

Cooloola Recreation Area

Incorporates: Cooloola Recreation Area, Cooloola (Noosa River) Resources Reserve, Great Sandy Resources Reserve, Double Island Point Conservation Park, Sheep Island Conservation Park, Goat Island (Noosa River) Conservation Park, Womalah Resources Reserve, and the Cooloola Section of Great Sandy National Park.



Draft Management Plan

2024



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

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Front cover photo: Coloured Sands at Rainbow Beach Cooloola Recreation Area. © DESI, Queensland Government.

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

This management plan does not intend to affect, diminish or extinguish native title or associated rights.

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Public consultation on planning documents

Good planning is an important part of effective park management: it helps us understand where we are now, where we want to be, and how we are going to get there. It is the first step in the Values-Based Management Framework, an adaptive management cycle used by the Queensland Parks and Wildlife Service (QPWS) for setting the goals, strategic direction and priorities for park management. The cycle incorporates phases of monitoring, evaluating and reporting to inform how we are performing and where we need to adapt management to achieve our goals and good outcomes for Queensland's parks, forests and reserves.

Planning for each park is brought together and communicated through several planning documents: management plans and statements, resource information, thematic strategies and action plans. The hierarchy and purpose of these documents is shown in Figure 1.

For Cooloola Recreation Area, the following planning documents are available:

- draft management plan
- draft resource information document.

An invitation to comment

Organisations and members of the public are encouraged to have a say on the management of Cooloola Recreation Area: you are invited to review the management plan and resource information document and put forward a submission.

Submissions on the draft management plan can be made via the Queensland Government's **Get Involved** website www.getinvolved.qld.gov.au.

The Minister will consider all submissions when finalising the management plan.

For further information on the draft management plan or the planning process, please visit the Department of Environment, Science and Innovation website www.des.qld.gov.au.

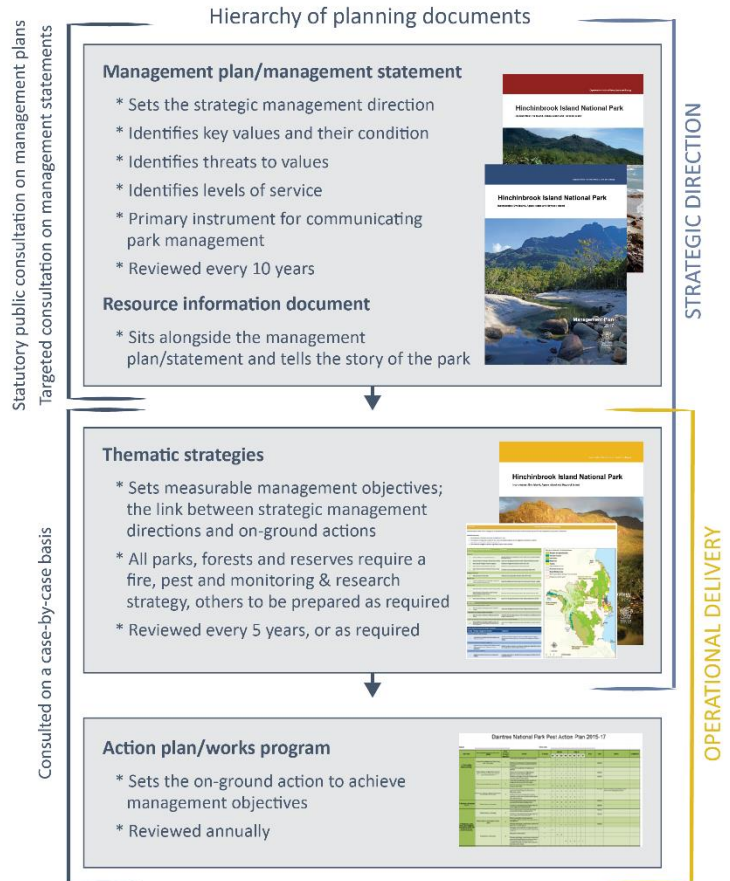


Figure 1. Hierarchy of planning documents and their purpose

Contents

1. Introduction.....	3
1.1 Approach to best practice management.....	3
1.2 Management planning	5
2. First Nations peoples	6
3. Cooloola Recreation Area.....	11
3.1 Management plan and thematic strategies	11
3.2 Park overview	11
3.3 Wetlands of International Importance (Ramsar site)	13
4. Key values	16
4.1 Aesthetic and geomorphological	19
4.2 Wetlands.....	20
a. Perched and barrage lakes	20
b. Patterned fens	21
c. Upper Noosa River	23
4.3 Rainforest communities	25
a. Rainforest on parabolic dunes.....	26
b. Satinay/brush box tall forests	27
4.4 Heath communities (including core ground parrot habitat)	28
4.5 Queensland Heritage Register sites.....	31
a. Pettigrew’s Cooloola timber tramway complex.....	31
b. Mill Point settlement site.....	32
c. Double Island Point Lightstation	33
4.6 Cooloola Recreation Area visitor opportunities	34
a. Teewah Beach camping experience	36
b. Double Island Point day use experience	38
c. Coloured sands.....	39
d. Upper Noosa River visitor experience	40
5. Management direction	42
5.1 Fire management	43
5.2 Pest management	44
5.3 Natural values management.....	45
5.4 Post-contact cultural heritage management.....	46
5.5 Visitor management.....	47
5.6 Community, partnerships and other interests.....	48
5.7 Field management capability	49
5.8 Operational planning and management support	50
6. Bibliography.....	51
Appendix 1. Glossary	53

We, the Kabi Kabi First Nation People

We, the Kabi Kabi First Nation People, are the original occupants of Cooloola. We always have, and always will, use, respect and care for our Country. We share the values of Cooloola with QPWS and together, through co-stewardship, we are responsible for the health and presentation of this natural landscape. We will ensure that the protection of Country and culture occurs in the Cooloola Recreation Area for time immemorial.

Our ancestors have entrusted us to carry on the traditions and to care for all the plants, animals and foods within our Country. Future generations of Kabi Kabi People will recognise the work of their predecessors in looking after Cooloola—they will know that it is now their turn to continue taking care of Country so it will provide for generations to come.

Our vision is to be continually building a better future for our successors, creating living areas, jobs and businesses on Country while looking after our land, our sea, our Country and our culture as our old people did before us. We are strong families—we are proud of who we are, and we will continue to support each other to live life to the fullest.

We will always strive to:

protect resource stocks such as fish, prawn and crab

protect our sacred sites

teach our young people the language

care for land with the use of fire

maintain our cultural pathways

tell the stories of Cooloola to all people.

We pay our respects to all peoples, and to the Elders past, present and future, for the land and sea on which we work, live and walk.

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1. Introduction

The Department of Environment, Science and Innovation recognises, respects and values First Nations peoples and cultures. We recognise First Nations rights and interests in the Country on which we walk, work and live. We are committed to progressing self-determination by working in genuine partnerships with First Nations peoples to incorporate their priorities and perspectives across our decision-making and operations. The *Gurra Gurra Framework 2020–2026* prioritises and accelerates this commitment, guiding the agency to embed Country and people at the centre of all that we do.

1.1 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 are the presence and diversity of natural, cultural, social and economic values. These areas experience natural cycles—they live and breathe—and therefore our management needs to be dynamic too. Queensland Parks and Wildlife Service and Partnerships (QPWS&P), within the Department of Environment, Science and Innovation (DES), applies a contemporary management process that is based on international best practice and targets management towards the most important features of each park: their **key values**.

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.

As a land manager, QPWS has a custodial obligation to ensure our 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 agency does this as part of setting a level of service for each park. Levels of service is a management standard that considers an area's values, threatening processes, custodial obligations, risks and overall management complexity.

Further information on QPWS's statutory responsibilities and policies with respect to protected area management is available on the department's website at www.des.qld.gov.au.

By assessing an area's key values and levels of service, QPWS can prioritise management efforts, balancing the importance of values and threats with our 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 parks, forests and reserves, and how the condition of key values is changing in response 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 the phases of the VBMF cycle for management planning. A glossary of the key concepts (in **bold**) used throughout the document is listed in Appendix 1.

Management plans and statements set the **strategic management direction**, guiding the next tier of planning and the development of thematic strategies, which in turn inform and prioritise our on-ground operations.

Resource information is a compendium of park information and a supporting document for management plans and management statements. It contains background information about a park’s purpose, values, resources, and legal and administrative framework.

Information about the VBMF is available on the department website at www.des.qld.gov.au.

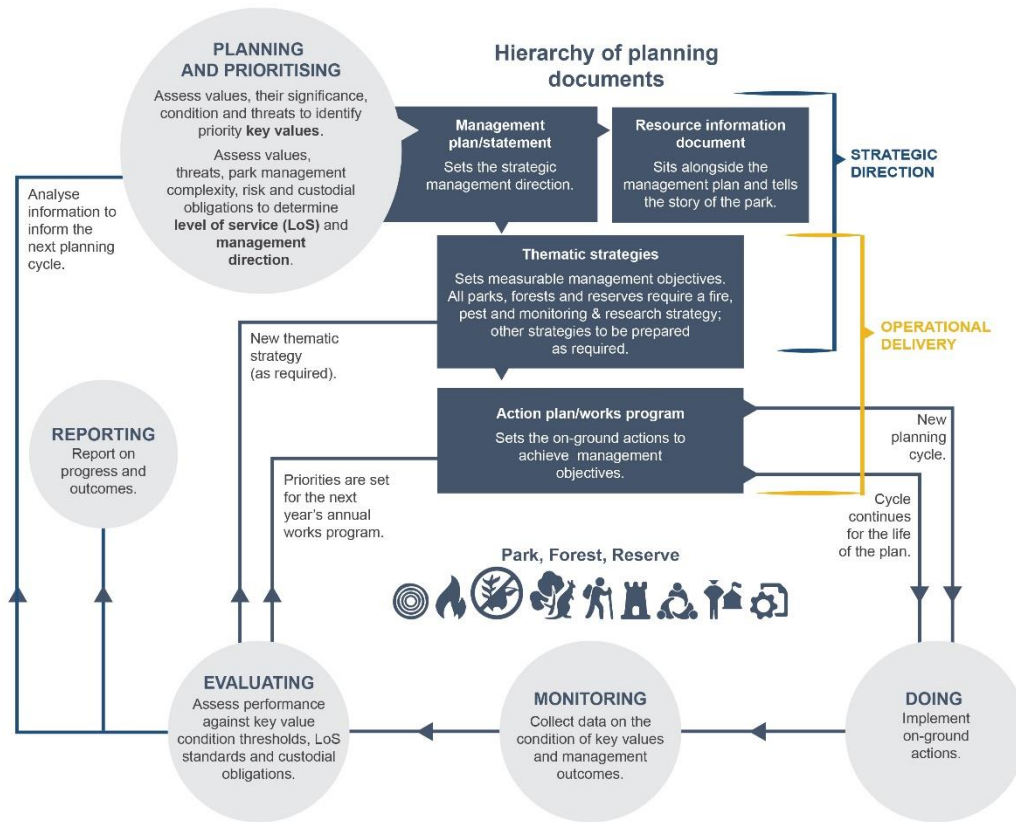


Figure 2. Phases of the VBMF cycle for planning and the hierarchy of planning documents

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1.2 Management planning

Management plans and statements are developed through a process of research, assessment and consultation to establish priorities and set strategic management direction for the park. They are legislative requirements under the *Nature Conservation Act 1992* (Qld) (NCA) and *Recreation Areas Management Act 2006* (Qld) (RAMA). The Cooloola Recreation Area Management Plan has been prepared under s18 of the RAMA. The Cooloola Recreation Area overlaps with other protected area estate managed by DESI, including the Great Sandy Marine Park and declared Fish Habitat Areas, which have complementary management in areas of overlap (i.e. the intertidal area) or immediately adjacent to the recreation area.

All plans are prepared in keeping with the legislation's management principles, supporting regulations, government policies and procedures, and international agreements. Planning for each park is brought together and communicated through several planning documents:

- Management plans and management statements provide the high-level strategic direction for managing an area's key values, levels of service and custodial obligations. Management plans and statements are statutory documents and are generally reviewed every 10 years.
- Resource information documents support management plans and statements and provide a compendium of park information that tells the story of the park. These documents accompany management plans and management statements, providing contextual information. They support information provided in the plan but do not provide management direction.
- Thematic strategies provide specific objectives to achieve the strategic management directions identified in management plans and statements. While all parks and forests require a fire strategy, pest strategy and a monitoring & research strategy, others are developed based on a protected area's management requirements and priorities. Thematic strategies are generally reviewed every three to five years to enable adaptive management.
- Action plans outline the work program for delivering on-ground actions.

Further information on the VBMF, copies of management plans/statements and resource information documents are available on the department's website at www.des.qld.gov.au.

2. First Nations peoples

2.1 Kabi Kabi First Nation

Cultural landscape

The Kabi Kabi People have a traditional connection to Cooloola and have a registered native title claim over much of Cooloola Recreation Area.

The Kabi Kabi People’s cultural landscape covers a vast area along the Sunshine Coast north of Brisbane to the Gregory and Isis Rivers south of Bundaberg. For tens of thousands of years, Kabi Kabi Country has provided an abundance of resources, which has sustained the community and the practice of Kabi Kabi culture across many different ecosystems and landscapes. The cultural landscape contains tangible and intangible values that are interwoven with the ecological landscape. The health of culture is dependent on the health of the landscape, its forests, beaches and waterways.

Kabi Kabi People continue to actively practise their customs and lore on Country. Continuing this connection to Country and ongoing use of cultural resources is of great importance to the Kabi Kabi People.

Kabi Kabi People, through co-stewardship park management with QPWS, are building ways to care for Country together and share culture with Cooloola visitors to ensure all values are protected for current and future generations. The Kabi Kabi People’s rights, knowledge and expertise are considered in planning and day-to-day management activities. This engagement builds co-stewardship and increases the shared knowledge and respect for the Cooloola Recreation Area’s cultural landscape.

Threats

Primary threat: Loss of connection to Country for Kabi Kabi People. **Threat rating: Very high**

Secondary threat: Lack of cultural awareness. Visitors’ lack of understanding of Kabi Kabi culture and lore may see areas inappropriately treated or accessed, causing damage to Country and significant sites. **Threat rating: Very high**

Other threat: Lack of understanding of long-term impacts of visitor use and monitoring of significant sites. **Threat rating: High**

Other threat: Lack of traditional burning practices in the landscape. **Threat rating: High**

Desired outcome and strategic management direction

Desired outcome		
The condition of the Kabi Kabi cultural landscape and connection to Country will be improved through co-stewardship management, providing space and time to practise culture, and reducing the impacts from visitor use.		
Consideration	Strategic management direction	Priority
Traditional place	Minimise visitor impacts to the cultural landscape through permit conditions and commercial tour operator inductions that ensure culturally appropriate behaviour and use at key sites.	1
	Minimise visitor impacts at key sites by managing access through education, signage and compliance actions (if required).	
	Monitor visitor numbers at key sites and ensure visitor numbers are sustainable and don’t negatively impact on tangible and intangible values.	
	Undertake health checks in partnership with the Kabi Kabi People to assess the visitor impacts at key cultural sites, to inform future management site actions.	

Respect and culture	The Kabi Kabi cultural significance of the Cooloola Recreation Area is communicated to the local community and visitors through a range of media (including signage, internet, cultural tours and events).	1
	Recognise Kabi Kabi culture through improved interpretation, such as inclusion of language names and appropriate cultural information, in consultation with the Kabi Kabi People.	
Fire	Improve shared knowledge and implementation of traditional practices and burn objectives.	1
Loss of connection to Country	Kabi Kabi People undertake cultural ceremony on park.	1
	Provide opportunities for Kabi Kabi People to get back on Country across the Cooloola Recreation Area.	

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WANTIMA and COOLOOLI

The Legend of Noosa Heads and Cooloola Sandpatch

(Provided by the Kabi Kabi People)

Long ago in the Dreamtime, before all of the land had been made the way it is now, there was a man called Coolooli and he had a son called Wantima. They were lucky to live in a land where there were plenty of trees and flowers for the bees, plenty of fish for the pelicans, and plenty of seeds and blossoms for the parrots. At that time the people of Coolooli's tribe ate only the food that they took from plants. However, nobody ever went hungry because there were plenty of yams, bungwal (fern roots), sweet midjim berries, geebung fruit and the tips of pikki palm trees.

One day Wantima saw a pelican catching a fish. He thought to himself that the fish would be good for him to eat as well. He went to the edge of Coong Winwar (Lake Cootharaba) where they were camping and caught a little fish. But when he put it into his mouth and tried to swallow it as the pelican had done, the fins and scales stuck into his throat and hurt him. Coolooli saw what Wantima had done and sternly told him he must never again eat a living animal or he would be punished. It was the law of the tribe and there were plenty of fruits and plants to eat.

Wantima had a friend who was a boy of his own age. They used to talk about the clouds and the sky, and often wondered about the place where the sun came up each morning. Unfortunately, they could not get any closer to examine it because the big lake, Coong Winwar, lay between them and the sunrise. And to make matters worse, Coolooli had told Wantima never to cross the lake. Early one morning the boy who was Wantima's friend came to him and told him of a big log floating near the edge of the lake. It took little persuasion before they had both jumped on the log and paddled to the other side of the lake to see where the sun jumped up. When they landed on the other side, they walked through the forest and climbed up a big sand bank.

Wantima and his friend looked across the sand and could not believe their eyes. There on the other side of the sand dune was more water than they had ever seen in their lives. It went for as far as they could see and disappeared into the horizon. The two boys ran down to the beach and were very happy when the waves ran up on to the beach and then ran back again as if they wanted to play. Before long the two boys were splashing each other and playing in the waves.

The reason Coolooli had told Wantima not to cross the lake was because he knew there was great danger in the ocean. It was the home of Thugine, a large serpent who was always looking for children who had wandered away from their tribe. When the serpent saw the two boys on the beach, he swam in on a big wave and grabbed them in his mouth. Diving under the water, he swallowed Wantima's friend but changed Wantima into stone and spat him out back onto land where he became a rocky headland known today as Noosa Heads.

Coolooli returned to camp, and finding that Wantima and his friend were missing, followed their tracks to the edge of the lake. The marks left by the end of the log on the sand told a clear story of what had happened. With the other men of the tribe, in their bark canoes, Coolooli paddled across the lake and found the boys' tracks leading off towards the sea and into the forest on the other side. Coolooli was very sad when he saw the two boys' tracks leading into the sea and not returning. Nobody doubted what had happened. The men walked up and down the beach in case the serpent's tracks could be found but there were none. On a sand dune nearby, Coolooli saw a large snake. "This must be one of the serpent's children. Let's kill it," he said, "so the serpent can also feel a father's grief."

He hit the snake with his nulla-nulla and made a fire to get rid of it. When the snake was lying on the hot coals, a delicious aroma reached Coolooli's nose; it smelt better than anything he had ever smelt before. Eventually Coolooli could resist no longer and pulled the snake from the fire. The skin had shrivelled in the heat revealing the cooked flesh beneath.

"The Tribal Laws say we must not eat any living creature," said Coolooli to the rest of the men who had gathered around, "but this young serpent is not living now. See, it is quite dead. And it smells so good that I can no longer resist tasting it." Coolooli ate a small portion of the cooked flesh of the serpent, it was so delicious that he shared it with the other men. After that, they learned to cook other kinds of food; birds, fish, wallabies and lizards.

But Thugine, out in the ocean, had seen what Coolooli had done and one day when Coolooli was on the beach fishing the serpent came riding in on a big wave and grabbed Coolooli, taking him out to sea. Coolooli found himself helpless in the serpent's mouth, so he turned himself into a tree, and the serpent was so displeased with the taste that he spat Coolooli out on to a sand dune. Coolooli grows there still, and whenever the wind blows in from the sea you can hear him sighing, thinking of his long lost son.

Coolooli's new children were cypress trees (*Callitris arenosa*) and they spread over many parts of the land, and that is how the name Cooloola came to be attached to this land. However, no trees grew near where Coolooli himself stood on the sand hill because from there they would have been able to see Wantima, and that would have made them sad. The Cooloola Sandpatch has remained without trees ever since.

2.3 Butchulla Native Title Aboriginal Corporation

Connection to Country statement

The Butchulla People have a traditional connection to part of the Cooloola Recreation Area, and native title has been granted to the Butchulla Native Title Aboriginal Corporation for part of this area.

QPWS and the Butchulla People are working towards a co-stewardship park management partnership. The Butchulla People's expertise, and findings from cultural heritage assessments, are considered in all planning and management activities. This engagement builds our partnership and increases our shared knowledge and respect for the Cooloola area's cultural landscape.

Management activities are conducted in keeping with the legislative requirements of the *Aboriginal Cultural Heritage Act 2003* (Qld) and *Native Title Act 1993* (Cwlth).

Desired outcome and strategic management direction

Desired outcome		
The relationship with Butchulla Native Title Aboriginal Corporation and the protection of their cultural heritage will be managed by improving knowledge and partnership strength, and recognising their connection to Country and role in managing and protecting the park's natural and cultural heritage values.		
Consideration	Strategic management direction	Priority
Socio-economic	Support Butchulla People to explore new opportunities that are consistent with the overall management objective to increase their socio-economic wellbeing, including providing commercial services (such as cultural tours).	1
Traditional place	Minimise visitor impacts to places of cultural significance.	1
Respect and culture	The cultural significance of the Cooloola Recreation Area is communicated to the local community and visitors through a range of media (including signage, internet, tours and events), with a focus on the role of fire in the landscape needed to maintain healthy country.	1
Fire	Improve knowledge of traditional practices such as burning.	1
Loss of connection to Country	Provide opportunities for Butchulla People to get back on Country across the Cooloola Recreation Area.	1

3. Cooloola Recreation Area

3.1 Management plan and thematic strategies

The Cooloola Recreation Area Management Plan provides the strategic management direction for managing its keys values (Section 4) and meeting our custodial obligations across eight **management themes** (Section 5). The plan is supported by the Cooloola Recreation Area Resource Information document, a compendium of park information that tells the story of the park. The strategic management direction set out in this management plan links 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 determine the requirements for specific strategies. Cooloola Recreation Area has five thematic strategies:

- fire
- pest
- monitoring and research
- visitor
- post-contact cultural heritage.

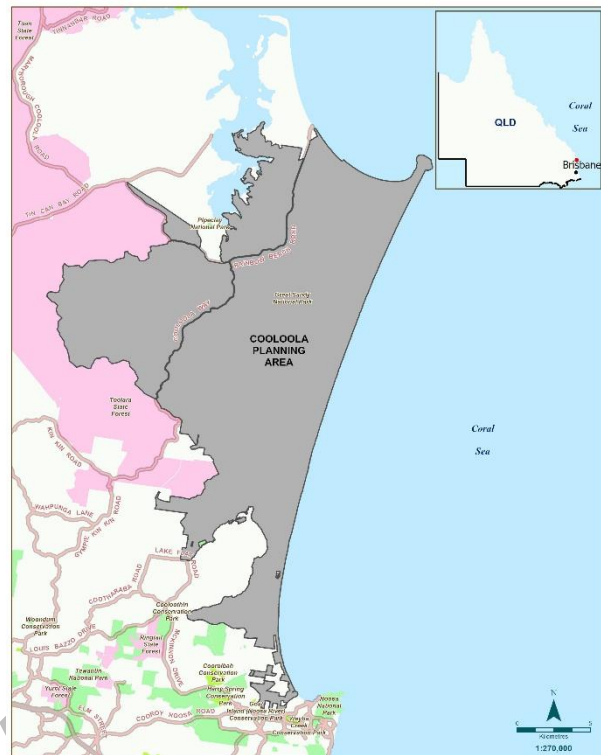


Figure 3. Cooloola Planning Area

3.2 Park overview

Cooloola Recreation Area is located north of Brisbane between Noosa Heads and Rainbow Beach. It is in the state electorates of Gympie and Noosa and the local government areas of Gympie Regional Council and Noosa Shire Council (Figure 3). The Gympie and Noosa councils have entered into a partnership agreement with QPWS to assist with the management of the Cooloola Recreation Area. The area is protected to the low water mark under the *Recreation Areas Management Act 2006*. There are several land tenures within the Cooloola Recreation Area, including national parks (which account for approximately 90% of the area) and resource reserves. Cooloola Recreation Area includes the Cooloola Section of the Great Sandy National Park. National parks are protected under the *Nature Conservation Act 1992*.

The Great Sandy National Park, which includes Cooloola, is one of Queensland's iconic areas. Its immense and complex dune systems provide the longest and most complete dune chronosequence in the world, and reveal how dunes have formed, stabilised and eroded over time.

The Cooloola Recreation Area is an overlay for the establishment, maintenance and use of the area. It enables the provision, coordination, integration and improvement of recreational planning, recreational facilities and recreational management for the area. There is a specific focus on the conservation, cultural, educational and recreational values of the area, and the interests of area land holders.

Dynamic and varied coastal geology has also shaped the area's terrestrial, freshwater, coastal and marine ecosystems, and the plant and animal communities that rely on these habitats. For example, some threatened plants and animals are adapted to the low-nutrient, acidic sand environment (e.g. acid frogs).

The area has exceptional scenic and natural beauty, with perched and barrage lakes, rivers, wetlands and patterned fens. Other scenic highlights include long, undeveloped sweeps of beach, strikingly

coloured sand cliffs, spectacular headlands and sand blows, tall rainforests on sand, and a mosaic of other forests and heathlands. The area's scenic beauty and nature-based recreation activities make it a world-renowned tourist destination, with more than 300,000 people visiting each year to fish, camp, walk and four-wheel-drive along scenic, undeveloped beaches.

Coolooloa has reminders of its early European history, providing an insight to past activities. These include the heritage-listed Double Island Point Lightstation and forestry sites (e.g. sawmills, camps, Pettigrew's tramway, Harry's Hut, Poverty Point).

The area will be conserved to protect its diverse natural, cultural and social values.

Management considerations

Marine parks and Fish Habitat Areas

The Great Sandy Marine Park extends from Baffle Creek in the north to Double Island Point in the south. It includes Hervey Bay, Great Sandy Strait, Tin Can Inlet and the waters off the east coast of K'gari (Fraser Island), seaward to three nautical miles. The Great Sandy Marine Park landward boundary extends to the highest astronomical tide (HAT), whereas the recreation area boundary extends down to the low water mark (LWM). As such, there is an overlap of the intertidal area, which requires coordinated management under the *Recreation Areas Management Act 2006* and *Marine Parks Act 2004* (relevant zoning plan).

The landward extent of any Fish Habitat Area (FHA) boundary depends on the adjoining tenure and any specific inclusions/exclusions. They can go beyond LWM (Coolooloa RAM boundary) and in some cases into freshwater (e.g. Noosa River up to Harry's Hut), and can include terrestrial land as well.

Management tools:

- Marine park entry or use provisions and FHA management provisions assist in addressing the primary threat to aesthetic and geomorphological values by regulating or prohibiting certain types of development such as jetties and boat ramps in foreshore and intertidal areas of the recreation area.
- Marine park legislation and zoning plan provisions assist in managing visitor impacts that reduce the iconic natural 'wilderness' experience in some areas by, for example, establishing designated areas to protect natural and cultural values, establishing restricted access areas, applying regulatory notices (e.g. preventing vehicle or vessel access to particular areas), or including conditions on marine park permits to minimise or mitigate potential impacts.
- FHAs are part of Australia's Nationally Representative System of Marine Protected Areas and align with the International Union for the Conservation of Nature and Natural Resources (IUCN) Protected Area Management Category VI – 'Managed Resource Protected Area'. FHAs within or immediately adjacent to the Coolooloa Recreation Area are outlined in section 3.3.

Permits and authorities are issued to commercial operators operating within the intertidal areas of the Coolooloa Recreation Area. High visitation from free and independent users in locations such as Double Island Point is managed through legislation. For example, Maritime Safety Queensland introduced a 'Go-Slow Zone' with a speed limit of 6 knots to assist with the influx of high-speed watercraft impacting other users undertaking low impact activities such as surfing and kayaking.

Queensland Ecotourism Trails Program

An ecotourism opportunity is proposed within the Coolooloa Recreation Area. The Coolooloa Great Walk¹ is currently being considered as part of a future ecotourism opportunity. More information can be found on the Queensland Government's website².

¹ <https://parks.des.qld.gov.au/parks/great-walks-coooloa>

² <https://parks.des.qld.gov.au/management/ecotourism/trails-program>

Sustainable Visitor Capacity Management (SVCM) studies

The Sustainable Visitor Capacity Management Study commissioned by the Queensland Government for the Cooloola Recreation Area has informed the draft Cooloola Recreation Area Management Plan.

Noosa North Shore Landing Reserve

Queensland Parks and Wildlife Service is trustee of Lot 7 MCH4562 (the Lot), a 428-hectare reserve under the *Land Act 1994* (R967) surrounded by the Cooloola section of the Great Sandy National Park. The Lot contains an important area of state conservation significant core habitat for the Eastern ground parrot *Pezoporus wallicus wallicus*, which is classed as 'vulnerable' under the *Nature Conservation Act 1992*. This Lot provides a significant contribution to the key value identified in this Cooloola Recreation Area Management Plan – Heath communities (including core ground parrot habitat), however contains an internal network of mowed airstrips used by sporting aviators and model flyers. The Lot will be managed for its national park values balanced with approved activities while its future tenure is resolved.

Una Corbould Nature Refuge

Lots 2, 3, and 4 on Plan M37916 and Lot 6 on Plan M37928 are freehold properties dedicated as a Nature Refuge under the *Nature Conservation Act 1992* and are bounded by the Cooloola Section of the Great Sandy National Park, Lake Cootharaba and the Noosa River. These lots are held in trust by the Public Trustee of Queensland (since 1994). They are managed contiguously with the National Park and Recreation Area by the Queensland Parks and Wildlife Service under a conservation agreement with the Public Trustee and according to the management principles of a national park, to prevent commercial activity in the nature refuge while their long-term tenure is resolved.

Term Lease over National Park for Business (Tourist Facilities)

Lot A and Lot B on Crown Plan MCH5358 are Term Leases over the Cooloola Section of the Great Sandy National Park issued under the *Land Act 1994* for a term of 50 years commencing 26 October 1986 for the purposes of a tourism facility. The leases located north of Elanda Point and to the west of Lake Cootharaba are managed by the leaseholder in accordance with lease conditions registered with the Queensland Titles Office on Title Reference 17569233.

3.3 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 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.

Australia is a signatory to several international migratory bird agreements, including the Japan–Australia Migratory Bird Agreement (JAMBA), China–Australia Migratory Bird Agreement (CAMBA), and Republic of Korea–Australia Migratory Bird Agreement (ROKAMBA), that support the Conservation of Migratory Species of Wild Animals (CMS) treaty. 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 Great Sandy Strait Ramsar site.

The Great Sandy Strait Ramsar site was listed under the Ramsar Convention on 14 June 1999. Great Sandy Strait is a double-ended sand passage estuary, separating K'gari (Fraser Island) from the mainland. The strait is the largest area of tidal swamps within the South-East Queensland bioregion, consisting of intertidal sand and mud flats, seagrass beds, mangrove forests, salt flats and saltmarshes, and often contiguous with freshwater *Melaleuca* wetlands and coastal wallum swamps. The strait is an

exceptionally important feeding ground for migratory shorebirds and important for a wide range of other shorebirds, waterfowl and seabirds, marine fish, crustaceans, oysters, dugong, sea turtles and dolphins.

The waterway of the Great Sandy Strait is also protected in highly protected zones (Marine National Park Zone and Conservation Park Zone) of the Great Sandy Marine Park. Highly protected zones within marine parks are considered as Matters of State Environmental Significance (MSES) under the State Planning Policy. Large areas of the Great Sandy Strait are also included in several declared FHAs, including:

- Susan River FHA
- Maaroom FHA
- Kauri Creek FHA
- Tin Can Inlet FHA
- Noosa River FHA.

The Great Sandy Strait Ramsar site provides critical ecological services and environmental benefits, including:

- patterned fens on Cooloola (and K'gari)
- intertidal areas, including mangroves, which provide habitat for migratory shorebird species,
- high tide roosting sites for migratory shorebirds
- supporting populations of plant and animal species important for maintaining biological diversity, including acid tolerant fauna
- providing an important source of food for fish, spawning grounds, nursery and migration path on which fish stocks depend.

The Great Sandy Strait Ramsar Site satisfied six of the nomination criteria available at the time of listing, of which Cooloola contributed to all criteria. **Table 1** sets out the wetland assessment and key values that cover and protect these wetland features.

Table 1. Wetland of International Importance criteria	Associated 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"> ● The site includes a representative example of Ramsar Wetland Type F (estuary) which is the largest and least disturbed sand passage estuary in the South-East Queensland biogeographical region. 	Wetlands
<p>Supports vulnerable, endangered, or critically endangered species or threatened ecological communities (listed nationally or under international frameworks).</p> <ul style="list-style-type: none"> ● The site supports four species of marine turtle (green, hawksbill, flatback, loggerhead), each of which is threatened under national legislation. ● The site supports far eastern curlew <i>Numenius madagascariensis</i> which are critically endangered (EPBC Act) and do not migrate in their first winter. ● The nationally endangered Oxleyan pygmy perch <i>Nannoperca oxleyana</i> and nationally vulnerable honey blue-eye <i>Pseudomugil mellis</i> also occur within the site as well as water mouse <i>Xeromys myoides</i>, and four species of acid frog. 	Wetlands
<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"> ● In the context of the South-East Queensland bioregion, the site supports a large or relatively large number of species from several plant and animal groups: waterbirds, marine turtles, marine mammals, fishes, crustaceans and other marine invertebrates, seagrasses and mangroves. 	Wetlands
<p>Regularly supports 20,000 or more waterbirds.</p> <ul style="list-style-type: none"> ● The site has supported, on at least several occasions, between 20,000 and 40,000 waterbirds (mostly shorebirds). 	Wetlands

<p>Regularly supports one per cent of the individuals in a population of one species or subspecies of waterbird.</p> <ul style="list-style-type: none"> The site is known to support, at least on the basis of maximum recorded count, at least 1% of the population of far eastern curlew, whimbrel, bar-tailed godwit, grey-tailed tattler, (Common) greenshank, terek sandpiper, lesser sand plover and pied oystercatcher. 	<p>Wetlands</p>
<p>Important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.</p> <ul style="list-style-type: none"> The site's tidal wetlands are extremely important for protection of and source of food for juvenile and adult fish, prawns and other crustaceans. 	<p>Wetlands</p>

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4. Key values

All parks, forests and reserves have an array of natural, cultural, social and 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.

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 1).

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 other monitoring, enabling QPWS to act quickly, applying best practice adaptive management.

Summary of key values

A summary of the key values for Cooloola Recreation Area is detailed below. The location of each key value is shown in Maps 2 & 3. Figure 4 provides a key to interpreting the condition and trend icons used in this section.

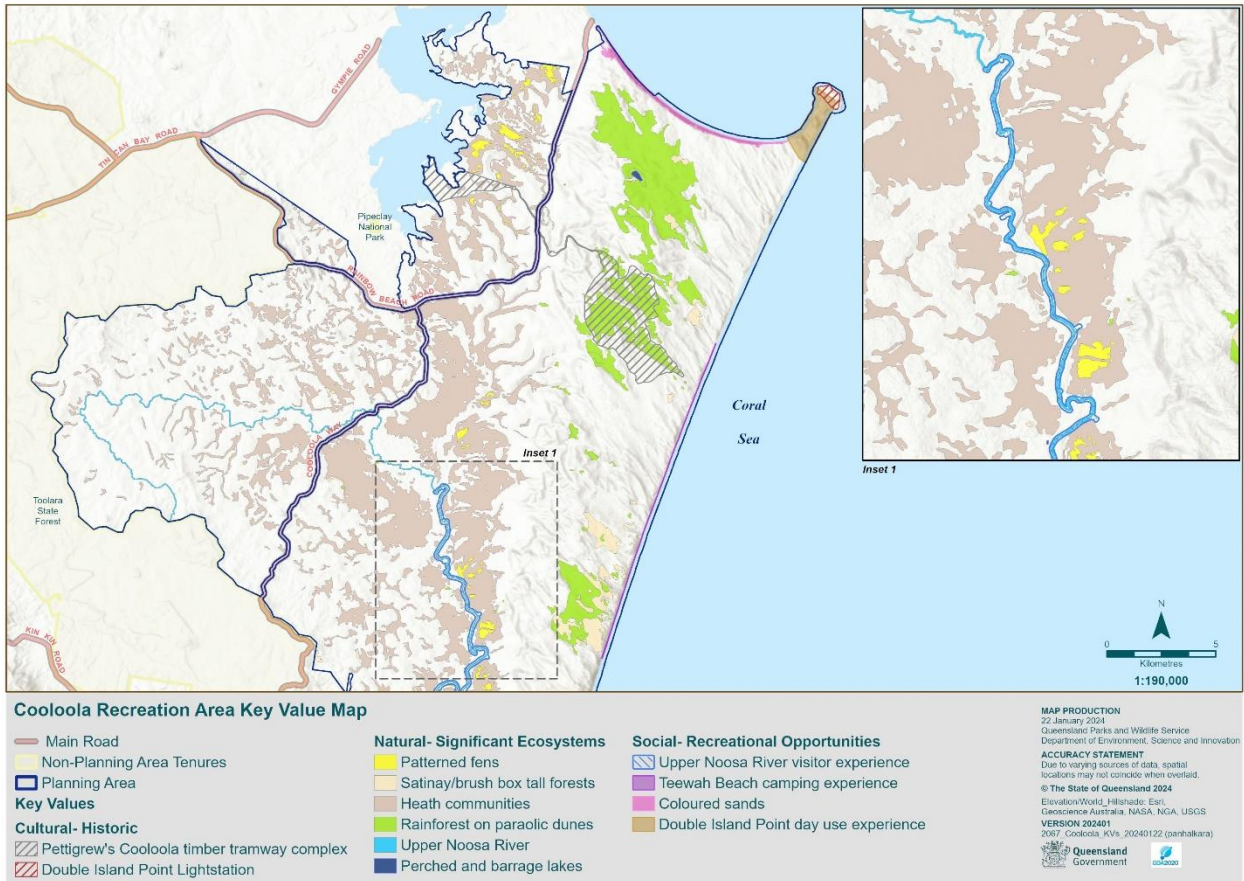
	Current condition	Confidence in condition assessment	Current trend	Confidence in trend assessment	Desired condition
4.1 Aesthetic and geomorphological		Limited		Limited	
4.2 Wetlands: a. Perched and barrage lakes		Limited		Limited	
4.2 Wetlands: b. Patterned fens		Inferred		Inferred	
4.2 Wetlands: c. Upper Noosa River		Limited		Inferred	
4.3 Rainforest communities a. Rainforest on parabolic dunes		Inferred		Inferred	
4.3 Rainforest communities: b. Satinay/brush box tall forests		Inferred		Inferred	
4.4 Heath communities (including core ground parrot habitat)		Inferred		Inferred	
4.5 Queensland Heritage Register sites: a. Pettigrew’s Cooloola timber tramway complex		Limited		Limited	
4.5 Queensland Heritage Register sites: b. Mill Point settlement site		Limited		Limited	
4.5 Queensland Heritage Register sites: c. Double Island Point Lightstation		Limited		Limited	
4.6 Cooloola Recreation Area visitor opportunities		Adequate		Adequate	

4.6 Cooloola Recreation Area visitor opportunities: a. Teewah Beach camping experience		Limited 		Limited 	
4.6 Cooloola Recreation Area visitor opportunities: b. Double Island Point day use experience		Limited 		Limited 	
4.6 Cooloola Recreation Area visitor opportunities: c. Coloured sands		Limited 		Limited 	
4.6 Cooloola Recreation Area visitor opportunities: d. Upper Noosa River visitor experience		Limited 		Limited 	

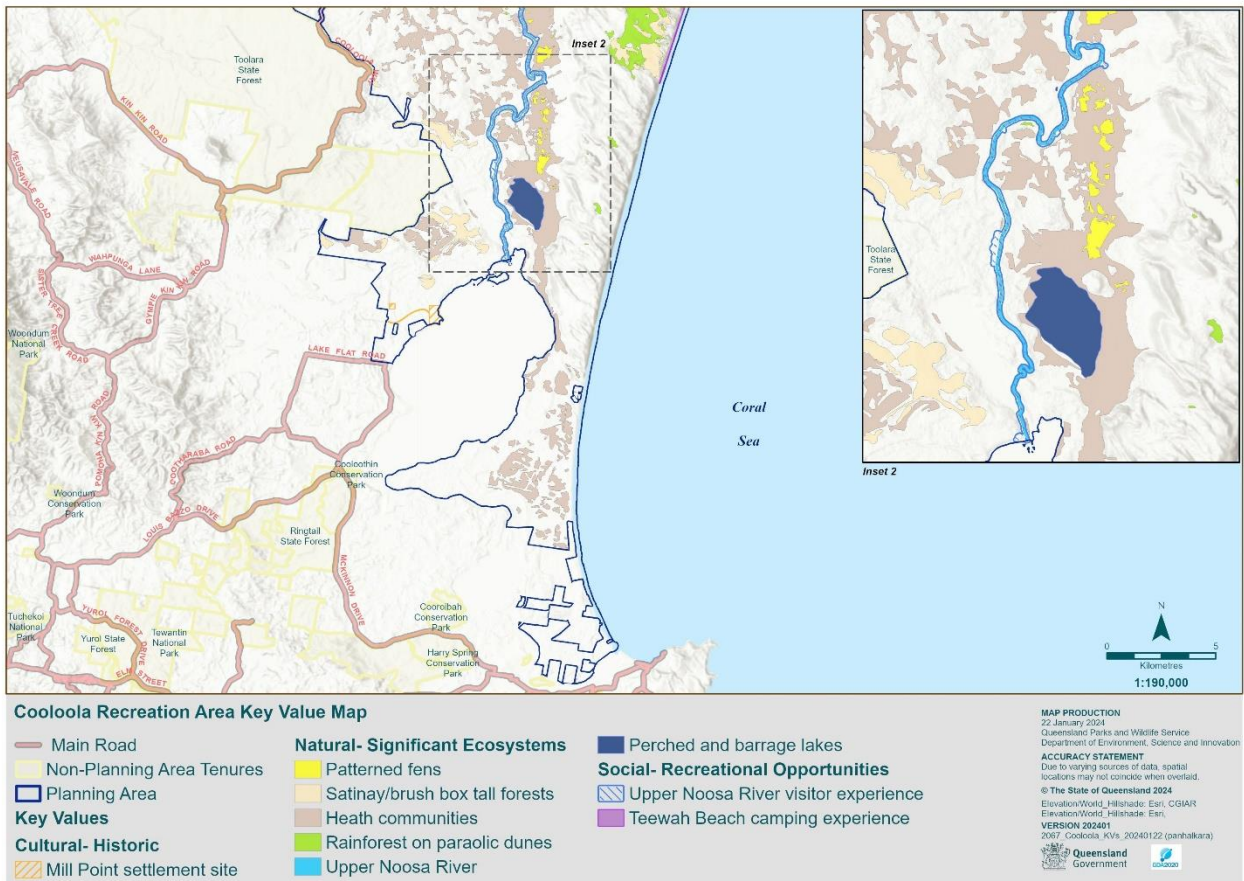
Condition of key value	Good The value is in good condition and is likely to be maintained for the foreseeable future, provided that current measures are maintained	Good with some concern The value is likely to be maintained over the long term with minor additional conservation measures to address existing 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 	

Figure 4. Key to condition, trend and confidence icons

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Map 1. Cooloola Recreation Area key values – North



Map 2. Cooloola Recreation Area key values – South

4.1 Aesthetic and geomorphological

Key value statement

Description		Current condition	Current trend	Desired condition
World-class scenery of exceptional beauty, including vast sand landscapes, lakes and other beauty spots	Condition and trend	●●●	↔	●●●●
	Assessment confidence	Limited Ⓚ	Limited Ⓚ	



Figure 5. Rainbow Beach © DESI

The Cooloola Recreation Area offers visitors exceptional world-class scenery due to its large-scale, diverse natural sand landscapes and vistas, and iconic sites of great beauty. Highlights include long uninterrupted sweeps of ocean beach, multi-coloured sand cliffs, spectacular dunes with sand blows, and opportunities for remote hiking. Visitors captivated by the area’s relaxing atmosphere experience the power of a dynamic coastal environment.

Threats

Primary threat: High numbers of visitors during peak visitor times (including tour groups, vehicles and aircraft) reduce the iconic natural ‘wilderness’ ambience of some areas. For example, crowded beach camping areas (e.g. Teewah Beach) and day-use areas (e.g. beaches near Double Island Point), as well as high volumes of vehicle and aircraft traffic, detract from the natural and cultural experiences being sought. **Threat rating: Very high**

Secondary threat: Infrastructure development (e.g. built infrastructure, signs, fences, hardened vehicle access points and jetties) reduces the iconic natural attraction of some areas. High visitor use and large groups degrade natural values, including damage to foredunes (vehicles and camping), loss of fringing vegetation on the Noosa River (riverbank access), erosion around some lakes (trampling around lake edges), and an increased risk to biosecurity and spread of pest plant species. **Threat rating: High**

Desired outcome and strategic management direction

Desired outcome	
●●●●	The Cooloola Recreation Area’s exceptional aesthetic and geomorphological values will be managed to ensure long-term protection of the scenic amenity and continuing geological processes of beaches, sand cliffs, dunes and sand blows. Visitors will be able to experience both remote areas and areas with higher social interactions in a sustainable and natural setting.
Threatening processes	Strategic management directions
Visitor impacts	Minimise visitor impacts on the aesthetic and geomorphological value caused by vehicles, aircraft and large-scale events by maintaining existing sustainable visitor capacities within both commercial and public user groups.
	Priority 1

Development	Minimise development impacts on the area's natural character and views by maintaining current landscape settings.	1
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See Appendix 1. Glossary for priority rating definitions.

4.2 Wetlands

Key value statement

Cooloola Recreation Area includes perched lakes, barrage lakes, rivers and patterned fens. The Cooloola area has large unconfined aquifers with a dynamic relationship between rainfall, aquifers, lakes, streams, soil and vegetation. These key values support the intertidal areas, mangroves and migratory bird roosting sites that contribute to the Great Sandy Strait's Ramsar internationally important wetland.

a. Perched and barrage lakes

Description		Current condition	Current trend	Desired condition
Numerous freshwater dune lakes of various size, age and type (i.e. perched and barrage lakes), including Freshwater Lake, Poona Lake, Lake Cooloola and Lake Cooloomera	Condition and trend	●●●●	↔	●●●●
	Assessment confidence	Limited Ⓚ	Limited Ⓚ	

The area's freshwater lakes are excellent examples of barrage and perched lakes. Freshwater Lake is a spectacular example of a barrage lake. Poona Lake is a scenic perched lake (**Figure 6**). They illustrate how the lakes continue to form and disappear over time as sand dunes have built, advanced and receded. These freshwater lakes are particularly important in providing critical habitat for significant species such as the Cooloola sedge frog *Litoria cooloolensis*, wallum rocketfrog *Litoria freycineti*, Oxleyan pygmy perch *Nannoperca oxleyana*, and honey blue eye *Pseudomugil mellis*. Regional Ecosystem (RE) 12.2.15a and f.



Figure 6. Poona Lake © DESI

Threats


Primary threat: Visitor impacts caused by trampling of vegetation along lake edges from people accessing lakes for swimming. Erosion from the construction and maintenance of vehicle tracks causes an increase in sediment washing into lakes. Potential water quality issues arising from sewage and greywater infrastructure are at risk of reducing water quality. Water quality impacts effect the habitat of acid frogs and other aquatic species. **Threat rating: Low**

Secondary threat: Bushfires or intervals too long between fires alter the structure of fringing vegetation communities, promoting more intense bushfires that expose sand and increase sediment washing into lakes. **Threat rating: Low**

Other threat: Pest animal species, including pigs and freshwater fish, reduce biodiversity and water quality. Feral pigs destroy bank stabilising vegetation, accelerating run-off and decreasing water quality. Mosquito fish have been associated with the decline of abundance or range of 35 fish species worldwide, including at least nine Australian native species such as gudgeons, hardy heads and some rainbow fish. Eastern gambusia are known to compete with native species for food and resources. **Threat rating: Low**

Other threat: Pest plant species, such as woody weeds and invasive aquatic weeds, displace native species and reduce biodiversity, cause sedimentation, and alter the structure of wetland ecosystems. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
	The perched and barrage lakes within the Cooloola Recreation Area will be protected and managed for continuing natural processes and provide long-term viable habitat for acid frogs and other significant aquatic species.	
Threatening processes	Strategic management directions	Priority
Visitor impacts	Minimise visitor impacts on perched and barrage lakes caused by trampling of fringing vegetation, erosion and sediment wash from nearby vehicle traffic.	5
Cultural impacts	Minimise impacts to culturally sensitive sites in and around lakes.	1
Development	Minimise impacts of inappropriate visitor infrastructure, continue to monitor water quality, rationalise access and prevent shortcutting.	2
Fire	Protect the structure of fringing vegetation communities through appropriate fire management of adjacent fire adapted communities.	2
Pest animals	Prevent the spread of mosquito fish <i>Gambusia holbrooki</i> into uninfested lakes and wetland systems by employing biosecurity measures for all activities conducted in these areas and providing public education.	1
Pest plants	Prevent the establishment of invasive aquatic weeds in the lakes and wetlands through ongoing water quality monitoring, health checks and treatment of adjacent communities.	1

See Appendix 1. Glossary for priority rating definitions.

b. Patterned fens

Description		Current condition	Current trend	Desired condition
Palustrine wetlands, including one of the only known examples of subtropical patterned fens in the world, dominated by sedges, forbs and low shrubs. Part of the Great Sandy Strait Ramsar internationally important wetland	Condition and trend			
	Assessment confidence	Inferred 	Inferred 	

Patterned fens in Cooloola Recreation Area are one of the only known examples of subtropical patterned fens in the world, and support an unusually high number of rare and threatened invertebrate and vertebrate species (**Figure 7**). Fen communities in low-lying swampy areas are fed by a high groundwater table and have probably been wet for 20,000 years. Fens consist of an elaborate pattern of peat ridges ('strings') and pools ('flaks') developing when peat builds up from the decaying roots of

densely growing rushes, which dominate the low-oxygen, acid-rich groundwater. Regional Ecosystem (RE) 12.2.15g specifically refers to the fens. RE 12.2.15 is the overall closed sedgeland ecosystem.

The lakes, patterned fens and other wetlands of Cooloola support a unique complex of species adapted to living in acidic, low-nutrient water, including the wallum froglet *Crinia tinnula*, Cooloola sedge frog *Litoria cooloolensis*, wallum sedge frog *Litoria olongburensis*, wallum rocketfrog *Litoria freycineti*, honey blue eye *Pseudomugil mellis*, Oxleyan pygmy perch *Nannoperca oxleyana* and coastal petaltail dragonfly *Petalura litorea*.



Figure 7. Patterned fens near Rainbow Beach © DESI

Threats

Primary threat: Fire during drought or extended dry periods. Peat soils are vulnerable to bushfires, which can ignite, burn for weeks or months, and significantly alter vegetation and hydrology. **Threat rating: Medium**

Secondary threat: Changes to groundwater levels caused by increased water extraction to service nearby townships, or changes to river levels caused by dredging of the Noosa River mouth, impact fens. **Threat rating: Low**

Other threat: Erosion from the construction and maintenance of vehicle tracks causes an increase in sediment washing into fens, as well as potential impacts from visitor use. Potential water quality issues arising from sewage and greywater infrastructure are at risk of reducing water quality. Water quality impacts effect the habitat of acid frogs and other aquatic species. **Threat rating: Low**

Other threat: Pest animal species, including pigs and freshwater fish, degrade wetland vegetation and outcompete native species for food and habitat, reducing biodiversity and water quality. **Threat rating: Low**

Other threat: Pest plant species, such as woody weeds and invasive aquatic weeds, displace native species, reduce biodiversity, cause sedimentation and alter the structure of wetland ecosystems. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
●●●●	Palustrine wetlands and the patterned fens within the Cooloola Recreation Area will be protected and managed for continuing natural processes and provide long-term viable habitat for acid frogs and other significant aquatic species.	
Threatening processes	Strategic management directions	Priority
Fire	Protect patterned fens and wetlands through appropriate fire management of adjacent fire adapted communities.	2

Development	Minimise visitor impacts on patterned fens and wetlands caused by trampling of fringing vegetation, erosion, sediment wash from nearby vehicle traffic, and inappropriate visitor infrastructure, by continuing to monitor water quality, rationalise access and prevent shortcutting.	2
Pest animals	Prevent the spread of mosquito fish <i>Gambusia holbrooki</i> into uninfested lakes and wetland systems by employing biosecurity measures for all activities conducted in these areas and providing public education.	2
	Reduce impacts of pigs in wetlands and on patterned fens through targeted control programs.	2
Pest plants	Reduce impacts of woody weeds in the wetlands through the targeted application of fire in adjacent fire adapted communities.	3
	Prevent the establishment of invasive aquatic weeds in the Great Sandy Strait Ramsar site through ongoing water quality monitoring, health checks and treatment of adjacent communities.	4
Development	Monitor external ecosystem modifications and resulting water quality deterioration.	1

See Appendix 1. Glossary for priority rating definitions.

c. Upper Noosa River

Description		Current condition	Current trend	Desired condition
Largely intact and healthy upper Noosa River, including the 'choked lagoon' system, riparian vegetation and much of the river's water catchment	Condition and trend	●●●	↔	●●●●
	Assessment confidence	Limited ⊙	Inferred ○	

Most of the Noosa River's upper catchment is within the Cooloola Recreation Area, protecting water quality and largely intact habitat. The river captures water draining from Cooloola's main dune systems to the east, and the Mesozoic sandstones hills to the west. The Noosa River and associated lakes are impressive landscape features of the region. The upper Noosa River flows through the expansive, treeless Noosa Plain, then through various forest communities that fringe its banks into brackish shallow lagoons and freshwater lakes.

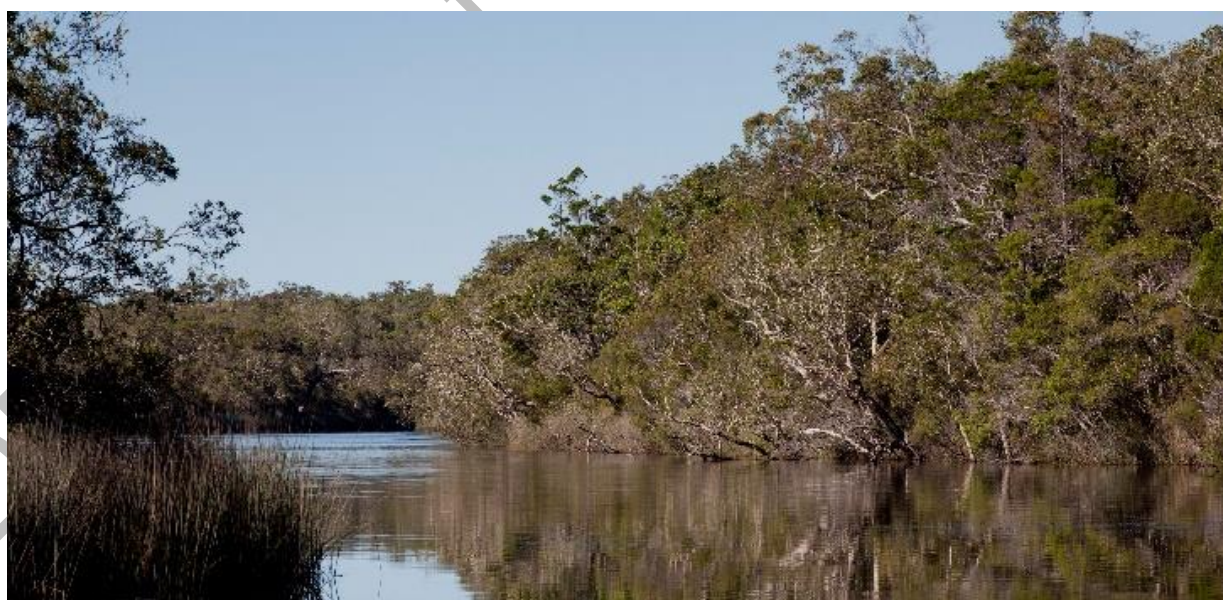


Figure 8. Upper Noosa River © Adam Creed, Qld Government

Threats

Primary threat: Loss of natural amenity due to impacts of increasing visitor use, pollution from bush toileting at some campsites and sewage systems reducing water quality. Disturbance to riverbank vegetation and soils

from visitors climbing banks or landing watercraft causes a reduction in habitat, disturbance to wildlife, bank erosion, increased sediments and reduced water quality. **Threat rating: Low**


Secondary threat: Wash from motorised boats causes localised damage to fringing vegetation, bank erosion and impacts to water quality. This includes motorised vessels illegally using the ‘non-motorised/electric motor’ zone of the river, exceeding the speed limit, or having a hull design that significantly increases wash. **Threat rating: Low**

Other threat: Feral pigs cause bank erosion, localised pollution and reduced water quality. **Threat rating: Low**

Other threat: Water weeds such as salvinia *Salvinia molesta*, North Queensland blue waterlily *Nymphaea caerulea* and other invasive aquatic species displace native species (e.g. water lily *Nymphoides indica*), causing sedimentation and altering water flows. **Threat rating: Low**

Other threat: Woody weeds out-compete native species, changing habitat structure and altering fire regimes. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
 <p>The upper Noosa River, within Cooloola Recreation Area, will be managed to protect water quality and support river-dependent flora and fauna, and a largely intact habitat.</p>		
Pest animals	Reduce impacts of pigs on the riparian vegetation and flood plains of the upper Noosa River through targeted control programs.	2
Pest plants	Reduce impacts of woody weeds in the wetlands of the upper Noosa River through the targeted use of fire in adjacent fire adapted communities.	2
	Prevent the establishment of invasive aquatic weeds in the rivers, lakes and wetlands through ongoing water quality monitoring, health checks and treatment of adjacent communities.	2
Visitor impacts	Minimise visitor impacts caused by bush toileting, sewage treatment systems, boat wash and trampling.	3
	Maintain the remote wilderness experience of the upper Noosa River by ensuring future capacities, site development and maintenance maintain the desired Landscape Classification System (LCS) identified in the Cooloola Recreation Area visitor management strategy.	1
	Implement a Special Management Setting that details where non-motorised /non-combustion boat access applies and include conditions of use for accessing the upper Noosa River.	1

See Appendix 1. Glossary for priority rating definitions.

4.3 Rainforest communities

Key value statement

Cooloola is one of the largest and oldest unconsolidated (loosely arranged) coastal sand masses in the world, and the largest deposit of wind-blown sand on mainland Australia. The sand mass is also the longest and most complete dune chronosequence in the world, displaying at least nine major stages in the forming, stabilising and gradual eroding of coastal dunes (particularly during the Quaternary era). The depth of soil in the dunes ranges from less than 0.5 m to giant forms more than 25 m thick—the deepest podzols in the world. This variety of depths is due to the unique way that soils have formed through successive overlaying of dune systems. Vegetation communities that grow on and around dune systems display significant, ongoing biological processes. These processes are tied to the unique sand environment and include plants and animals adapting (e.g. vegetation succession and regression) and evolving (e.g. development of rare and biogeographically significant species).



Figure 9. Rainforest, Freshwater Road © DESI

a. Rainforest on parabolic dunes

Description		Current condition	Current trend	Desired condition
Tall rainforest, with up to 50 m high <i>Notophyll</i> and <i>Araucarian</i> vine forest, growing on parabolic high dunes	Condition and trend			
	Assessment confidence	Inferred 	Inferred 	

Cooloola is one of the only places in the world where large areas of tall rainforest (up to 50 m high) grow on coastal dunes (up to 240 m high). Rainforest tends to grow at protected sites on dune floors and corridors, where nutrients and moisture levels are higher and there is less influence from wind and fire. Small patches of rainforest also grow around several white-water springs in older dune systems. 'Notophyll vine forest on parabolic high dunes' (Regional Ecosystem (RE) 12.2.1) is endemic to the Great Sandy Area, with 73% of this forest type found in Cooloola. 'Araucarian vine forest on parabolic high dunes' (RE 12.2.3) is also endemic to the Great Sandy Area, with 5% of this forest type found in Cooloola.

Threats

Primary threat: Intense bushfires reduce the extent and health of the rainforest, including habitat for flora and fauna. **Threat rating: Low**

Secondary threat: Roads, carparks and walking tracks provide pathways for weeds and pathogens (e.g. lantana, camphor laurel, exotic vines, phytophthora and myrtle rust) to be introduced and spread, impacting on habitat and forest health. **Threat rating: Low**

Other threat: Feral pigs reduce fauna diversity and abundance within rainforest communities. Feral pigs are known vectors of weeds and pathogens, and can upset the balance in rainforest plant communities by feeding on seeds and roots. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
	The largely endemic tall rainforest on coastal dunes will be protected from bushfires, and managed to support healthy ecosystems and fauna, and ensure long-term ecological function.	
Threatening processes	Strategic management directions	Priority
Fire	Protect rainforest through appropriate fire management of adjacent fire adapted communities.	4
Pest plants	Prevent the establishment of invasive weeds and high biomass grasses in rainforest communities, particularly along road verges and walking tracks, by employing biosecurity measures for all activities conducted in these areas.	3
Pest animals	Reduce the impacts of pigs on rainforest fauna through targeted control programs.	5

See Appendix 1. Glossary for priority rating definitions.

b. Satinay/brush box tall forests

Description		Current condition	Current trend	Desired condition
Tall open to closed forests of satinay and brush box growing on parabolic high dunes	Condition and trend			
	Assessment confidence	Inferred 	Inferred 	

Cooloola has small stands of satinay *Syncarpia hillii* and brush box *Lophostemon confertus* (RE 12.2.4 ‘*Syncarpia hillii*, *Lophostemon confertus* tall open to closed forest on parabolic high dunes’), which are endemic to the Great Sandy Area. These stands have been logged in the past. Like rainforest, tall satinay/brush box forest grows where moisture levels are higher, and they are protected from drying winds. It is unusual for such high biomass forests to grow on sand, and they are also considered to be one of the most attractive forests in Australia. Satinay/brush box forest is home to the satinay sand skink *Coggeria naufragus*, an endemic, largely subterranean skink, with no other species in its genus. Without fire, such as that previously applied through traditional Aboriginal burning practices, these communities may gradually become rainforest.

Threats

Primary threat: Too long an interval between fires reduces the long-term health of forests by failing to recruit young trees and changing the diversity and extent of the forest. Dense understorey in some areas of this forest type indicates forest structure may already be shifting towards rainforest. **Threat rating: Low**

Secondary threat: Feral cats and foxes reduce fauna diversity and abundance within these communities. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
	The satinay/brush box tall forests of the Cooloola Recreation Area will continue to support viable and sustainable habitat for dependent fauna. The satinay sand skink will thrive in this habitat.	
Threatening processes	Strategic management directions	Priority
Fire	Restore structural elements of satinay/brush box forest through the targeted application of fire.	1
Pest animals	Reduce impacts of cats and foxes on native fauna through targeted control programs.	5

See Appendix 1. Glossary for priority rating definitions.

4.4 Heath communities (including core ground parrot habitat)

Key value statement

Description		Current condition	Current trend	Desired condition
Ground parrot habitat which includes wet heathland - closed sedgeland / shrubland growing on coastal sand dunes.	Condition and trend			
	Assessment confidence	Inferred 	Inferred 	

Cooloola Recreation Area contains one of the most intact areas of heathland on coastal dunes in Australia. ‘Closed sedgeland/shrubland on sedimentary rocks’ (Regional Ecosystem (RE) 12.2.12) is only found within Queensland’s protected areas—99% of this heathland type is found in the Great Sandy Area. The low shrubby heaths (or ‘wallum’) also mark a time of evolutionary change, when the newly formed sand environment of the Pleistocene supported the spread of this important vegetation type. Specialised fauna (some now threatened) have adapted to the highly acidic and siliceous sand environment of the wet heathlands and sedgelands. The heathland provides refuge for relict and disjunct fauna populations, and is important to the evolution of species. These ecosystems support the ‘vulnerable’ ground parrot *Pezoporus wallicus wallicus*, wallum froglet *Crinia tinnula*, wallum rocketfrog *Litoria freycineti*, Christmas bells *Blandfordia grandiflora* and southern emu-wren *Stipiturus malachurus*. Additional relevant ecosystems include RE 12.5.9 (‘Sedgeland to heathland in low lying areas on complex of remnant Tertiary surface and Tertiary sedimentary rocks’), and RE 12.3.13 (‘Closed heathland on seasonally waterlogged alluvial plains usually near coast’).

The Cooloola Recreation Area is the most important remaining habitat on the mainland for the disjunct northern populations of the ground parrot *Pezoporus wallicus*, a species listed as ‘vulnerable’ under the *Nature Conservation Act 1992*. Ground parrot populations have declined due to habitat clearance from coastal development and increased predation, especially from feral cats and foxes. In Queensland, the ground parrot occurs in dense coastal heathlands, feeding on seeds from a variety of plant species, including sedges. More than 15% of ground parrot habitat was impacted by the 2019–20 bushfires in the Great Sandy and Noosa National Parks, which removed important food resources and protective vegetation cover.

To support the maintenance and enhancement of the ground parrot populations at Cooloola, the strategic use of planned burns promotes different age classes of suitable habitat across Cooloola, with ongoing seed production and cover from predators. Controlling pest animals such as foxes, as well as invasive weeds that degrade habitats and compete with native species, will continue to be part of ongoing park management programs. QPWS will actively seek to include suitable habitat into the park estate to ensure landscape level management of heath can occur into the future. The continued monitoring of ground parrots is important to track the recovery of ground parrot populations over time.



Figure 10. Sedgeland, Cooloola Recreation Area © DESI

Threats

Primary threat: Fire regimes inconsistent with recommended regimes and heathland ecology, in particular peat fires, impact the health, distribution, composition and structure of heath communities, and impact on the habitat of associated fauna. Arson, lightning strikes or escaped campfires can result in large, intense and fast-moving bushfires during periods of drought. **Threat rating: Medium**

Secondary threat: High biomass created by pest grasses (e.g. whiskey grass *Andropogon virginicus*, molasses grass *Melinis minutiflora*, thatch grass *Hyparrhenia rufa* and Bahia grass *Paspalum notatum*) spreading from easements or pipeline corridors reduce the health of native vegetation and increase the intensity of fires. **Threat rating: Low**

Other threat: Pest animals, including cats, foxes and pigs, reduce fauna diversity and abundance within heath communities, particularly populations of vulnerable ground parrot and black-breasted buttonquail. Pigs and horses also have indirect impacts, including destruction of habitat and vegetation. **Threat rating: Low**

Other threat: Groundsel *Baccharis halimifolia* is already established in heath communities and may continue to spread if unmanaged, resulting in adverse impacts on these communities. **Threat rating: Low**

Other threat: Fragmentation of heath communities in the landscape gives rise to increased predation and isolation of ground parrot populations. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
●●●●	The heath communities of Cooloola Recreation Area will be restored through fire management and support a range of significant flora and fauna. The ground parrot population will thrive in an ecologically functioning habitat and be protected from threats such as predatory pests.	
Fire	Restore heath communities by providing structural and age class variation across the range of heath communities through the targeted application of fire.	1
Habitat fragmentation	Enhance ground parrot habitat in Cooloola Recreation Area by including suitable and contiguous parcels of suitable habitat as they become available.	3
Pest animals	Eradicate feral horses from heath communities through targeted control programs.	1
	Reduce impacts of pigs on heath communities through targeted control programs.	1
	Prevent feral cats and foxes from impacting on populations of ground parrot <i>Pezoporus wallicus wallicus</i> and black-breasted button-quail <i>Turnix melanogaster</i> through targeted control programs.	1
Pest plants	Contain existing infestations of groundsel <i>Baccharis halimifolia</i> through targeted control programs.	1

	Prevent the establishment of ecosystem-changing weeds, in particular high biomass grasses (e.g. whiskey grass <i>Andropogon virginicus</i> and Bahia grass <i>Paspalum notatum</i>) within heath communities by employing biosecurity measures for all activities conducted in these areas.	1
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See Appendix 1. Glossary for priority rating definitions.

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4.5 Queensland Heritage Register sites

Key value statement

Cooloola is home to a range of post-contact cultural heritage places that demonstrate the importance of the region to the expansion of Queensland's settlement following separation from New South Wales. The coastal environment lent itself to a variety of industries, including timber-getting, maritime navigation and commerce, and the associated establishment of communication infrastructure.

a. Pettigrew's Cooloola timber tramway complex

Description		Current condition	Current trend	Desired condition
Pettigrew's Cooloola timber tramway complex (QHR id 602819), including the Seary's Creek, Poverty Point, Cooloola Creek, Tin Can Bay Inlet and Broutha Scrub sections	Condition and trend			
	Assessment confidence	Limited 	Limited 	

Pettigrew's Cooloola timber tramway (QHR id 602819) demonstrates the early expansion of Queensland's timber industry and was the first major private railway in Queensland. The remains of the tramway complex provide rare surviving evidence of the earliest period of the timber industry in the region (historically one of the most important timber-getting regions in Queensland).

Threats

Primary threat: Weathering causes above-ground remnant materials to deteriorate, contributing to the loss of significant heritage values. **Threat rating: Medium**

Secondary threat: Staff and visitors impacting the archaeological areas by accessing individual sites and moving or interfering with artefacts. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
	The story of Pettigrew's Cooloola timber tramway complex will continue to be protected and told for generations to come.	
Threatening processes	Strategic management directions	Priority
Natural deterioration	Maintain the department's cultural record about the history of Pettigrew's Cooloola timber tramway complex.	3
	Tell the story of Pettigrew's Cooloola timber tramway complex.	5
Visitor impacts	Minimise visitor impacts on the remaining elements of Pettigrew's Cooloola timber tramway complex by rationalising access and improving interpretation.	4

See Appendix 1. Glossary for priority rating definitions.

b. Mill Point settlement site

Description		Current condition	Current trend	Desired condition
Mill Point settlement site (QHR id 601280), including tramway, dairy farmhouse, cemetery and Lake Cootharaba sections	Condition and trend	●●●	↔	●●●
	Assessment confidence	Limited Ⓚ	Limited Ⓚ	



Figure 11. Mill Point settlement site © Queensland Heritage Register

The Mill Point settlement site (QHR id 601280) provides evidence of a substantial timber extraction and processing enterprise in the Cooloola area, as well as the pattern of settlement in the Noosa hinterland.

Following an explosion in 1873, which killed five workers (Noosa Museum 2023), the mill played an important role in reforming health and safety in the boiler industry. The remnant archaeological site and interpretative material provides the opportunity to learn more about 19th and 20th century life in a rural Queensland timber company town.

Threats

Primary threat: Weathering causes remnant materials to deteriorate or loss of the remaining materials/artefacts, contributing to a loss of visitor experience **Threat rating: Low**

Secondary threat: Staff and visitors impact the archaeological areas by accessing individual sites and moving or interfering with artefacts. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
●●●	The Mill Point settlement site will continue to provide visitors with insights into early settlement in the Cooloola area through recording and telling of the history.	
Natural deterioration	Record extent and elements of Mill Point settlement site.	3
	Tell the story of Mill Point settlement site onsite.	5
Visitor impacts	Minimise visitor impacts on the remaining elements of Mill Point settlement site by rationalising access and improving interpretation.	4

See Appendix 1. Glossary for priority rating definitions.

c. Double Island Point Lightstation

Description		Current condition	Current trend	Desired condition
Double Island Point Lightstation precinct (QHR id 601722), including lighthouse, watch hut, powerhouse, tank farm, stone pitched retaining wall, lightkeeper's cottage, assistant lightkeeper's cottage, weather station, carport, service pit, paint and oil store (POL), storage shed and Stevenson Screen	Condition and trend	●●●	↔	●●●
	Assessment confidence	Limited Ⓧ	Limited Ⓧ	

The Double Island Point Lightstation (QHR id 601722) is a unique Queensland design incorporating Queensland resources. It plays an integral role in understanding the establishment of maritime navigational aids along the Queensland coast, as well as the growth and development of Queensland following its separation from New South Wales.

Threats


Primary threat: The lighthouse and supporting buildings will deteriorate due to weather and environmental conditions if structures are not adequately maintained, contributing to a loss of visitor experience **Threat rating: Low**

Secondary threat: Visitors impact the heritage listed elements by accessing individual sites and moving or interfering with artefacts **Threat rating: Low**



Figure 12. Double Island Point Lighthouse © Queensland Heritage Register

Desired outcome and strategic management direction

Desired outcome		
	Double Island Point Lightstation will continue to be preserved through ongoing care and protection, to present the story of the lightstation and its keepers to visitors and future generations.	
Threatening processes	Strategic management directions	Priority
Natural deterioration	Preserve heritage buildings and structures located within the Double Island Point Conservation Park.	4
	Adaptively re-use lightstation buildings appropriate to conservation management plan.	4
	Tell the story of Double Island Point Lightstation and its keepers.	3
Visitor impacts	Minimise visitor impacts and manage safety around lightstation precinct by rationalising access and improving interpretation.	3

See Appendix 1. Glossary for priority rating definitions.

4.6 Cooloola Recreation Area visitor opportunities

Description		Current condition	Current trend	Desired condition
Cooloola Recreation Area is a significant regional tourism destination for SE Queensland, offering a diverse range of visitor experiences	Condition and trend	2022 		
	Assessment confidence	Adequate 	Adequate 	

Cooloola Recreation Area was declared in 2010 in recognition of its regionally significant visitor opportunities, with attractive natural features and beauty spots, and many nature-based activities. Visitor opportunities include beach driving and camping, as well as remote wilderness opportunities of kayaking, hiking and remote camping. To support recreational management, a ‘Recreation Area’ overlay was declared under the *Recreation Areas Management Act 2010* to ensure coordinated management of Great Sandy (Cooloola Section) National Park (above high tide) and the coastal zone (between high and low tide).

The 65 km beach provides one of the few beach driving opportunities in South-East Queensland, with 80% of visitors coming to the area from between Noosa and Brisbane. Popular recreational activities within coastal areas include four-wheel driving and camping on Teewah beach, and highly popular beach recreation opportunities within the Double Island Point precinct. Visitors can expect high numbers of people, long wait periods at barges and access points, and limited opportunities to have space to themselves when visiting on weekends, public holiday long weekends and school holiday periods.

Low-key visitor opportunities in natural settings can be found at visitor sites along the upper Noosa River (including Harry’s Hut and secluded river camping sites), Cooloola Great Walk and Cooloola Wilderness Trail.

The high volume of people accessing the area creates management challenges to provide a safe, natural and diverse visitor experience.

Several sub-key values contribute to the Cooloola Recreation Area visitor experience, including:

- Teewah Beach camping experience

- Double Island Point day use experience
- Cooloola Coloured Sands
- Upper Noosa River visitor experience.

Threats

Primary threat: Loss of visitor experience due to increase in visitor numbers, particularly during peak periods, causing congestion at access points, long wait times and limited space at popular visitor nodes. High numbers of visitors impact natural and cultural values of sites. **Threat rating: Very high**


Secondary threat: Risk to visitor safety caused by poor visitor behaviour, including drink driving, driving dangerously and driving at high tides, also impacting the visitor experience and the natural and cultural values of the park. Visitors driving at high tide and parking on dunes significantly impacts coastal dune areas by physically changing the structure of the beach (including erosion). Vehicle impacts kill dune vegetation and impact species habitat and breeding areas (turtles and shorebirds). **Threat rating: Very high**

Other threat: Non-compliance with rules and regulations in the park leads to an increased risk to visitor safety and negative impacts on environmental values of the park. This is a result of poor visitor behaviour, and disregard for the park’s environmental and cultural values. **Threat rating: Very high**

Other threat: Development of highly visible park infrastructure may impact the aesthetic, equitable access, and natural and cultural values of Cooloola Recreation Area. Construction and maintenance of tourism infrastructure can result in natural areas being lost to development, impacts to social settings and a loss of wilderness experiences. **Threat rating: Very high**

Other threat: Poor quality or delivery of organised and commercial tour experiences, such as commercial operators who do not provide quality visitor experiences while ensuring the protection and conservation of values within the recreation area, and permit holders operating outside of their permit conditions, leads to diminished visitor experiences and impacts on natural and cultural values. **Threat rating: Very high**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
 <p>Cooloola Recreation Area will provide visitors with a safe and diverse range of opportunities, while recognising the increasing demand on the area for day use recreation.</p>		
Impacts on visitor experience	Enhance the visitor experience by managing overcrowding, congestion and user conflicts during peak periods while ensuring the maintenance of shoulder periods through capacity management.	3
	Improve the visitor experience by implementing enforcement and compliance activities to target issues including driver behaviour, campfires and poor visitor behaviour (noise and littering).	1
	Maintain the Automatic Number Plate Recognition System (ANPRS) to assist in the compliance of vehicle activities.	3
Visitor impacts	Minimise visitor impacts to dune systems by prohibiting vehicles driving at high tide or parking on dune systems.	2
Visitor safety	Improve visitor safety by implementing reduced speed limits and vehicle free beach areas in peak periods.	1
	Improve visitor safety by continuing to work with the Queensland Police Service regarding safe beach driving, including speeding, drink driving and inappropriate beach driving (particularly at night).	1
	Improve visitor safety and education through targeted programs using various tools such as digital/website for pre-trip information, compliance programs and communication with permit holders.	1
Development	Ensure the visitor experience is sustainable, and appropriate governance is applied to low impact developments.	1
	Ensure commercial opportunities provided are contemporary, and do not replace opportunities or experiences for free and independent visitors.	1
	Enhance the visitor experience in the Cooloola Recreation Area by ensuring the remote, cultural and natural values are not compromised by unsustainable visitor use.	1

	Reduce visual and noise impacts from infrastructure and visitors in Cooloola Recreation Area.	2
	Ensure visitor opportunities and park development are consistent with the visitor zoning and desired LCS for the site in the visitor strategy.	1

See Appendix 2. Glossary for priority rating definitions.

a. Teewah Beach camping experience

Key value statement

Description		Current condition	Current trend	Desired condition
Self-reliant camping within the seven zones that make up the Teewah Beach camping area	Condition and trend	●●	↓	●●●●
	Assessment confidence	Limited ⓘ	Limited ⓘ	



Figure 13. Beach camp, Teewah Beach © DESI

The long stretches of beach of Cooloola provide visitors with camping experiences that are hard to find elsewhere. Visitors enjoy camping on the beach, accessing nationally renowned fishing spots (including tailor season) or relaxing. The 15 km-long beach-front camping zone on Teewah Beach is easy to access from Noosa North Shore or Rainbow Beach township. Campers at Teewah Beach are largely self-sufficient. Campers are required to bring their own portable toilets to ensure the health of themselves, other visitors and the environment are not detrimentally affected by their stay in the camping zone. Facilities including toilets and showers are available behind the beach at the Freshwater day-use and camping area.

The condition, health and aesthetic value of the foredune ecosystems is strongly linked to the visitor experience, with iconic stands of pandanus and casuarinas and intact foredunes sustaining and enhancing this experience.

Threats

Primary threat: Loss of visitor experience in the beach camping zone due to overcrowding, competition for campsites, increasing noise at night and anti-social behaviour (parties). Excessive visitation within the camping area results in damage to foredune ecosystems, increased litter and reduced water quality. **Threat rating: High**

Secondary threat: Visitor health is at risk from the high number of visitors bush toileting in dunes in beach camping zones (i.e. spreading pathogens from exposed human waste and toilet paper, or contaminating groundwater or beach flows). **Threat rating: High**

Other threat: Illegal campfires pose a risk to visitor safety. Campfires escaping into the surrounding area have caused significant impact to park values and visitor safety. Campfires have been prohibited within the camping zone to reduce the risk to life, property, and natural and cultural values. **Threat rating: Medium**

Other threat: Iconic stands of pandanus are suffering dieback from infestations of North Queensland leaf-hopper *Jamella australiae*, contributing to reduced visual amenity for visitors. **Threat rating: High**

Other threat: Visitor safety is at risk due to unstable dune systems causing landslides. **Threat rating: Medium**

Other threat: Bitou bush *Chrysanthemoides monilifera* infestation impacts on the health of foredune flora communities by dominating native species and reducing visual amenity. Amenity weeds such as Singapore daisy *Sphagneticola trilobata* adversely impact on visitors' beach camping experience by dominating native species and reducing visual amenity. **Threat rating: High**

Desired outcome and strategic management direction

Desired outcome		
Threatening processes	Strategic management directions	Priority
●●●●	Camping on Teewah Beach will provide a safe camping environment for visitors, while supporting a range of experiences. Management of the beach camping areas will protect fragile dune systems and maintain aesthetic value for visitors.	
Visitor impacts	Minimise social impacts caused by overcrowding and user conflict by designating camping zones for larger groups and managing camping capacities using seasonal variations.	1
	Minimise visitor impacts of bush toileting by ensuring visitors bring portable toilets and dispose of waste correctly.	1
	Maintain visitor safety by prohibiting campfires.	1
Pest plant	Eradicate bitou bush <i>Chrysanthemoides monilifera</i> from foredune communities.	2
	Reduce impacts of amenity weeds in foredune communities through targeted control programs.	2
Pest animals	Reduce impacts of North Queensland leaf-hopper <i>Jamella australiae</i> on stands of pandanus in foredune communities by implementing biological control programs.	2

See Appendix 1. Glossary for priority rating definitions.

b. Double Island Point day use experience

Key value statement

Description		Current condition	Current trend	Desired condition
Teewah Beach provides a unique beach driving experience, offering day use access to Double Island Point	Condition and trend	●●●	↓	●●●●
	Assessment confidence	Limited Ⓚ	Limited Ⓚ	



Figure 14. 4WD vehicles, Double Island Point © DESI

The Double Island Point day use precinct (Figure 14) provides visitor opportunities, including stunning views, walking and beach activities. The Double Island Point precinct is a dynamic environment characterised by shifting sands that create an ever-changing landscape. On public holidays and long weekends, the Double Island Point precinct capacity exceeds sustainable limits, creating visitor safety and compliance issues.

Threats

Primary threat: Loss of visitor experience and risks to personal safety within the Double Island Point precinct due to congestion around the lagoons creating conflicts between user groups (i.e. interactions between beach users and vehicles, and people in the water with jet skis and other motorised personal watercraft). **Threat rating: Very high**

Secondary threat: Risk to visitor health and safety due to the number of day use visitors bush toileting in and around the lagoons and beach side areas. **Threat rating: Very high**

Desired outcome and strategic management direction

Desired outcome		
●●●●	Double Island Point will provide visitors with a safe environment to undertake sustainable beach activities and be conserved to ensure ongoing enjoyment by visitors.	
Threatening processes	Strategic management directions	Priority
Impacts on visitor experience	Undertake site planning to identify appropriate uses, including the use of watercraft, vehicle free areas to improve visitor safety, and options for waste management within the precinct, including temporary facilities during peak periods.	2
	Improve visitor safety by ensuring visitors are aware of the pre-trip information available regarding driving on sand within the Cooloola Recreation Area.	2
	Investigate mandatory use of portable toilets by day use visitors to reduce the impact of waste on the national park and marine park.	1

See Appendix 1. Glossary for priority rating definitions.

c. Coloured sands

Description		Current condition	Current trend	Desired condition
Spectacular sand cliffs, formations and rainbow colours, with deeply spiritual Aboriginal significance	Condition and trend	●●●	↔	●●●●
	Assessment confidence	Limited Ⓧ	Limited Ⓧ	



Figure 15. Coloured sands at Rainbow Beach © DESI

The underlying parts of the enormous and ancient dune systems at Cooloola have been exposed in some areas to reveal coloured sands. Yellow, brown and red sands were formed when the older sands bound with clay in a weakly consolidated mass. Iron-rich minerals stained the sands with a staggering array of colours over thousands of years. Spectacular sculptures have also emerged, where wind and rain have eroded the sandmass into cliffs, exposing this soft older core. These sand cliffs give Rainbow Beach its name and are an important part of both Butchulla and Kabi Kabi Peoples' stories.

Threats

Primary threat: Visitors are impacting on the coloured sands by souveniring sand, vandalising formations, and climbing and sliding on steep scarps causing landslides. **Threat rating: Medium**

Desired outcome and strategic management direction

Desired outcome		
●●●●	The coloured sands of Cooloola Recreation Area will be protected to ensure their ongoing geological processes and offer visitors an insight into ancient dune systems.	
Threatening processes	Strategic management directions	Priority
Visitor impacts	Minimise visitor impacts on the condition and visual amenity of the coloured sands, and other sand formations, by managing climbing on features, vandalism and souveniring of coloured sands.	4

d. Upper Noosa River visitor experience

Description		Current condition	Current trend	Desired condition
Remote, natural visitor experience providing one of few opportunities to kayak/canoe and camp along the hidden, dark, narrow and reflective waters of the upper Noosa River	Condition and trend	●●●	↔	●●●●
	Assessment confidence	Limited Ⓚ	Limited Ⓚ	

The dark, hidden and tranquil waterways (wetlands and lakes) of the upper Noosa River provide a magical experience for visitors in small boats, kayaks or canoes. On calm days, the sky and overhanging trees are often reflected in the river’s tannin-rich waters. The upper-most parts of the Noosa River are only accessible to visitors in non-motorised vessels, increasing the sense of tranquillity and exploration.

The natural condition and aesthetic value of the upper Noosa River ecosystem is closely linked to the visitor experience and will be monitored and maintained in conjunction with key value 4.2c Upper Noosa River.

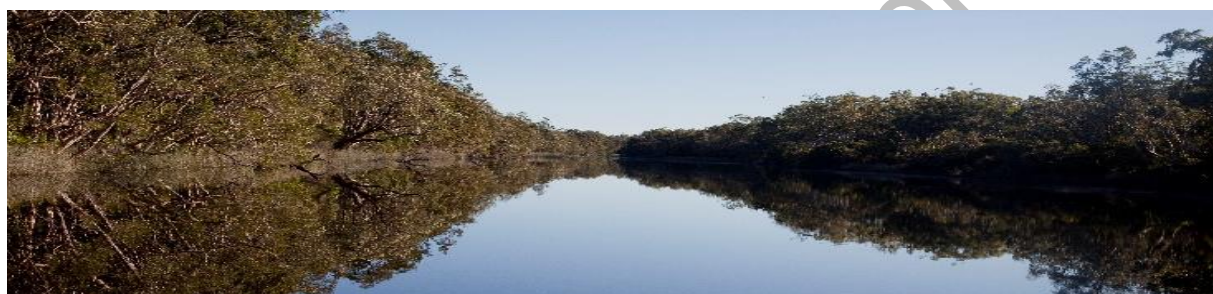


Figure 16. Upper Noosa River © DESI

Threats

Primary threat: High use of some areas by commercial groups or independent visitors can reduce the remote natural experience of visitors. **Threat rating: High**

Secondary threat: Visitors impact on the visual quality or natural values of the area by camping on boats, bush toileting, damaging riverbanks and fringing vegetation, creating wash from boats, trampling banks, or landing watercraft where there are no facilities. **Threat rating: High**

Other threat: User conflict between visitors and tour operators using motorboats and non-motorised visitor experiences (kayaks and canoes) reduces the visitor experience of the upper Noosa River. **Threat rating: Very high**

Other threat: Pest animals, particularly pigs, are causing localised impacts on riparian vegetation and water quality. **Threat rating: Medium**

Other threat: Pest plant species, such as salvinia *Salvinia molesta* and North Queensland blue waterlily *Nymphaea caerulea*, are causing impacts on riparian vegetation and water quality that affect the amenity of the value. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
●●●●	Visitors will continue to enjoy a natural, remote experience along the dark, hidden and tranquil waterways of the upper Noosa River.	
Threatening processes	Strategic management directions	Priority
Impacts on visitor experience	Visitor capacities are in accordance with visitor zoning to maintain a remote visitor experience in the upper Noosa River.	1

	Implement a Special Management Setting that details where non-motorised boat access applies and includes conditions of use for accessing the upper Noosa River.	1
	Implement a Special Management Setting to identify where visitors can camp on boats and how they obtain a permit.	2
Visitor impacts	Minimise impacts to the upper Noosa River experience by formalising access points and improving compliance with commercial tour operators, boat types, speed limits and inappropriate river access.	2
	Investigate ways to minimise visitor impacts of bush toileting through resting sites and education on appropriate bush toileting in a national park.	4
Pest animals	Reduce impacts of pigs on the riparian vegetation and flood plains of the upper Noosa River through targeted control programs.	3
Pest plants	Reduce impacts of pest plant species on the upper Noosa River through targeted control programs.	2

See Appendix 1. Glossary for priority rating definitions.

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5. Management direction

QPWS manages protected areas and forests to protect their values and deliver our custodial obligations as a land manager. Levels of service (LoS) assessment allows QPWS to consider the management of each park in a state-wide context and determine desired levels of management effort for each park in a consistent and equitable way. LoS assessment lets QPWS staff and the public know what type or level of management activity to expect on each park, forest and reserve. There are five LoS ratings ranging from ‘acceptable’ to ‘exceptional’: an acceptable rating is the minimum standard required to deliver good management and meet our legislative and custodial obligations.

For QPWS, the key areas for management in the Cooloola Recreation Area include the aspirations for both the Kabi Kabi People and the Butchulla People to manage their traditional Country, visitors, fire management and our field management capability. This section provides a **management direction statement** for each core management element, identifying its current LoS, desired LoS and the strategic management directions for management.

Summary of the Cooloola Recreation Area’s management direction

A summary of the current and desired LoS for Cooloola Recreation Area is shown below; Figure 17 provides a key to the LoS icons.

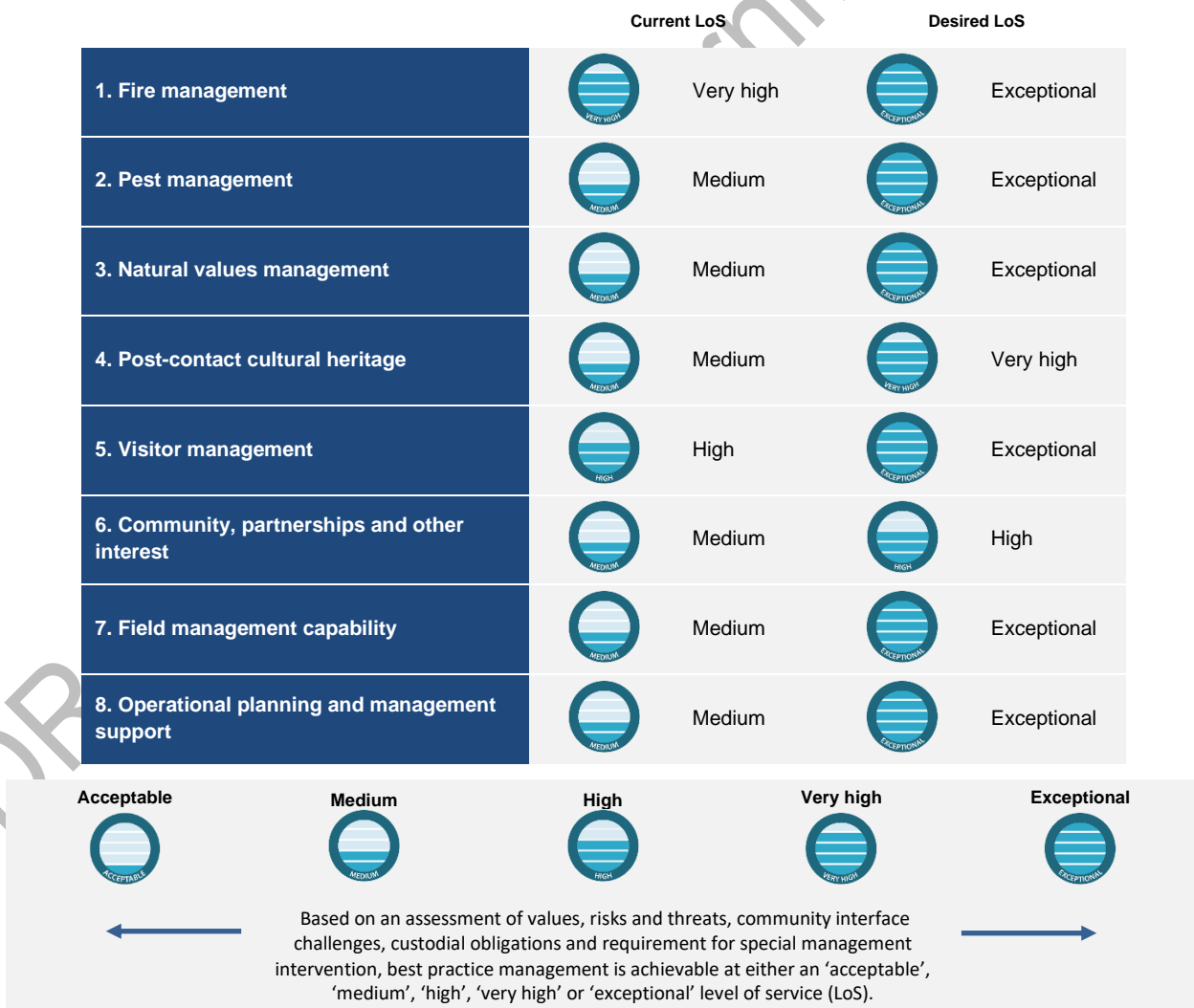



Figure 17. Key to condition, trend and confidence icons

5.1 Fire management

Management direction statement


Description	Current level of service
Fire management for the Cooloola Recreation Area	

QPWS has obligations under the *Recreation Areas Management Act 2006* (RAMA), *Nature Conservation Act 1992* (NCA) and the *Fire and Emergency Services Act 1990* to protect the public and neighbouring communities in all fire management activities, and to reduce the risk of negative bushfires to fire-sensitive natural and cultural values and to the economic and social values of the park and its neighbours.

QPWS works in partnership with First Nations peoples and in collaboration with state agencies, local government, rural fire brigades, neighbours and local communities, and park users to manage fire across the landscape.

The strategic management directions in this management plan, combined with the Kabi Kabi and Butchulla Peoples' knowledge of traditional burning practices and the Queensland Government's *Planned Burn Guidelines: Southeast Queensland Bioregion of Queensland*, will guide the development of the *Cooloola Recreation Area Fire Strategy*. The strategy details QPWS's custodial obligations for protecting life and property, and fire management objectives for maintaining key values through the use of fire management zones.

Desired level of service and strategic management direction

Desired level of service	
	Fire will be managed to an 'exceptional' level of service through improved knowledge and partnerships to protect the park's natural and cultural values and reduce risks to life and property.

Strategic management directions	Priority
Custodial obligations	
Prioritise the safety of the public and their communities (people and their homes), and fire fighters, in all fire management activities.	1
Reduce the risk of bushfire impacts on important infrastructure and assets (including visitor and management infrastructure).	1
Reduce the risk of bushfire impacts on fire-sensitive Kabi Kabi and Butchulla Peoples' cultural values.	1
Reduce the risk of bushfire impacts on post-contact cultural heritage values.	1
Partner with Kabi Kabi and Butchulla Peoples to connect and care for Country through cultural fire management.	1
Ensure third party contractors, commercial tour operators and lease holders implement adequate safe working procedures and required training to reduce risk of staff and guests starting wildfires when on park.	1
Level of service	
Maintain the health and the resilience of ecosystems through fire management aligned with ecological requirements.	3
Demonstrate continuous improvement in post-fire mapping and collating priority fire history mapping	3
Maintain collaboration through bushfire management groups and with neighbours to support a shared responsibility approach to fire management.	3
Demonstrate continuous improvement in understanding the likely impacts of climate change on the area's fire ecology.	3
Improve collaboration with Kabi Kabi and Butchulla Peoples in development of annual planned burn program and implementation.	2


Demonstrate continuous improvement in understanding how fire management affects natural values through post-fire monitoring and research.

3

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

5.2 Pest management

Management direction statement


Description	Current level of service
Pest management for the Cooloola Recreation Area	

QPWS has obligations under the RAMA, NCA and *Biosecurity Act 2014* to prevent and mitigate the threats from pest species to the park’s values and to the safety, economy and social amenity of park users and its neighbours.

QPWS works in partnership with the Kabi Kabi and Butchulla Peoples, and in collaboration with other state agencies, local government, neighbours and natural resource management groups to manage pest related threats across the landscape.

The strategic management directions in this management plan will guide the development of the *Cooloola Recreation Area Pest Strategy*. The strategy details pest management objectives for preventing and mitigating pest impacts on key values and QPWS’s custodial obligations for managing pests and priority pest species.

Desired level of service and strategic management direction

Desired level of service	
	Pests will be managed to an ‘exceptional’ level of service through increased knowledge of pest impacts, improved partnerships and increased capacity to deliver pest programs.

Strategic management directions	Priority
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Custodial obligations

Meet custodial obligations under the <i>Biosecurity Act 2014</i> .	1
Partner with Kabi Kabi and Butchulla Peoples to connect with and care for Country through culturally appropriate pest management.	1
Ensure third party contractors, commercial tour operators and lease holders implement adequate wash down procedures for vehicles and staff and guests when entering and working within areas of the park to prevent the establishment and spread of pest species and pathogens.	1


Level of service

Demonstrate continuous improvement in knowledge of current and emerging pests (location, extent, impacts and issues).	3
Improve collaboration with Kabi Kabi and Butchulla Peoples in the development of the pest management program and implementation.	3
Strengthen collaboration with local government, natural resource management bodies, neighbours and volunteers to support a cross-tenure approach and promote shared responsibility.	3
Demonstrate improvement in the coordination of cross-landscape pest management.	3
Demonstrate improvement in prioritisation of pest management to mitigate infestations in key value areas.	2

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

5.3 Natural values management

Management direction statement

Description	Current level of service
Natural values management for Cooloola Recreation Area	

QPWS manages natural values in accordance with the RAMA, NCA, *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth), *Environmental Protection Act 1994* (Qld), *Marine Parks Act 2004* and *Fisheries Act 1994* (as it pertains to Fish Habitat Areas), and relevant international agreement guidelines.


Cooloola Recreation Area has significant values, including endangered regional ecosystems, threatened species and species listed in international agreements:

- *National recovery plan for the Littoral Rainforest and Coastal Vine Thickets of Eastern Australia Ecological Community*
- *National recovery plan for the black-breasted button-quail (Turnix melanogaster)*
- *National recovery plan for the wallum sedge frog and other wallum-dependent frog species*
- *National recovery plan for the water mouse (false water rat) Xeromys myoides*
- *Oxleyan pygmy perch (Nannoperca oxleyana) recovery plan*

The condition of natural values will be monitored through the implementation of the *Cooloola Recreation Area Monitoring and Research Strategy*.

Threatening processes will be managed through the implementation of the *Cooloola Recreation Area Fire Strategy*, *Cooloola Recreation Area Pest Strategy* and *Cooloola Recreation Area Visitor Strategy*.

Desired level of service and strategic management direction


Desired level of service	
	Natural values will be managed to an 'exceptional' level of service through improved cooperative research, increased knowledge and partnerships.

Strategic management directions	Priority
Level of service	
Increase knowledge of threats and potential impacts to key values from pest plant infestation.	3
Improve compliance with migratory shorebird agreements, including ROKAMBA, JAMBA and CAMBA, and recovery plans for threatened species.	3
Improve partnership strength with universities, non-government organisations (NGOs) and World Heritage committees to facilitate monitoring programs and fill knowledge gaps.	3
Increase the management effort, including greater planning support, to improve the condition of key values.	3
Ensure third party contractors' and lessees' operations have plans in place to mitigate impacts on species and their habitat within their lease areas.	3
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).

5.4 Post-contact cultural heritage management

Management direction statement


Description	Current level of service
Post-contact cultural heritage management for Cooloola Recreation Area	

QPWS manages post-contact cultural sites in accordance with the RAMA, NCA and *Queensland Heritage Act 1992*.

Pettigrew’s Cooloola timber tramway complex, Mill Point settlement site and Double Island Point Lightstation are listed on the Queensland Heritage Register.

Threatening processes will be managed through the implementation of the *Cooloola Recreation Area Post-contact Cultural Heritage Strategy*, *Cooloola Recreation Area Fire Strategy*, *Cooloola Recreation Area Pest Strategy* and *Cooloola Recreation Area Visitor Strategy*.

Desired level of service and strategic management direction

Desired level of service	
	Post-contact cultural heritage will be managed to a ‘ <i>very high</i> ’ level of service through increased knowledge, partnerships and strategic management to protect the area’s rich history and heritage-listed places.
Strategic management directions	
Level of service	

Improve knowledge of post-contact cultural heritage values by documenting their significance, prioritising their management and presenting the park’s history where appropriate.	3
Increase capacity to manage post-contact cultural heritage places by improving engagement with external groups.	4
Improve presentation of the area’s post-contact cultural heritage places by interpreting sites and telling the story.	4

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

5.5 Visitor management

Management direction statement

Description	Current level of service
Visitor management for Cooloola Recreation Area	


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 a diverse range of recreational and ecotourism opportunities. QPWS seeks a responsible balance between visitor needs and sensitive park resources in accordance with the RAMA, NCA, and government policies and procedures. Permitted commercial tour activities, agreements and events are administered in accordance with the NCA, the *Marine Parks Act 2004* and the *Fisheries Act 1994* (i.e. Fish Habitat Areas).

Recreation area management is aimed at striking a balance between providing and maintaining a high-quality visitor experience while ensuring the protection of natural and cultural values. The Landscape Classification System (LCS), represented through ‘visitor zoning’, ensures a diversity of experiences are identified and maintained. A spectrum of opportunity exists from developed experiences through to remote wilderness experiences within the area.

The strategic management directions in this management plan guide the formation of the *Cooloola Recreation Area Visitor Strategy*. The strategy details management objectives for key values and the desired management outcomes for visitor sites through zoning. Zoning and visitor site management objectives consider the physical, social and managerial impacts of visitor experiences and sustainability of the sites. Visitor strategies clearly state the desired site capacity to provide a diversity of experiences for visitors and achieve site sustainability. 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 *Cooloola Recreation Area Monitoring and Research Strategy*.

Desired level of service and strategic management direction

Desired level of service	
	Visitors will be managed to an ‘exceptional’ level of service through strategic management to ensure world-class visitor experiences while protecting park values.

Strategic management directions	Priority
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Level of service	
Improve level of knowledge of site usage, visitor type, movement patterns and behaviours by collecting data and analysing existing information to inform sustainable visitor capacities for key sites, which determine people at one time (PAOT), daily and yearly limits for Kabi Kabi and Butchulla Peoples, commercial tours, and free and independents.	2
Ensure third party contractors, commercial tour operators and lease holders’ capacities and conditions remain within limits identified in the visitor management strategy, and that any future arrangements are only considered within the identified capacities of the sites or park.	1
Improve current level of engagement with commercial operators, tourism organisations and recreation peak bodies to ensure best practice management standards are maintained.	3
Improve overall approach to visitor management by maintaining quality of sites, improving compliance and increasing ranger presence.	2

Continue to work closely with the Queensland Police Service on compliance in relation to dangerous beach driving and drink driving.	1
Improve visitor management by working with commercial operators and lease holders to monitor capacity and activities, and ensure returns are provided and recorded.	1
Improve presentation of QPWS visitor facilities and walking tracks to meet the desired LCS of visitor sites.	1
Improve the approach to facility management by prioritising a rolling capital works program.	1

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

5.6 Community, partnerships and other interests


Management direction statement

Description	Current level of service
Community, partnerships and other interests associated with the Cooloola Recreation Area	

Queensland’s parks, forests and reserves provide sustainable environmental, economic and social benefits. The agency is committed to working with the community and its partners to ensure activities and infrastructure are ecologically sustainable and continue to benefit Queensland’s economic and social wellbeing, as outlined in Queensland Parks and Wildlife Service’s Master Plan (QPWS 2014). Permitted activities are administered in accordance with the requirements of the RAMA, NCA and other relevant legislation.

Cooloola Recreation Area is an important park for tourism, remote area recreation and nature-based activities.

Desired level of service and strategic management direction


Desired level of service	
	Community, partnerships and other interests will be managed to a ‘high’ level of service through increased engagement and cooperation, to recognise that local communities have a close relationship with the park and need to be engaged to ensure successful management.
Strategic management directions	
Priority	

Level of service	
Improve engagement with community organisations through developing more formal programs regarding management and conservation.	2
Improve engagement with lease holders to ensure compliance with conditions of lease arrangements and ensure timely review of arrangements are conducted.	3
Monitor lease arrangements through health checks and third party research and monitoring programs to ensure activities are not having an ongoing detrimental impact on park values.	4
Improve internal DESI communication to ensure future proposals are consistent with the strategic direction and zoning within this plan.	1
Ensure lease arrangements are assessed in accordance with this management plan and visitor management strategies (including the visitor zoning).	1

*KEY: Priority ratings: Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

5.7 Field management capability

Management direction statement

Description	Current level of service
Field management capability for the Cooloola Recreation Area	

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 is needed to manage key values and meet custodial obligations. The rating provides 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 capability will be managed to an 'exceptional' level of service through enhanced on-ground capability and additional support from centric units, other government departments and stakeholders.
Strategic management directions	Priority


Level of service	
Improve capacity and skills of staff to manage the area effectively and efficiently.	2
Increase capacity of staff by investigating the viability of outsourcing routine maintenance tasks.	2
Increase regional, technical and planning, and central office support for key management challenges, issues and planning.	2

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

DRAFT - NOT FOR

5.8 Operational planning and management support

Management direction statement

Description	Current level of service
Operational planning and management support for the Cooloola Recreation Area	

Operational planning and management support cover all aspects of management direction, including information, assessments, systems, tools and monitoring. As with field management capability, the area'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 support will be managed to an 'exceptional' level of service through increased regional support for planning and service delivery to manage, protect and enhance the park's values.
Strategic management directions	Priority

Level of service	
Formalise the involvement of the Kabi Kabi and Butchulla Peoples in operational planning and management.	2
Increase support for natural resource management activities to improve key values.	3
Increase support for cross-tenure management, including multi-agency support associated with the planning area.	3

*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. 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 that we, as the land management agency, have to ensure QPWS'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 can respond quickly to adverse change and redirect management priorities.
Key value	A natural, cultural 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 theme	QPWS 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; post-contact cultural heritage; visitor management; community, partnerships and other interests; field management capability; operational planning and management support.
Priority rating (key value SMDs)	<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 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 SMDs)	A rating given to an LoS or custodial obligation strategic management direction. A scale from 1 (extremely urgent) to 5 (not urgent or optional) is assigned, with consideration given to legislative obligations, cost, and social, economic and political factors.
Strategic management direction (SMD)	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 IUCN's (International Union for Conservation of Nature) classifications, QPWS 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.