

Project name	Kurrimine Beach and Cowley Beach Foreshore Management Plan						
Document title	Kurrimine Be	Kurrimine Beach and Cowley Beach Foreshore Management Plan   2024					
Project number	12634230	12634230					
File name	12634230-REP-Rev 1-FMP Kurrimine and Cowley Beaches.docx						
Status	Revision	Author	Reviewer		Approved for issue		
Code		Autiloi	Name	Signature	Name	Signature Date	
<b>S</b> 3	А	M. Estrada J. Bartetzko M. Walters	C. Sullivan L. Ingrames D. Trotter	*C. Sullivan *L. In- grames *D. Trotter	S. Boer	*S. Boer	28/05/2024
S3	0	M. Estrada J. Bartetzko M. Walters	C. Chargu- laf	* C. Char- gulaf	S. Boer	*S. Boer	21/06/2024
S4	1	M. Estrada	S. Boer	*On File	S. Boer	*On File	22/07/2024

#### © GHD 2024

This document was produced by GHD in collaboration with, and commissioned by, Cassowary Coast Regional Council. It remains the property of GHD and is intended solely for the purpose outlined in the Terms of Engagement. Any unauthorised use of this document, in any form, is strictly prohibited.







## **Kurrimine Beach and Cowely Beach Foreshore Management Plan**

# **Contents**

I. Foresnore Managment Plan	6
Introduction	6
2. Coastal Landforms and Nature Conservations	11
Zoning	11
Vegetiation	21
Fuana	24
Invasive Species	27
3. Public Access and Recreation	30
Infrastruction	30
Passive Recreation	32
Pedestrian Access	33
Vehicular Use of beaches	33
Dog Off-leash Areas	35
Camping	37
Fire Management	37
Vegetation Management	38
4. Dune Protection and Maintenance	39
5. Community Values	42
Engagement Approach	42
Outcomes and Recommendations	42
6. Implementing the Plan	44
7. References	51
8. Appendix	52

## 1. Foreshore Management Plan

### 1.1 Introduction

The coastal fringe in the Cassowary Coast Region is managed by the Cassowary Coast Regional Council (CCRC). The foreshore is a popular coastal destination with high recreational, commercial and environmental value.

Kurrimine Beach is a small beachside community with a narrow coastal reserve that stretches between Liverpool Creek Mouth and Maria Creek. The community is a common tourist destination with recreational, commercial, and environmental value including the Kurrimine Fishing Competition, popular boat ramp, and Kurrimine Beach Area nationally important wetlands. The Kurrimine Beach foreshore area is expected to experience coastal inundation and erosion, based on current projected sea level rise estimates, placing pressures on some assets and the natural environment.

Additionally, Cowley Beach is a smaller community north of Kurrimine Beach. The foreshore area boasts a 7.5 km stretch of uninterrupted beach between the Liverpool Creek mouth and Double Point. Similarly, many residential, environmental, and cultural values situated at Cowley Beach are at risk of coastal erosion and sea level rise.

Of particular note, both beaches are boarded by the Great Barrier Reef (GBR) and Wet Tropics of Queensland World Heritage Areas (WHA) (Figure 1). Of Kurrimine Beach's almost 12 km stretch of beach, approximately 0.7 km of the Liverpool Creek mouth (Figure 2) and 1 km of Murdering Point (Figure 3) is overlapped by GBR and Wet Tropics of Queensland WHA mapping, as indicated by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool (PMST). Additionally, approximately, 0.3 km of the coastal fridge from the boat ramp heading south, encompassing the stinger nets (Figure 4), and 0.7 km of the Maria Creek mouth (Figure 5) are mapped within the GBR WHA. The remainder of the coastal fridge is not mapped within a WHA. Of Cowley

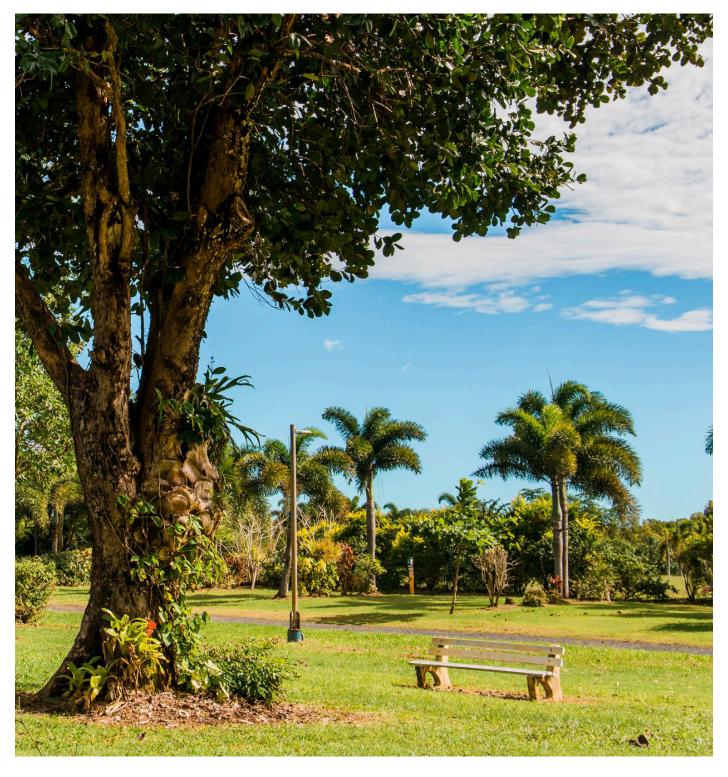
Beach's 7.5 km stretch of beach, approximately 0.6 km of the Liverpool Creek mouth is mapped within GBR WHA (Figure 6). The coastal fridge itself is not mapped within a WHA.

Both beaches are also places of strong cultural connection. The Mandubarra Nation are the Traditional Custodians of the area. Their connection as Traditional Custodians extends from jabun (the coast) out across wajali (the sea) (MALSI, 2019). There are two cultural places mapped within the Kurrimine foreshore area and three cultural places mapped within the Cowley foreshore area, see page 12 of the Mandubarra Sea Country Cultural Values report for indicative mapping (MALSI, 2019).

For the purposes of this Foreshore Management Plan (FMP), the study area for Kurrimine Beach encompasses the extent of the coastal fringe between the Liverpool Creek Mouth and Maria Creek. Similarly, the Cowley Beach planning area encompasses the extent of the coastal fringe between the mouth of Liverpool Creek to Double Point. Both extents include inland areas generally to the nearest private property boundary or public road.

In order to manage the continued recreational and commercial use of both coastal areas, CCRC identified the need for an FMP. This FMP has been developed in collaboration with CCRC and is consistent with State Planning Policy, and local plans and policies. This FMP has considered all community values and feedback, which was gathered via a variety of engagement methods, including, a community drop-in session, online survey, and social media campaign.

This FMP will guide management of the coastal reserves in a manner that ensures the preservation of ecological, cultural, and social values of the area, whilst enabling use of the coastal foreshore in a sustainable manner. An implementation plan to assist CCRC with actioning the recommendations made in this FMP is outlined in Section 6.



### 1.1.1 Purpose

The purpose of this FMP is to manage the continued recreational and commercial use of the foreshore at Kurrimine Beach and Cowley Beach in the short to medium term. The timeframe for implementation of the recommendations in this FMP are described in Table 1.

Timeframe	Definition
Short term	0-2 years
Medium term	2-5 years
Long term	5-10 years

The production of an FMP for Kurrimine Beach and Cowley Beach is a key recommendation of the 2023 RPS Stage 1 Kurrimine and Cowley Beach Foreshore Values and Constraints Assessment Report (Appendix C) and this FMP has been developed pursuant to this document.

The FMP will address the requirements listed in the Department of Environment and Heritage Protection Coastal Management Plan (DEHP, 2013) which replaced the Queensland Coastal Plan - State Planning Policy for Coastal Protection Guidelines (DESI, 2011). This includes considering coastal processes/hazards, landform and current natural environment, social and community expectations, and cultural and historical significance.

This FMP is a non-statutory document that provides guidance for the management of the Kurrimine Beach and Cowley Beach foreshore areas. Planning (e.g. master planning document) for capital works and redevelopment of the foreshore should be undertaken separately and should be consistent with, and guided by, the recommended actions and controls specified within this report.

The FMP provides guidance for the management of the coastal reserve in a manner that promotes the preservation of ecological, cultural, and social values of the area. The FMP notes the importance of enabling use of the foreshore in a sustainable manner in the short to medium term while considering the longer-term impacts of coastal process outlined in Coastal Hazard Adaption Strategy (CCRC, 2023).



## 1.1.2 Relevant Foreshore Legislation

The foreshore is regulated by the main legislations identified in Table 2. The relevance and applicability of each legislation in the foreshore of Kurrimine Beach and Cowley Beach are also presented in the table below.

Legislation	Relevance		
Commonwealth			
Environmental Protection Act 1994 and Environmental Protection Regulations 2008 and Environmental Protection (Water) Policy 2009	Protects the environment from pollution and its effects. This is applicable to all lands and waterways (natural or man-made) in Queensland.		
Commonwealth Environmental Protection and Biodiversity Conservation Act 1999	Provide for the protection of the environment, especially matters of national environmental significance (Great Barrier Reef Marine Park (GBRMP), Great Barrier Reef World Heritage Area (GBRWHA) to mean low water).		
Biosecurity Act 2014 (Biosecurity Act)	Protects the economy, environment and community from negative impacts associated with pests, diseases, and weeds.		
Wet Tropics Management Authority	Parts of Kurrimine Beach are within the Wet Tropics World Heritage Area, while Cowley Beach is adjacent the Wet Tropics World Heritage Area. This Act governs activities and land use within the Wet Tropics World Heritage Area.		
Great Barrier Reef Marine Park Act 1975 (Com) and Great Barrier Reef Marine Park Regulations 2012 (Com)	The Act establishes a framework to protect and manage the Great Barrier Reef Marine Park (Commonwealth) Management Area of which both Kurrimine and Cowley Beaches are in.		
Queensland State			
Fisheries Act 1994 and Fisheries Regulations 2008	Protects coastal areas that are important as fish habitat areas and marine plants.		
Marine Parks Act 2004 and Marine Parks Regulations 2006	Provides for the conservation of Queensland's marine environment, e.g., the intertidal zone (to MHW) within the management area (all tidal and intertidal areas).		
Coastal Protection and Management Act 1995	Provides protection, rehabilitation and management of the coastal zone (within tidal and inter-tidal regions and erosion prone areas), including its resources and biological diversity.		
Coastal Protection and Management Act 1995 (Transport Infrastructure Act 1994)	Provides a regime that allows for and encourages effective integrated planning and efficient management of a system of transport infrastructure, specifically within/on tidal lands or waters adjacent or within coastal shipping activities.		
Planning Act 2017	Provides a process by which development applications are assessed on its merits. This is applicable to all development on site.		
Vegetation Management Act 1999	Regulates clearing of vegetation to protect native vegetation and regional ecosystems		
Nature Conservation Act 1992	Conservation of nature while allowing Indigenous people in the management of protected areas in which they have an interest under Aboriginal tradition or Island custom. Cowley Beach is within the traditional lands of the Mandubarra people, while Kurrimine Beach is within the traditional lands of the Mamu people.		
Cultural Heritage Act 2003	Protects areas and objects of traditional, customary, and archaeological significance.		
Local			
Cassowary Coast Regional Council	Subordinate Local Law No. 4 Local Government Controlled Areas for vehicle access, Subordinate Local Law No. 2 for Dogs off leash on foreshore, and Subordinate Local Law No. 6 Bathing Reserves and foreshores.		

#### 1.1.3 Values and vision

CCRC's key objectives for management of the Kurrimine Beach and Cowley Beach foreshores are listed below. This FMP aims to achieve these objectives, with consideration to the input from key stakeholders and the broader community received through the stakeholder engagement process outlined in Section 5.1. The key objectives are:

- Sustainable development of the foreshore to cater for usage demands whilst balancing preservation of natural areas and coastal vulnerability risks.
- Maintaining a foreshore reserve and public access to the beach.
- Maintain and improve public facilities within the Kurrimine Beach and Cowley Beach areas, including grassed areas, BBQ/picnic facilities, playgrounds, parking, pathways etc.
- Conservation of existing natural dune systems, bushland, and World Heritage areas within the foreshore.
- Management of fauna and flora species both protected and restricted.
- Maintain and improve accessibility to beach and public foreshore amenities in general.

### 1.1.4 Foreshore Management Plan Area

As described in the Stage 1 Kurrimine and Cowley Beach Foreshore Values and Constraints Assessment Report (RPS, 2023) the foreshore study area extends from the Lowest Astronomical Tide (LAT) level to the nearest formed road boundaries (generally 100-200 meters in width along the coast), refer to Figure 7 below.

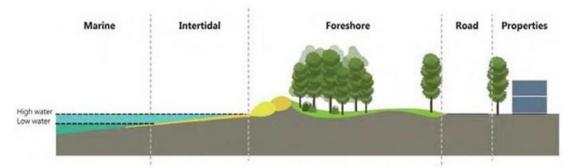


Figure 7: Foreshore extent

The area of interest is approximately 18 km in length and extends from Maria Creek at the southern end of Kurrimine Beach north to Double Point, located to the north of Cowley Beach as shown in Figure 1 (Appendix 1).

## 1.1.5 Implementation

Collaboration between CCRC, State Government, community groups, businesses and individual property owners involved in the management and/or use of land in or adjacent to the foreshore is recommended. However, the FMP itself is to be a guiding document for CCRC to assist, where relevant, in the decision making, design and delivery of all CCRC works, services, programs, facilities and actions occurring within the foreshore area.

The FMP will also provide high-level direction, and identification of potential use areas for differing activities to avoid conflict and serve as a basis for granting permits under the local laws of CCRC, allowing for specific activities to be carried out on the foreshore.

Further information on how the FMP will be implemented is included in Section 6.

## 2. Coastal Landforms and Nature Conservations

The following section discusses the existing issues and constraints associated with the zoning, vegetation, and fauna management at both Kurrimine Beach and Cowley Beach.

## 2.1 Zoning

#### **Kurrimine Beach**

The Stage 1 Kurrimine and Cowley Beach Foreshore Values and Constraints Assessment Report (RPS, 2023) describes the Kurrimine Beach foreshore area as spanning from the coastal fringe between Liverpool Creek to the North, and Maria Creek to the south, and inland to the nearest private property boundary or public road.

Lot 1608 on NPW23 to the north of Kurrimine Beach is mapped as Wet Tropics World Heritage Area, and CCRC managed land includes Lot 536 SP136922, Lot 511 NR5893, Lot 551 NR5589 and Lot 560 NR5588. The Kurrimine Beach foreshore is predominately mapped as nature conservation, managed resource protection, marsh/wetland and residential areas as shown in Figure 8.



Figure 8: Kurrimine Beach land use mapping (Source: Queensland Globe, 2024)

Additionally, the CCRC Online Planning Scheme Mapping indicates that Kurrimine Beach township, excluding the beach area, falls within the urban footprint zone. The area is further determined within the township and environmental management and conservation zoning layer Figure 9. The properties along the foreshore area are generally mapped within the residential, local business, or recreational local plan precincts Figure 10. The CCRC Planning Scheme 2015 outlines the following specific outcomes for each of the key mapping zones.

#### Township:

- 1. Ensuring that urban development is consolidated in the township zone.
- 2. Promoting safe and livable communities and maximising the efficient use of existing infrastructure by limiting the urban extent to the township zone.
- 3. Maintaining the character, amenity and scale of the region's towns, particularly the main street character of the region's historic towns.
- 4. Development occurs consistent with the precinct in which it is located, maintaining the intended pattern of development for towns, and the amenity of residential areas.
- 5. Development maintains the scenic amenity and ecological values and features of the town.
- 6. Ensuring development complies with the purpose and overall outcomes for the local plan area and precinct within which the development is located.

#### Environmental management and conservation:

- 1. Adverse impacts on ecological values and processes are avoided.
- 2. Development avoids impacting natural features such as creeks, gullies, waterways, wetlands, habitat and native vegetation.
- 3. Low impact, small-scale urban development in the form of a dwelling house and agricultural activities are Permitted where compatible with maintaining environmental values.
- 4. Low impact activities such as small-scale tourism and commercial activities are permitted where compatible with maintaining environmental values.
- 5. Development is consistent with protecting, conserving, rehabilitating, presenting and connecting the environmental values of the area.
- 6. A viable and enduring habitat system is retained, protected and enhanced, and where improved connectivity is required, additional habitat is created.
- 7. Foreshore areas are retained, predominantly in their natural state, and mangroves remain undisturbed.



Figure 9: Kurrimine Beach zone mapping (Source: CCRC Online Planning Scheme Mapping, 2024)



Figure 10: Kurrimine Beach local plan precincts mapping (Source: CCRC Online Planning Scheme Mapping, 2024)

The Kurrimine Beach foreshore extent is used frequently by locals and visitors alike. High-level usage areas are outline in Figure 11. Current usage areas and facilities are outlined in Figure 12 and Figure 13. As shown, the foreshore area adjacent to the township is a high usage area with multiple boat ramps and a swimming enclosure

.A number of key tourism facilities including, accommodation, playground areas, and cafes are spread along the stretch of the township with various beach access tracks notable towards the southern end of the township. The Wet Tropics of Queensland WHA, GBR WHA, erosion hazard zones and weed infestation areas have also been indicated.

Additionally, feedback received during community engagement identified the area north of Murdering Point as an area of concern due to wild pigs.

Kurrimine Beach **Kurrimine Beach** High usage area Moderate usage area Low usage area

Figure 11: Kurrimine Beach usage extent



Figure 12: Current uses of Kurrimine Beach

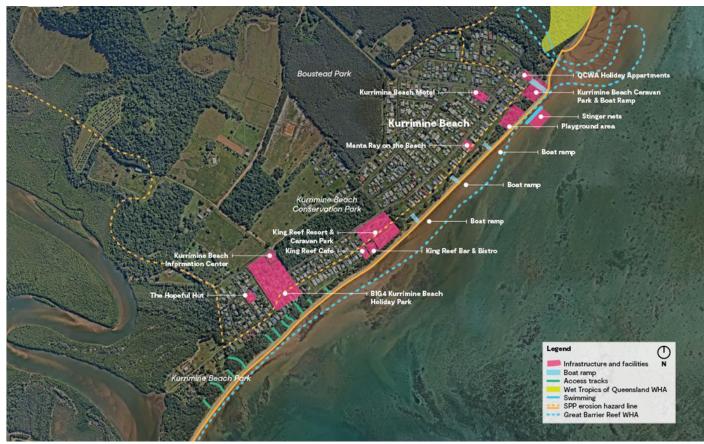


Figure 13: Current facilities at Kurrimine Beach

#### **Cowley Beach**

Stage 1 Kurrimine and Cowley Beach Foreshore Values and Constraints Assessment Report (RPS, 2023) describes the Cowley Beach foreshore as extending from the mouth of Liverpool Creek in the south to Double Point in the north. The Wet Tropics WHA and freehold land occupied by the Department of Defence is mapped north of the Cowley Beach township on Lot 296 on RP805003.

Lot 1 NR7676, Lot 302 NR6480 and the coastal land from lot boundaries to the LAT level at Cowley Beach are managed by CCRC. The land use mapping indicated that the foreshore of Cowley Beach is predominately other minimal use, nature conservation, marsh/wetlands, residential and services areas as displayed in Figure 14.

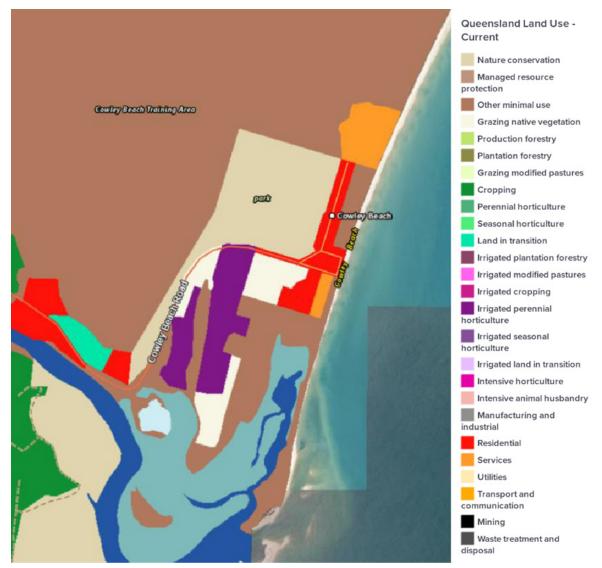


Figure 14: Cowley Beach land use mapping (Source: Queensland Globe, 2024)

Additionally, the CCRC Online Planning Scheme Mapping indicates that Cowley Beach township, excluding the beach area, falls within the urban footprint zone. The area is further determined within the township and environmental management and conservation zoning layer Figure 15. Defence land north of the township is mapped within the special use zone. The properties along the foreshore area are generally mapped within the residential, community purpose, or recreational local plan precincts Figure 16.

The CCRC Planning Scheme 2015 outlines specific outcomes for each of these key mapping zones. The township and environmental management and conservation zoning outcomes are detailed above in Section 2.1. Specific outcomes for special use zones include:

- 1. Development is designed and located in a way that is appropriate to the type of existing or proposed infrastructure.
- 2. The viability of uses within the special purpose zone are protected by excluding development that could limit the ongoing operation of existing uses or prejudice appropriate new activities.
- 3. Development within the special purpose zone is undertaken to minimise the impact on adjacent sensitive land uses.
- 4. The Port of Mourilyan is allowed to operate and develop in accordance with the Port of Mourilyan Land Use Strategy.
- 5. Increased and improved use of the State and cane railway networks is supported.
- 6. Complementary alternative use of the State and cane railway networks may occur where this will not impact on the existing operation of these networks.
- 7. Development minimises impacts on any environmental and scenic values present on the land or surrounding area.



Figure 15: Cowley Beach zone mapping (Source: CCRC Online Planning Scheme Mappin, 2024)



Figure 16: Cowley Beach local plan precincts mapping (Source: CCRC Online Planning Scheme Mapping, 2024)

The Cowley Beach foreshore extent is used frequently. High-level usage areas are outline in Figure 17. Current usage areas and facilities are outlined in Figure 18 and Figure 19. As shown, the foreshore area adjacent to the township and the mouth of Liverpool Creek are high usage areas mainly used for fishing and as a dog-off leash areas. Further details on dog off-leash areas are provided in Section 3.5.

Key facilities and various beach access tracks are noted along the length of the township. The Wet Tropics of Queensland WHA, GBR WHA and erosion hazard zone areas have also been indicated. Several points of concern are concentrated near the boat ramp including weed infestations area, areas of coconut trees identified by the community as hazards due to falling coconuts and palm fronds, and the degraded boat ramp itself. Additionally, the are two key areas of erosion and fallen trees south of the boat ramp that were likely the result of impacts caused by Cyclone Jasper and storm surges experienced earlier in 2024.



Figure 17: Cowley Beach usage extent

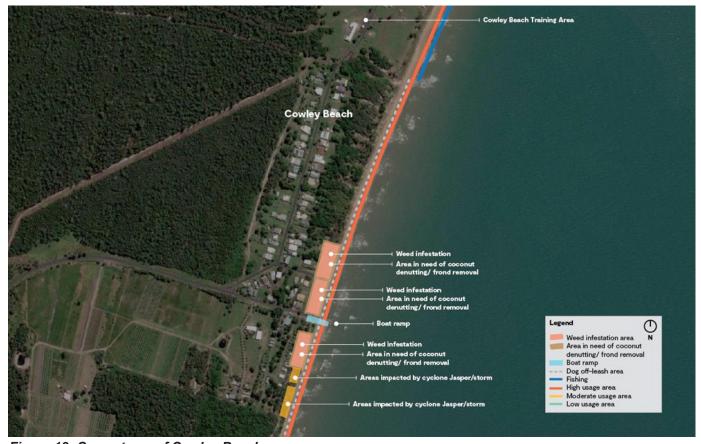


Figure 18: Current use of Cowley Beach



Figure 19: Current facilities at Cowley Beach

## 2.2 Vegetation

The Kurrimine Beach and Cowley Beach foreshore areas pose a range of Outstanding Universal Values including the Wet Tropics WHA and the GBRWHA, refer to Appendix C. As outlined in the Stage 1 Kurrimine and Cowley Beach Foreshore Values and Constraints Assessment Report (RPS, 2023) the State Marine Park encompasses the beach (to highest astronomical tide) while the Commonwealth Marine Park covers to the LAT (excluding the beach).

#### **Kurrimine Beach**

The majority of vegetation at Kurrimine Beach is mapped as Category B remnant vegetation, with Category R reef- regrowth watercourse vegetation concentrated around Framtons Gully, Stockyard Creek and an unnamed watercourse running west of Boustead Park.

South of Kurrimine Beach is mapped as endangered regional ecosystem (RE) 7 .2.1 described as mesophyll vine forest on beach rides and sand plains of beach origin to the south of Tanner Street extending to Maria Creek, areas of this RE are also mapped north of Murdering Point (Figure 20). Additionally, the following endangered REs are mapped norther of Murdering Point:

- 7.2.8: Melaleuca leucadendra open forest to woodland on sands of beach origin.
- 7.2.7: Casuarina equisetifolia and/or Corymbia tessellaris open forest and/or groved vine forest shrublands on strand and foredunes.
- 7.2.9: Melaleuca quinquenervia shrubland to closed forest, or Lepironia articulata open to closed sedgeland, on dune swales and swampy sand plains of beach origin.
- In this northern area there are also sections including of concern REs including:
- 7.1.2: Sporobolus virginicus grassland, samphire open forbland to sparse forbland and bare saltpans on plains adjacent to mangroves.
- 7.2.3: Corymbia tessellaris and/or Acacia crassicarpa and/or C. intermedia and/or C. clarksoniana woodland to closed forest on beach ridges (predominantly Holocene).



Figure 20: Kurrimine Beach biodiversity mapping (Source: Queensland Globe, 2024)

Table 3: Kurrimine Beach protected plants

Scientific name Common name		Threatened category	Presence
Canarium acutifolium		Vulnerable	Species or species habitat likely to occur within area
Carronia pedicellata		Endangered	Species or species habitat likely to occur within area
Chingia australis		Endangered	Species or species habitat may occur within area
Leichhardtia araujacea		Critically Endangered	Species or species habitat may occur within area
Myrmecodia beccarii	Ant Plant	Vulnerable	Species or species habitat likely to occur within area
Phaius pictus		Vulnerable	Species or species habitat likely to occur within area
Phlegmariurus squarrosus	Rock Tas- sel-fern, Water Tassel-fern	Critically Endangered	Species or species habitat may occur within area
Phlegmariurus tetrasti- choides	Square Tassel Fern	Vulnerable	Species or species habitat may occur within area

#### **Cowley Beach**

The majority of vegetation at Cowley Beach is mapped as Category B remnant vegetation, with Category R reef- regrowth watercourse vegetation concentrated around a number of unnamed tributaries of Liverpool Creek.

South of Cowley Beach includes endangered RE 7.2.7 described as Casuarina equisetifolia and/or Corymbia tessellaris open forest and/or groved vine forest shrublands on strand and foredunes. This area also includes of concern RE 7.2.3 described as Corymbia tessellaris and/or Acacia crassicarpa and/or C. intermedia and/or C. clarksoniana woodland to closed forest on beach ridges (predominantly Holocene) (Figure 21).

The northern end of Cowley Beach includes the following REs:

#### Endangered

- 7.2.7: Described above.
- 7.2.9: Melaleuca quinquenervia shrubland to closed forest, or Lepironia articulata open to closed sedgeland, on dune swales and swampy sand plains of beach origin.
- Of concern
- 7.2.3: Described above.
- 7.2.5: Mesophyll to notophyll vine forest of Syzygium forte subsp. forte on sands of beach origin.
- 7.11.18: Corymbia intermedia and/or C. tessellaris and/or Eucalyptus tereticornis open forest to woodland (or vine forest with these species as emergents) on coastal metamorphic headlands and foothills.

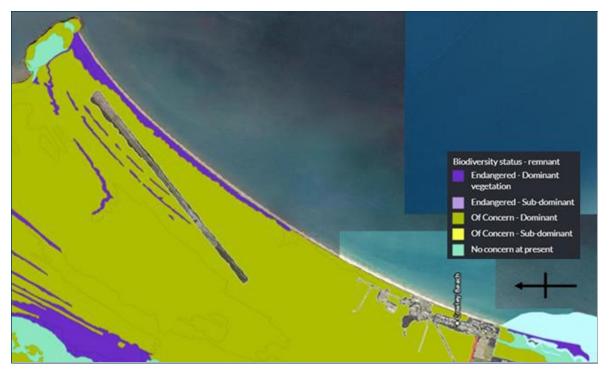


Figure 21: Cowley Beach biodiversity mapping (Source: Queensland Globe, 2024)

A Protected Matters Search undertaken in March 2024 (Appendix B) found seven plant species that are likely to or may occur within the Cowley Beach foreshore area (Table 4).

Table 4: Cowley Beach protected plants

Scientific name	Common name	Threatened category	Presence
Canarium acutifolium		Vulnerable	Species or species habitat likely to occur within area
Carronia pedicellata		Endangered	Species or species habitat likely to occur within area
Leichhardtia araujacea		Critically Endangered	Species or species habitat may occur within area
Myrmecodia beccarii	Ant Plant	Vulnerable	Species or species habitat likely to occur within area
Phaius pictus		Vulnerable	Species or species habitat likely to occur within area
Phlegmariurus squarrosus	Rock Tas- sel-fern, Water Tassel-fern	Critically Endangered	Species or species habitat may occur within area
Phlegmariurus tetrasti- choides	Square Tassel Fern	Vulnerable	Species or species habitat may occur within area
Phlegmariurus tetrasti- choides	Square Tassel Fern	Vulnerable	Species or species habitat may occur within area

#### 2.3 Fauna

As described by the Stage 1 Kurrimine and Cowley Beach Foreshore Values and Constraints Assessment Report (RPS, 2023) the foredune system of both beaches provides an important habitat for numerous species listed under the Nature Conservation Act 1992 (Qld) (NCA) and the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act).

Both beaches include important nesting and feeding habitat for migratory and resident shorebirds recognised under international treaties including the Beach Stone Curlew, listed as Endangered under the NCA, and Little Tern which is under threatened species review (RPS, 2023).

#### **Kurrimine Beach**

A web search undertaken of Wildnet Records for Conservation Significant Species (CSS) identified 19 (one mammal, and 18 birds) species listed under the NCA (refer to Appendix B).

A Protected Matters Search Tool (PMST) undertaken in March 2024 (Appendix B) identified 44 listed threated species, including 18 birds, one fish, one frog, 11 mammals, six reptiles and five sharks.

In addition, Kurrimine Beach is mapped as essential habitat and the northern extent of Murdering Point includes areas mapped with high value protected plants. Kurrimine Beach is also mapped as sea turtle nesting area under the determination 'present.' Based on the Department of Environment, Science and Innovation (DESI) WetlandInfo mapping, Flatback Turtles (Natator depressus) are the species likely to be present. The PMST also shows the area is a known breeding area for Green Turtles (Chelonia mydas).

- As shown in Figure 22 below, a number of species sightings occur along the Kurrimine Beach foreshore. This data was collected by BirdLife North Queensland and provided to CCRC for use in this FMP.
- Additional information provided by BirdLife North Queensland included:
- Only two of the seven Little Tern nesting sites monitored in 2023 produced chicks, Kurrimine Beach
  was one of them with 7 fledged from 5 nests. The nesting activities occurred during early November
  to early January.
- Representatives from BirdLife North Queensland and the Mandubarra Land and Sea Rangers agree
  there may be up to three breeding pairs of Beach Stone-curlews along the stretch from the Kurrimine
  Beach township to Liverpool Creek.

Table 5 includes details for the species presented in Figure 22.

Table 5: Bird species recorded at Kurrimine Beach

Scientific name	Common name	Listing
Pelecanus conspicillatus	Australian Pelican	Least-concern
Geopelia humeralis	Bar-shouldered Dove	Least-concern
Actitis hypoleucos	Common Sandpiper	Least-concern
Todiramphus macleayii	Forest Kingfisher	Marine species under EPBC Act
Myiagra rubecula	Leaden Flycatcher	Least-concern
Dicaeum hirundinaceum	Mistletoe Bird	Least-concern
Cinnyris jugularis	Olive-backed Sunbird	Least-concern
Pandion haliaetus	Osprey	Least-concern
Ducula spilorrhoa	Torresian Imperial-Pigeon	Least-concern
Sternula albifrons	Little Tern	Least-concern

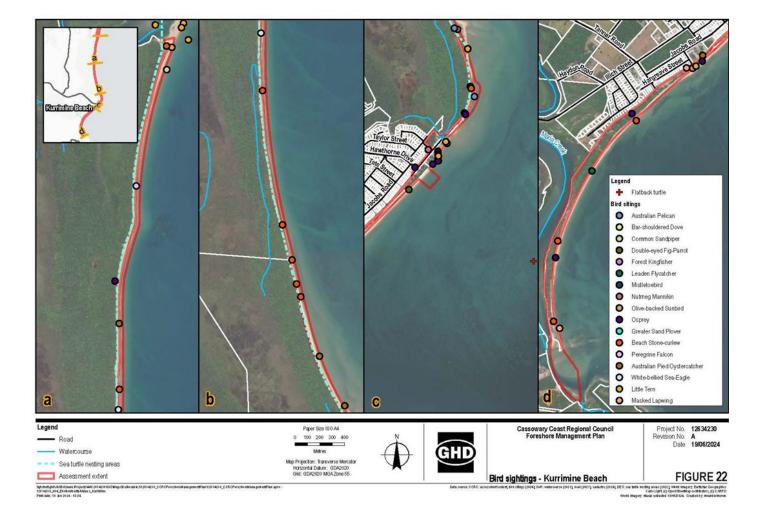


Figure 22: Bird sightings - Kurrimine Beach

#### **Cowley Beach**

A web search undertaken of Wildnet Records for CSS identified 28 (two reptiles, one mammal, and 25 birds) species listed under the NCA (refer to Appendix B)

A Protected Matters Search undertaken in March 2024 (Appendix B) identified 44 listed threated species, including 18 birds, three fish, one frog, 11 mammals, six reptiles and five sharks.

In addition, Cowley Beach is mapped as essential habitat, and the entire length of the foreshore is also mapped as sea turtle nesting area under the determination 'present.' Based on the DESI WetlandInfo mapping, Flatback Turtles (Natator depressus) are the species likely to be present. The PMST also shows the area is a known breeding area for Green Turtles (Chelonia mydas).

As shown in Figure 23 below, a number of species sightings occur along the Cowley Beach foreshore. Table 6 includes details for the species presented in Figure 23.

Table 6: Bird species recorded at Cowley Beach

Scientific name	Common name	Listing
Pelecanus conspicillatus	Australian Pelican	Least-concern
Geopelia humeralis	Bar-shouldered Dove	Least-concern
Actitis hypoleucos	Common Sandpiper	Least-concern
Todiramphus macleayii	Forest Kingfisher	Marine species under EPBC Act
Myiagra rubecula	Leaden Flycatcher	Least-concern
Dicaeum hirundinaceum	Mistletoe Bird	Least-concern
Cinnyris jugularis	Olive-backed Sunbird	Least-concern
Pandion haliaetus	Osprey	Least-concern
Ducula spilorrhoa	Torresian Imperial-Pigeon	Least-concern
Sternula albifrons	Little Tern	Least-concern



Figure 23: Bird sightings – Cowley Beach

## 2.4 Invasive species

### **Weed Species**

A web search undertaken of Wildnet Records for weed species identified 17 introduced weed species in Kurrimine Beach, and 20 introduced weed species in Cowley Beach (Appendix B). During the site visit undertaken in April 2024, several areas of Singapore Daisy (Sphagneticola trilobata) infestations were recorded at both beaches. Additionally, Siam weed (Chromolaena odorata) is present on the spit area of Liverpool Creek at Cowley Beach. Figure 12 and Figure 18 indicates key areas of Singapore Daisy and other areas of weed concentrations for management considerations.

The CCRC Biosecurity Plan 2019-2023 priority weed species within the Cassowary Coast Region are presented in Table 7. Add

itionally, issues associated with the Singapore Daisy (Sphagneticola trilobata) infestations were noted by both communities during the community drop-in session held in April 2024 and in feedback received via CCRC survey. Both communities recommended the implementation of weed removal practices and for these areas to be revegetated with native grasses and/or other appropriate dune flora. It is important to note here that despite being a weed, this species does prevent erosion, so management will have to be done in a managed way so that removal and revegetation efforts occur at the same time.

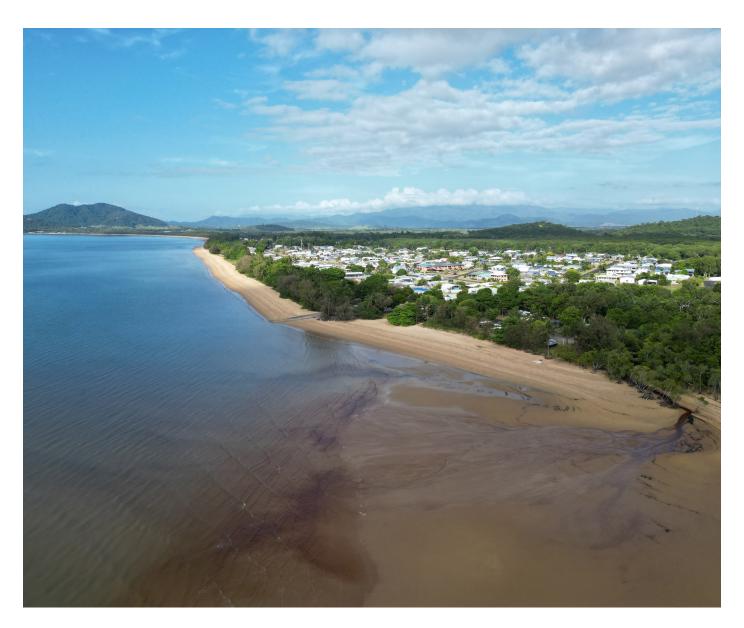


Table 7: CCRC Biosecurity Plan Priority Weed Species

Scientific Name	Common	Biosecurity actions
Miconia calvescens	Miconia	Target of the National cost-shared Tropical Weeds Eradication Program led by Biosecurity Queensland. All plants should be reported to Biosecurity Queensland immediately.
Annona glabra	Pond apple	Kurrimine Beach is within the intensive control zone. Biosecurity actions for this area include controlling plants in creeks and drains. Assisting management programs by improving access to infestations and coordinating control works with these programs.  Cowley Beach is within the asset protection zone. Biosecurity actions for this area include reducing densities of plants in known sites. Preventing spread and establishment in new sites.
Chromolaena odorata	Siam weed	CCRC undertakes annual roadside control of Siam weed to help protect residents, neighbouring CCRC areas, and those further afield, from Siam weed.
Mikania micrantha	Mikania vine	All known infestations are currently under an eradication program within the Cassowary Coast as part of the National cost-shared Tropical Weeds Eradication Program. All suspected plants should be reported to Biosecurity Queensland immediately.
Peuaria lobata	Kudzu	Landholders with infestations will be supported by CCRC to control infestations of Kudzu. Advice on best practice best control methods is available from CCRC.
Eichhorinia crassipes	Water hyacinth	Three isolated outbreaks targeted for eradication from the Cassowary Coast Region.
Pistia stratiotes	Water lettuce	Systematic top-down management in infested catchments will be required to reduce the impacts of water lettuce.
Hymenachne amplexicaulis	Olive hymenachne	Kurrimine Beach is within the intensive control zone. Cowley Beach is within the asset protection zone.  Targeted eradication projects in outlier infestations. Landholder led impact reduction programs within cane drainage and wetlands.
Hygrophila costata	Glush weed	The target of eradication from Liverpool Creek and associated catchments.
Thunbergia grandiflora	Thunbergia vine	Ensure any machinery or vehicles moving from the management areas are free from plant material and soil Seek advice prior to works in vicinity of known locations. Do not move or accept plant material or soil unless you are sure it is from a clean source
Cecropia spp.	Mexican bean tree	All known locations the target of a regional eradication program led by Biosecurity Queensland. All suspected sightings of this plant should be reported to Biosecurity Queensland.
Echinocloa polystachya	Aleman grass	Ensure any machinery or vehicles moving from the infested areas are free from plant material and soil. Contact CCRC to report any suspect plants.
Brillantaisia Iamium	Brillantaisia	Kurrimine Beach is within the prevention control zone. Biosecurity actions for this area include ensuring sources of garden plants are weed free. Contacting CCRC to report any suspect plants.  Cowley Beach is within the eradication zone. Biosecurity actions for this area include treating infestations before they set seed. Ensuring sources of garden plants are weed free. Contacting CCRC to report any suspect plants.
Cabomba caroliniana	Cabomba	Trial control of known incursions and promote wider awareness to detect any unrecorded occurrences.
Limnocharis flava	Limnocharis	All known infestations within the Cassowary Coast are currently the target of the National cost shared Four Tropical Weeds Eradication Program. Landholders are required to report suspected infestations immediately to Biosecurity Queensland.
Parthenium hysterophorus	Parthenium weed	All known sites are under an ongoing monitoring program and progressing to eradication.
Clidemia hirta	Kosters' curse	There is an externally funded containment project underway at the only known infestation in CCRC LGA located in Wooroonooran National Park.

#### **Pest Species**

Aweb search undertaken of Wildnet Records for weed species identified 3 introduced pest species in Kurrimine Beach, these included the Spotted Dove (Spilopelia chinensis), House Sparrow (Passer domesticus), and Common Myna (Acridotheres tristis). No pest species records were available for Cowley Beach. These results do not; however, indicate the absence of these pest species.

According to the CCRC Biosecurity Plan 2019-2023, local pests that are not declared under State legislation can be declared under the Subordinate Local Law No 3 (Community and Environment Management) 2011. The Plan outlines specific actions and targets to meet the general biosecurity obligation concerning several priority invasive species. The biosecurity action plans contain a description and photo of each specimen, a calendar to guide control works and a known distribution map with management zones. These represent the minimum requirements to meet the GBO for each of these priority species. These priority species include feral pigs (Sus scrofa) and wild dogs (Canis familiaris lupis).

The presence of feral pigs at Kurrimine Beach was noted during community engagement. The CCRC Biosecurity Plan 2019-2023 notes that both CCRC and QPWS both provide trap loan services and can assist with coordinated baiting activities.



## 3. Public access and recreation

The Kurrimine Beach and Cowley Beach foreshore areas are used by tourists and local residents alike for a wide range of recreational activities. The high scenic amenity encourages a range of outdoor activities, further discussed in this section, which are highly valued by the local community. Public access and recreation infrastructure within the foreshore areas are generally appropriate to support the land uses outlined in zone mapping for the Kurrimine and Cowley beach foreshore areas as outlined in section 2.1.

It is important to note that the conditions discussed in this section are based on observations current at the time of this report

### 3.1 Infrastructure

Infrastructure located in the Kurrimine and Cowley foreshore area includes BBQ shelters, informal footpaths and walking tracks, signage, and playgrounds, along with some car parking facilities.

The existing infrastructure such as BBQ shelters, barbeque cooking items, and hard standing areas are generally in sound condition and would benefit from consistent general maintenance to extend the asset lifespan.

It was observed that signage could be improved across the foreshore area to increase amenity and wayfinding of the foreshore. In key locations at boat ramps there are several statutory and safety related signs that should be retained and maintained, which are in good condition. There are also several signs denoting names of various areas or parks and some signage providing education and information about the area.

A toilet block is located within the foreshore area and is generally in sound condition. Marked walls and doors are evident and general maintenance, such as repainting and deep cleaning of surfaces would provide a greater level of amenity and assist in lengthening the asset lifespan.

Playground areas are provided in close proximity to the beach in areas that are well shaded by trees and shrubs. The playground equipment appears in good general condition and includes some exercise equipment adjacent. Ground surfaces of the playground and exercise equipment areas are a combination of sand within the fenced children's play area and combination of concrete and grassed areas where the exercise equipment and ball sports apparatus are located.

Shade structures and picnic tables are provided throughout the subject site and are in sound condition. There is consistency in their design and are suitably located adjacent to beach access, play areas, recreation reserves and the like.

Vinegar stations are located along the beach for provision of first aid in the event of stings from marine stingers; however, in various cases the locations of these stations are poorly sign posted and located in heavily vegetated areas, as per the example below in Figure 24 from Kurrimine Beach. It is understood that the vinegar stations are a community managed items; however, it would be expected that oversight of the locations and signage is provided by CCRC as the manager of the foreshore to increase awareness, access and safety not only for locals but for visitors as well.



### 3.2 Passive recreation

The coastal reserve at both beaches is highly valued by the local community for exercising, socialising and relaxation activities. Engagement findings in relation to usage types were consistent with the Stage 1 Kurrimine and Cowley Beach Foreshore Values and Constraints Assessment Report (RPS, 2023) and included:

- Water based activities –boating (boat launch and retrieval via beaches or formed ramps), and fishing.
- Beach based activities dog walking, fishing, walking, and quad bike riding for access to preferred areas.
- Foreshore based activities children's play area, barbeques, picnicking and walking along designated tracks (i.e., King Reef walking track at Kurrimine Beach).

A wide variety of infrastructure and facilities support these usage types, which include playgrounds, BBQs, seating, shelters, toilet facilities, beach accesses, boat ramps, and pedestrian pathways. These are described further above in Section 2.1 and Section 3.1.

Access to the foreshore areas of both Kurrimine and Cowley beaches was raised as a concern during engagement in relation to accessibility, and differing opinions on the unrestricted access of tractors, quad bikes and other vehicles accessing the beach. These activities have the potential to impact on the dune systems including impacts to environmental and cultural heritage values.

The Disability Discrimination Act (DDA) states that a person with a disability has a right to have access to places used by the public. Any future development/upgrades/ extensive maintenance is required to include bringing assets/infrastructure up to Disability Access standards. Disability access of the foreshore was not considered a priority based on the engagement feedback; however, opportunities to promote accessible infrastructure should be considered in future development projects due to the aging demographic of both communities.

Additionally, variety and age-appropriate play equipment should be taken into consideration for future upgrades to cater for children and families using the foreshore.



#### 3.3 Pedestrian access

There is a mix of formal and informal pedestrian access across the foreshore areas.

Formalised pedestrian access typically appears as cleared walking tracks and trails, with some instances of concrete or paved pedestrian ways. Formalised beach access is defined by low height railings or timber posts along the walkway edges and there is some signage to indicate access locations.

Informal access is evident by worn pathways appearing as 'goat tracks' or the ability to climb up embankments and rocky areas, occurring in particular as access to the beach.

CCRC could consider investigating the renewal of their Cassowary Coast Cycle and Pedestrian Strategy 2009 and develop specific implementation plans for Kurrimine Beach and Cowley Beach as the improved connectivity of active transport networks may also help to deter from the usage of quad bikes along the foreshore.

### 3.4 Vehicular use of beaches

As described by the Stage 1 Kurrimine and Cowley Beach Foreshore Values and Constraints Assessment Report (RPS, 2023) relevant State legislation and CCRC Local Laws must be complied with to avoid potential conflicts between various users of the foreshore areas, and to maintain public safety.

Vehicle access to and along the foreshore is regulated by CCRC under Subordinate Local Law No.4. The Department of National Parks, Recreation, Sport, and Racing (NPRSR) also has jurisdiction to regulate the use of vehicles on beaches within protected areas under the *Nature Conservation Act 1992* and in Marine Parks under the *Marine Parks Act 2004*.

Furthermore, once vehicle access regulations and laws are established, the Transport Operations (Road Use Management) Act 1995 can be administered on these beaches by the relevant authority (i.e., for a protected area the NPRSR is the relevant authority and, for all other areas, CCRC is the relevant authority).

RPS noted in the 2023 investigation that numerous stakeholders including the Department of Defence, CCRC and the Manduburra Rangers have identified vehicles regularly accessing the foreshore, including ATVs and quad bikes in Cowley Beach and tractors in Kurrimine Beach.

The community opinion of the use of vehicles on the foreshore is varied. It is generally understood that:

- These vehicles can significantly contribute to beach erosion due to the constant moment over the sand disturbing the natural stability of the beach.
- The foreshore areas are important habitats for various wildlife species, including nesting birds, turtles, and other marine creatures, which can be disrupted by vehicles disturbing nesting sites, crushing eggs, and noise pollution.
- There are public safety risks posed to both riders and pedestrians on the beach as accidents involving quad bikes can result in injuries or fatalities.

However, there is also a divide in the community that the issues associated with these activities are perpetrated by visitors and tourists, while some community members disagree noting that the majority of locals respect the foreshore values while others engage in damaging activities.

Community feedback that was supportive of implementing a permitted system also generally recommended that these permits should be for locals only, and that there was a need for CCRC representation at both beaches to promote implementation. Given the divide in community opinions, it is suggested that CCRC also investigate a system for visitors to apply for temporary permits, which may assist in educating visitors on the need to maintain and protect environmental/cultural values present at both beaches.

Additional to this, the need for vehicle access to the foreshore is a matter of accessibility and safety. The aging demographic of both communities are reliant on modes of transport to engage with the foreshore, opting for ATVs/quad bikes to navigate the township and length of each foreshore. It was also noted that at Cowley Beach in particular there are no formal access routes to the northern end of the beach, therefore ATVs/quad bikes allow for quick transport to and from these areas in case of an incident or emergency.

It should be noted that the use of vehicles on roads is a matter of law. Road going vehicles such as ATVs and quad bikes need to meet vehicle design standards in order to operate on a road.

Under the Department of Transport and Main Roads conditional registration of recreational vehicles, quad bike riders and any passengers carried must wear an approved motorcycle helmet when the vehicle is operating on a road or road related area. It is also illegal to drive a non-standard vehicle on the road without conditional registration. Finally, children under the age of 8 are prohibited from being carried as passengers on quad bikes and in utility off-road vehicles, as well as any child of any age if they are unable to sit with their feet flat on the floor and hands on handholds. These conditions under the Department of Transport and Main Roads must be taken into consideration when developing a permit system.



## 3.5 Dog off-leash areas

Dog off leash areas should be clearly marked and promoted through signage to alert the community to their location and extent. Dog off leash areas should be located such that they are away from areas of environmental significance. These areas should also then be clearly identified and promoted, including the differences between areas that are either prohibited for dogs or areas where dogs are required to be on leads. CCRC Subordinate Local Law No. 2 (Animal Management) 2022 lists Boustead Park at Kurrimine Beach at an existing dog off-leash area. The following obligations apply to dog owners.

When entering dog off leash areas, make sure your dog:

- Is under your control (e.g. your dog will return to you when called).
- Is not a nuisance to nearby residences, other dogs and their owners.
- Dog waste is picked up and disposed of.
- Is registered with CCRC, wormed regularly and vaccinations are up to date.

Additionally, the Department of Environment, Science and Innovation (DESI) provides the Local government dog off- leash areas in State Marine Parks Guideline to assist local governments with planning, establishment and management of foreshore dog off-leash areas within and adjacent to state marine parks managed by DESI through the Queensland Parks and Wildlife Service (QPWS).

A summary of the key legal requirements administered by DESI relevant to dog off-leash areas are provided below.

#### **Marine Parks**

• Dogs are not permitted on tidal land in the Great Barrier Reef Coast Marine Park that is adjacent to a national park, unless on the mainland.

#### **Recreation Areas**

• Dogs are not permitted in a Recreation Area unless prescribed by a regulatory notice and dogs must be on a lead and their waste removed from the Recreation Area.

#### **Protected Areas**

- Dogs are prohibited in National Parks.
- Dogs may be permitted within a conservation park by regulatory notice.
- Dogs should not be permitted off-leash on beaches adjacent to a conservation park or National Park (where permitted) where alternative locations not adjacent to a protected area exist. Where there is no alternative location, dog off-leash areas should only be established on a beach adjacent to a conservation park or National Park (where permitted) following an assessment of the potential impacts to the protected areas values and consultation with managers of the protected area.

#### **Nature Conservation**

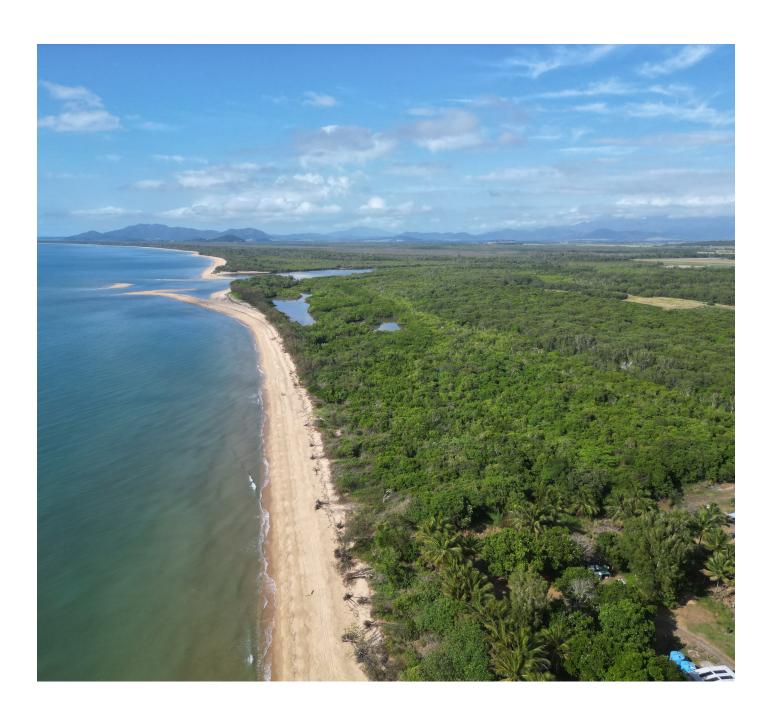
 An animal breeding place must not be tampered with. Dog off-leash areas must not be established in areas where shorebird nesting occurs.

#### **Fisheries**

 Approval is required if the dog off-leash area involves a material change of use, reconfiguration of a lot, operational works that is the removal, destruction or damage of marine plants, or operational work that is completely or partly within a declared fish habitat area. Therefore, marine plants and declared fish habitat areas should be avoided for foreshore dog off-leash areas if works are required.

#### Other legislation

- Land Act 1994 Department of Resources should be consulted where a decision is made in areas likely to impact on the use of unallocated state land.
- The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is Commonwealth legislation that protects matters of national environmental significance (MNES) such as Ramsar areas, threatened species, migratory species and ecological communities and migratory species. Any action that may have an impact on matters of national environmental significance must be referred to the Commonwealth government for assessment.
- The Human Rights Act 2019 outlines that Aboriginal peoples and Torres Strait Islander peoples hold distinct cultural rights and must not be denied their right amongst other rights to—maintain and strengthen their distinctive spiritual, material and economic relationship with the land, territories, waters, coastal seas and other resources with which they have a connection under Aboriginal tradition and Island custom; and to conserve and protect the environment and productive capacity of their land, territories, waters, coastal seas and other resources.



### 3.6 Camping

CCRC Subordinate Local Law No. 8 (Camping Grounds, Caravan Parks and Shared Facilities Accommodation) 2022 enables CCRC to regulate activities, that are not development, relating to public health and safety that occur in the operation of camping grounds, caravan parks, and shared facilities accommodation.

The CCRC Visitor Information Services Strategy 2022-2026 states that the Cassowary Coast was identified by Tourism and Events Queensland in their Tourism Nature-based Tourism Strategy 2021-2024 as a region unique for its potential for nature-based tourism. This sector now represents 28.5% of visitors and is expanding. The Kurrimine Beach Caravan Park offers 24 powered sites, a number of self-contained sites, hot water, laundry facilities, showers, toilets and other amenities. No forward bookings are required and visitors are welcome to stay for up to four weeks. Peak camping season falls between the 1st April to 31st October.

There is an overflow camping area located adjacent to the Kurrimine Beach Caravan Park. The area is a grassed, open park for non-powered camping. There are currently no ablution or additional facilities provided in this overflow caping area. Usage is ad-hoc but provides for influx of visitation.

### 3.7 Fire management

The Cassowary Coast Regional CCRC area is covered by the Rural Fire Service Innisfail Area Office. The majority of the Kurrimine Beach foreshore area is not mapped under the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) State Planning Policy (SPP) bushfire mapping layer. There are a few areas on the northern stretch between Murdering Point and Maria Creek that include pockets of medium to high potential bushfire intensity areas, which are also mapped within the potential impact buffer.

In 2022, CCRC developed the Casswoary Coast Fire Management Plan. Controlled burns were undertaken in Kurrimine Beach and Cowley Beach between September and October 2022. It is not clear if this plan has been implemented as an ongoing management action since 2022.

The foreshore at Cowley Beach; however, is mostly mapped within the potential impact buffer with areas inland of the foreshore mapped as medium to high potential bushfire intensity areas. As such, it is recommended that regular management of vegetation debris and understory build up is implemented to mitigate the risk of bushfires.

Increasing opportunities to partner with the Mandubarra Land and Sea Rangers should be considered. It is recommended that CCRC investigate the establishment of an Memorandum of Understanding (MoU) between CCRC and Mandubarra - and investigate opportunities for grants and funding such as the NIAA Junior Rangers Program to increase community and youth education (next grant opportunity is 2025 Forecast Opportunity View - Junior Rangers: GrantConnect (grants.gov.au)).

### 3.8 Vegetation management

As discussed in Section 2.2, both Kurrimine Beach and Cowley Beach boast a range of Outstanding Universal Values.

In addition to recommendations made above to mitigate bushfire risk, vegetation and weed management should be implemented at both Kurrimine Beach and Cowley Beach in the form of programs such as:

- A Weed Management Plan that has a clear strategy to control or eradicate dangerous weeds from the area focusing on extreme infestation areas first (refer to Figure 12 and Figure 18 for areas of weed infestations indicated by the community). The plan should outline a continuous monitoring and improvement schedule to ensure that the strategy is working effectively. It is recommended this plan also include guidance on the following to align with the Greater Mission Beach Area FMP 2015-2025:
  - Less reliability on the use of chemicals and more on revegetation with naturally occurring and locally endemic trees, shrubs and ground covers including native grasses, herbs, creepers and shrubs.
  - Prioritises high visitor impact areas and high visibility areas such as walking tracks and entrances to township areas.
- A Vegetation Rehabilitation Plan encompassing works already undertaken and further works required to revegetate and rehabilitate the dune along the majority of the beach should be implemented immediately as the dune is one of the first lines of protection against erosion processes. There is an opportunity to encourage the local community to assist in rehabilitation efforts which may assist in redeveloping CCRC-community relationship. The plan should include items such as:
  - Revegetation of the dune using seed or tubestock during an appropriate season. The revegetation should be undertaken with appropriate native species.
  - Ensure that there is sufficient logs/materials present within the dune to form habitats for fauna to encourage breeding.
  - Monitor the health of the dune using techniques such as aerial imagery spectral coverage surveys
    or field surveys. This should be undertaken approximately every 6 months to identify any required
    additional revegetation efforts.
  - Encourage community education and engagement with assisting in rehabilitation through education.
  - Collaboration with the Mandubarra Aboriginal Land and Sea Rangers to encourage the continuation
    of existing programs and datasets for future usage.
    - Investigate opportunities for grants and funding such as the NIAA Junior Rangers Program to increase community and youth education.

## 4. Dune protection and maintenance

### **Encroachment**

Encroachment means any unauthorised use, maintenance or development on another's land - in this case the foreshore. Encroachments can have negative impacts on the environment and increase risks such as the spread of weeds/non-native plants and bushfire. Informal beach accesses, make-shift beach structures, and vegetation dumping areas were observed at both Kurrimine Beach and Cowley Beach during the site visit in April 2024.

CCRC noted these encroachments are an issue. Several existing recommendations made throughout this FMP will help to discourage these activities (i.e. improved formal access, signage and education boards). Additionally, CCRC may wish to consider the development on an 'Encroachments Policy' to standardise CCRC's response to encroachment incidents.

#### **Kurrimine Beach**

The dune system and foreshore along Kurrimine Beach comprises a wide, flat beach, with limited dune formation or elevation. The vegetation varies along the beach length, with moderate vegetation coverage south of Coyle Street; patchy vegetation that is a mix of native and non-native between Coyle Street and Tate Street; and low to moderate coverage from Tate Street to the northern end of Robert Johnstone Parade. Palms and maintained grass/lawn are the predominant non-native flora along the foreshore, with both providing limited or no benefit in preserving and stabilising the dune system given the comparatively shallow root systems of non-native flora.

There is evidence of dune scarping and erosion north of the Kurrimine Beach Boat Ramp as would be expected due to the form and location of the ramp. The natural sediment movement pattern along the Queensland coast is from south to north, resulting in sediment buildup on the southern side of fixed structures (such as ramps), and a sediment deficit immediately north of fixed structures leading to erosion, as evidenced by the change in beach shape immediately north of the boat ramp. CCRC advised that sand nourishment activities are undertake as required.

The Cassowary Coast Coastal Hazard Adaptation Strategy (CHAS) assessed Kurrimine Beach for the risk due to coastal hazards, including erosion, storm surge inundation and sea level rise. The CHAS identified coastal erosion as a key risk, which in turn is likely to lead to increasing inundation risk over time as the dune system offers the 'first line of defence' during storm events. Some recommended management actions from the CHAS are presented in Figure 25.

LOCATION	ADAPTATION ACTIONS	(Present coastal hazards risks)	(Coastal hazard risks around 2050 (0.3m sea level rise))	(Coastal hazard risks around 2100 (0.8m sea level rise))
ALL AREAS	<ul> <li>Mandate minimum floor levels for new development.</li> <li>Hazard resilient infrastructure for new/ upgraded development.</li> </ul>	•		<b></b>
BINGIL BAY	<ul> <li>Ongoing active dune and habitat management.</li> <li>Progressively transition use of campground area affected by erosion.</li> <li>Seawall protection of Alexander Drive.</li> </ul>	•		<b>—</b>
GARNERS BEACH ESTUARINE AREA	Raise bridge level of Garners Beach Road at Cedar Creek.		•	
KURRIMINE BEACHFRONT	<ul> <li>Ongoing active dune and habitat management, with beach scraping on an as-needs basis.</li> <li>Community infrastructure planning and management of park, road and utility assets.</li> <li>Beach nourishment with localised dune augmentation on an as-needs basis.</li> </ul>	•		<b></b>
AREA	<ul> <li>Explore use of groynes (or other measures) at northern end of the beach.</li> <li>Explore potential seawall alignment and funding arrangements.</li> </ul>	•		
KURRIMINE ESTUARINE	Explore opportunities for buy-back or swap of Maria Creek Estate.     Require consideration of sea level rise in	•		-

Figure 25: Excerpt from Cassowary Coast Coastal Hazard Adaptation Strategy, outlining recommended adaptation actions for Kurrimine Beach

#### **Cowley Beach**

The dune system and foreshore along Cowley Beach comprises a wide, flat beach, with limited dune formation or elevation. The vegetation varies along the beach length, with moderate vegetation coverage south of Barakaoan Road; high coverage between Barakaoan Road and the northern end of Inarlinga Road; and patchy coverage at the Cowley Beach Military Training Area. Flora appears to be large trees or groundcovers, with limited mid-level canopy plants. There is also a high instance of non-native palms, which offer limited capacity for dune stabilisation due to limited, shallow root systems.

The Cassowary Coast Coastal Hazard Adaptation Strategy (CHAS) assessed Cowley Beach for the risk due to coastal hazards, including erosion, storm surge inundation and sea level rise. The CHAS identified inundation as a key risk, which can be exacerbated by coastal erosion and dune loss as the dune system offers the 'first line of defence' during storm events. Some recommended management actions from the CHAS are presented in Figure 26.

LOCATION	ADAPTATION ACTIONS	SHORT TERM  (Present coastal hazards risks)	(Coastal hazard risks around 2050 (0.3m sea level rise))	(Coastal hazard risks around 2100 (0.8m sea level rise))
ALL AREAS	Mandate minimum floor levels for new development.     Ongoing active dune and habitat management.	•		<b></b>
	<ul> <li>Community infrastructure planning and management of park, community and road assets.</li> </ul>	•		<b></b>
SETTLEMENT AREA	<ul> <li>Explore incentives to encourage residents to relocate or rebuild outside of hazard areas.</li> <li>Explore landward relocation of community hall and caravan park.</li> </ul>		•	<b>—</b>
MILITARY TRAINING AREA	<ul> <li>Ongoing active dune and habitat management.</li> <li>Relocate important buildings on dune further landward.</li> </ul>	•		-

Figure 26: Excerpt from Cassowary Coast Coastal Hazard Adaptation Strategy, outlining recommended adaptation actions for Cowley Beach



## 5. Community Values

### 5.1 Engagement approach

It is important to consider how community values and utilises Kurrimine Beach and Cowley Beach when considering their future management. Understanding and incorporating these values into the management plan can help to make sure the area can continue to be enjoyed and management strategies do not negatively impact on factors most valued by the residents and visitors to the area. This can also increase local buy-in to the actions and increased community engagement in carrying out the actions.

To understand the values associated with the Kurrimine Beach and Cowley Beach areas, communities in the area were engaged through a survey, social media campaign, letter drops, and community information sessions.

Engagement was undertaken from the 15th April to the 29th April 2024. Appendix A provides the full results from the 'have your say' survey. A total of 101 people were engaged through this process.

Kurrimine Beach and Cowley Beach are used and valued for a diversity of purposes and reasons. The overall value of these areas is summarised in the following value statements:

### 5.2 Outcomes and recommendations

Overall, engagement with the communities of Kurrimine Beach and Cowley Beach demonstrated communities' high level of interest in the area and its management. Communities reported that the area was valued for:

- Physical health and wellbeing.
- Relaxation opportunities.
- Socialisation and interaction.
- Its character, sense of place and scenic landscape.
- Its unique environment.
- · Recreational opportunities.
- Education, science and learning.
- · Its contribution to the local economy.

A summary of the engagement outcomes is provided in Table 8 below.

Outcomes are grouped by theme and include the community aspirations for the FMP. These aspirations are for CCRC consideration and are not intended to be formal recommendations.

Table 8: Engagement outcomes

Theme	Description	Community Aspirations for the FMP
Infrastructure	Maintenance of infrastructure for public use (i.e. boat ramps, walking tracks).	<ul> <li>Key areas for maintenance regimes including the BBQ area and toilet block at Cowley Beach and the outfall drain on the beach in front of the King Reef Caravan Park at Kurrimine Beach.</li> <li>Upgrading parking areas at Cowley Beach.</li> <li>Upgrading the boat ramp at Cowley Beach as its current state is a safety concern.</li> <li>New bins need to be appropriately located away from residential areas, and in areas of high traffic to promote litter collection.</li> <li>These bins then need to be consistently emptied and managed to be effective.</li> <li>More prosecutions and compliance for those undertaking illegal clearing.</li> <li>More transparency of CCRC maintenance schedules.</li> <li>More engagement of Traditional Owners in management.</li> </ul>
Recreational infrastructure	Picnic areas and BBQ's for socialising were considered important recreational activities along both foreshores.	<ul> <li>Extension of the Kurrimine Beach walking track to Larry's Gap was recommended.</li> <li>Regular maintenance of the Kurrimine Beach walking track was considered a priority due to its popularity.</li> <li>More native vegetation and weed control measures were recommended for the maintenance of parks and public spaces to promote usage of key areas.</li> <li>Investment into more age-appropriate play options for children of all ages.</li> <li>A pump track at Kurrimine Beach was also recommended for bicycle and scooter access.</li> </ul>
Vegetation	Opinions on how vegetation is managed was varied. Both communities expressed concern around the lack of weed management, particularly in reference to Singapore Daisy (Sphagneticola trilobata) infestations in areas of popularity i.e. near the boat ramp and main beach access at Cowley Beach and by the stinger nets at Kurrimine Beach. Feedback from Kurrimine Beach also suggested that vegetation on the foreshore should be minimised where possible to promote recreational use.	<ul> <li>A scheduled weeding/mowing/pruning program would benefit both beaches.</li> <li>Coconut trees are a particular safety concern, representing a need for scheduled de-nutting and frond removal programs.</li> <li>Revegetation of dune stabilising plants in the vicinity of both boat ramps to combat erosion.</li> <li>Implementation of a community garden.</li> <li>Calls for revegetation of Rebecca Jane Parade areas that were recently cleared are balanced by a desire to remove more vegetation for improved usage of the foreshore.</li> </ul>
Wildlife man- agement	Wildlife management in both areas was considered adequate as informed by survey results. However, the safety risk posed by crocodiles was noted at both beaches, as were the presence of wild pigs at Kurrimine Beach and need for cassowary crossing signs in Cowley Beach.	<ul> <li>Investigate options for crocodile removal and ensure community are aware of the process.</li> <li>Increase warning signage for crocodiles and cassowary crossings.</li> <li>Investigate wild pig control options.</li> <li>Further collaboration and support of the Mandubarra Rangers "Rescue, Rehabilitate and Release marine turtle program.</li> </ul>

# 6. Implementing the Plan

Table 9 below summarises key recommendations and management actions for CCRC consideration.

Action	Timeframe	Method	Lead Responsibility	Measure of Success
Continue to undertake dune habitat revegetation and management.	Short term	Dune habitat revegetation and monitoring, including staged replacement of non-native flora with appropriate coastal native flora.  Increased weed management to target Singapore Daisy and other infestations.  Removal of palms and replacement with native trees over time.  Implement feral pig control (areas of concern outlined in Section 2.1).  Maintain a sufficient dune vegetation zone width and monitor the health of dunes and the stability of the back boundary of the dune area. Where feasible, increase vegetated dune width to 40m1.  Formalise beach access paths at strategic points along the foreshore. Revegetate informal 'goat tracks' and consider signage nominating 'Dune regeneration in progress' to dissuade continued use.	CCRC QPWS also provide trap loan services for feral pigs and can assist with coordinated baiting activities	Increased dune health and stability leading to increased resilience to acute storm events and the impacts of climate change over time (including sea level rise).  Increase in visual aesthetic value.  Improved habitat for fauna including migratory bird species
Reduce vehicle access	Short term	Increase management of infrastructure for public use, specifically considering upgrades to the Cowley Beach boat ramp and regular monitoring of the Kurrimine Beach and Cowley Beach public amenities. Increase vegetation management including mowing, weeding, palm frond removal, and de-nutting of coconut trees. Consider increased crocodile, marine stinger and/or shark management through signage, patrols, and/or removals when possible.	CCRC Department of Transport and Main Roads (DTMR) is the lead responsibility for managing the Cowley Beach boat ramp. Surf Life Saving Queensland should be contacted by CCRC for concerns relating to marine stinger management. Department of Environment, Science and Innovation (DESI should be contacted by CCRC for concerns relating to crocodile management. Department of Agriculture and Fisheries (DAF) should be contacted by CCRC for concerns relating to shark control programs.	<ul> <li>Beach bins maintained in place through summer months.</li> <li>Improved safety and security within the foreshore.</li> </ul>

Action Action	Timeframe	Method	Lead Responsibility	Measure of Success
S S S S S S S S S S S S S S S S S S S	Short term	Consider introducing a trial quad bike permit system for locals.  Consider introducing a temporary quad bike permit system for visitors.  Increase visitor awareness of designated areas and community expectations.  The Department of Environment and Heritage Protection (DEHP) Coastal Management Plan 2013 makes the following recommendations for nature conservations and public access and enjoyment:  Regulating beach driving by  Introducing a permit system.  Speed limits.  Beach closures.  Seasonal and night closures for protected species.  Restricting vehicle access to below the drift line, away from dune vegetation.  Temporary or permanent diversion tracks; that avoid popular beaches.	CCRC	Reduction in community complaints involving vehicles on the beach.     Improved public safety.     Reduction in dune erosion caused by vehicles.
Increase awareness of environmental/ cultural values	Short term	Consider establishing interpretive/educational signage along both beaches including historical information and existing environmental/cultural values (i.e. the GBRWHA, Wet Tropics, history of Murdering Point (if appropriate), presence of protected species etc).  Consider establishing a Memorandum of Understanding (MoU) between CCRC and Mandubarra Land and Sea Rangers.  CCRC may recommend the Mandubarra Land and Sea Rangers investigate opportunities for grants and funding such as the NIAA Junior Rangers Program to increase community and youth education (next grant opportunity is 2025 Forecast Opportunity View - Junior Rangers: GrantConnect (grants.gov.au)).	CCRC Mandubarra Land and Sea Rangers	Increased conservation dataset to assist with future decision making and planning guidelines development.     Increase collaboration between CCRC and Mandubarra Ranger programs.     Decrease in reports of behaviour damaging environmental/cultural values.
Cowley Beach carpark	Medium term	Consider upgrades to the Cowley Beach carpark.	CCRC	Allow for access to the recreational areas to be continued and have close access to facilities as the area evolves.

Action	Timeframe	Method	Lead Responsibility	Measure of Success
Sand Replenishment	Medium term	Undertake beach nourishment as required to maintain beachscape, reduce loss of land due to erosion, and provide buffer for acute storms while no hard protection measures are in place.	CCRC	Maintain useable beach space for as long as possible into planning horizon.     Reduce erosion and encroachment into adjacent properties Increased protection against coastal inundation events.
Monitor coastline	Medium term	Implement annual Coastal Monitoring program to assist in tracking shoreline changes, erosion rates, sediment transport, and other coastal dynamics. Collaboration with the Mandubarra Aboriginal Land and Sea Rangers is recommended	CCRC2 Mandubarra Aboriginal Land and Sea Rangers	Increase CCRC     presence at both     beaches.     Development of coastal     dynamics dataset     to assist with future     decision making and     planning guidelines     development.
Infrastructure	Medium term	Pruning and control of foliage adjacent to signage.  Maintaining consistency in signage design to provide a cohesive visitor experience.  Ensure ground surfaces are compliant to relevant standards for fall zones from play equipment.  Consideration of the ground surfaces where exercise and ball sports equipment are located.  Additional future infrastructure should be installed in locations that complement existing infrastructure such as car parking or access to water.  Location and signage alerting vinegar stations should be considered for community safety.  Future planned maintenance/upgrades/development must ensure assets and infrastructure is bought up to meet disability access requirements.	CCRC	<ul> <li>Decrease in complaints relating to infrastructure.</li> <li>Increased asset lifespan.</li> </ul>

Action	Timeframe	Method	Lead Responsibility	Measure of Success
Pedestrian access	Medium term	Consider the preparation of a 'Signage and Wayfinding Strategy' for both beaches to ensure consistent directional signage to highlight where pedestrian access is being provided.  Use of path edge treatments such as low height bollards or low height stainless steel or galvanized steel wire edge fence.  Regular maintenance of cleared pathways to maintain an appropriate width and visual cue. In the case that visitation and use of areas close to playgrounds and reserve areas increases, establishment and ongoing management of formalized gravel pathways connecting amenities such as those that are close by one another could be considered to maintain ground surfaces and provide formalised pedestrian movement.  Future planned maintenance/upgrades/development must ensure assets and infrastructure is bought up to meet disability access requirements.  Accessibility upgrades should be focused on areas of high traffic including the formal beach access paths at both beaches and along the Kurrimine Beach walking track. Upgrades should meet disability access standards and may include separating pedestrian access paths ensuring they are wheelchair accessible.	CCRC	Decrease in foot traffic and erosion along informal beach access area.     Accessible areas developed through grant funding as required.
Further research	Long term	Consider the establishment of further marine turtle and shorebird monitoring programs through sponsorship and/ or partnership and/or collaboration with the Mandubarra Aboriginal Land and Sea Rangers and/or BirdLife North Queensland.	CCRC Mandubarra Aboriginal Land and Sea Rangers BirdLife North	Increased conservation dataset to assist with future decision making and planning guidelines development.

To assist CCRC with targeting implementation efforts, Figure 27 and Figure 28 were developed to indicate high-level area for management considerations.

Both beaches feature areas mapped as marine turtle nesting area under the determination 'present.' It is recommended that these areas are monitored by CCRC on an ad hoc basis for Flatback Turtles (Natator depressus) and Green Turtles (Chelonia mydas) and that nesting sites should be reported to the Mandubarra Land and Sea Rangers. The breeding season (nesting and hatching activities) of these marine turtles normally takes place between late October and late March. It is recommended that both Cowley Beach and Kurrimine Beach will be closed for recreational activities (such as quad biking and, dog off leash walking) mapped in Figure 27 and Figure 28, during the breeding season to protect these marine turtles. Any other sea turtle nests that are observed should also be reported. Sand dune areas in both Cowley Beach and Kurrimine Beach are recommended to be a no-go zone to protect the turtle nesting areas. Impact of the sand dune areas in both beaches can have long term cumulative impact marine turtle population.

Areas of both foreshores are mapped adjacent to the Wet Tropics of Queensland World Heritage Area. Where possible, CCRC should promote limiting usage along this stretch of beach.

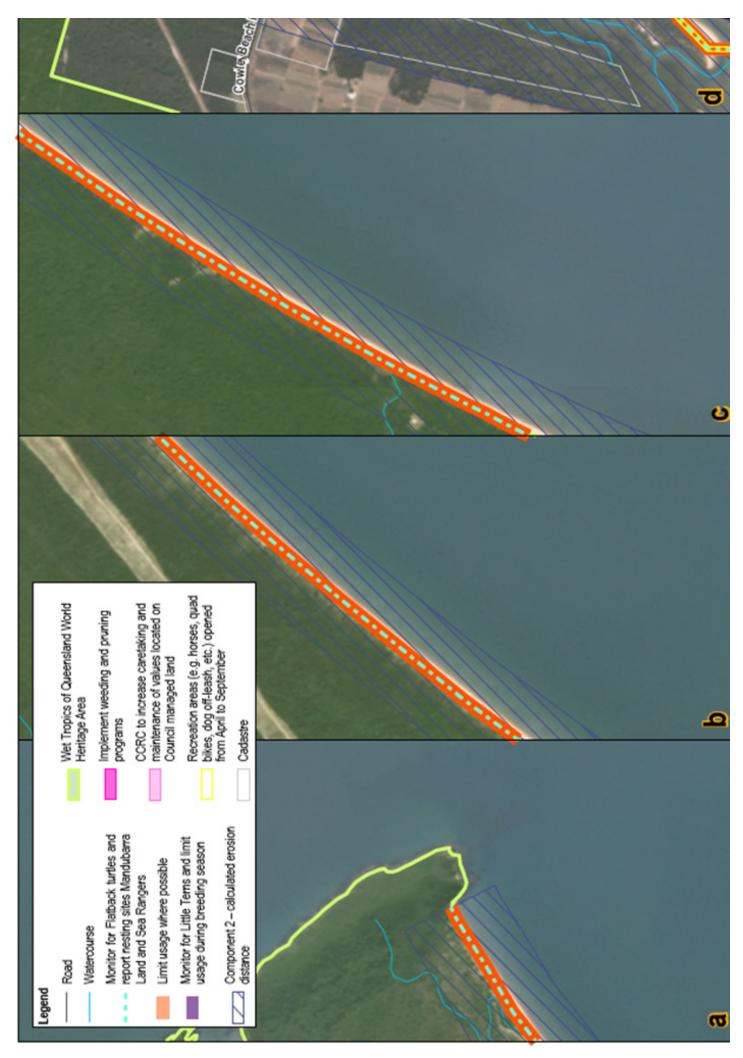
Based on information provided by BirdLife North Queensland, Little Terns (Sternula albifrons) have been observed previously nesting near the mouth of Liverpool Creek. These areas should be monitored by CCRC on an ad hoc basis during the breeding season (early November to early January) and usage should be limited.

SPP erosion prone areas mapping has also been indicated to assist with future CCRC project considerations. These are mapped as Component 2, calculated erosion distance, which is the potential erosion due to storm impact and long terms trends of sediment loss and channel migration.

It is recommended that CCRC should increase caretaking and maintenance of values located in areas currently managed by CCRC.

Additionally, areas of particular concern, which were raised during engagement regarding weed infestations and hazards associated with coconut trees, have been identified as areas requiring the implementation of CCRC weeding and/or pruning programs.





## 7. References

Australian Government (2024) EPBC Act Protected Matters Report.

BMT (2015) Greater Mission Beach Area FMP 2015-2025. Available from: https://www.cassowarycoast.qld.gov.au/downloads/file/1910/greater-mission-beach-area-foreshore- management-planpdf

Cassowary Coast Regional Council (CCRC) (2011) Subordinate Local Law No 3 (Community and Environment Management).

Cassowary Coast Regional Council (CCRC) (2015) Planning Scheme. Available from:

https://www.cassowarycoast.qld.gov.au/downloads/file/1788/ccrc-planning-scheme-2015-v4

Cassowary Coast Regional Council (CCRC) (2019) Biosecurity Plan 2019-2023. Available from:

https://www.cassowarycoast.qld.gov.au/downloads/file/1492/ccrc-biosecurity-plan-2019-2023

Cassowary Coast Regional Council (CCRC) (2022) Subordinate Local Law No. 2 (Animal Management). Available from: https://yoursay.cassowarycoast.qld.gov.au/dog-off-leash

Cassowary Coast Regional Council (CCRC) (2022) Subordinate Local Law No. 8 (Camping Grounds, Caravan Parks and Shared Facilities Accommodation). Available from: https://www.cassowarycoast.qld.gov.au/downloads/file/3977/08-ccrc-local-law-no-8-camping-grounds- caravan-parks-and-shared-facilities-accommodation-2022

Cassowary Coast Regional Council (CCRC) (2022) Tree Management Policy. Available from:

https://www.cassowarycoast.qld.gov.au/downloads/file/4393/tree-management-policy

Cassowary Coast Regional Council (CCRC) (2022) Visitor Information Services Strategy 2022-2026. Available from:

https://www.cassowarycoast.qld.gov.au/downloads/file/4144/visitor-information-services-strategy-2022-26

Cassowary Coast Regional Council (CCRC) (2023) Cassowary Coast Coastal Hazard Adaptation Strategy (CHAS).

Available from: https://www.cassowarycoast.qld.gov.au/coastal-hazard-adaptation-strategy

Department of Environment and Heritage Protection (DEHP) (2013) Coastal Management Plan. Available from:

https://www.qld.gov.au/ data/assets/pdf file/0029/67961/coastal-management-plan.pdf

Department of Environment and Science (2022) Local government dog off-leash areas in State Marine Park. Available from: https://www.des.qld.gov.au/policies?a=272936:policy\_registry/gl-pk-mm-dog-off-leash-areas-state- mp.pdf

Department of Environment and Science (2024) WildNet Records Conservation Significant Species List. Department of Environment and Science (2024) WildNet Records Weed List.

Department of Environment, Science and Innovation (DESI) (2011) Queensland Coast Plan - State Planning Policy for Coastal Protection Guidelines. Available from: https://www.cabinet.qld.gov.au/documents/2011/feb/queensland%20 coastal%20plan/Attachments/qcp-spp- guideline.pdf

Department of Environment, Science and Innovation, Queensland (2013) Wildlife of Kurrimine Beach National Park, WetlandInfo website, accessed 20 June 2024. Available at: https://wetlandinfo.des.qld.gov.au/wetlands/facts-maps/wildlife/?AreaID=national-park-kurrimine- beach

Department of Environment, Science and Innovation, Queensland (2013) Wildlife of Cowley Area DIWA nationally important wetland, WetlandInfo website, accessed 20 June 2024. Available at:

https://wetlandinfo.des.qld.gov.au/wetlands/facts-maps/wildlife/?AreaID=diwa-wetland-cowley- area

Department of Resources (2024) Queensland Globe. Available from: https://qldglobe.information.qld.gov.au/

Department of Transport and Main Roads (2026) Conditional registration of recreational vehicles – Trike or quad bike – off road. Available from: https://www.publications.qld.gov.au/dataset/9bc57aea-0346-44ce-afc7- efbbdafbef9a/resource/b044f274-5605-470d-88cd-22c13bac4354/download/trike-quad-bike-off-road- recreational.pdf

Mandubarra Aboriginal Land & Sea Inc (MALSI) (2019) Mandubarra Sea Country Cultural Values. Available from: https://elibrary.gbrmpa.gov.au/jspui/retrieve/c16b9206-8513-4cb2-a079- 818b68dca38f/Mandubarra%20Cultural%20 Values%20Outcome%20Plan.pdf

Queensland Government (2024) State Planning Policy Interactive Mapping System. Available from:

https://spp.dsdip.esriaustraliaonline.com.au/geoviewer/map/planmaking

RPS (2023) Kurrimine and Cowley Beach Foreshore Values and Constraints Assessment Report – Stage 1.

# 7. Appendix

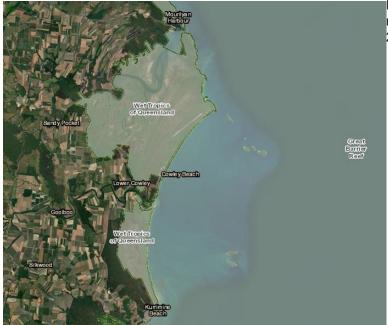


Figure 1: Kurrimine Beach and Cowley Beach WHA mapping (Source: DCCEEW Protected Matters, 2024)



Figure 2:North Kurrimine Beach WHA mapping (Source: DCCEEW Protected Matters, 2024)



Figure 3:Murdering Point WHA mapping (Source: DCCEEW Protected Matters, 2024)



Figure 4: Kurrimine Beach GBR WHA mapping (Source: DCCEEW Protected Matters, 2024)

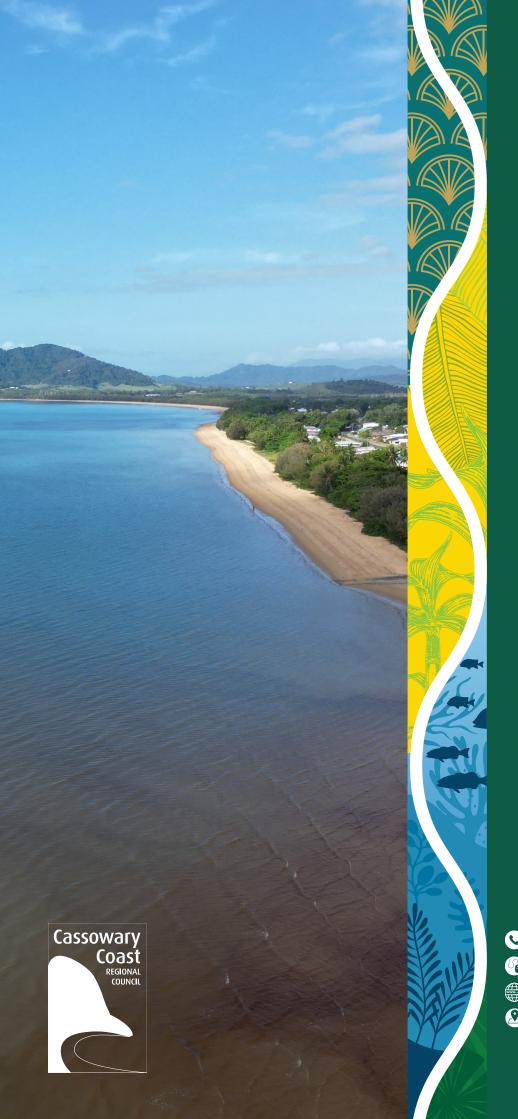


Figure 5: Maria Creek GBR WHA mapping (Source: DCCEEW Protected Matters, 2024)



Figure 6: Cowley Beach GBR WHA mapping (Source: DCCEEW Protected Matters, 2024)

Kurrimine Beach and Cowley Beach Foreshore Management Plan



- **\C** 1300 763 903
- enquiries@cassowarycoast.qld.gov.a
- acassowarycoast.qld.gov.au
- 2 70 Rankin Street, Innisfail 38-40 Bryant Street, Tully 4 Balliol Street, Cardwell