, as the land management agency, have to ensure QPWS&P's parks, forests and reserves are lawfully managed and good neighbours. Management provides for the protection of life and property, biosecurity and positive relationships with adjacent communities and landholders, as well as enhancing and protecting our values.
Desired outcome	A statement in the key value and management direction statements about moving from the current status (condition or LoS) to a desired status—the goal for management.
Health check	Basic form of monitoring that uses indicators and visual assessments to regularly evaluate the condition of key values. Regular health checks ensure QPWS&P can respond quickly to adverse change and redirect management priorities.
Key value	A natural, cultural and/or social value that is of most significance to that area. It is what makes the area special and if lost, would diminish what makes the area distinct from others.
Key value statement	A statement in the management plan/statement that is developed for each key value. It describes the key value, current condition, desired condition, current threats and threat ratings, strategic management direction and priorities for further thematic strategy planning and on-ground management action.
Level of service (LoS)	A planning tool used to identify the acceptable management standard, or level of resourcing that is required to maintain an area based on its values, threats and the complexity of management. There are five LoS ratings ranging from 'acceptable' to 'exceptional', noting that an acceptable rating is the minimum standard required to deliver good management and meet our custodial obligations under law as a land manager. A 'current' LoS rating is the level at the time of planning, the 'desired' LoS is where we want to be.
Management direction	How we manage each management theme to protect and enhance our key values and meet our custodial management obligations.
Management direction statement	A statement in the management plan/statement, developed for each management theme, that describes the current LoS, desired LoS, custodial obligations, strategic management direction and priorities for further thematic strategy planning and on-ground management action.
Management instrument	A management plan or management statement.
Management theme	QPWS&P has identified a number of management themes that are common to most of the parks, forests and reserves in our estate: fire management; pest management; natural values management; historic cultural heritage management; visitor management; community, partnerships and other interests; field management capability; operational planning and management support.
Priority rating (key value)	<p>A rating given to a strategic management direction according to the need for action to prevent further decline, stabilise current condition, or restore and enhance values, with consideration given to legislative obligations, cost and social, economic and political factors.</p> <p>Critical (1) – Loss or very significant decline in the condition of key value/s is highly likely if action is not taken OR significant improvement in the condition of key value/s is highly likely if action is taken.</p> <p>Very high (2) – Significant decline in the condition of key value/s is likely if action is not taken OR significant improvement in the condition of key value/s is likely if action is taken.</p> <p>High (3) – Decline in the condition of key value/s is likely if action is not taken OR improvement in the condition of key value/s is likely if action is taken.</p> <p>Moderate (4) – Some decline in the condition of key value/s is possible if action is not taken OR some improvement in the condition of key value/s is possible if action is taken.</p> <p>Desirable (5) – While decline in the condition of key value/s is not likely in the short term, the action, if taken, would help build long-term resilience of key value/s.</p>
Priority rating (LoS)	A rating given to an LoS or custodial obligation strategic management direction. A scale from 1 (extremely urgent) – 5 (not urgent or optional) is assigned, with consideration given to legislative obligations, cost and social, economic and political factors.
Strategic management direction	A broad strategy aimed at mitigating or removing a threat to a key value and maintaining or improving the condition of a park's value; or addressing the gap between the current LoS and desired LoS for a management theme.
Threat or threatening process and threat rating	Based on International Union for Conservation of Nature's classifications, QPWS&P has identified threatening processes that have the potential to affect Queensland's values (e.g. natural systems modifications, invasive species). Current threats to key values are identified and given a threat rating based on a combination of the extent of the impact, the severity of the impact and the urgency of action.

