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# Coochiemudlo Island

*Land Management Plan*

*February 2004*



Prepared by

**Rob Friend & Associates Pty Ltd**

In association with

**EPM Consulting & John Smout Social Planning**



## ***Acknowledgements***

Particular thanks are due to the Project Reference Group which included:

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## **1 Key Management Actions**

The following table contains a summary of the key actions to be undertaken within the open space on Coochiemudlo Island including the emerald fringe. Detailed actions are provided within each of the islands Management Precinct Plans (see Section 9).

**Table 1 Summary of actions**

Area	Actions
Whole of Island	<ol style="list-style-type: none"> <li>1. Maintain existing management programs for mosquitos and environmental weeds;</li> <li>2. Focus the environmental pests (weeds) management program on significant weeds such as African asparagus (<i>Asparagus africanus</i>), mother-of-millions (<i>Bryophyllum delagoense</i>) and cats claw vine (<i>Macfadyena unguis-cati</i>).</li> <li>3. Improve stormwater management within the emerald fringe.</li> <li>4. Undertake a survey to designate all areas within the Victoria Parade esplanade outside of the area defined as Infrastructure Area, for community use purposes as appropriate under the <i>Land Act 1994</i> for the purpose of protection of the beach, foreshore, and other areas for environmental protection and recreation use.</li> <li>5. Integrate beach access with the development of the Recreation Trail around the Coochiemudlo.</li> </ol>
Main Beach Management Precinct	<ol style="list-style-type: none"> <li>1. Investigate the realignment of road linkage between Elizabeth St and Tageruba St with a longer term objective of relocating it to the infrastructure zone as per Drawing 3b</li> <li>2. Close car parking areas in the Foreshore Area of the precinct (see drawing 3a &amp; 3b, Appendix I)</li> </ol>
Norfolk Beach Management Precinct	<ol style="list-style-type: none"> <li>1. Reallocate the majority of Victoria Parade esplanade to reserve purposes and maintain the existing gravel road as vehicle access through the reserve;</li> <li>2. development recreation nodes at either end of the Norfolk Beach (see drawing 9, Appendix I)</li> <li>3. Weed removal (African asparagus) in bushland at the southern end of the precinct</li> </ol>
Melaleuca Wetlands Management Precinct	<ol style="list-style-type: none"> <li>1. Undertake fuel management in the northern section of the Melaleuca Wetlands Reserve.</li> </ol>
Morwong Beach Management Precinct	<ol style="list-style-type: none"> <li>1. Rehabilitate the Quarry site;</li> <li>2. Rehabilitate informal recreation area at the end of Elizabeth St.</li> </ol>
Western Cliffs Management Precinct	<ol style="list-style-type: none"> <li>1. Weed control in the bushland areas within Doug and Mary Morton Reserve</li> <li>2. Construct alternative stairs at the Mortons Steps site</li> </ol>
Recreation Management Precinct Laurie Burns Recreation Reserve	<ol style="list-style-type: none"> <li>1. Development a recreation master plan for the reserve;</li> <li>2. Landscape the waste transfer station site and screen from the rest of the reserve</li> </ol>
Recreation Reserve Precinct Golf Course	<ol style="list-style-type: none"> <li>1. Protect wetlands within the golf course area</li> <li>2. Control environmental weeds within the bushland surrounding the fairways</li> </ol>

## 2 Glossary of Terms and Definitions

The following table contains a list of terms and definitions used in this land management plan.

Term	Definition
Beach	The area of sand along the coast line of the island which does not contain terrestrial vegetation and which is subjected from time to time to inundation from tidal movements. The beach does not include tidal creeks in this plan
Beach Zone	The zone designated by the Coochiemudlo Island Land Management Plan as the management zone encompassing the beach.
Foreshore	The area immediately to the landward side of the beach which may contain terrestrial vegetation. This area contains relatively few terrestrial plant species eg Coastal sheoak ( <i>Casuarina equisetifolia</i> ), Bribie pine ( <i>Callitris columellaris</i> ) with spinifex ( <i>Spinifex hirsutus</i> ), Goats-foot convolvulus ( <i>Ipomoea pes-caprae</i> ), Pig face ( <i>Carpobrotus glaucescens</i> ). Note: - The definition for the foreshore used in this land management plan is not be interpreted as the foreshore as defined by the Local Government Act 1993. Under this Act the foreshore is defined as:  foreshore means the land lying between high-water mark and low-water mark at ordinary spring tides.
Foreshore Zone	The zone designated by the Coochiemudlo Island Land Management Plan as the management zone encompassing the foreshore.
Intermediate Zone	The ribbon of land within the Victoria Parade Esplanade or Emerald Fringe which is between the Infrastructure Zone and the Foreshore Zone. This zone is to be used to locate the majority of recreational facilities such as picnic areas, toilet facilities and associated structures.
Infrastructure Zone	The area of the Victoria Parade esplanade which will be retained as esplanade and is off-set from private properties to a maximum distance of 15 metres unless otherwise defined by survey.
Inner Island Zone	Includes all areas within Coochiemudlo which is not defined as Beach Zone, Foreshore Zone, Intermediate Zone or Infrastructure Zone. For example, the areas acquired for drainage purposes are located within the Inner Island Zone as are portions of the Melaleuca Wetlands Reserve which is outside of the Beach and Foreshore Zones.
Esplanade	The land tenure designation given to the existing Victoria Parade irrespective of it containing a road or other trafficable surface. The Victoria Parade esplanade also contains the area locally called the Emerald Fringe.
Emerald Fringe	A vegetated area between the private residential areas of the island and the waters edge of Moreton Bay, around the circumference of the island. This also includes the portions of the Golf Course where vegetation has been retained, including the wetlands within that area.
Recreation infrastructure	Built or constructed items associated with picnic and/or recreation areas such as benches, tables, Bar-B-Qs, concrete aprons, shelters
Informal Recreation	A relatively open area which provides the opportunity for recreation activity undertaken as part of picnicking or nature appreciation.

Area	
Buildings	Includes all structures which are required to be built to an approved standard, such as toilet facilities, sewage pump stations, club houses.
Fire hazard	Any vegetation-based fuel which if ignited may be difficult to extinguish such as long grass, or fuel weighing over 10 tonnes per hectare.

### 3 Introduction

Rob Friend and Associates Pty Ltd, with EPM Consulting and John Smout Social Planning, were commissioned by the Redland Shire Council in agreement with the Department of Natural Resources and Mines and representatives from the Coochiemudlo Island Consultative Committee to prepare a land management plan (LMP) for all public open space within Coochiemudlo Island.

The LMP has been developed consistent with the provisions of the *Land Act 1994* and will assist in determining future land tenure arrangements by identifying the most appropriate uses of the land and the management actions for the trustee (See Map 1).

The area covered by the Land Management Plan includes:

- ❖ The Victoria Parade esplanade (also known locally as the Emerald Fringe);
- ❖ The Melaleuca Wetlands Reserve;
- ❖ Reserve/open space land at Main Beach including the area around the community Hall;
- ❖ The Coochiemudlo Golf Course;
- ❖ The Council owned lands in the north-western corner of the island; the drainage reserves in the middle of the island and the upper reaches of Curlew Creek.

### 4 Objectives of the Plan

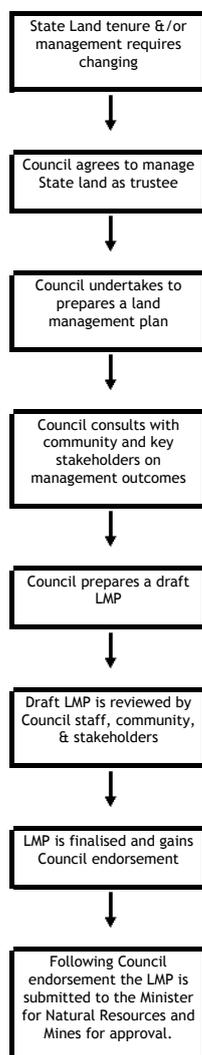
The objectives of the Coochiemudlo Island Land Management Plan are to:

- ❖ Document the existing environmental, recreation, sporting, physical, social, Aboriginal and European cultural heritage values of the reserve land;
- ❖ Provide an overview of the regional and local legislative and planning considerations affecting management potential of reserve land;
- ❖ Identify current management issues and objectives;
- ❖ Detail a practical action plan for conserving and enhancing the values of reserve land; and
- ❖ Identify the appropriate location and features of a recreation trail around the circumference of Coochiemudlo Island.

#### 3.1 Developing the Coochiemudlo Island Land Management Plan

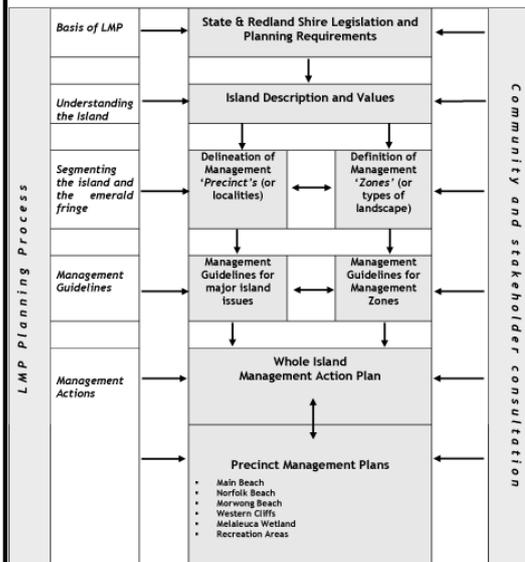
The following flow chart (Figure 1) identifies the planning process as required by the *Land Act 1994* to develop a Land Management Plan.

Figure 1



### 3.2 Coochiemudlo Island Public Open Space - Planning Process

The following flow chart portrays the planning process undertaken by Council to develop the Coochiemudlo Island Land Management Plan. A series of distinct steps were undertaken to assess the islands values and to place them into a planning context to develop a series of actions for Council to manage the open space areas on the island.



## 5 Stakeholder Consultation

Community consultation was undertaken to identify and prioritise community values and concerns relating to the study area, and to provide opportunities for island residents and the broader Shire community to participate in the development of the LMP.

Consultation was undertaken with a range of stakeholders in the planning and management of the Island open space. These included:

- ❖ Key Council staff;
- ❖ The local community;
- ❖ Specific interest groups such as the Coochiemudlo Island Surf Life Saving Club and Coochiemudlo Island Historical Society.

A summary of this consultation is found below.

In particular, the community's views on the future management of reserve lands have been important in determining the proposed management actions. Results from a major community workshop are noted in Appendix 3.

### LMP Project Reference Group

A Reference Group made up of community stakeholder representatives, relevant Council staff and State agencies (Department of Natural Resources and Mines, Moreton Bay Marine Parks, Department of Primary Industries) was established and met at regular intervals throughout the project. The Reference Group gave vital information, direction and feedback for the consultants developing the LMP.

### Liaison with Community Consultative Committee

A Community Consultative Committee (CCC) has existed on Coochiemudlo for some time and was the natural channel for local community input to the plan. Its role was to canvass values, issues and concerns from the local community (i.e. Coochiemudlo residents), to attend workshops and review & provide feedback on draft LMP documents. The three community representatives on the Reference Group are also members of the CCC, although each also wore other hats as representatives for a range of community interests on the island.

The CCC was the host body for the major community workshop held in February 2003.

### Council Staff & State Agency Workshop

A half-day workshop was held on 5<sup>th</sup> February 2003 with relevant Council staff and representatives of key State Government agencies. The main purpose of the workshop was to gain the perspectives from professional staff on the issues of importance to the LMP and to outline any plans for work on the island that may have had a bearing on the LMP.

This workshop brought to light a number of important planning activities under way, eg a sewage system and recreation centre, and provided the beginnings for an integrated approach to future public infrastructure development on the island. The workshop also provided a forum for State agencies to detail the legal and formal planning context within which the Coochiemudlo LMP would sit.

### Community Workshop 13<sup>th</sup> February 2003

The Community Workshop held at the Community Hall on Coochiemudlo was the main vehicle for local community input into the development of the plan and was attended by 70 interested persons. The CCC had previously held a number of its own meetings to forge a common community vision for the island and record the community's assessment of the values of the public areas that would be included within the plan.

The workshop was designed to give a clear picture of the planning process for the LMP and the consultants' understanding of the main issues to be considered. The participants were guided through a planning process that used the same methodological steps as those used by the consultants in developing the LMP. The community's response to this approach was very positive.

### Meetings with Community Groups

A number of meetings were held with individual community groups to gain their input and to hear the outcomes they were hoping to achieve from the planning process. These groups included Coochiemudlo Bushcare, the Island Historical Society, and Coochiemudlo Surf Life Saving Club.

A summary of the consultation process undertaken with respect to the proposed Coochiemudlo Surf Life Saving Club premises is contained in Appendix 4.

### Newsletters

A series of newsletters were distributed to shire residents with Council rate notices, and copies were distributed on the island by members of the Community Consultative Committee. The newsletters were timed to give information at significant moments during the planning process, i.e.:

- ❖ Initiation of the project;
- ❖ Outcomes from the Community Workshop;

- ❖ Completion of the draft plan and request for comments; and
- ❖ Completion of the Final Plan.

### Comment and Information from the Community

A large number of individuals and community groups contacted the consultant team during the course of the project to give information and make comments about issues of importance for the LMP. All this information was noted by the team and became part of the comprehensive information base behind the development of the plan.

### Presentation of Draft LMP

The Draft Coochiemudlo Island Land Management Plan was endorsed by Council in August 2003 for consultation purposes. Consultation was undertaken during October-November with Council receiving 60 submissions including 1 petition of 211 signatures. Submissions were reviewed and presented to Council for discussion in February 2004. Council endorsed the final LMP at its General Meeting of 11 February, 2004.

## 6 Legislation

The principal legislation directly relevant to the management of State land within Coochiemudlo Island is the *Land Act 1994*. The *Land Act 1994* is administered by the Minister for Natural Resources and the Minister Mines through the Department of Natural Resources and Mines.

### 6.1 Land Act 1994

One of the main areas this plan is to address is Victoria Parade, which is an esplanade around most of the perimeter of the island, between 20 to 40 metres in width depending on the location. In terms of the *Land Act 1994*, an esplanade is a road. Victoria Parade is bound by freehold land and trust land on the landward side and by high water mark on the seaward side. High water mark is the point at which the mean high water spring tide is determined.

Roads on Coochiemudlo Island are State land that are managed and maintained by the Redland Shire Council on behalf of the State. The Department of Natural Resources and Mines is responsible for any land allocation or tenure issues that relate to the roads or trust lands.

The Minister for Natural Resources and Minister for Mines may permanently or temporarily close a road whether an application has been received or not if the Minister believes that adequate inquiry has taken place. After permanent closure, the area of closed road is then considered to be unallocated State land for the purpose of the Act and can be dealt with under the Act. The unallocated State land may be allocated for a more appropriate use such as trust land, leasing or freehold.

Section 4 of the *Land Act 1994* states the objectives of the Act with respect to setting aside land for community purposes:

#### 4 Object of this Act

*In the administration of this Act, land to which this Act applies must be managed for the benefit of the people of Queensland by having regard to the following principles*

#### Community purpose

*If land is needed for community purposes, the retention of the land for the community in a way that protects and facilitates the community purpose*

With respect to State land, which includes a permanently closed road, the Minister may dedicate the unallocated State Land as a reserve for a community purposes such as (Schedule 1 of the *Land Act 1994*):

- ❖ Aboriginal purposes;
- ❖ Beach protection and coastal management;
- ❖ Environmental purposes;
- ❖ Heritage, historical and cultural purposes;
- ❖ Natural resources management;
- ❖ Open space and buffer zones;
- ❖ Parks and gardens;
- ❖ Sport and recreation; or
- ❖ Public toilet facilities

Note: - Refer to Schedule 1 of the *Land Act 1994* for a complete list.

A member of the public has the right to use trust land for the purpose for which it was set aside.

However, exactly what the public can do on the trust land is governed by laws that the trustees may make (sometimes called "by-laws" or local laws). For instance, the trustees may prohibit playing golf on a reserve (in the interests of the safety of people who use the reserve for walking).

Where the trustee is the local government, the activities on the trust land will be governed by relevant local laws made by that local government (NR, 2003).

### Other relevant legislation

Other legislation of relevance to the implementation of actions identified within this land management plan includes:

- ❖ *Marine Park Act 1982*. This Act is administered through the Qld Parks and Wildlife Service. In general, Moreton Bay Marine Park comprises non-freehold tidal waters and tidal lands enclosed by a boundary that is described in Schedule 4 of the *Marine Park Regulations 1990*. The boundary is either Highest Astronomical Tide or freehold land. The Marine Park is divided into zones as described in the Marine Park (Moreton Bay) Zoning Plan 1997. The zoning describes the types of activities that can be undertaken within each zone and therefore immediately adjacent to Coochiemudlo Island. A habitat zone surrounds Coochiemudlo Island.
- ❖ *Fire and Rescue Services Act 1990*. The Act is administered by the Qld Fire and Rescue Service and requires land occupiers to manage fire and fire hazards within their property. Council is bound by this Act and therefore is required to manage fire hazards on reserves on the island.
- ❖ *Nature Conservation Act 1992 & Wildlife Regulations (1994)*. This Act is administered by the Qld Parks and Wildlife Service and enables the protection of significant flora and fauna within the state amongst other things. Its relevance to the island is the protection of flora and fauna species which are listed in the Wildlife Regulations.
- ❖ *Vegetation Management Act 1999*. This Act is administered by the Dept of Natural Resources and Mines and provides for the protection of endangered and of concern regional ecosystems on freehold land throughout the State. Regional Ecosystems are vegetation communities which have been described using the plant associations on geological formations within a defined geographical area.
- ❖ *Fisheries Act 1994*. The Act is administered by the Dept of Primary Industries Fisheries and provides for protection of plants which are considered marine plants eg mangroves and salt water couch.

In addition to these State Acts, the relevant local laws, policies and planning instruments residing with Redland Shire Council that are applicable to the land management plan include:

#### Local Laws: -

- Local Law No 2 (Keeping & Control of Animals) - The objects of this local law are to regulate the keeping of animals:
  - (a) to protect the community against risk of injury and damage; and
  - (b) to ensure that animals do not create a nuisance, or a hazard to health or safety; and
  - (c) to prevent pollution and other environmental damage resulting from the keeping of animals and to protect the amenity of the local environment; and
  - (d) To ensure that keepers of animals meet their obligations regarding the keeping and use of their animals in a way that is consistent with the rights and expectations of the local community.
- Local Law No 15 (Parks & Reserves) The objects of this local law are to:
  - (a) Provide for the establishment of parks and reserves on land under the Councils control; and
  - (b) Provide for appropriate public access to parks and reserves for active and passive recreation; and
  - (c) Protect the safety of persons using parks and reserves; and
  - (d) Preserve features of the natural and built environment and other aspects of the amenity of parks and reserves; and
  - (e) Regulate activities in parks and reserves and ensure appropriate standards of conduct.

- Local Law No 22 (Bathing Reserves) The objects of this local law are to:
  - (a) provide for the supervision and regulation of bathing reserves; and
  - (b) provide for the surveillance of bathing reserves by life-saving patrols; and
  - (c) regulate the use of bathing reserves and equipment in bathing reserves; and
  - (d) Enhance public safety and convenience in bathing reserves.

Other planning instruments and Policies: -

- ❖ Vegetation Enhancement Strategy (2002)

The Vegetation Enhancement Strategy has been prepared by Redland Shire Council to direct the use of local native plant species in plantings and landscaping within the Shire. The Strategy applies to private lands where work is to be undertaken within the context of a development approval. Additionally, the Strategy also applies for Council and/or community groups undertaking plantings within parks and conservation land, Council facilities, esplanades and creeks and wetlands.

- ❖ Redland Trails Manual (1998)

The Redland Trails Manual was developed to provide Council with standards for the construction of recreation tracks, bikeways and walking paths within the Shire in both formal parklands and conservation reserves.

- ❖ Redland Shire Council Parks and Conservation and Corporate Signage Manual.

The manual provides Council with a set of standards and style to design signs within Council open space and facilities.

## 7 The Island Description and Values

### 7.1 The regional context

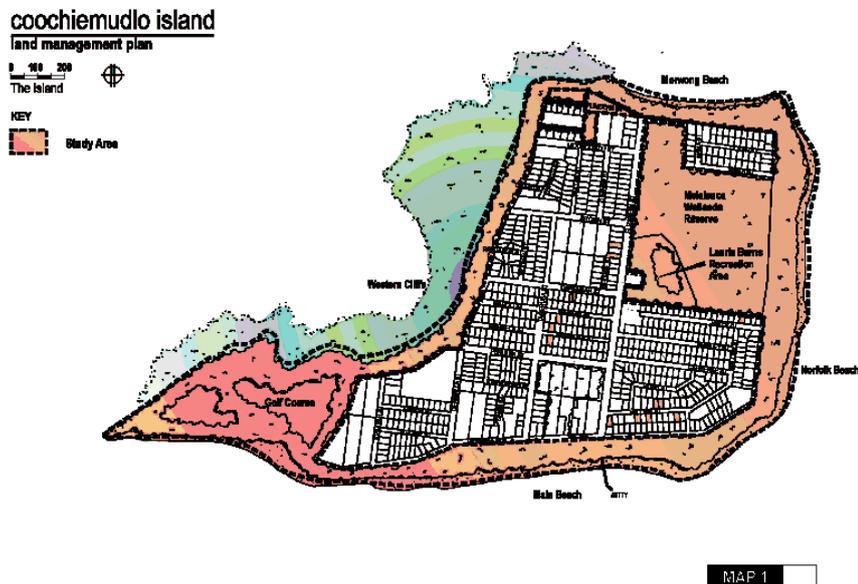
The islands relatively small area and low resident population numbers do not give an adequate indication of its use and value to the Shire and indeed the region. The island is now a recreational destination of both local and regional significance and receives large numbers of visitors throughout the year, especially during the warmer months. With its highly scenic, natural landscape character, safe swimming, secluded beaches and close proximity to one of the fastest growth regions in Australia, Coochiemudlo Island is a local jewel in the crown of Redland Shires natural open space areas.

At peak times, the island population could be as high as 1500 to 2000 people, most using the beaches and natural areas. These peak times are when most damage is done to island assets and are the demand and usage levels that need to be planned for.

The Island hosts a range of major community activities including Sunday markets at Main Beach throughout the year, the Easter Bunny Parade in March, invitational golf tournament in March/April, Flinders Day re-enactment in July and the Octoberfest in October. Environmental activities include the annual Curlew Count conducted in January, and the Bushcare Groups coastal rehabilitation activities.

This level of use and community valuing has very significant implications for the management of recreation activities and the provision of high quality recreational assets. The islands natural and cultural values have already been somewhat degraded through lack of sufficient management. Without a very precise and well defined management plan, these values will continue to decline and with it the islands local and regional significance.

#### 7.1.1 Map 1 Coochiemudlo Island



### 7.2 General features

Coochiemudlo Island is a small terrestrial island located approximately 800 metres from Victoria Point within Redland Shire. The island covers an area of approximately 130 hectares in area with approximately 500 residential properties located on the island.

The island is accessible by water taxi, ferry or barge from Victoria Point. A regular vehicular barge makes the trip from Victoria Point to Coochiemudlo providing vehicular transport between the mainland and Coochiemudlo. A local mini-bus provides a regular service to all parts of the island connecting with the ferry at Main Beach.

Facilities on the island include general store, ambulance, boat hire, golf course, tennis court, bowls/croquet field, holiday units and café / restaurants.

The predominant land uses can be categorised as residential, tourism & recreation. A large proportion of the island has been subdivided for residential development, but there are also facilities for day visitors, holiday and other short stay accommodation, and a small number of restaurants & cafés. There is a large sport and recreation area in the middle of the island adjoining the wetland, which contains valuable facilities for tennis, cricket and croquet. However, the most significant and well used recreational areas are the beach and foreshore areas at Main, Norfolk and Morwong beaches.

The islands population according to Australian Census data identifies a steady population increase of 40% between 1991 and 2001.

- 1991 355
- 1996 436
- 2001 500

### 7.3 The Climate

The climate on Coochiemudlo is the same as most of the bay islands and coastal areas within the Redland Bay Victoria Point area. The full climatic averages are attached in Appendix 4. Table 2 provides a summary of the key climatic averages for Victoria Point

Table 2 Climatic Averages summary

Element	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean daily maximum temperature - deg C	28.8	28.2	27.6	26.2	23.1	20.7	20.4	21.4	23.3	25.1	26.7	28.2	24.2
Mean daily minimum temperature - deg C	19.8	20	18.7	15.8	12.7	9.4	8.3	8.2	10.7	13.8	16.7	18.9	13.2
Mean 9am air temp - deg C	26	25.3	24.6	22.6	19	15.6	15.1	16.3	19.6	21.9	23.9	25.5	20.4
Mean 9am relative humidity - %	68	73	72	69	71	70	69	65	62	64	63	68	67
Mean monthly rainfall - mm	161.3	166	163.8	104.6	118	82.2	77.4	50.6	39	89.6	104.1	137.3	1293.9
Mean no. of raindays	11.9	13.6	12.9	10.5	10.6	7.2	7.3	6.7	6.6	9.2	10.6	10	117
Mean no. of clear days	4.1	3.5	4.9	5.9	6	8.2	10.5	9.8	10.1	7.2	5.9	3.7	79.9
Mean no. of cloudy days	6.1	6.8	6.5	4.7	6.2	4.3	4.2	3.2	3	4.8	5.3	5.4	60.5

### 7.4 The landscape

#### 7.4.1 Topography

Coochiemudlo Island is a land island which is an extension of the geology contained throughout Victoria Point. This geology is of basaltic origin and has been described as Tertiary basalts.

A minor ridge of this geology extends from the western cliffs to the north-eastern point, west east across the island.

The other areas within the island are derived from sediments laid down in the Triassic period (Willmont & Stephens, 1992).

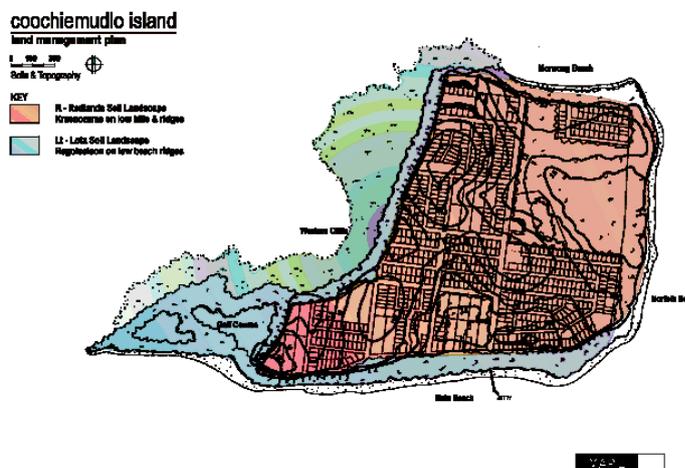
The island has a high point of approximately just over 20 metres located adjacent to the western cliffs. The area around the Community hall is also at approximately this same elevation above sea level. The western side of the island contains a ridge with another two low spurs crossing the island the north east and south east resulting in low areas between the main north-south ridge and the two spurs. These low areas contain the Melaleuca Wetlands between the north-east spur and the south-east spur and a low area between the south-east spur and the main north south ridge.

#### 7.4.2 Soils

Specific soil information for Coochiemudlo Island is not available however as the geology is similar to the adjoining Victoria Point the soils would also closely align with the soils within the Victoria Point area. Therefore, the soils which could be described on the island are (Beckmann et al, 1987):

- ❖ Lota soil landscape dominated by Humic Gleys and siliceous sands derived from low plains and beach ridges of sands;
- ❖ Redlands soil landscape dominated by Krasnozems derived from low hills of deeply weathered (lateritized) basalt and clay.

#### 7.4.3 Map 2 Soil & Topography



### 7.5 The flora and fauna

**7.5.1 Habitats**

The habitats are closely related to the geography and vegetation communities. The habitats which are to be found within the island include:

- ❖ Marine and intertidal habitats;
- ❖ Littoral areas along the beaches;
- ❖ Woodland and open forest habitats with its complex of vertical habitats;
- ❖ Wetland habitats including sedge and open water habitats; and
- ❖ Urban environments within the residential area of the island.

**7.5.2 Flora & Vegetation**

The vegetation communities within the island have been identified by a number of botanists (Gasteen 1993; Olsen 2000). Gasteen (1993) described the following communities within the Melaleuca Wetlands Reserve:

- ❖ frontal dune heath and scrub association (after Batianoff & Esol 1989);
- ❖ Mixed *Eucalyptus/Corymbia* and *Melaleuca* woodland;
- ❖ Mixed *Eucalyptus/Corymbia* woodland with wallum understorey; and
- ❖ *Melaleuca quinquenervia* woodland/open forest with reeds, sedges and aquatic vegetation.

The vegetation map units described by Olsen (2001) have been summarised in table 3 and compared to Regional Ecosystems (RE). The vegetation map units (Olsen, 2000) are contained on Map 3.

A range of other formal and informal flora surveys have also been undertaken by islanders and consultants.

**Regional Ecosystems**

Table 3 also indicates the identified Regional Ecosystems (RE) contained on the island. Of the five Regional Ecosystems described on the island two are Endangered, one is Of Concern, and two are Not of Concern.

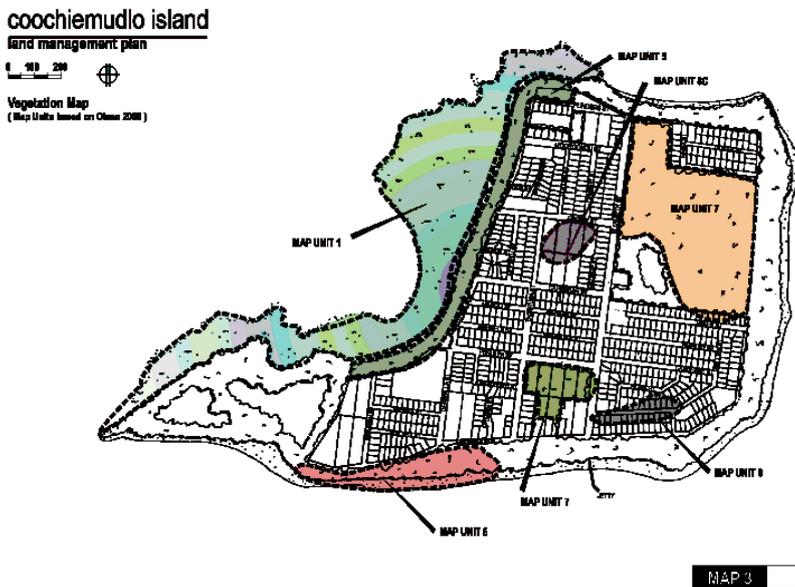
An Endangered Regional Ecosystem is defined as a vegetation community on a landzone within a bio-region of which there is less than 10% of the original cover of this vegetation community left within the state or bio-region. An Of Concern Regional Ecosystem has less than 30% of the vegetation community left intact in the Bio-region and Not of Concern has greater than 30% of the vegetation community left in its original state within the Bio-region

Therefore, it could be said that the vegetation communities particularly the Qld Blue gum and Scribbly gum open forest, presence on Coochiemudlo Island makes the Island very important in terms of its bio-diversity.

**Table 3 Vegetation Map Units (Olsen, 2000)**

Map unit	Vegetation Description	RE Description	RE status
Map Unit 1 Mangal Areas Intertidal and supratidal areas dominated by mangrove communities).	Species commonly occurring in this are include <i>Avicennia marina</i> , <i>Aegiceras corniculatum</i> , <i>Ceriops tagal</i> , <i>Rhizophora stylosa</i> , <i>Bruguiera gymnorhiza</i> and <i>Excoecaria agallocha</i> . <i>Hibiscus tiliaceus</i> sometimes fringes the landward margins.  This map unit covers the large mangrove areas to the west of the western cliffs and extends around the north-western point into the Morwong Beach area.  NOTE: - all marine plants are protected under the <i>Fisheries Act 1994</i> despite their status of Not of Concern under the <i>Vegetation Management Act 1999</i> .	12.1.3 Mangrove shrubland to low closed forest on marine clay plains and coastal estuaries.	Not of concern
Map unit 5 Basalt foreshores and nearby slopes and crests.	The canopy species includes <i>Eucalyptus tereticornis</i> , <i>E. siderophloia</i> , <i>Corymbia intermedia</i> and <i>Callitris columellaris</i> . This map unit covers the western cliffs and the north western bushlands.	12.5.2 <i>Eucalyptus tereticornis</i> , <i>Corymbia intermedia</i> on remnant Tertiary surface, usually near coast on deep red soils.	Endangered
Map Unit 6 pure <i>Melaleuca quinquenervia</i> wetlands.	This map unit covers the headwaters of Curlew Creek and describes the wettest type of <i>Melaleuca Quinquenervia</i> wetlands with almost a pure canopy of <i>M. quinquenervia</i> over a simple community typically dominated by sedges such as <i>Lepironia articulata</i> , <i>Baumea spp.</i> and the culturally significant fern <i>Blechnum indicum</i> .	12.3.5 - <i>Melaleuca quinquenervia</i> tall open forest near coastal alluvial plains.	Of concern
Map unit 7 <i>Melaleuca quinquenervia</i> / <i>Eucalyptus tereticornis</i> / <i>Lophostemon suaveolens</i> wetlands and riparian areas.	This map unit covers the Melaleuca Wetlands Reserve area as well as an area within the private lands behind Main Beach.	12.3.6 <i>Melaleuca quinquenervia</i> , <i>Eucalyptus tereticornis</i> , <i>Lophostemon suaveolens</i> woodland on coastal alluvial plains.	Not of concern
Map Unit 8c <i>Eucalyptus racemosa</i> on areas of land zone 5.	<i>Eucalyptus tindaliae</i> , <i>E. siderophloia</i> , <i>E tereticornis</i> and <i>Corymbia intermedia</i> can also dominate the canopy. <i>Lophostemon suaveolens</i> is also common where there is temporary water logging of the soil profile.  This map unit is identified on large blocks in the centre of the island.	12.5.3 - <i>Eucalyptus tindaliae</i> , <i>E. racemosa</i> open forest on remnant Tertiary surface. Deep red soils.	Endangered

**7.5.3 Map 3 Vegetation Map Units**



**7.5.4 Fauna**

Redland Shire Council has undertaken a fauna survey (Caneris, 1999), of the island recording a total of 6 mammals, 76 birds, 7 reptiles and 5 amphibians including 3 introduced species.

One of the interesting findings was that no arboreal marsupials were recorded during the survey. Arboreal marsupials such as possums and particularly ringtail and brushtail possums have become common in particularly those areas which have retained large trees within the urban fabric. For the fauna survey not to record these marsupials would tend to indicate that possums did not occur on the island. Additionally, no threatened, vulnerable and/or rare fauna species were recorded.

Of the 76 bird species recorded 17 are birds which would be found in wetland habitats. The remaining bird species are woodland species. No waders were recorded in the fauna survey, however, this may be a reflection of the timing for the survey and the status of the tides.

A list of fauna species recorded from this survey is contained in Appendix 3.

It is important to note that the local Coochiemudlo Island residents undertake a count of the Bush stone Curlew (*Burhinus grallarius*) every year and view the local protection and enhancement of its habitat of vital importance to the islands biodiversity.

Peacocks are also found on the island and are considered both one of the local identities and nuisances.

### 7.5.5 The marine environments

Surrounding the island and particularly along the western shore is a large area of mangroves described by Olsen(2001) as being within Map Unit 1. (see above).

Low tide also presents the intertidal sand banks and mud flats for use by a wide range of fauna species. At high tides these areas are variable for the wide range of marine fauna species including Sea Dugong (*Dugong dugong*) and turtles.

## 7.6 Cultural and European Heritage

Existing written sources have been used in compiling the summaries of cultural values in this section.

### 7.6.1 Indigenous Heritage Values

Aboriginal people from the Moreton Bay islands and the mainland may have used Coochiemudlo Island for many thousands of years before European settlement.

The islands name derives from a phonetic spelling of the Aboriginal words kutchi and mudlo, meaning the place of red stone, or more specifically the source of ceremonial red ochre or kutchi stone. It is believed that the red cliffs of the south-western and western parts of the island were the main source of red ochre in the southern Moreton Bay district, and that special trips were made from North Stradbroke and the other islands to collect it.

What is known about the Aboriginal use of the island comes from knowledge about the Aboriginal life more generally in the southern bay islands. The island was a rich source of food, had permanent water, and was relatively easy to access. Available evidence suggests that Coochiemudlo was used regularly for hunting and gathering foods such as shellfish, crabs and fish, and bungwall ferns, water lilies and honey. Hunting included reptiles such as lizards and turtles, and the large dugongs that were abundant in the bay. Physical evidence of these uses is still present at a number of locations around the island.

It is likely that the interaction of local Aboriginal people with Coochiemudlo Island continued well into the twentieth century. An Aboriginal reserve existed at Victoria Point until the 1960s and there are oral and written accounts of Aboriginal people visiting the island long after European occupation.

The types of Aboriginal heritage sites identified on the island fall into a number of categories, i.e.:

- ❖ Open sites a concentration of stone artefacts;
- ❖ Scarred trees formed by the removal of bark for making canoes, roofing or water containers; and
- ❖ Shell middens composed of 50% or more shellfish remains<sup>[1]</sup>.

The locations of these sites are shown in Map 4 and are dealt with in more detail in the individual management areas.

Ceremonial, mythical or burial sites may be present on Coochiemudlo Island but have not been identified.

### 7.6.2 European Heritage Values

Coochiemudlo Island has a special place in the European history of Moreton Bay due to its association with the explorer Matthew Flinders, who set ashore on what is now called Norfolk Beach in July, 1799. Island residents commemorate this historic moment each year with a re-enactment near the stone memorial to Flinders Landing at Norfolk Beach. For the first fifty years of the Moreton Bay settlement the island was known as Innes Island after Lieutenant Joseph Innes, an enthusiastic amateur explorer from the penal colony.

European habitation on Coochiemudlo Island seems to have begun in the late 19<sup>th</sup> century, when father and son Henry and Norman Wright established a small subsistence farm on the south-eastern corner the island in 1895. Timber cutters had used the island before this date and removed most of the large eucalypts and cypress pines, which were floated up to Brisbane.

Early sub-divisions (in 1885) were unsuccessful, however the good red soil area on the high parts of the island was eventually cleared for farming in the early twentieth century. For a time Coochiemudlo Island had a reputation for the high quality of its tropical fruits (bananas, passion fruit, pineapples), tomatoes and other vegetables. By the 1940s some eleven farms were in operation on the island, including those run by the families Morton, Campbell, Osborne and Phillips.

During WW2 the island played an important role in the war effort as a training ground for the 43<sup>rd</sup> Landing Craft Company of the Royal Australian Engineers. Their camp was on the site of the present Golf Club and a number of concrete slabs (from the camp kitchens) remain as reminders of that time. Soldiers trained there saw service in Papua New Guinea and the South Pacific.

From the 1960s onwards the residential population on the island grew steadily, to the estimated 500 permanent residents now settled there. A significant amount of undeveloped residential land remains so the population can be expected to grow further. There are a large number of older retired people among the population, as well as working families who commute daily to the mainland.

Several heritage sites and artefacts are present around the island that recall past European settler activity. On the western side there are the remains of the Morton families steps, leading to a raised path through the mangroves. There is also evidence of the wooden railway constructed in the early 1940s from Doug Mortons jetty at the south-western tip of the island up to the Morton homestead on Erapah St. Additionally, there are a number of other old jetty sites around the island such as the Lookout Jetty below the existing Community Centre.

A number of the farmers houses remain and many place names carry the names of the early farming families. The main historic heritage sites are also identified on Map 4.

The island community supports an abundant level of cultural activity. There are many resident artists, including visual arts (painters) and craftspeople (eg potter), and a very active historical society. Each year sees a calendar of community celebrations and gatherings, and regular markets are held in the reserve behind the eastern part of Main Beach.

What do people value? the natural environment, quiet & unhurried lifestyle, and small close knit community.

### 7.6.3 Map 4 Cultural and Historic Heritage Sites

## 7.7 The Open Space

The following table contains a list of parcels of land on Coochiemudlo which are included within the general category of open space. This open space includes the Victoria Parade/Esplanade or Emerald Fringe, however the total area of open space does not include the esplanade (Emerald Fringe) as it has not been surveyed to obtain a clear area.

Table 3: Coochiemudlo Island RSC Land as at 20/5/02

Lot	RP	Address	Area (m <sup>2</sup> )	Reserve Name	Comments
22	SP144276	326-344 Victoria Pde	127000	Doug and Mary Morton Reserve	Golf club and currently includes new foreshore park area
23	SP144276	1-21 Victoria Pde	8240		
45	SL8606	43-99 Elizabeth St	192000	Melaleuca Wetlands	Also includes Waste

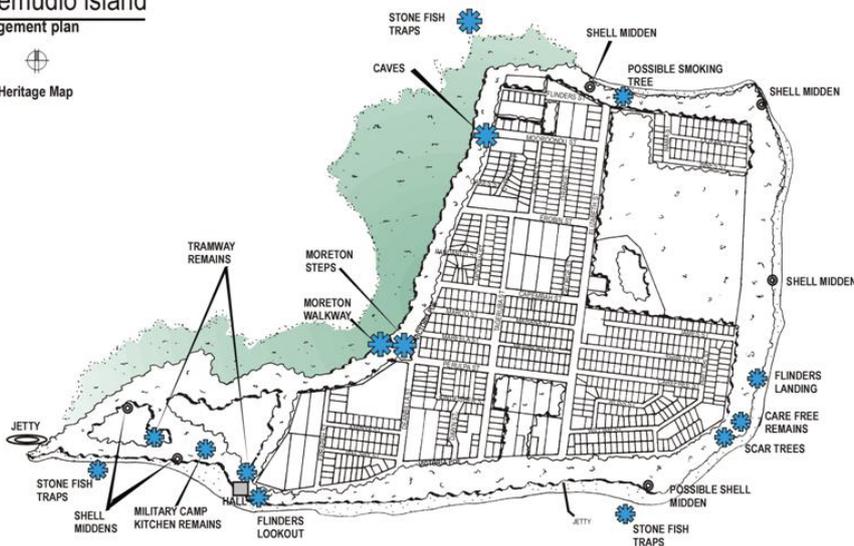
## coochiemudlo island

## land management plan

0 100 200



Culture and Heritage Map



MAP 4

The Melaleuca Wetlands Reserve is the major environmental reserve on the island taking up approximately 15% of the total land mass.

The reserve occupies an area between Elizabeth Street and Norfolk Beach and is predominantly a wetland dominated by Broad-leafed teatree (*Melaleuca quinquenervia*), however other species such as Swamp mahogany (*Lophostemon suaveolens*), Pink bloodwood (*Corymbia intermedia*) and Qld blue gum (*Eucalyptus tereticornis*) also frequently occur within this area.

Two tracks traverse parts of the reserve with one adjacent to Norfolk Beach linking the beach to Innes Street via a 200 metre long informal sandy track and the other an informal vehicle track which has been closed and now is used by pedestrians and for management of the reserve.

The reserve provides habitat for the majority of the islands fauna and flora species with several notable inhabitants such as:

- ❖ *Phaius australis* (Swamp orchid)
- ❖ *Eucalyptus racemosa* (Scribbly gum)

### 7.7.2 Laurie Burns Recreation Area

The Laurie Burns Recreation Area is located immediately adjacent to the Melaleuca Wetlands Reserve. The recreation reserve contains:

- ❖ A sporting oval which also fills the role as a helicopter landing pad for emergency purposes;
- ❖ A Croquet / bowls green
- ❖ Two tennis courts
- ❖ A BMX track
- ❖ Several buildings/sheds containing the Rural Brigade building; Surf Life Saving Club storage etc

Access to the recreation facilities is off Elizabeth Street with an informal access point off James Street on the southern boundary of the area.

This area was used as a land fill site between March 1972 and April 1994 where it received approximately 5,000sqm of fill material before being closed and capped (Egis, 2002). This study of the site in 2001 identified no significant harm to the current users of the site and no observable impact to the adjacent environmental area, i.e. the Melaleuca Wetlands Reserve.

While the waste transfer station and associated hard stand area is in close proximity to the Laurie Burns Recreation Area it is on a separate property and land tenure. However for the purpose of this land management plan the waste transfer station and surrounding area within its own property will be considered to be part of the recreation Reserve for the purposes of planning and implementation of relevant actions.

### 7.7.3 Doug and Mary Morton Reserve

The Doug and Mary Morton Reserve which incorporates the Coochiemudlo Island Golf Course are located in the south-western end of the island. The 9 hole course covers an area of approximately 12.0 hectares and also contains a club house and storage shed for maintenance equipment.

The reserve which extends along the western side of the island, known as the Western Cliffs, is predominantly vegetated with a mix of mangroves, littoral vegetation and open forest. A significant portion of the western cliffs particularly in the southern portions has been invaded by African asparagus fern (*Asparagus africanus*) along with mother-of-millions (*Bryophyllum delagoense*) and *Ochna* (*Ochna serrulata*).

This area also contains several scar trees which may be artefacts from the utilisation of the island by local Aboriginal peoples.

The golf course is situated on low lying land which contains a series of locally significant tidal and freshwater wetlands. The eastern portion of the Golf Course contains an area which is heavily infested with Cats-claw creeper. Other areas within the golf course land is also infested with African asparagus fern and Mother-of-millions

The golf course area contains a number of Aboriginal and European cultural heritage sites and artefacts. The remains of shell middens and stone fish traps are found near the beach on the southern side of the area. The remnants of Doug Mortons railway, including earthworks and small timber bridge, can be easily seen, as can the concrete slabs from the Army amphibious training camp located there during World War two.

### 7.7.4 Northern Conservation Area

The northern conservation area includes two parcels of land located in the north-western end of the island. These areas have been purchased and retained by the Redland Shire Council due to their significant ecological values in terms of significant vegetation associations (Langford, pers comms).

Recent work undertaken by Council as part of its planning scheme identified these areas has special significance within the Shire. The vegetation community identified by Council (Olsen, 1999) within this area is Map unit 5 Basalt foreshores and nearby slopes and crests. However the community within a significant portion of the area is more aligned with (Map Unit 8c) *Eucalyptus tindaliae*, *E. siderophloia*, *E. tereticornis* and *Corymbia intermedia* can also dominate the canopy. *Lophostemon suaveolens* is also common where there is temporary water logging of the soil profile.

### 7.7.5 Drainage Areas

The drainage system on the island is located in two distinct areas and is freehold lands purchased by the Redland Shire Council for drainage purposes.

One set of four properties is located within the headwaters of Curlew Creek. This area is a wetland dominated by Paperbark teatree with an understorey dominated by several sedges and other wetland plants, of which the two western allotments appear to be regularly slashed while the eastern two allotments contain stands of paperbark teatree.

The second area containing the drainage system is a drainage line located between Capembah St and Perulpa St. in the central portion of the island. These allotments contain a small overland flow path which drains to the south of the island. These allotments are partially vegetated, predominantly with grasses and herbaceous environmental weed species. The allotments in Perulpa St also have several exotic pine tree (*Pinus sp*) located along one of their boundaries.

### 7.7.6 Community Hall

The island has a Community Hall which is located on trust land reserved for Public Hall purposes. Under the Redland Planning Scheme the reserve land is zoned as open space and is located at the western extent of the Main Beach Precinct above the Golf Course. This site is an elevated location on the edge of the Red Cliffs at the western end of Victoria Parade.

The community hall contains a large meeting space as well as the island library. The hall is utilised by all of the island community including community groups and organisations for meetings and functions.

The area also has a single picnic area located in its lawns and a timber stairway which links the hall to the golf course below.

## 8 Planning Methods

For planning purposes the study area has been divided into management precincts, with each precinct being further divided into management areas.

Management guidelines have been developed based on:

- ❖ The specific concerns and aspirations expressed by the community and stakeholders;
- ❖ An assessment of the islands unique environment and values; and
- ❖ An understanding of the key management issues.

Guidelines have been developed for:

- ❖ the study area as a whole, and each management zone, addressing generic management issues;
- ❖ each management precinct, addressing site specific issues.

Action plans have been developed for the study area as a whole, and for each Management Precinct and Zone.

### 8.1 Defining the Management Precincts and zones

Seven management precincts (see drawing 01) provide a geographical means of representing the local communitys aspirations, recreational use patterns and the islands natural features.

The perimeter of the Island (the Emerald Fringe) has been divided into four management precincts:

- ❖ Main Beach;
- ❖ Western Cliffs;
- ❖ Morwong Beach; and
- ❖ Norfolk Beach.

Management precincts for the remainder of the study area include:

- ❖ The Melaleuca Wetlands;
- ❖ Recreation Reserve a the Golf Course; and
- ❖ Recreation Reserve b Laurie Burns Recreation Area.

Each precinct has been divided into five management zones (where appropriate) based on topographical features and potential for activities to be undertaken within the reserve land. These management zones include:

- ❖ Beach zone;
- ❖ Foreshore zone;
- ❖ Intermediate zone;
- ❖ Infrastructure zone; and
- ❖ The Inner Island zone.

The suitability of each management zone for various activities has been further defined by a set of management guidelines for each zone. These guidelines are contained below in Section 8.

#### Drawing 1 Management Precincts

##### coochiemudlo island

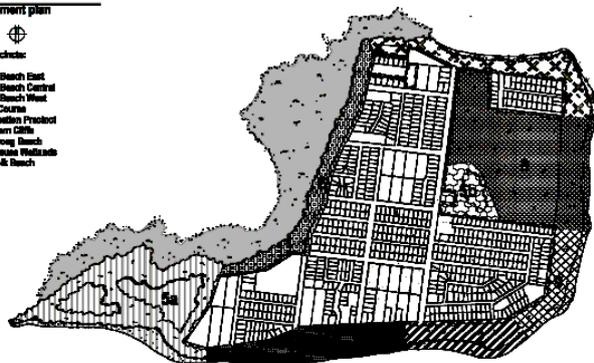
land management plan

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North

Management Precincts:

- |   |                     |
|---|---------------------|
| 1 | Main Beach East     |
| 2 | Main Beach Central  |
| 3 | Main Beach West     |
| 4 | Golf Course         |
| 5 | Recreation Precinct |
| 6 | Western Cliffs      |
| 7 | Morwong Beach       |
| 8 | Melaleuca Wetlands  |
| 9 | Norfolk Beach       |



DWG: No. 01

### 8.2 Guidelines for Management

In developing this Land Management Plan, the management of the Islands open space is described by:

- ❖ Specific management actions (refer sections 8 and 9); and
- ❖ Management guidelines (refer section 7).

While the *actions* represent specific implementation measures and activities, the *guidelines* set out the way in which the management of the emerald fringe will be approached. The two should be used together in implementing this LMP.

The guidelines have been broken into two components representing the approach to managing the Emerald Fringe open space.

The first set of guidelines is for the *zones* within the emerald fringe. It is segmented into four management zones representing the different physical form, ecological values, and management requirements. An additional zone Inner Island Zone has been used to describe those areas of open space not encompassed by the Emerald Fringe. These guidelines are presented below in section 8.2.1.

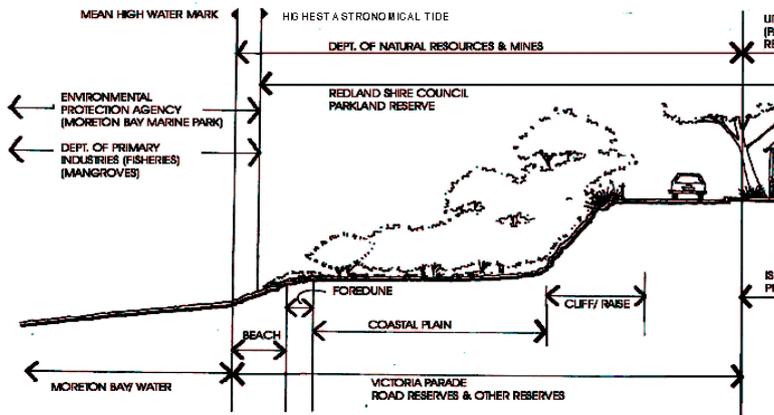
The second set of management guidelines present the approach to managing specific *issues* associated with the emerald fringe and other Council managed lands. These guidelines are presented in section 8.2.2.

The guidelines developed for tis land management plan have also taken into account the various levels of responsibility for managing land or resources within the State and Local Governments. Figure 1 provides a generalised schematic drawing of the overlap of management responsibilities between relevant State Government Agencies and the Redland Shire Council.

Note: -

- not all State Government agencies are contained in the drawing; and
- the drawing is an indication of land management & regulative responsibilities. As the island has a varying coastal area these responsibilities will vary accordingly.

**Figure 1 Land Management Responsibilities**



**8.2.1 Management Zone Guidelines**

For the purposes of defining management guidelines constraints, objectives and outcomes, five *Zones* have been defined four within the sensitive Emerald Fringe and a fifth that includes the inland parcels of Council managed land:

- ❖ Beach;
- ❖ Foreshore;
- ❖ Intermediate;
- ❖ Infrastructure; and
- ❖ Inner Island.

The diversity of the public reserves on the island includes non-vegetated sandy beaches, Foreshores and forests, as well as community use facilities and a variety of public infrastructure. The primary or overarching principle for management of this reserve land is to achieve three outcomes:

- ❖ habitat protection and conservation;
- ❖ landscape character protection and management; and
- ❖ community access and recreation enjoyment.

A second key principle within this scheme is, where possible, the development of facilities within the Victoria Parade esplanade should not be within the area designated as the Foreshore Zone. Two zones have been designated for levels of development and these are the Intermediate Zone and the Infrastructure Zone.

The following tables include the Guidelines that should be applied to the management of each of these zones. These tables provide an island overview. Within each Precinct Plan (refer section 9) more specific management guidelines for these zones are developed.

**Beach Zone Guideline**

<b>General Description</b>	<p>The Beach Zone encompasses the physical area that is the beach around the island and is within the Victoria Parade Esplanade.</p> <p>The seaward edge of the Victoria Parade is defined as Mean High Water Spring Tide. The seaward portion of the esplanade may also lie within the zone designated as the Moreton Bay Marine Park. The marine park extends up the beach to the Highest Astronomical Tide (HAT) (see figure 1).</p> <p>The landward edge of the Beach Zone comprises the seaward edge of the Foreshore being the line which contains or would contain coastal vegetation such as Coast spinifex, Pigface, Coastal ipomoea.</p>
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<b>Existing uses</b>	The existing use of the Beach Zone is predominantly swimming, walking, sitting, fishing and sunbaking. This zone is also used to launch dinghies to access the moored boats off Main Beach. In some locations (eg Main Beach and Morwong Beach), infrastructure such as the Jetty and boat ramps traverse this zone.  In locations such as the Western Cliffs this zone comprises of mangroves and marine grasses.
<b>Physical constraints</b>	<ul style="list-style-type: none"> <li>o Limited width;</li> <li>o Susceptible to frequent change depending on seasons, deposition and erosion of the sand;</li> </ul>
<b>Performance Criteria / Purpose</b>	<ul style="list-style-type: none"> <li>o Conservation and protection of the sand resource;</li> <li>o Provide access to and from the water for the whole community;</li> <li>o Recreation access to the water and use of the Beach Zone by domestic animals eg dogs, not including horses;</li> <li>o Provide a safe and clean area for the community;</li> <li>o Provide access for permitted activities as allowed in the Moreton Bay Marine Park and by those defined under the Beach Protection Act as well as Councils local Laws;</li> <li>o No private access over the Beach Zone (Restricted by the Moreton Bay Marine Park)</li> </ul>
<b>Acceptable uses</b>	<ul style="list-style-type: none"> <li>o Erection of temporary facilities such as shelters and location markers are permitted with written permission from Redland Shire Council &amp; Qld Parks and Wildlife Service (QPWS);</li> <li>o Activities such as restrained dog exercise areas are permitted in accordance with the management directions of the respective Management Zones. Note the Moreton Bay Marine Park regulates areas within the Marine Park to ensure that there is no disturbance of shorebirds.</li> </ul>
<b>Exceptions</b>	<ul style="list-style-type: none"> <li>o Public infrastructure including: <ul style="list-style-type: none"> <li>- Existing and potentially future public infrastructure eg Jetty, boat ramps (Main Beach and Morwong Beach)</li> <li>- Public service infrastructure such as telecommunications cables, Sewage pipeline etc;</li> </ul> </li> <li>o Public access facilities such as the jetties, boat ramps and hardened access across the Foreshore Zone</li> </ul>

### Foreshore Zone Guideline

<b>General Description</b>	The Foreshore Zone is the area encompassing the vegetated Foreshore around the Island, above the beach. This zone is defined along the beaches such as Norfolk, Main and Morwong Beaches. The zone is not defined along the Western Cliffs precinct.  It is predominantly sand and supports coastal vegetation such as Hairy spinifex ( <i>Spinifex hirsutus</i> ), Coastal ipomoea ( <i>Ipomoea pes-caprae</i> subsp. <i>brasilienis</i> ), Pigface ( <i>Carpobrotus glaucescens</i> with Coastal sheoak ( <i>Casuarina equisetifolia</i> ) and/or Coastal hibiscus ( <i>Hibiscus tiliaceus</i> ) being the dominant tree species present. Bribie Island pine ( <i>Callitris columellaris</i> ) may also occur in this zone, however its presence or absence does not determine the bounds of this zone.
<b>Existing uses</b>	This zone has a range of uses depending on the location within each management precinct. In the precincts with a more defined beach, some of these uses include jetty entrance, boat ramp access, car parking, shelter sheds, bike parking, signage, and picnic tables / shelter sheds. Additionally some of this zone has been fenced off for revegetation.  The Foreshore Zone along Morwong Beach is either fenced and vegetated or contains stands of large Coastal hibiscus. It is noted that there is Foreshore erosion at the location of the existing informal boat ramp due to instability of that zone.  There is no Foreshore Zone in the Western Cliffs Management Precinct.  The Recreation Zone Golf Course Management Precinct has a Foreshore Zone which is vegetated with the occasional track linking the Golf Course to the beach.
<b>Physical Constraints</b>	<ul style="list-style-type: none"> <li>o Fragile vegetation</li> <li>o Fertility of the sand structure</li> <li>o Susceptibility to sea wind &amp; sea spray</li> </ul>
<b>Performance Criteria / Purpose</b>	<ul style="list-style-type: none"> <li>o conservation of the sand foreshore and protection from wind erosion</li> <li>o protect from stormwater runoff</li> <li>o rehabilitation</li> </ul>
<b>Acceptable uses</b>	The Foreshore zone is also important to provide a buffer both, physically and visually, between the beach and bay and the terrestrial areas of the Island. Maintaining vegetation in this zone is important to reduce wind speed and salt spray moving onto the island. Additionally, the vegetation also provides a visual screening to the residential areas on the island. Specific acceptable uses include: <ul style="list-style-type: none"> <li>o Access at defined locations;</li> <li>o Rehabilitation; and</li> <li>o Dinghy storage in areas designated by Council.</li> </ul>
<b>Exceptions</b>	<ul style="list-style-type: none"> <li>o Public infrastructure including: <ul style="list-style-type: none"> <li>- Existing and potentially future public infrastructure eg Jetty, boat ramps (Main Beach and Morwong Beach)</li> <li>- Public service infrastructure such as telecommunications cables, Sewage pipeline etc;</li> </ul> </li> <li>o Public access facilities such as the jetties, boat ramps and hardened access across the Foreshore.</li> </ul>

### Intermediate Zone Guideline

<b>General Description</b>	This zone is usually the largest part of all the management precincts and is situated between the Foreshore Zone the Infrastructure Zone. The area is usually flat and consists of the hind dune or flat sandy area usually having more complex vegetation than the Foreshore Zone.
<b>Existing uses</b>	This zone has a variety of current uses ranging from roads or gravel tracks, picnic area, toilet blocks, shelter sheds, car parks, signage

	<p>etc.</p> <p>With the Melaleuca Wetlands Management Precinct the entire zone between the Foreshore Zone and the boundary with the Recreation Management Precinct - Laurie Burns Recreation Area and Elizabeth Street is encapsulated within the Intermediate Zone.</p> <p>In the Western Cliffs Management Precinct the Intermediate Zone encompasses all the cliff area landward of the Beach Zone with a 2 metre off-set from the existing edge of the sealed Victoria Parade.</p> <p>For the purpose of this LMP the Laurie Burns Recreation Zone and Golf Course are all within this management zone.</p>
Physical Constraints	<ul style="list-style-type: none"> <li>o Existing vegetation</li> <li>o Environmental weeds</li> <li>o Existing infrastructure eg roads, car parks, toilet blocks</li> <li>o Stormwater management</li> </ul>
Performance Criteria / Purpose	<ul style="list-style-type: none"> <li>o Conservation of habitat</li> <li>o Informal public recreation use</li> <li>o Public open space</li> <li>o Public facilities eg picnic tables, recreation track,</li> <li>o Visual amenity &amp; tree protection</li> <li>o Cultural &amp; historic heritage protection</li> </ul>
Acceptable Uses	<ul style="list-style-type: none"> <li>o Public park/reserve</li> <li>o Bushland protection</li> <li>o Picnic facilities (no camping) eg, shelter sheds, picnic facilities</li> <li>o Toilet facilities</li> <li>o Beach access (pedestrian)</li> <li>o Dual use recreation trails</li> <li>o Vehicular tracks (access to park/reserve areas)</li> <li>o Location of temporary structures to facilitate community based activities eg tents, market stalls</li> <li>o Public structures (these are to located immediately adjacent to the Infrastructure Zone in all instances). Permanent structures/buildings that facilitate community activities eg community hall, organisations club buildings etc are to be located within the Laurie Burns Recreation Reserve or the area encompassed by the Coochiemudlo Golf Course outside of the Beach and Foreshore Zones.</li> </ul>
Exceptions	<ul style="list-style-type: none"> <li>o vehicular access to boat ramp</li> <li>o Public infrastructure including: <ul style="list-style-type: none"> <li>- Existing and potentially future public infrastructure eg Jetty, boat ramps (Main Beach and Morwong Beach)</li> <li>- Public service infrastructure such as telecommunications cables, Sewage pipeline etc;</li> </ul> </li> <li>o Public access facilities such as the jetties, boat ramps and hardened access across the Foreshore Zone</li> </ul>

### Infrastructure Zone Guideline

General Description	<p>The maintenance of legal access to all adjacent private properties is required under State legislation. Therefore, there is a requirement for a part of the Victoria Parade esplanade to be maintained in its current tenure. The dimensions of the Infrastructure Zone are to be determined within each Management Precinct. A minimum of 15 metres has been recommended within the LMP.</p> <p>It currently includes footpaths and formed vehicular roads and tracks.</p> <p>The width of this zone will vary between Management Precincts. Where possible other infrastructure (power, sewerage, telephone lines etc) should be located within this Zone.</p>
Existing uses	<p>This zone has some existing formed and gravel roads at Norfolk, Main and Morwong Beaches as well as the Western Cliffs.</p> <p>The Melaleuca Wetlands and Recreation Precincts Laurie Burns Recreation Precinct do not have an Infrastructure Zone associated with these Management Precincts. A small section of an Infrastructure Zone extends into the Recreation Zone Golf Course for the purpose of locating the existing access road and for the siting of the proposed sewage pumping station.</p>
Physical Constraints	<ul style="list-style-type: none"> <li>o Topography;</li> <li>o Proximity to residential properties;</li> <li>o Drainage lines traversing the zone</li> </ul>
Performance Criteria / Purpose	<ul style="list-style-type: none"> <li>o to maintain legal access for private properties</li> <li>o location of all vehicular access (where possible) include vehicle parking</li> <li>o stormwater management</li> <li>o all other services eg power, telephone, sewage etc</li> <li>o non-permanent/temporary commercial facilities. Such as bike hire or boat hire structures.</li> <li>o management of advertising and commercial signage. Such as advertising for business on the island. These need to comply with the relevant local laws governing the display of advertising signage in public places (Local law 11).</li> </ul>
Acceptable Uses	<ul style="list-style-type: none"> <li>o bus stops and bus service</li> <li>o complimentary commercial and advertising signage</li> <li>o stormwater absorption devices</li> </ul>
Exceptions	<ul style="list-style-type: none"> <li>o protection of individual and small stands of trees.</li> </ul>

### Inner Island Zone Guideline

General Description	<p>The Inner Island Zone encompasses those lands within Coochiemudlo Island which are outside of Victoria Parade (Emerald Fringe). These lands include the Melaleuca Wetlands which is entirely within the Melaleuca Wetlands Management Precinct, the two parcels of bushland located in the north-western corner of the island and the parcels of land within the centre of the island between Capembah and Perulpa Streets and the upper sections of Curlew Creek acquired by Council for drainage purposes.</p>
Existing uses	<p>The Melaleuca Wetlands has been designated as an Environmental Reserve under the <i>Land Act 1994</i>. The other two parcels of Council land within the north-western corner of the Island were previously managed by Councils Roads &amp; Drainage Dept.</p>

	The majority of the remaining parcels of Council owned land within the central portion of the island and in the head waters of Curlew Creek is drainage land. All of these lands, with the exception of one contain vegetation within them. The lands within the central portion of the island are dominated by exotic trees eg pines and environmental weeds.
Physical constraints	<ul style="list-style-type: none"> <li>o access for management</li> </ul>
Performance Criteria / Purpose	<ul style="list-style-type: none"> <li>o conservation and protection of local biodiversity values;</li> <li>o maintenance of drainage from and across private and public lands</li> </ul>
Acceptable uses	<ul style="list-style-type: none"> <li>o bushland restoration;</li> <li>o nature appreciation and interpretation;</li> <li>o recreation track;</li> <li>o drainage</li> </ul>
Exceptions	<ul style="list-style-type: none"> <li>o public infrastructure which can not be located within other zones and where the environmental impacts are minimal.</li> </ul>

### 8.2.2 Guidelines for Managing Specific Issues

Several major issues and management requirements have emerged in defining the management of the open space. In addition to prescribing specific management actions (refer sections 8 and 9), the LMP also provides the following *guidelines* that describe the recommended approach and/or acceptable performance measures for responding to each of these issues.

These should be read together with the specific actions defined in the *Management Action Plan*.

Table 4: Management Guidelines for Major Issues

Management Issue	Description of issue and its significance	Management Guidelines / Performance Criteria
Fire	<p>Several bushland areas within the island have vegetation which is both a fire hazard and fire dependant. A firebreak assessment has been undertaken for the Melaleuca Wetlands and the Doug and Mary Morton Reserve with recommendations on the development of firebreaks.</p> <p>Other bushland elements within the island such as the northwest bushland do not currently have any planning with respect to managing the area for both fire hazard and for the ecological values.</p> <p>The following is an excerpt from the 2001 Firebreak Assessment Report covering the Melaleuca Wetlands Reserve and Doug and Mary Morton Reserve (RSC, 2001)</p> <p><b>Management Option Melaleuca Wetlands Reserve</b></p> <ul style="list-style-type: none"> <li>o Northern boundary - Establish a type 5 firebreak behind the properties off Nama Street and conduct a prescribed burn to reduce the current high fuel loads.</li> <li>o Southern Boundary - Reduce this firebreak to a type 4 firebreak along the entire length of the boundary and maintain (See Councils Fire Risk Assessment Report 2002).</li> <li>o Internal breaks - To reduce to potential for the main part of the reserve burning out in one event, the construction of a two-metre walking track which transects the reserve from Elizabeth Street to the eastern beach would assist in that objective. An alternative would be to construct the track from the oval to the beach or Innes Street.</li> <li>o Whole site - Develop a Fire Management Plan (FMP), in consultation with the local community, which allows Council to maintain bio-diversity and fuel loads within the site as well as protection of life and property adjacent to the reserve. This plan should link into any emergency planning for the whole island.</li> </ul> <p><b>Management Option Doug and Mary Morton Reserve</b></p> <ul style="list-style-type: none"> <li>o Whole site - There is no significant fire management issues with respect to fire hazard abatement within this reserve. However, fire may be used as part of a weed management and rehabilitation program within heavily infested areas of the reserve.</li> </ul>	<p>Fire management on the Island will provide for the co-ordinated mitigation and suppression of bushfires for the:</p> <ul style="list-style-type: none"> <li>· protection of life and property; and</li> <li>· protection, maintenance and (wherever possible) enhancement of the natural, cultural and heritage values of the Island through the management of appropriate fire regimes.</li> </ul> <p>This approach will also include development of a fire plan that is inclusive of:</p> <ul style="list-style-type: none"> <li>a ecological management objectives of specific areas. (i.e. biodiversity, environmental weed management);</li> <li>b defining the fire risks associated with each area (eg proximity of neighbouring assets and the hazards adjacent to those assets);</li> <li>c implementing a fire hazard mitigation program (eg prescribed burning, fuel reduction, firebreak);</li> </ul> <p>In development and implementation of its fire management program, the Council will seek assistance from neighbouring land holders in maintaining low fuel load levels (eg garden waste management and managing fuel loads or risk within their properties).</p>
Cultural Heritage	<p>The island has a rich Aboriginal and European cultural heritage which is only partially researched or documented. In particular the role of the island in the life of Indigenous peoples of the southern Bay Islands is not well known. There is an urgent need to properly identify and protect sites and artefacts of significance.</p> <p>Some Aboriginal sites may be especially vulnerable or subject to taboos that prevent their location being publicly identified.</p>	<p>Reflecting the significant Aboriginal and European history, cultural heritage is recognised as an important component of open space management on the island. It will be managed as an integral component of the open space, with the protection and enhancement of all Aboriginal and European sites and associated values.</p> <p>All sites, values and associations will be adequately documented. Management actions will be developed to address these, and interpretive program developed to ensure community understanding is fostered.</p>
Signage format	<p>The island has a wide range of signs used for a wide range of purposes throughout the island. Signs range form:</p> <ul style="list-style-type: none"> <li>❖ regulatory relating to identifying constraints in doing certain activities within certain places eg camping</li> <li>❖ Place names signs particularly in association with the passenger ferry and Pioneer Park at Main Beach</li> <li>❖ Informative signs have also been erected predominantly at Main Beach to inform visitors to the island of activities and business which may be of interest to island visitors</li> </ul>	<p>The islands unique open space character, particularly the emerald fringe and melaleuca wetlands lends itself to having a distinctive signage style.</p> <p>The Councils Signage Manual provides a Shire-wide standard to which the island signage must conform. However, within this, a distinctive variation and style may be developed for use on the Island. This will assist with locational, directional, regulatory and interpretative signage, to maintain and enhance the Islands open space character and image. Variations in signage design will be limited to key signage on the Island.</p>
Stormwater	<p>The management of stormwater and particularly overland run-off and water quality is an issue which is a whole of island management issue where the run-off effects are being focussed within the Emerald Fringe as well as other reserves within the island.</p> <p>Surface run-off from newly developed stormwater swales and drains is resulting in localised erosion and sedimentation in certain area within the emerald Fringe and particularly within the Western Cliffs Precinct.</p>	<p>Stormwater management is being addressed throughout the Shire through waterway management plans. Coochiemudlo will be included in this program.</p> <p>In recognition of the importance and sensitivity of the emerald fringe and associated wetland habitats and receiving waters, stormwater management on the island will ensure:</p>

	<p>Water quality issues (including rubbish and nutrient accumulation) are being experienced within Curlew Creek in the Main Beach Precinct and within the Melaleuca Wetlands Reserve.</p>	<p>a Nutrient and sediment runoff into sensitive receiving environments will be managed to avoid any increase and accumulation;</p> <p>b Sediment runoff will be actively managed at source, but also with sediment traps in-situ within the stormwater collection system;</p> <p>c Gross pollutants (rubbish) will be trapped and extracted as close as possible to their source;</p> <p>d Source controls will be preferred to end-of-pipe solutions;</p> <p>e The Islands community will be engaged in this program to reduce impacts of stormwater runoff.</p>
<p>Environmental Weeds &amp; animal pests</p>	<p>An assessment of the remnant bushland elements within the island and particular the degraded areas within the Emerald Fringe identified areas that are degraded by invasion of small number of significant environmental weed species. The weed species include:</p> <ul style="list-style-type: none"> <li>❖ African asparagus (<i>Asparagus africanus</i>)</li> <li>❖ Mother-of-millions (<i>Bryophyllum delagoense</i>)</li> <li>❖ Cats-claw creeper (<i>Macfadyena unguis-cati</i>);</li> <li>❖ Mothers-in-laws-tongues (<i>Sansevieria trifasciata</i>)</li> </ul> <p>It is acknowledged that there are many other environmental weed species throughout the island (particularly umbrella trees, fishbone fern and ohna) however those identified above are those causing the majority impacts to the island biodiversity.</p> <p>Fauna pests include:</p> <ul style="list-style-type: none"> <li>❖ Cane toad (<i>Bufo marinus</i>); and</li> <li>❖ Peacocks.</li> </ul>	<p>Council will be reviewing its Pest Management Plan (plant and animal). This will contain some generic guidelines for pest management, applicable on the island.</p> <p>Specifically, environmental weed areas and impacts within the emerald fringe will be reduced to ensure that natural habitat values are maintained and maximised. Within recreation areas in particular, implementation of appropriate treatment methods is critical to minimise unintended impacts, including possible spread.</p> <p>In respect to the more common and problematic species, the following guidelines apply:</p> <p>a all area of African asparagus are to be hand removed ensuring all fruiting material and plant material is removed from the site and disposed appropriately in secure compost deposits to ensure breakdown of active germination material;</p> <p>b areas infested with mother-of-millions are to be cordoned off from mowing and the weed hand removed. All fruiting material and plant material is removed from the site and disposed appropriately in secure compost deposits to ensure breakdown of active germination material. Following this, the area can once again be mowed (if it is an area to be retained as informal recreation) to encourage the re-colonisation of the area with grass species.</p> <p>c Cats-claw creeper is to be cut and swabbed on the lianas or runner going up tree trunks. In cases where runners populate the ground (and depending on the level of infestation), these can either be hand removed to ensure all plant above and below ground material is removed and placed into active composted. In areas where the ground infestation is significant spraying with an appropriate herbicide may be required followed by some hand removal after a satisfactory kill-rate is attained. This area would need to be revegetated with appropriate groundcovers following the removal of the Cats claw creeper.</p> <p>d mothers-in-laws-tongues are to be hand removed and placed into active compost.</p> <p>e all other environmental weeds are to be managed in accordance with the islands bushcare priorities and Councils Pest Management Plan.</p> <p>Further information regarding pest plant species (declared and environmental pest) can be found in Councils Pest Management Plan or on Councils web site <a href="http://www.redland.qld.gov.au">www.redland.qld.gov.au</a></p>
<p>Mosquitos</p>	<p>The island is a haven for mosquitoes and particularly in the warm to hot summer months.</p> <p>The Redland Shire Council conducts a mosquito management program on the island which involves spraying and pelleting of mosquito habitat. Location which are a focus of this activity include:</p> <ul style="list-style-type: none"> <li>❖ Wetlands within the Golf Course (Recreation Reserve Precinct b Golf Course)</li> <li>❖ Melaleuca Wetlands Reserve (Melaleuca Wetlands Precinct)</li> <li>❖ Curlew Creek (Main Beach Precinct)</li> <li>❖ Other minor drainage lines within the island (Melaleuca Wetlands Precinct)</li> </ul>	<p>Council will continue to conduct a mosquito management program in accordance with its Shire-wide program. However, this is to specifically take account of island-specific ecological factors and be tailored accordingly. This may include timing spraying programs taking account of water bird movement and habitat utilisation.</p> <p>Information regarding Council Biting midges and mosquito management and control program can be attained from Council or the Redland Shire Web site <a href="http://www.redland.qld.gov.au">www.redland.qld.gov.au</a></p>
<p>Recreation open space infrastructure location and design</p>	<p>The term infrastructure used in this land management plan deals with all built and constructed elements within the open space. It mostly includes the following recreation structures:</p> <ul style="list-style-type: none"> <li>❖ toilets</li> <li>❖ Shelter sheds</li> <li>❖ Picnic tables</li> <li>❖ BBQs</li> <li>❖ Seats</li> <li>❖ Fencing/bollards.</li> </ul> <p>A review of these infrastructure elements within the reserve land identified that there was a significant variation in both design and materials used for each element and depended on the era within which the infrastructure was introduced onto the island. The introduction of open space infrastructure elements appears to have been undertaken on an as-required approach resulting a wide variability in both design and materials used.</p> <p>The co-use of community buildings (eg clubhouses, training facilities etc) is to be encouraged to limit duplication of resources and maximise functionality of buildings. Council, and the Island, does not have the capacity (space or financial) to provide buildings for each individual interest group on the Island.</p> <p>Community buildings are currently located within the two Recreation Precincts at the Golf Course and Laurie Burns Recreation Area. These buildings are available for hire and are suitable for larger gatherings including meetings, workshops and training sessions. Various storage facilities are also located within these reserves. The existing Recreation Precincts are easily accessible from all parts of the Island</p>	<p>The island has a unique character. Infrastructure design and placement is to enhance and integrate with this Coochiemudlo character. The emerald fringe open space in particular, retains a highly natural landscape character. This is to be retained throughout, while accommodating the needs of visitors. All recreation infrastructure design will be sympathetic to the surrounding environment and the protection of the landscape character.</p> <p>Additionally, these structures are to be located, where possible and practicable, to the landward side of the intermediate Zone adjacent to the Infrastructure Zone.</p> <p>In conjunction with the development of the signage style (refer above) the design and location of open space infrastructure will include the following considerations:</p> <p>a Within the emerald fringe recreation structures will be lowset and one level.</p> <p>b In other open space areas two levels may be permitted; wherever possible, recreation infrastructure is to be located within the Intermediate Zone. No structures should be located within the beach or Foreshore management areas;</p> <p>c Infrastructure developed for activities within the open space areas are to be integrated into the natural environment within the Intermediate zone;</p> <p>d All Community Buildings which are to provide a facility for an organisation are to be located within the Laurie Burns Recreation Reserve or the area outside of the Beach and Foreshore Zone of the area containing the Coochiemudlo Golf Course.</p> <p>e All informal recreation infrastructure such as picnic tables seats etc are to be located within the intermediate management area;</p> <p>f No permanent structures is to be located within the foreshore or beach management areas;</p>

and can accommodate meeting and storage needs of the Islands interest groups.

g All car parking is to located where ever possible on the landward side of the intermediate zone;  
h Shelter sheds are to reflect the bushland nature of the emerald fringe while presenting a safe shelter for the users.

## 9 Management Action Plan

Management actions have been developed for all issues and areas throughout the island. This Management Action Plan is presented as two components:

1. an island action plan summary (this section); and
2. specific Management Precinct Plans (refer following this section)

The island action plan summary (table 3) provides a summary and an overview of management actions to be undertaken throughout the island. Details regarding specific actions within the specific management precincts are contained in their respective precinct section.

### Legend for action plan tables

#### Precinct codes:

- ❖ MBP - Main Beach Precinct
- ❖ RRA - Recreation Precinct Laurie Burns Recreation Reserve
- ❖ RRB - Recreation Precinct Golf Course
- ❖ WCP - Western Cliffs Precinct
- ❖ MP - Morwong Beach Precinct
- ❖ WMP - Melaleuca Wetlands Precinct
- ❖ NBP - Norfolk Beach Precinct

#### Actions code:

- High = Specific critical and/or urgent management actions within the precincts  
Medium = Specific Important management actions within the precinct  
Low = Action to be included within a broader management program within the precinct and/or the whole island.

### 9.1 Whole of Island Action Plan

Table 4: Whole of Island Action Plan

Management Issue	Description	Actions	Implementation priority	Management Precinct
Beach management	Rubbish bins are located at all beaches around the island. These bins provide a source of rubbish and litter which ends up on the beach and adjacent bushland due to the nature of a minority of beach users.  It has been proven in natural area that removal of bins reduces the volume and frequency of littering within those natural areas. A theme of only leave your footprints could be used as part of the Island interpretation and information for residents and visitors.	Relocate all bins from the Beach and Foreshore Zones to the Intermediate Zone.  Bins should be co-located at beach access points to increase usability.  NOTE: - this needs to be undertaken in conjunction with the local community to ensure the removal does not result in an increase in littering on beaches and the dunes around the island.	High	MBP, MP, NBP
Beach access	Uncontrolled beach access causing localised erosion at most beach access points. The informal beach access areas while allowing for ease of access for visitors will hinder the management, protection and rehabilitation of the Foreshore Area as defined above in table 2.	Provide beach access in conjunction with informal recreation / picnic areas (as indicated on precinct drawings 02-07)  Erect beach access signs to identify beach access points (as per Signage Plan)	High  Medium	MBP, RRA, WCP, MP, MWP & NBP
Recreation facilities	The recreation facilities on the island are a mix of facilities depending on when they were constructed. This has lead to there being a range of recreation facilities in a range of design, styles, and condition.  Several of the facilities are relatively old such as signs and toilet blocks, and are in need of replacement for a variety of reasons such as improve waste treatment for toilet facilities, update wording on signs and location.	Develop and adopt an island design standard for all facilities (shelter sheds; toilets; seats; pathways; tracks)  Replace aging and / or inappropriate recreation facilities  Undertake a condition audit of all infrastructure and schedule replacement/maintenance as required	Medium  Medium  High	MBP, RRA, RRB, WCP, MP, MWP & NBP
Foreshore protection / regeneration	The Management Area Guidelines for the Foreshore Area provide management performance guidelines for the management area. These guidelines are based on the protection and enhancement of this vital area for the island and its role in maintaining the Emerald Fringe.  At present a variety of infrastructure and activities are located in an ad-hoc manner and undertaken within the foreshore area. These are all impacting on the stability and conservation of this area. Additionally, a wide range of environmental weeds have colonised degraded areas within the foreshore which is suppressing the natural regeneration of the specialised plant species which naturally occurring on this foreshore area.	Relocate all picnic / recreational infrastructure (eg picnic tables, bins; shelter sheds) from the Foreshore to the Intermediate zones.  Design and construct dinghy storage to protect the Foreshore Zone.  (this structure could be integrated with other beach/Foreshore infrastructure such as the jetty or boat ramps)	High low  (clarified in Specific actions within Management Precincts)  Medium	MBP, MP, NBP
Habitat / bushland protection and rehabilitation	One of the significant values of the island is the areas of bushland within the Emerald Fringe and the other areas of Council managed land. All of these areas are suffering from a range of impacts such as environmental weed dumping and invasion, illegal tree pruning and location of services and other infrastructure.  Members of the local community undertake Bushcare activities which are supported by Council.	Close all informal tracks and rehabilitate  Remove / control all significant environmental weeds within bushland areas.  Education of residents about environmental weed dumping and tree pruning as well as the environmental importance of the bushland areas on the island to its long term viability  Inform and prosecute people who damage/prune trees within the emerald fringe.	High  Ongoing  High  High	Whole of Island

Environmental pests (plants and animals)	<p>Environmental weeds have invaded significant areas within the Emerald Fringe. A number of species are significantly impacting on the island biodiversity by suppressing and killing native vegetation within some locations in the emerald fringe.</p> <p>Additionally, environmental weeds are being introduced into bushland through garden waste dumping. A range of environmental weeds dominate the drainage reserves and contribute to fauna loss within these areas through habitat modification.</p> <p>Cane toads dominate local wetlands and are eliminating local amphibians through competition for resources and potentially through predation.</p> <p>Peacocks are one of the local identities and nuisances on the island. While they are not significantly impacting or degrading the island biodiversity they are a nuisance as expressed by some islanders. A plan may be developed in consultation or by the local community to enable the ongoing management and reduction of the peacocks on Coochiemudlo.</p>	<p>Undertake a removal and control program for climbing asparagus (<i>Asparagus africanus</i>)</p> <p>Undertake a removal and control program of mother of millions (<i>Bryophyllum spp</i>)</p> <p>Remove and control cats-claw creeper (<i>Macfadyena unguis-cati</i>)</p> <p>Control exotic grasses such as Natal grass (<i>Melinis repens</i>), Green panic (<i>Panicum maximum</i>), Para grass (<i>Brachiaria mutica</i>)</p> <p>Manage all other declared and significant weeds as per RSC Pest Management Plan</p> <p>Initiate a peacock management program to limit numbers on the island and allow for a natural reduction of individuals</p> <p>Initiate a community program of cane toad (<i>Bufo marinus</i>) removal from the island</p>	<p>High</p> <p>High</p> <p>High</p> <p>Medium</p> <p>Ongoing</p> <p>Low</p> <p>High</p>	Whole of island
Fauna protection and restoration	<p>loss of Frog species from the wetlands on the island particularly Curlew Creek headwaters.</p> <p>Protection of Bush stone curlew (<i>Burhinus grallarius</i>).</p>	<p>Undertake a detailed survey of amphibians on the island to determine there status in terms of diversity and abundance</p> <p>Continue the annual Curlew count</p> <p>Review options for locally protecting Bush-stone curlew habitat within the island integrating public and private lands.</p>	<p>High</p> <p>Ongoing</p> <p>medium</p>	Whole of island
Fire hazard management	<p>Fire hazards exist in the Melaleuca Wetlands Reserve</p> <p>Ecological burning required to maintain biodiversity in the islands bushlands</p>	<p>Implement existing fire hazard management program for:</p> <ul style="list-style-type: none"> <li>· the protection of life and property; and</li> <li>· the protection, maintenance and where ever possible the enhancement of the natural, cultural and heritage values of the Island through the management of appropriate fire regimes.</li> </ul>	High	MWP, MP, WCP, RRA, MBP
Stormwater management	<p>Stormwater run-off throughout the island and in particular into or across the Emerald Fringe is resulting in erosion and impacts to the vegetation immediately adjacent to the out-flows of the drains and pipes.</p> <p>Additionally, poor quality of water entering into sensitive ecological areas within the Melaleuca Wetlands Reserve and the headwater of Curlew Creek.</p>	<p>Develop and implement an island stormwater management plan</p> <p>Construct effective stormwater discharge across the emerald fringe to minimise erosion or environmental impact down slope from the outflow point</p> <p>Construct stormwater quality improvement devices on all stormwater discharge points into the Melaleuca Wetlands Reserve</p> <p>Construct stormwater quality improvement devices on all stormwater discharge points into the head waters of Curlew Creek</p>	<p>Medium</p> <p>High</p> <p>Medium</p> <p>Low</p>	<p>Whole of island</p> <p>MBP, RRA, WCP, MP, MWP, RRb, NBP</p> <p>MWB</p> <p>MBP</p>
Vehicular access and car parking	<p>Ah-hoc decision making regarding future car parking and road access may cause potential conflicts with recreation values and habitat management. Additionally, there is no traffic / vehicular management plan for the island.</p>	<p>Develop a circulation management plan that seeks to define requirements and performance criteria for car parking; private car use and access; public transport use and access and bicycle use and access.</p>	High	Whole of island
Road management (dust)	<p>Gravel roads within the Victoria Parade (Emerald Fringe) cause a significant dust nuisance for the adjacent land holders</p>	<p>Continue program to seal remaining gravel roads on the island to reduce the dust nuisance</p>	High	MP
Signage	<p>A variety of signs are located within the reserves throughout the island. There appears to be no consistent style or design standards for signage throughout the island. Redland Shire Council has recently developed a Signage Manual which specifies design standards for signage within the Shire.</p> <p>However, it may be appropriate to develop a particular signage style which conforms with the Redland Shire Signage Manual and provides for a specific style for signs to be used on the island.</p>	<p>Develop a Signage Plan for the island applicable to all Community and Council (and where possible State Government signs).</p> <p>(All signage is to comply with the Redland Shire Signage Manual Variations in signage design will be limited to key signage on the island.)</p>	Medium	Whole of island
Recreation track	<p>A separate yet integrated Recreation Trails Plan has been developed in conjunction with the Land Management Plan</p>	<p>Adopt the Recreation Trail Plan in conjunction with the Land Management Plan</p>	High	Whole of island
Mosquito management	<p>Mosquito management is highly desirable but has the potential to impact on the wetland habitats</p>	<p>Ensure all mosquito control activities are minimal impact to other environmental values on the island and comply with the Redland Shire Mosquito Management Plan</p>	High	Whole of island
Heritage protection and conservation	<p>Aboriginal heritage and European heritage sites throughout the island are in need of clear identification, recognition, protection and management.</p> <p>This management must also takes into account that some Cultural heritage site may be sensitive and should not be clearly identified. However, these sites must be located to ensure they are not accidentally disturbed or degraded by activities of Council and/or the community.</p>	<p>Identify and verify all Aboriginal sites of significance</p> <p>Develop a whole island archaeological sites management plan</p>	<p>High</p> <p>High</p>	Whole of island
Open space and recreation values	<p>The foreshores of Coochiemudlo Island are considered to have at least Shire-wide and possibly sub-regional open space / recreation values</p>	<p>Develop appropriate open space / recreation facility development guidelines for the islands highly</p>	High	Whole of island

	There is no designated plan or design standard that guides facility development in important shire / regional open space	significant and ecologically sensitive open space habitat		
		Formalise the islands open space designation (in the Shire Open Space Strategy)	As required	Whole of island
Interpretation and education	All information relating to the islands values and sites need to be presented in an integrated way. The development of an interpretation plan for the island will enable for the development of a Coochiemudlo Style for all interpretative and information material.  The interpretation Plan will enable for the values, locations and sites of the island to be properly identified and interpreted within advertising, education material and visitor information material developed by Council or specific groups on the island.	Develop an island interpretation plan inclusive of all signage, entry statements, brochures, track signage, historic site signage and habitat / tree signage	Medium	Whole of island
		Develop interpretation plan for the islands European settlement history	Medium	
Surveillance	Inadequate island surveillance of open space including reserves, the Emerald Fringe and beaches. This lack of community surveillance has resulted in some open space areas not being seen to be valued and managed by some local residents and visitors.	Review options for improved surveillance of Council lands such as Honorary Rangers of Neighbourhood Watch programs.	Low	Whole of island

## 10 Management Precinct Plans

A plan for each of the Management Precincts follows. Each contains:

- ❖ general description
- ❖ description of existing assets and infrastructure
- ❖ description of existing uses
- ❖ summary of values
- ❖ statements of intent and outcomes (for each of the Zones)
- ❖ statement of the most significant management issues
- ❖ table of proposed management actions

### 10.1 Main Beach

#### 10.1.1 Description

Main Beach Precinct is located on the islands southern coastline (refer drawing 02, 03 & 04), between Norfolk Beach to the east and the Coochiemudlo Golf Course in the west. It is the islands most used beach and recreation area, being the primary stop over location for guests and day visitors. Consequently, the islands commercial and recreational facilities and amenities are concentrated within this precinct, in fact within a 200 meter length of beach and its immediate hinterland. Shops and cafes are located here, together with a bicycle hire service, the bus stop, pottery studios and other commercial outlets.

The physical configuration of Main Beach offers the safest all year round swimming, and the islands life saving club formally patrols this beach.

The two primary public access infrastructure the ferry jetty and the barge ramp are located within this beach. Other public facilities include toilet blocks, shelter sheds and play equipment. The area is more suitable for use by larger groups than other beach areas on the island, with the markets regularly held within the park area.

As for the majority of the island, a major natural feature is the Foreshore area, with its fragile vegetation. Additionally and significantly, Curlew Creek runs through this area, beginning in the vicinity of Phillips St and running parallel to and behind the beach for several hundred meters before entering the bay at the western end of Main Beach before the cliffs.

#### 10.1.2 Existing Assets and Infrastructure

Most of the existing infrastructure is found within the central and eastern sections (Refer Drawings 02-04, appendix I). The table below details the above ground assets and infrastructure within the precinct that require management.

Vehicular road / access track	<p>The vehicular track is discussed separately for each of the sections of Main Beach. Management of vehicular movements within the Main Beach Management Precinct is critical as it is the focus of activity and therefore potential conflicts with vehicles and pedestrians particularly between the Jetty, boat Ramp, beaches and Shops.</p> <p><b>Eastern</b></p> <p>A short, dead end road is located immediately east of the shelter shed at the end of the jetty. This effectively acts as a car park. The through road mostly follows along the northern edge of the study area, taking one loop diversion away from the residences before joining up with Phillips St. (See drawing 02a, Appendix I)</p> <p>A vehicular access track effectively follows Victoria Pde to the east, providing an alternative access to Norfolk Beach. This track is located in the narrow section between the inland plateau and the narrow Foreshore / beach areas.</p> <p><b>Central</b></p> <p>The vehicular access is located through the intermediate area linking the two car parks (at the jetty and barge), effectively dissecting this recreational open space. (See drawing 03a, Appendix I)</p> <p>A secondary vehicular access track is located adjacent to the residential area on the inland side of the precinct.</p>
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	<p><b>Western</b></p> <p>There is no vehicular access through the study area west of the barge. The formed road follows the landward fringe of the study area. (See drawing 04, Appendix I).</p>
<b>Barge Ramp</b>	A ramp is located at the western end of Main Beach. This serves as the sole vehicular access (via barge) to the island and also doubles as a boat ramp.
<b>Jetty</b>	The main ferry access jetty is located in the centre of Main Beach, crossing the beach and Foreshore areas. A major shelter shed also serves this facility.
<b>Beach access points</b>	The beach is easily accessible along most of its length, wherever there is a break in the generally sparse vegetation. Semi-formal access is evident at a number of points. A slide-rail located mid-way between the jetty and barge ramp provides vehicle access to the foreshore for maintenance purposes, and for the set-up and removal of equipment for the Surf Life Saving Club (ie observation tower).
<b>Car parking &amp; turnaround area</b>	Car parking is available along the roads, with the major, sealed car park located immediately adjacent to the jetty. A second unsealed car park is located at the barge entry.
<b>Public toilets</b>	Public toilet blocks are located adjacent to the vehicular ramp and within the open recreation area just east of the shop.
<b>Shade structures and seats</b>	Several shelters are located along the length of Main Beach. There are many mature trees providing shade along most of the Foreshore area.
<b>Other Council owned property</b>	<p>Council owns property in the headwaters of Curlew Creek as well as a block behind the Island Store. These properties have flooding constraints with respect to developing the properties for other uses such as buildings.</p> <p>It is noted that the property behind the Island Store (1 Williams St) may be suitable for use as to provide additional Car parking space within the Main Beach Precinct.</p>

### 10.1.3 Existing Uses

The Main Beach Precinct is the most utilised area on the island. These uses and associated visitor activities are summarised below.

<b>Open space / parkland &amp; Recreation</b>	<p>Most of the precinct is developed as public open space / park.</p> <p>The vast majority of day visitors to the island remain on Main Beach (central and eastern sections) after disembarking from the ferry. This informal recreation is serviced by facilities including shelter sheds and seats.</p> <p>Additionally, the central portion of the precinct is where the lifesaving club operates its beach patrol, with a designated Bathing area the only one on the island.</p> <p>Except for some fenced areas designated as rehabilitation, beach access points are undefined and unmanaged.</p> <p>The Beach and Foreshore Zone are heavily used for recreational purposes. Large open areas are available for picnics and other informal recreational activities. Bollards and fencing separates the roadway and parking areas from recreational areas. Large groups are accommodated within this precinct.</p>
<b>Bushland rehabilitation</b>	A few sections of Foreshore and Intermediate Zones have been fenced off and signed as rehabilitation areas.

### 10.1.4 Values

The environmental, social and cultural values present within the Main Beach Management Precinct are summarised below:

<b>Natural Environment</b>	<ul style="list-style-type: none"> <li>▪ Marine/littoral habitat areas</li> <li>▪ Native fauna reptiles, birds, crabs, etc</li> <li>▪ Rocky point with mangroves (eastern end)</li> <li>▪ Foreshore vegetation</li> <li>▪ Vegetation regeneration areas</li> <li>▪ Curlew Creek</li> </ul>
<b>Recreation</b>	<ul style="list-style-type: none"> <li>▪ Swimming, wading and sunbathing areas</li> <li>▪ Patrolled beach</li> <li>▪ Recreational fishing, bait collecting, etc</li> <li>▪ Boating activity</li> </ul>

Parks & Facilities	<ul style="list-style-type: none"> <li>▪ Landscape amenity</li> <li>▪ Open grassed areas (separated from road with bollards)</li> <li>▪ Public toilets</li> <li>▪ Picnic shelter and tables</li> <li>▪ Seating</li> <li>▪ Vehicle parking along roadways</li> </ul>
Culture & Heritage	<ul style="list-style-type: none"> <li>▪ Regular outdoor markets and community celebrations held in the open areas behind the beach</li> <li>▪ Possible Indigenous shell middens and their surrounding areas (stone implements) within the eastern corner/point. The middens are covered by grass and not obvious to the casual observer.</li> </ul>

### 10.1.5 Management Intent and Outcomes

Key outcomes to be achieved in Main Beach Management Precinct are described below. These are listed for both the precinct as a whole and the individual management areas:

#### 10.1.5.1 Overview Precinct

Main Beach Precinct offers a highly accessible island beach experience, catering for informal recreation. It will be managed to cater for some larger group activity, being the most accessible beach to island entry points. Additionally, its significant natural and landscape values, particularly the Foreshores and Curlew Creek, will be managed to ensure these natural values are maintained and enhanced.

Main Beach Precinct will be managed to maintain and enhance its natural assets and values, while allowing for extensive day recreational use. Car parking and visitor circulation will be well managed, with some areas hardened to accommodate the high volume use. Areas of regeneration will be expanded, while developing and maintaining more defined visitor picnic areas and beach access walkways.

Where feasible, the vehicular roads and tracks will be relocated within the defined Infrastructure Zone away from the more sensitive habitats of the Foreshore and Intermediate Zones. This will also facilitate safer and more defined recreation use areas.

#### 10.1.5.2 Main Beach Precinct Management Areas

Management Area	Management intent	Outcomes
Beach Zone	Main Beach will be managed to provide formal and informal beach recreational use. The natural values and landscapes will be maintained to the greatest possible extent.	<ul style="list-style-type: none"> <li>▪ Litter free environment</li> <li>▪ Safe environment for water and beach based informal recreational activity</li> <li>▪ All management and uses are consistent with maintaining the natural beach setting</li> <li>▪ Informal beach recreation uses continue</li> <li>▪ Patrolled beach and formalised lifesaving activities are managed in accordance with the islands natural values</li> </ul>
Foreshore Zone	This zone is to be managed as a natural beach Foreshore with minimal development / recreational infrastructure.	<ul style="list-style-type: none"> <li>▪ Beach access pathways are defined and managed and comply with Beach Protection Authority Guidelines (see Appendix 5)</li> <li>▪ The Foreshore area is free of all structures, vehicular tracks and roads and car parking</li> <li>▪ Dune protection and bush rehabilitation areas are expanded</li> </ul>
Intermediate Zone	This zone is to be primarily managed for recreation, while maintaining bushland conservation integrity and values.	<ul style="list-style-type: none"> <li>▪ habitat conservation and rehabilitation areas are expanded and defined</li> <li>▪ recreation areas are defined and associated beach access (pedestrians) areas are defined and maintained</li> <li>▪ large group events/gatherings are provided for in defined areas within the zone</li> <li>▪ visual amenity and landscape protection are maintained</li> <li>▪ public park and associated recreation facilities (toilet block; shelter sheds; Bar-B-Qs; seats)</li> <li>▪ bush rehabilitation areas are expanded</li> <li>▪ day use small and large group picnicking and facilities are maintained and managed</li> </ul>
Infrastructure Zone	To facilitate community and visitor access to and through the Main Beach precinct	<ul style="list-style-type: none"> <li>▪ All existing and future infrastructure and services to be located within this zone</li> <li>▪ Minimise environmental impacts to the environmental values of the precinct and the island</li> <li>▪ Maintain legal access to all adjacent private properties</li> </ul>
Inner island Zone	The 5 individual lots that comprise the inner island area (refer Drawing 2a & 2b Main Beach East) are vegetated blocks primarily serving the purpose of drainage. They are located at the headwaters of Curlew Creek.	<ul style="list-style-type: none"> <li>▪ All management and uses are consistent with maintaining the purpose for which the land was acquired, drainage.</li> <li>▪ The environmental values of the area is maintained and enhanced</li> <li>▪ Bushland rehabilitation is undertaken, to re-instate the upper headwaters of the</li> </ul>

drainage line

### 10.1.6 Specific Management Issues

The specific management *problems* or *issues* within this Main Beach Management Precinct that will need to be addressed in achieving the outcomes are listed below:

- the future of all existing recreation infrastructure and buildings within the Foreshore Zone
- the location of defined beach access pathways
- the re-location of the vehicular track into the proposed infrastructure Zone (see options below & drawings 2b,3b)

### 10.1.7 Proposed Management Actions

Management actions for Main Beach Management Precinct are outlined below. These actions are intended to:

- ❖ Achieve the outcome specified above; and
- ❖ Address specific management problems/issues within the precinct.

Timing for actions: - High indicates that it has a short term priority, Medium indicates that the timing for actioning or implementation is medium term, low indicates that the timing for actioning or implementation is longer term. Ongoing indicates that it is an ongoing management activity.

Issue	Management Actions	Timing	Comments
Traffic	Investigate the engineering and environmental feasibility of crossing or realigning the section of Curlew Creek on the western side of Elizabeth Street.  Additionally, the potential impacts to the adjoining residential properties should also be assessed to minimise those impacts.	Medium	The development of this vehicular link is consistent with the location of vehicle roadway throughout Coochiemudlo, however there are social and engineering considerations to assess as part of the determination of the feasibility of this recommended action.
	Manage the roadway connection between Elizabeth St and Tageruba St. to ensure the area is safe for island residents and visitors and that it does not impact on the foreshore Area as defined in the Land Management Plan. The following options are proposed.  Options:  1. maintain existing roadway between the end of Elizabeth St and the end of Tageruba St (see drawing 3a). Traffic and speed patterns should be review in light of the LMP.  2. close this section of the roadway and require all traffic to use existing constructed roadways on the island to access the jetty/shop or the boat ramp.  3. close the existing roadway and develop a new through roadway within the infrastructure area as defined on drawing 03b (see appendix I)	Low	Traffic is a significant problem within the Jetty and boat ramp area for pedestrians and visitors to the island.  To develop a safe and usable Intermediate Zone within the Central portion of Main Beach the existing roadway could be closed and the area reinstated as an open space for people.
	Survey the existing bounds of the car parking areas on the landward side of the existing roadway, which serve the passenger ferry and the boat ramp/barge access. Retain these car parks within the Infrastructure Zone.	High	
	Investigate the potential of developing additional car parking space on the Council owned land behind the Island Store (1 Williams St, Lot 201 on RP 97359)  (Should site not be suitable for the proposed SLSC)	Medium	This could be developed as car parking is removed from the Beach and Foreshore Zones within the Main Beach Precinct.
Foreshore protection / regeneration	Relocate all picnic / recreational infrastructures (eg picnic tables, bins; shelter sheds) from the Foreshore areas to the Intermediate Zone	High - Medium	All pieces of infrastructure should be removed despite the lateness of its construction.
	Design and construct dinghy storage to protect the Foreshores	Medium	It may be possible to develop several small dinghy storage facilities west of the boat ramp and east of the Jetty as well as on Norfolk Beach and Morwong Beach (near the boat ramp)
Habitat / bushland protection and rehabilitation	Close all informal tracks and rehabilitate	High	

## 10.2 Recreation Precinct

### 10.2.1 Description

The Recreation Precinct comprises two sections The Golf Course and the Laurie Burns Recreation Area .(See drawings 05a & 05b)

The Golf course is located at the western end of the island between the Main Beach and the Western Cliffs Precincts. It has been developed with the objective of maintaining some of the natural values and features. The Foreshore area remains vegetated, while many mature trees are scattered throughout the course.

The Laurie Burns Recreation Area is located on Elizabeth St adjacent to the Melaleuca Wetlands. It shares a common boundary with the Wetlands Reserve and the islands waste facility. This area is being developed as the centre of the islands formal recreation and sport facilities. With the exception of the golf course, it is intended that all community facilities be located here. This is significant as it means that no formal recreation and sport facilities need to be located in the emerald fringe area.

This LMP is not intended to provide a Master Plan for the Recreation areas, however it will include some discussion of managing its interaction with adjacent management precincts.

### 10.2.2 Existing Assets and Infrastructure

Most of the existing recreation infrastructure is found within the Laurie Burns Recreation Reserve.

#### Golf Course

Vehicular road / access track	Vehicular entry is via an access track entering on the northern side of the course off Victoria Pde. This entry also includes a car park.
Club house	A club house is located within the course at the entry point and is nominally open on weekends for club and

	social events/rounds. Facilities include a small bar/servery, garden seating, BBQ and machinery storage.
<b>Public toilets</b>	Public toilets are located under the Community Hall which may be unlocked for the public as required.
<b>Community Hall</b>	While the Community Hall is not part of the Golf Course area it has been included as part of the Recreation Management Precinct - Golf course.  The Community Hall is a large hall available for use by the community for community meetings and functions. The Library is located beneath the main hall as is an area utilised by the Coochiemudlo Island Historical Society.

#### Laurie Burns Recreation Reserve

<b>Playing fields and courts</b>	Tennis court; soccer field; croquet / lawn bowls green; BMX course
<b>Car parking</b>	Adequate car parking is available within the reserve.
<b>Public toilets</b>	Public toilet blocks are located within this precinct.
<b>Buildings</b>	At preparation of this LMP Council has funded the construction of a Recreation Hall within the Laurie Burns Recreation Area.  Other buildings include the Rural Fire Brigade building and storage shed which groups like the Coochiemudlo Surf Life Saving Club has a weights training room/Gymnasium.
<b>Waste Transfer Facility</b>	The Coochiemudlo Island Waste transfer facility is also located within the area of the old tip site, upon which the Laurie Burns Recreation Area has been established.  The Waste transfer facility provides a series of large industrial bins which the local residents dispose of the household and garden waste into.  It is important to note that the waste transfer station is contained within a separate land parcel than the Laurie Burns Recreation Area. However for the purposes of this land management plan it is encompassed within the recreation precinct of the Laurie Burns Recreation Area.

#### 10.2.3 Values

The environmental, social and cultural values present within the Recreation Management Precinct are summarised below:

<b>Recreation</b>	These two recreation areas provide the islands formal recreation and sport areas and are valuable assets for the islands resident population including children, youth and adults. In particular, the valuable features include: <ul style="list-style-type: none"> <li>▪ Community playing fields and facilities (tennis; soccer)</li> <li>▪ Golf course</li> <li>▪ Club house (Golf course)</li> <li>▪ Recreation Club (under construction) Laurie Burns Rec Area</li> </ul>
<b>Natural Environment</b>	As with all community land on the island, the recreation precinct contains valuable natural features and habitats. In particular, the golf course contains: <ul style="list-style-type: none"> <li>▪ Marine/littoral habitat areas</li> <li>▪ Native fauna associated with the wetlands and the vegetation around the fairways</li> <li>▪ Foreshore vegetation</li> <li>▪ The proximity of the Melaleuca wetlands reserve to the Laurie Burns Recreation Area</li> </ul>
<b>Cultural &amp; Heritage (Golf Course)</b>	The golf course area contains a number of Aboriginal and European cultural heritage sites and artefacts. These include: <ul style="list-style-type: none"> <li>▪ Remains of shell middens and stone fish traps</li> <li>▪ Remnants of Doug Mortons railway</li> <li>▪ Concrete slabs from the Army amphibious training camp located there during WW2.</li> </ul>

#### 10.2.4 Management Intent and Outcomes

Key outcomes to be achieved in the Recreation Precinct are described below. These are listed for both precincts.

##### 10.2.4.1 Overview Precinct

The Recreation Precinct offers highly accessible recreation and sport facilities for the islands resident population. It will be managed so that these values and facilities are maintained and where possible enhanced. Where possible, the Laurie Burns Recreation Area will be developed so that it caters for the maximum possible recreation / sport options, including multi use fields and community facilities.

The co-use of community buildings (eg clubhouses, training facilities etc) is to be encouraged to limit duplication of resources and maximise functionality of buildings. Council, and the Island, does not have the capacity (space or financial) to provide buildings for each individual interest group on the Island.

### 10.2.5 Specific Management Issues

The specific management *problems* or *issues* within the Recreation Management Precinct that will need to be addressed to achieve the outcomes are listed below:

- ❖ Landscape separation between the Laurie Burns Recreation Area and the waste transfer facility;
- ❖ Linkages between the Laurie Burns Recreation Area and the Wetlands Reserve;
- ❖ Maintenance and management of the habitat values within the Golf Course;
- ❖ Conservation of the cultural heritage values of the Golf Course;
- ❖ Weed management; and
- ❖ Size and configuration of some sporting fields within the LBRA.

### 10.2.6 Proposed Management Actions

Management actions for the Recreation Precinct are outlined below. These actions are intended to:

- ❖ Achieve the outcome specified above; and
- ❖ Address specific management problems/issues within the precinct.

Timing for actions: - High indicates that it has a short term priority, Medium indicates that the timing for actioning or implementation is medium term, low indicates that the timing for actioning or implementation is longer term. Ongoing indicates that it is an ongoing management activity.

Issue	Management Actions	Timing	Comments
Recreation area development	Prepare site master plans to guide development for: <ul style="list-style-type: none"> <li>▪ Golf Course</li> <li>▪ Laurie Burns Recreation Area</li> </ul> These master plans to be inclusive of recreation facilities, habitat protection and significant trees.	Medium	The master plan for the Recreation Precincts will guide future land use and activities which could be undertaken as demographic and social needs change.
Recreation facilities	Develop and adopt an island design standard for all facilities (shelter sheds; toilets; seats; pathways; tracks)	Medium-high	To ensure that the design of facilities is within a design style adopted for the island
Environmental pests (plants and animals)	Prepare a weed management plan for the Golf Course, taking account of its natural values	High	As part of the Island wide environmental weed management program

## 10.3 Western Cliffs

### 10.3.1 Description

The Management Precinct called the Western Cliffs contains most of the western side of the island, with its northern boundary at the rocky bluff on the islands north-western corner, adjoining Morwong Beach. The southern precinct boundary abuts, but does not include, the Golf Club that occupies the south-western corner of the island.

The Western Cliffs precinct gains its name from the ridge of red volcanic soil and rock running north-south along the islands western side that drops off abruptly in parts to form steep slopes and cliffs falling almost to the waters edge. The cliffs are heavily vegetated and cannot be easily seen from the water or the mainland.

The ridge varies in height from about two metres at the southern end, up to approximately eleven metres near its northern end, and adjoins the highest part of the island in the vicinity of Oakes Street. The most accessible parts are in the southern section and vary in height from two to eight metres with much gentler slopes.

The precinct has no beach, however a narrow strip of flat land of varying width lies at the base of the main ridge and adjoins an extensive mangrove forest and mudflats that run the entire length of this side of the island. The exact location of the seaward boundary of the Victoria Parade esplanade is unclear within this precinct and needs to be located through survey to identify the extent of the area which is encompassed by this land management plan. On top of the ridge a roadway (Victoria Parade) runs the full length of the Management Area.

The Western Cliffs precinct may have been a part of the island that was well used by Aboriginal people. The area is rich in food resources and a number of artefacts have been found there including a set of stones that may have been used for grinding ochre or food preparation. The small caves in the northern headland may have been where the ceremonial red ochre was mined.

### 10.3.2 Existing Assets and Infrastructure

All the infrastructure within this precinct is found on the top of the ridge directly abutting the residential development and includes the sealed and unsealed sections of road.

Roadway	Flinders St, from Morwong Beach up to Victoria Pde, is unpaved. Victoria Pde is sealed for all its length. A number of side roads join Victoria Pde as it runs south to the Golf Club.
Storm water drainage	Low profile curb and channelling on Victoria Pde with a number of storm water grates and underground piping beneath the roadway. Storm water discharges overland and flows down the cliffs to the mangroves.
Footpaths	A grassed footpath or verge adjoins all the sealed roads with some street lighting and power poles. No paved footpaths.
Informal walking track	An informal track at the base of the cliffs runs from Morwong Beach to the Golf Club. The proposed recreation track (refer to Recreation Trail Plan, 2003) is not proposed to follow the entire length of this informal track.

### 10.3.3 Existing uses

Within the existing esplanade there are a number of land uses that can be distinguished:

Open space	Most of the precinct is undeveloped open space containing heavily vegetated native habitat and regrowth areas and a mowed grass verge next to the roadway. Informal recreational activities take place on
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	an individual basis, including walking, nature study, fishing and crabbing.
<b>Urban infrastructure</b>	See section above. The entire infrastructure is contained within a fairly narrow (15 - 20 m) esplanade corridor.

### 10.3.4 Values

<b>Natural Environment</b>	<ul style="list-style-type: none"> <li>▪ Diverse flora and vegetated areas</li> <li>▪ Native fauna reptiles, birds, mangrove crabs etc</li> <li>▪ Geology and soils red volcanic soils, rocky headland at northern end, rocky outcrops into the marine area</li> <li>▪ Significant old growth trees</li> <li>▪ Variety of landscapes and habitats - undeveloped / vegetated Foreshore &amp; intertidal areas</li> <li>▪ Adjoining mangroves forest/habitat</li> <li>▪ Recreational fishing &amp; crabbing</li> </ul>
<b>Foreshore Recreation</b>	<ul style="list-style-type: none"> <li>▪ Bay views / landscape amenity / sunsets</li> <li>▪ Nature study</li> <li>▪ Walking / exercise</li> </ul>
<b>Parks &amp; Facilities</b>	<ul style="list-style-type: none"> <li>▪ Landscape amenity</li> <li>▪ No existing facilities</li> </ul>
<b>Culture &amp; Heritage</b>	<ul style="list-style-type: none"> <li>▪ Sites of Aboriginal use and activity scar trees, caves (possible ochre mining), artefacts found in mangroves, fish traps on rocky point</li> <li>▪ European settlement heritage farming &amp; residential development (Mortons Steps &amp; walking platform in the mangroves).</li> </ul>

### 10.3.5 Management Intent and Outcomes

The Western Cliffs Precinct is one of the least developed parts of the island and offers accessible experiences of island geological features, native bushland areas and an extensive mangrove forest. The precinct contains diverse habitats and vegetation, and a number of Indigenous and European heritage sites.

The precinct will be managed to maintain and enhance its natural and cultural heritage assets and values, while allowing for some individual and small group recreational use. Public access and usage will be facilitated within the southern half of the precinct but with a minimum level of facilities. Use of the northern half of the precinct will not be encouraged and this area will be managed to protect its natural and cultural heritage values to the fullest extent.

The main facility to be developed within the precinct will be the recreational track and interpretive signage associated with it.

These management objectives will be attained through:

- ❖ Allowing a limited number of access points
- ❖ Improving recreational access along a designated pedestrian path
- ❖ Managing stormwater flows and discharges within the precinct to minimise erosion
- ❖ Monitoring vegetation clearing to prevent damage to natural bushland values
- ❖ Implementing environmental weed management and control programs in association with the local Bushcare Group to ensure the ongoing protection of the bushland values of the precinct
- ❖ Protecting and interpreting sites and artefacts of European heritage
- ❖ Verifying Indigenous cultural heritage sites and artefacts within the precinct and protecting these in a culturally appropriate manner

#### 10.3.5.1 Western Cliffs Precinct Management Areas

Management Area	Management intent	Outcomes
Foreshore Zone	To protect the environmental values of the Foreshore Zone	<ul style="list-style-type: none"> <li>❖ Provide limited pedestrian access through this zone</li> <li>❖ Remove all environmental weeds within this zone</li> </ul>
Intermediate Zone	To ensure the maximum environmental sustainability and enhancement of environmental values	<ul style="list-style-type: none"> <li>❖ Manage environmental weeds within this area</li> <li>❖ Ensure no clearing of native vegetation is carried out without Council approval</li> <li>❖ Encourage access within this area only along the defined recreational track</li> </ul>
Infrastructure Zone	To enable the location of all urban infrastructure and services within this management zone	<ul style="list-style-type: none"> <li>❖ All existing and future urban infrastructure and services to be located within this zone</li> <li>❖ minimising environmental impacts to the environmental values of the precinct and the island</li> <li>❖ Maintain legal access to all adjacent private properties</li> </ul>

### 10.3.6 Proposed Management Actions

Management actions for the Western Cliffs Management Precinct are outlined below. These actions are intended to:

- ❖ Achieve the outcome specified above; and
- ❖ Address specific management problems/issues within the precinct.

Timing for actions: - High indicates that it has a short term priority, Medium indicates that the timing for actioning or implementation is medium term, low indicates that the timing for actioning or implementation is longer term. Ongoing indicates that it is an ongoing management activity.

Issue	Management Actions	Timing	Comments
Recreation facilities	Restrict development of recreational infrastructure to those associated with the recreational track and the European heritage sites in the southern section of the precinct	Medium	Linked to Island Design & themes.
Foreshore protection / regeneration	Minimise all public access to the Foreshore area through design and location of recreation track.	High - medium	Note: - the Foreshore area along the western cliffs is the narrow area dominated by <i>Casuarina glauca</i> and <i>Hibiscus tiliaceus</i> immediately above the high water mark.
Habitat / bushland protection and rehabilitation	Close all informal tracks and rehabilitate eroded areas	High	This is linked to the development of the recreation track and the assessment of end-of-pipe of the stormwater outlets.
Stormwater management	Undertake end of pipe and down-slope erosion control works at all stormwater pipe outlets off Victoria Parade. All stormwater pipe outlets require assessment and monitoring for erosion and disturbance to the vegetation and mangrove areas below the end-of-pipe.	High	Stormwater flows from the new stormwater pipes emptying onto the western cliffs are resulting on erosion of the landscape below the end-of-pipe and sediment depositing onto the mangroves.
Heritage protection and conservation	Carry out condition auditing of all remaining European heritage artefacts. Implement interpretation and management recommendations for European settlement history.	High	Mortons Steps are dangerous and should not be used by the public.- leave site specific issue
	Include identified Aboriginal sites within a whole of island Archaeological Sites Management Plan	Medium	Long term protection of ochre collecting sites and any remaining artefacts is of high concern.

## 10.4 Morwong Beach

### 10.4.1 Precinct Description

The Morwong Beach Management Precinct contains the whole of the crescent shaped beach on the northern end of the island. It is bounded on the west by the rocky bluff that forms the islands north-western corner, and on the east by the low sandy point that forms the islands north eastern corner. The precinct also includes the section of beach on the eastern side of this sandy point. This eastern section of beach could be described as the northern-most part of Norfolk Beach.

The beach itself lies below a low ridge that runs east west across the island, and is similar in character to the other beaches on the island, having a fairly narrow strip of white sand between the high tide line and the beginning of the vegetated foreshore. The land immediately behind the beach slopes gently up to the unsealed road that forms the edge to residential subdivisions. The existing reserve varies in width from 20 to 80 metres and contains, apart from the roadway, a mix of cleared and semi-natural areas with native trees, grassed areas, and weeds. A number of cleared areas are now regularly mowed.

At the western end of the beach the landform rises to a rocky headland, which is the site of a disused quarry and important native habitat areas, possibly containing rare plants. North of the headland rocky outcrops continue out into the water. The headlands slope and its base are heavily vegetated and mangroves are well established in the inter-tidal area. At the eastern end of Morwong Beach a sandy point extends twenty metres or so out into the bay. Past this point the coastline turns abruptly south and reveals the red bedrock that lies beneath the 1.5 metre high foreshore that steps up abruptly from the beach. At some points along this east-facing beach the high tide level is against the rock and the beach is only accessible at low tide.

The beach and its adjoining shaded picnic areas are popular with residents and visitors as an informal alternative to Main Beach. A number of potential sites of Aboriginal cultural heritage have been identified within the precinct.

### 10.4.2 Existing Assets and Infrastructure

Most of the existing infrastructure is found in the road corridor that abuts the residential development. The table below details the above ground assets and infrastructure within the precinct that require management.

Roadway	Flinders St and the section of Victoria Pde in the precinct are unpaved. Bollards separate Foreshore areas from the roadway and parking areas along the road edge. Elizabeth St meets both Flinders and Victoria at the main visitor access area at Morwong Beach.
Boat ramp	The remains of a timber and chain boat ramp are found near the Nama St junction. A wide vehicle access way leads from Victoria Pde to the ramp. This ramp is due to be replaced by the Redland Shire Council.
Beach access points	The beach is easily accessible along most of its length, wherever there is a break in the generally sparse vegetation. Semi-formal access is evident at a number of points, eg Elizabeth St junction and boat ramp.
Car parking & turnaround area	Car parking is available along all roads and at the turnaround area at the eastern end of Victoria Pde.
Public toilets	A public toilet block is located on the eastern side of the junction with Elizabeth St.
Shade structures and seats	One shade structure and a number of seats are found at the main beach access at the junction with Elizabeth St. There are many mature trees providing shade along most of the Foreshore area.
Footpaths & other	No constructed footpaths exist but there are grassed verges on both sides of all roadways. Power poles and limited street lighting exists on the road verge close to residential dwellings.

### 10.4.3 Existing Uses

Morwong Beach is the second most utilised beach on the island. The main uses and visitor activities are summarised below.

<b>Open space</b>	Most of the area is undeveloped open space containing heavily vegetated native habitat and regrowth areas and a mowed grass verge next to the roadway. Informal recreational activities take place on an individual basis, including walking, nature study, fishing and crabbing.
<b>Urban infrastructure</b>	See section above. Most infrastructure is close to or within a existing constructed road corridor.
<b>Recreation</b>	The Beach and Foreshore areas are used for recreational purposes. Large grassed areas are available for picnics and other informal recreational activities. Bollards and fencing separates the roadway and parking areas from recreational areas.
<b>Bushland rehabilitation</b>	The Foreshore areas have been fenced off into three separate sections and signed to discourage pedestrian access. Unfenced areas at the eastern end of the Precinct are also relatively unused and in a semi-natural state.

#### 10.4.4 Values

The environmental, social and cultural values present within the Management Precinct are summarised below:

<b>Natural Environment</b>	<ul style="list-style-type: none"> <li>▪ Marine/littoral habitat areas</li> <li>▪ Rare native plants - north-west bushland above the old quarry</li> <li>▪ Native fauna reptiles, birds, crabs, etc</li> <li>▪ Sandy Beach and shallows</li> <li>▪ Sandy / rocky point with vegetation (eastern end)</li> <li>▪ Rocky point with mangroves (western end)</li> <li>▪ Foreshore vegetation</li> <li>▪ Vegetation regeneration areas</li> <li>▪ Storm water drain/creek</li> <li>▪ The northern bushlands containing endangered Regional Ecosystem (12.5.3 - <i>Eucalyptus tindaliae</i> ± <i>E. racemosa</i> open forest on remnant Tertiary surface. Deep red soils.)</li> </ul>
<b>Recreation</b>	<ul style="list-style-type: none"> <li>▪ Swimming, wading and sunbathing areas</li> <li>▪ Beach access ways (informal)</li> <li>▪ Boat ramp / launching area</li> <li>▪ Recreational fishing, bait collecting, etc</li> <li>▪ Boating and jet ski activity</li> </ul>
<b>Parks &amp; Facilities</b>	<ul style="list-style-type: none"> <li>▪ Landscape amenity</li> <li>▪ Open grassed areas (separated from road with bollards)</li> <li>▪ Public toilets</li> <li>▪ Picnic shelter and tables</li> <li>▪ Seating</li> <li>▪ Vehicle parking along roadways</li> </ul>
<b>Culture &amp; Heritage</b>	<ul style="list-style-type: none"> <li>▪ Indigenous shell middens and their surrounding areas (stone implements) at the main beach access area and within the eastern corner/point. The middens are covered in grass and not obvious to the casual observer.</li> <li>▪ Possible smoking / cooking tree (main access area)</li> </ul>

#### 10.4.5 Management Intent and Outcomes

Morwong Precinct offers an accessible but more low key beach experience when compared to Main Beach. The precinct also offers experiences of natural areas on both the eastern and western headlands, with the presence of diverse habitats and vegetation, and a number of Aboriginal heritage sites.

The precinct will be managed to maintain and enhance its natural and cultural assets and values, while allowing for small group day recreational use. The area will not be developed for use by larger groups, which would require increased facilities and/or extensive car parking. Areas of regeneration will be expanded, while developing and maintaining more defined visitor picnic areas and beach access walkways.

These management objectives will be attained through:

- ❖ Clearly defining the formal and informal recreation areas within the precinct in keeping with the protection and enhancement of the environmental values within the precinct
- ❖ Defining a limited number of beach access points
- ❖ Improving access through and along the precinct for pedestrian and cycling activities
- ❖ Improving boat access at this end of the island through replacement of the boat ramp
- ❖ Implementing environmental weed management and control programs in association with the local Bushcare Group to facilitate the rehabilitation of the bushland values of the precinct
- ❖ Verifying the cultural heritage sites and artefacts within the precinct and protecting these in accordance with the desires of the local Aboriginal community

##### 10.4.5.1 Morwong Beach Precinct Management Areas

Management Area	Management intent	Outcomes
Beach Zone	To provide a safe, clean and environmentally sustainable area for beach users	<ul style="list-style-type: none"> <li>▪ Litter free beach environment</li> </ul>

		<ul style="list-style-type: none"> <li>▪ Safe environment for water and beach based informal recreational activity</li> </ul>
Foreshore Zone	To protect and enhance the environmental values of the Foreshore Zone	<ul style="list-style-type: none"> <li>▪ Rehabilitate the Foreshore Zone</li> <li>▪ Remove all environmental weeds</li> <li>▪ Provide a limited number of clearly defined pedestrian access paths through this Zone</li> </ul>
Intermediate Zone	To facilitate a range of recreational activities valued by the community while ensuring environmental sustainability and the enhancement of existing environmental values	<ul style="list-style-type: none"> <li>▪ Define and manage the informal recreational areas for small groups</li> <li>▪ Manage environmental weeds within the bushland elements of this Zone</li> <li>▪ Ensure no clearing of native vegetation is carried out without Council approval</li> <li>▪ Allow suitable recreation uses and access within this zone</li> </ul>
Infrastructure Zone	To enable the location of all urban infrastructure and services within this management zone	<ul style="list-style-type: none"> <li>▪ All existing and future urban infrastructure and services to be located within this Zone</li> <li>▪ Minimising environmental impacts to the environmental values of the precinct and the island</li> <li>▪ Maintain legal access to all adjacent private properties</li> </ul>

#### 10.4.6 Proposed Management Actions

Management actions for Morwong Beach Management Precinct are outlined below. These actions are intended to:

- ❖ Achieve the outcome specified above; and
- ❖ Address specific management problems/issues within the precinct.

Timing for actions: - High indicates that it has a short term priority, Medium indicates that the timing for actioning or implementation is medium term, low indicates that the timing for actioning or implementation is longer term. Ongoing indicates that it is an ongoing management activity.

Issue	Management Actions	Timing	Comments
Beach management	Relocate all bins from the Beach to the Intermediate Zone. Bins should be co-located at beach access points to increase usability.	High - Medium	
Beach access	Provide beach access in conjunction with informal recreation / picnic areas (as indicated on precinct drawings) Redevelop the main beach access area at the junction of Elizabeth St & Victoria Pde	High	A large number of access points currently exist. The number of access points to be reduced and linked to defined recreational open spaces.  The main access area is degraded and cannot sustain the existing intensity of usage.
	Erect signs to identify beach access points	Medium	New signs to conform with the Island Signage Plan and Design Code
Foreshore protection / regeneration	Relocate any picnic / recreational infrastructure (eg picnic tables, bins; shelter sheds) from the Foreshore Area to the Intermediate Area	High - Medium	Further foreshore protection will require formalisation of beach access and recreation areas. The replacement of picnic/recreation infrastructure may be undertaken as required. However, it would be reasonable to expect that all items to be relocated following the development of a park masterplan for the area.
Recreation facilities	Clearly identify areas of developed parkland and open space available for community use.	High - Medium	Potential sites for the development of recreation areas within the intermediate area are identified on Drawing DWG-07. Details are subject to a park masterplan process.
	Progressively redevelop picnic and other informal facilities (shelter sheds, seats, toilets, pathways, bollards, fencing)	Medium	As per masterplan requirements.
Habitat bushland protection	Close all informal tracks and rehabilitate	High	

and rehabilitation	Develop and implement a vegetation management plan for the old quarry site and north western bushland area	Medium	Undertake this work in collaboration with island Bushcare Groups
	Develop and implement a vegetation management plan for the eastern headland bushland area	Medium - Low	Outline the vegetation plan within the context of the island Archaeological Sites Management Plan
Environmental pests (plants and animals)	Undertake a removal and control program for climbing asparagus ( <i>Asparagus africanus</i> )	High - ongoing	Urgent
	Undertake a removal and control program of mother of millions ( <i>Bryophyllum spp</i> )	High - ongoing	Urgent
Vehicular access and car parking	Clearly define vehicular access ways throughout the precinct and include curbing and other physical barriers where necessary to prevent vehicle access beyond the Infrastructure Management Area.	Medium	Boat ramp will require special treatments and signage.
	Clearly define vehicle parking areas within the precinct.	Medium	
	Limit formal car parking areas to a size that is appropriate to the intended level of usage of the facility or area being serviced.	Medium	
	Provide suitable facilities for bus parking and turn-around.	Low	
Road management	Seal all remaining gravel roads to reduce the dust nuisance	Ongoing	Council has a works plan to seal the remaining roads on the island
	Close old quarry road and associated hardstand at the western end of the precinct. Replace the road with a recreational track.	Medium - Low	Relocate hardstand/materials storage to the Council waste transfer station area in the middle of the island
Heritage protection and conservation	Identify and verify all Aboriginal and European sites of significance within the precinct	Medium	Long term protection of shell middens is of high concern.

## 10.5 Melaleuca Wetland

### 10.5.1 Description

The Melaleuca Wetlands Management Precinct is located to the central east of the island (refer drawing DW-08) . The area contains a large area of Melaleuca Wetlands, hence the name, located on a drainage line which drain the majority of the island along a low profile drainage line which eventually empties into Moreton Bay along Norfolk Beach.

The area is predominantly vegetated with the exception of a closed track which cuts through the reserve to link the residential area on the north eastern part of the island to Elizabeth Street.

Abutting the precinct on its south-east corner is the Recreation Precinct Laurie Burns Recreation Area which also contains the Waste transfer Station. This area has been separated from the Melaleuca Wetlands Management Precinct as the activities within this area are significantly different to warrant its location within its own management area.

A species list of flora and fauna which have been identified within the Melaleuca Wetlands Reserve is contained in Appendix II and III

Significant flora species include: -

- ❖ *Phaius australis* (Swamp orchid) a significant orchid species within wetland habitats throughout southeast Queensland
- ❖ *Eucalyptus racemosa* (Scribbly gum) a significant habitat tree on Coochiemudlo Island and particularly within the Melaleuca Wetlands;

### 10.5.2 Existing Assets and Infrastructure

The infrastructure is located throughout the precinct. The existing assets and infrastructure can be described as:

Tracks	An informal track traverses the north-western portion of the precinct between Innes St and Elizabeth St. This track has a lock rail gate at either end and regulatory signage also at either end of the track.
Pedestrian track	A walking track links the beach to Innes St on the precincts northern boundary.
Beach access point	A single informal beach access point is located at the end of the Innes St walking track.

### 10.5.3 Existing uses

Open space	The open space area is a conservation area for the protection of the islands biodiversity and particularly the wetland values of the reserve.
Recreation	Minimal recreation use is undertaken within the precinct with the exception of a walking track linking the Norfolk Beach to Innes St.

### 10.5.4 Values

Natural Environment	<ul style="list-style-type: none"> <li>▪ The Melaleuca wetlands and the semi-permanent wetland area;</li> <li>▪ The location of the <i>Phaius australis</i> (Swamp orchid);</li> </ul>
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	<ul style="list-style-type: none"> <li>▪ The presence of numerous large Scribbly gums providing a wealth of habitat opportunities for a wide range of fauna species;</li> <li>▪ This large area of natural bushland also provides a significant windbreak for a large part of the island;</li> </ul>
Recreation	<ul style="list-style-type: none"> <li>▪ The precinct provide little recreation activity as there is little infrastructure in place within the precinct. However, activities such as nature appreciation and bird watching are catered for in an informal manner via the existing walking track and the ability to penetrate into the Reserve through the bushland.</li> <li>▪ It is noted that the community has expressed a desire that there be very limited development of recreation infrastructure within the precinct with the exception of a recreation track which links Innes St on the northern boundary to James St on the southern boundary.</li> </ul>
Parks & Facilities	<ul style="list-style-type: none"> <li>▪ Nil.</li> </ul> <p>The Laurie Burns Recreation Area has been described separately from the Melaleuca Wetlands Precinct.</p>
Culture & Heritage	<ul style="list-style-type: none"> <li>▪ a reported midden site is located within the foredunal area of the precinct. This site has not been verified or located</li> <li>▪ the area potentially was a resource as the whole island was for Aboriginal people who visited the island.</li> </ul>

### 10.5.5 Management Intent and Outcomes

Key outcomes to be achieved for Melaleuca Wetlands Precinct are described below. These are listed for both the precinct as a whole and for individual management areas.

#### 10.5.5.1 Overview Precinct

The principal management objective of the Melaleuca Wetlands Precinct is for conservation and protection of the Reserves biodiversity. These management objectives will be attained through:

- ❖ Implementing an appropriate fire management program;
- ❖ Undertaking active management of significant environmental weeds within the area;
- ❖ Managing dumping of garden waste
- ❖ Managing stormwater quality that enters the wetlands.

#### 10.5.5.2 Melaleuca Wetlands - Management Areas

Management Area	Management intent	Outcomes
Beach Zone	Limit recreational use in this zone	❖ Minimal recreational activity within this Zone
Foreshore Zone	To protect and enhance the biodiversity values of this Zone	<ul style="list-style-type: none"> <li>❖ Remove all environmental weeds</li> <li>❖ Formalise and control pedestrian access through this Zone</li> </ul>
Inner Island Zone	<p>To protect and enhance the biodiversity values and drainage values of the Zone</p> <p>To provide recreational linkage through the area to other precincts</p>	<ul style="list-style-type: none"> <li>❖ management of fuels and hazards</li> <li>❖ control of Environmental weeds</li> <li>❖ provide safe pedestrian and cycling access through this Zone</li> </ul>

### 10.5.6 Specific Management Issues

Environmental weeds	<p>The Melaleuca Wetlands is in relatively good state compared to other areas within the island with respect to the impact or invasion of environmental weed species.</p> <p>The perimeter of the reserve has been degraded by the adjacent land use through indiscriminate vegetation removal and through the dumping of garden waste. These activities have provided a conduit for the introduction of environmental weed species into the reserve.</p> <p>Species which are a problem include: -</p> <ul style="list-style-type: none"> <li>○ African asparagus (<i>Asparagus africanus</i>)</li> <li>○ Camphora laurel (<i>Cinnamomum camphora</i>)</li> <li>○ Chinese elm (<i>Celtis sinensis</i>)</li> <li>○ Fishbone fern (<i>Nephrolepis cornifolia</i>)</li> <li>○ Guinea grass (<i>Panicum maximum</i>)</li> <li>○ Para grass (<i>Brachiaria mutica</i>)</li> </ul>
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	<ul style="list-style-type: none"> <li>o Singapore daisy (<i>Sphagneticola trilobata</i>) previously (<i>Wedelia trilobata</i>)</li> </ul>
<b>Bushfire</b>	<p>The vegetation within the reserve is a fire dependant vegetation community which requires fire as part of its ecological cycle. Fire provides new opportunities for many plant species as well as some fauna species to initiate a seeding and germination cycle during a period when resources such as sunlight and nutrients are available.</p> <p>Additionally, bushfire can be a hazard to adjacent residential areas and a hazard to the natural ecosystem depending on fire frequency and intensities.</p> <p>Firebreaks exist along all boundaries of the management area in the form of formed firebreaks (Class 2/3) along the southern boundary and roads along the northern and western boundaries. The eastern boundary is protected by Moreton Bay.</p>
<b>Public access</b>	A small informal access track exists on the north-eastern section of the reserve. This track links Innes St to Norfolk Beach through the coastal bushland within the esplanade which is included within the Melaleuca Wetlands Precinct

### 10.5.7 Proposed Management Actions

Management actions for Melaleuca Wetlands Management Precinct are outlined below. These actions are intended to:

- ❖ Achieve the outcome specified above; and
- ❖ Address specific management problems/issues within the precinct.

Timing for actions: - High indicates that it has a short term priority, Medium indicates that the timing for actioning or implementation is medium term, low indicates that the timing for actioning or implementation is longer term. Ongoing indicates that it is an ongoing management activity.

Issue	Management Actions	Timing	Comments
<b>Beach management</b>	Don't provide any recreation facilities apart from beach access from the recreation track, within the beach area of this precinct.	Ongoing	While it is recognised the beach within this precinct will continue to be utilised by the community the level of use can be minimised through not providing any formal picnic / recreational facilities such as seats, shelter sheds etc.
<b>Beach access</b>	Provide beach access in conjunction with the recreation track (as indicated on precinct drawings, DW-08)	High - Medium	
<b>Foreshore protection / regeneration</b>	Relocate the existing pedestrian track which links the beach to Innes St away from the Foreshore area to the Inner Island area. (See drawing DW-08)	High - Medium	A portion of the existing track is located within the area designated as the Foreshore Area. In accordance with the management objectives of this area the track may be relocated to the area designated as Inner Island subject to an assessment of site-specific environmental impacts. This will be undertaken during the construction of the recreation trail through the Melaleuca Wetlands Reserve between James St and Innes St.
<b>Habitat / bushland protection and rehabilitation</b>	Close all informal tracks and rehabilitate	High - Medium	

## 10.6 Norfolk Beach

### 10.6.1 Description

Norfolk Beach is located along the eastern side of the island abutting Main Beach in the south and the Melaleuca Wetlands in the north.

The precinct contains a small toilet block and an open area used for informal picnicking. The Foreshore has been undergoing rehabilitation for the local island bushcare group following many years of use and degradation of the foreshore vegetation.

The precinct also contains the site of the reported landing spot for Explorer and Sailor Matthew Flinders, when he sailed through Moreton Bay in 1799 looking for the mouth of the Brisbane River.

The precinct contains two ironbarks which have scars on their trunks. These scars have not been verified as having any cultural heritage value and an investigation should be undertaken to determine their authenticity or relationship to local Traditional landowners.

The precinct also contains the rusting remnants of the wreck of the Carefree a small boat which was used in Moreton Bay.

The vegetation within the southern portion of the precinct is dominated by Bribie pine (*Callitris columellaris*) and horse-tail sheoak (*Casuarina equisetifolia*). Other tree species such as Grey ironbark (*Eucalyptus siderophloia*) and Pink Bloodwood (*Corymbia intermedia*) also occur in this area. Hickory wattle (*Acacia disparrima*) dominates the understorey. The groundcover is dominated by African asparagus (*Asparagus africanus*).

Norfolk Beach provides a range of recreation opportunities from swimming and fishing and sunbaking to picnicking, walking, and dog walking (Intermediate Zone, not permitted in Beach Zone).

Norfolk Beach is relatively different from the other two beach areas in that the area beyond the beach is deeper and therefore suitable for fishing and swimming during mid tidal periods. Low tides expose coral growths and stones making swimming restrictive and unpleasant at this time. It has been reported that the tidal currents off Norfolk Beach are also greater than the other two beaches.

### 10.6.2 Existing Assets and Infrastructure

The infrastructure is located throughout the precinct. The existing assets and infrastructure can be described as:

<b>Roadway</b>	<p>The section of Victoria Parade has been formed and sealed adjacent to the properties that also have a frontage onto the northern end of Phillips St.</p> <p>Additionally a formed gravel road also links the section of Victoria Parade which provides access to the southern end of Phillips St to the eastern end of James St.</p>
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<b>Pedestrian stairs</b>	A set of pedestrian stairs provide access to the Norfolk Beach and Foreshore form a pedestrian easement between Phillips St and Victoria Parade. These are concrete stairs with a park bench at the top of the stairs.
<b>Beach access point</b>	The Foreshore of Norfolk Beach has been fenced to protect the regeneration of the foredune area. This fencing provides for beach access through the regeneration area. Approximately four beach access points provide access from the gravel road to the beach.  The southern portion of the precinct has no fencing and the beach access is provided by several informal tracks.
<b>Historic monuments</b>	The monument identifying the location of Matthew Flinders landing on the island is located opposite the toilet facilities within a fenced off section of the Foreshore area. A beach access track is not located adjacent to this monument to allow it to be easily accessed by island visitors
<b>Picnic facilities</b>	An open area extends from James St. to the toilet block containing two formal picnic tables and a BBQ.  Another picnic table is located in the southern portion of the precinct within reach of the beach. This table appear to be relocatable by the users depending on their needs eg shade or sun.

### 10.6.3 Existing uses

<b>Open space</b>	The open space usage within the precinct is located in the maintained area between the James St access point and the toilet facilities. Additionally the entire length of the beach is used informally for fishing and swimming.  Informal recreational activities are undertaken by individuals and in small to large family groups. Norfolk Beach accepts overflow from Main Beach during peak visitation times in public holidays and during weekends on School Holidays.
<b>Urban infrastructure</b>	A gravel road links Main Beach to James St and is located within the Victoria Parade esplanade. While this does provide easy access between these two points the road traverses an area close to the beach and well within the designated Foreshore area.
<b>Recreation</b>	Recreational activities within this precinct are varied and utilises both the beach as the primary resource and the maintained picnic areas when utilised by both longer term and day visitors.  The vehicular access to the whole of the precinct facilitates the variety of recreation activities and its secluded nature allows this area to be used by local residents as well as island visitors.
<b>Cultural and historic heritage</b>	The location of the Flinders Landing monument provides some minor visitation to the precinct potentially linked to other activities and utilised as part of the local guiding of island tourists utilising the local bus service.
<b>Bushland/Foreshore rehabilitation</b>	A significant portion of the northern section and two areas in the southern section of the precinct have been fenced off in accordance to guidelines produced by the Beach Protection Authority for rehabilitation of the degraded Foreshore area.

### 10.6.4 Values

<b>Natural environment</b>	<ul style="list-style-type: none"> <li>▪ Marine/littoral habitat areas</li> <li>▪ Native fauna</li> <li>▪ Sandy beach shallows and holes</li> <li>▪ Sandy/rocky points with vegetation (southern end)</li> <li>▪ Foreshore vegetation (degraded)</li> <li>▪ Bushland vegetation behind the foredunal area</li> <li>▪ Significant trees/habitat trees</li> </ul>
<b>Recreation</b>	<ul style="list-style-type: none"> <li>▪ Swimming, fishing and other beach based recreation/leisure activities</li> <li>▪ Walking and dog walking both on the beach and the gravel road</li> <li>▪ Sight seeing/visual amenity out to the Bay and other islands.</li> <li>▪ Dinghy parking on the Foreshore in the southern portion</li> </ul>
<b>Parks &amp; facilities</b>	<ul style="list-style-type: none"> <li>▪ Picnic area in the northern portion of the</li> </ul>

	<p>precinct</p> <ul style="list-style-type: none"> <li>▪ Informal area in the southern portion</li> <li>▪ Toilet facilities associated with the northern picnic area</li> <li>▪ Beach access points</li> <li>▪ Stairs linking the pedestrian easement between Phillips St and Victoria Parade</li> </ul>
Cultural & historic heritage	<ul style="list-style-type: none"> <li>▪ Matthew Flinders Monument</li> <li>▪ Possible tree scars</li> <li>▪ Wreck of the Carefree</li> </ul>

### 10.6.5 Management Intent and Outcomes

Key outcomes to be achieved for Norfolk Beach Precinct are described below. These are listed for both the precinct as a whole and for individual management areas.

#### 10.6.5.1 Overview Precinct

Norfolk Beach offers an informal water and beach based recreational experiences. Additionally, the precinct provides bushland and experiences through the presence of sites and artefacts relating to the islands cultural and historic heritage.

The precinct will be managed to facilitate ongoing informal water and beach based recreation activities while protecting and rehabilitating the environmental/vegetation values within the precinct. These management objectives will be attained through:

- ❖ Defining the informal recreation areas within the precinct (see drawing no 9)
- ❖ Facilitating and improving access through and along the precinct for pedestrian and cycling activities
- ❖ Reallocate the majority of the Victoria Parade esplanade in this area to reserve purposes (Beach, Foreshore and Intermediate Zones as shown on Drawing 09);
- ❖ Maintain the existing gravel road as vehicle access through the reserve;
- ❖ Developing pedestrian and cycling linkages to Main and Morwong Beaches
- ❖ Developing appropriate vehicular access to the precinct which is in keeping with the protection and enhancement of the environmental values within the precinct
- ❖ Implementing environmental weed management and control programs in association with the local Bushcare Group to facilitate the rehabilitation of the bushland values of the precinct
- ❖ Verifying the cultural heritage artefacts within the precinct and protecting these in accordance with the desires of the local Aboriginal community

#### 10.6.5.2 Norfolk Beach Precinct Management Areas

Management Area	Management intent	Outcomes
Beach Zone	To provide a safe and environmentally sustainable area for users	<ul style="list-style-type: none"> <li>❖ Litter free environment</li> <li>❖ Safe environment for water and beach based informal recreational activity</li> </ul>
Foreshore Zone	The protect and enhance the environmental values of this area	<ul style="list-style-type: none"> <li>❖ Rehabilitate the Foreshore Zone</li> <li>❖ Remove all environmental weeds</li> <li>❖ Provide pedestrian access through this zone</li> </ul>
Intermediate Zone	To management the area to achieve recreational and environmental outcomes	<ul style="list-style-type: none"> <li>❖ Define and manage the informal recreational areas for small groups</li> <li>❖ Manage environmental weeds within the bushland elements of this zone</li> <li>❖ Develop suitable recreation access through this Zone</li> <li>❖ Toilet facilities and buildings are to be located in this Zone and on the landward side of the zone in close proximity to the Infrastructure Zone.</li> </ul>
Infrastructure Zone	The enable the location of all infrastructure and services.	<ul style="list-style-type: none"> <li>❖ Where possible, all existing and future infrastructure and services to be located within this zone.</li> <li>❖ Minimise environmental impacts to the environmental values of the precinct and the island</li> <li>❖ Maintain legal access to all adjacent private properties</li> </ul>

### 10.6.6 Proposed Management Actions

Management actions for Norfolk Beach Management Precinct are outlined below. These actions are intended to:

- ❖ Achieve the outcome specified above; and
- ❖ Address specific management problems/issues within the precinct.

Timing for actions: - High indicates that is has a short term priority, Medium indicates that the timing for actioning or implementation is medium term, low indicates that the timing for actioning or implementation is longer term. Ongoing indicates that it is an ongoing management activity.

Issue	Management Actions	Timing	Comments
Beach management	Relocate all bins from the Beach and Foreshore Zones to the Intermediate Zone. Bins should be co-located at beach access points to increase usability.	High	Bins are located in the southern portion of the precinct.
Vehicle access	Maintain existing vehicle access through the newly created reserve between Phillips and James Streets. Relocate the existing roadway away from the Foreshore Zone into the Intermediate Zone. Carparking is to be designed to minimise the removal or impact to existing vegetation (exact locations subject to park masterplan process).	High	Encourage the use of other roads to access parts of Norfolk Beach.
Beach access	provide beach access in conjunction with informal recreation / picnic areas (as indicated on precinct drawings)	Medium	Good beach access points exist and link to the recreation and existing infrastructure in the central and northern portions of the precinct.  Further Foreshore protection will require formalisation of beach access in the southern portions.
	Erect beach access signs to identify beach access points (as per Sign Plan).	Medium	
Habitat / bushland protection and rehabilitation	Remove / control all significant environmental weeds within bushland areas.	Ongoing	Continue to support of Bushcare Groups activities. Augment with Council Staff &/or contract work focussed on Asparagus removal in the southern and central portion of the precinct
Environmental pests (plants and animals)	Undertake a removal and control program for climbing asparagus ( <i>Asparagus africanus</i> )	High - ongoing	Urgent
	Undertake a removal and control program of mother of millions ( <i>Bryophyllum spp</i> )	Medium ongoing	Urgent
Fire hazard management	Ensure adequate fire protection exists adjacent to all private properties where they abut reserve land	ongoing	Communities within this precinct are not fire dependant.
Interpretation and education	Develop an island interpretation plan inclusive of all signage, entry statements, brochures, track signage, historic site signage and habitat / tree signage. Items of concern within the precinct include <ul style="list-style-type: none"> <li>❖ Matthew Flinders Monument</li> <li>❖ Scare trees</li> <li>❖ Wreck of the Carefree</li> </ul>	Medium	Island wide plan

## References

- Batianoff, Gn. & Esol. JA. 1989. *Vegetation of the Sunshine Coast Description and Management*. Queensland Botany Bulletin No. 7. QDPI.
- Beckmann, C.G., Hubble, G.D. and Thompson C.H. (1987) *The Soil Landscapes of Brisbane and South-eastern Environs*, Australia: CSIRO.
- Caneris, A. 1999. *Incidental Fauna Survey of Coochiemudlo Island*. Unpublished.
- EGIS, 2002. EGIS Consulting Australia, Doc No V21211-TR-D001 Landfill Remediation Assessment program Coochiemudlo Is, Lamb Is, Middle St and Wilson St.
- Gasteen, D. 1993. *Flora and Fauna descriptions for the Melaleuca Wetlands Reserve Coochiemudlo Island*. Unpublished.
- Langford, 2003. personal communications.
- Olsen, M. 2001. *Vegetation Survey of Redland Shire*. Unpublished.
- RF&A. 2002. *Fire Break Assessment Report*. Redland Shire Council (Unpublished).
- Willmott. W & Stevens. N 1992. *Rocks and Landscapes of Brisbane & Ipswich*. Geological Society of Australia, Qld.

## Appendices

- Appendix 1 Management Precinct Drawings
- Appendix 2 Flora Species List
- Appendix 3 - Fauna Species List
- Appendix 4 Climatic Averages
- Appendix 5 Beach Protection Authority Guidelines
- Appendix 6 Summary of consultation workshops
- Appendix 7 Proposed Coochiemudlo Island Surf Life Saving Club facility

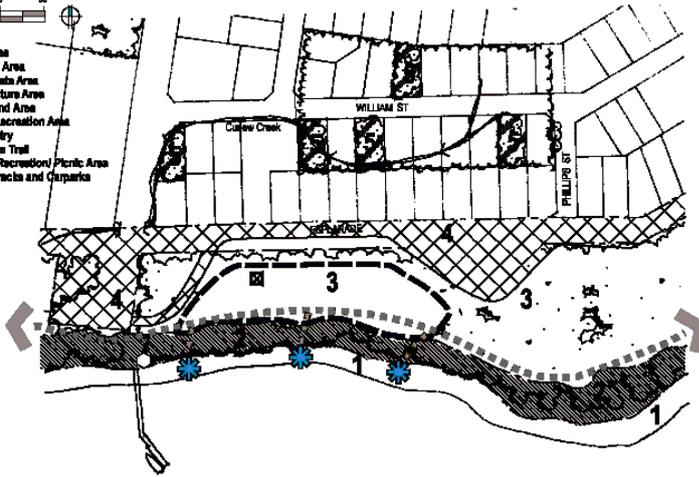
### Appendix 1 Management Precinct Drawings

### coochiemudlo island land management plan

Management Precinct: Main Beach East



- 1 Beach Area
- 2 Foredune Area
- 3 Intermediate Area
- 4 Infrastructure Area
- 5 Inner Island Area
- 6 Sport & Recreation Area
- Beach Entry
- ⊞ Recreation Trail
- ⊞ Informal Recreation/ Picnic Area
- ⊞ Vehicle Tracks and Carparks



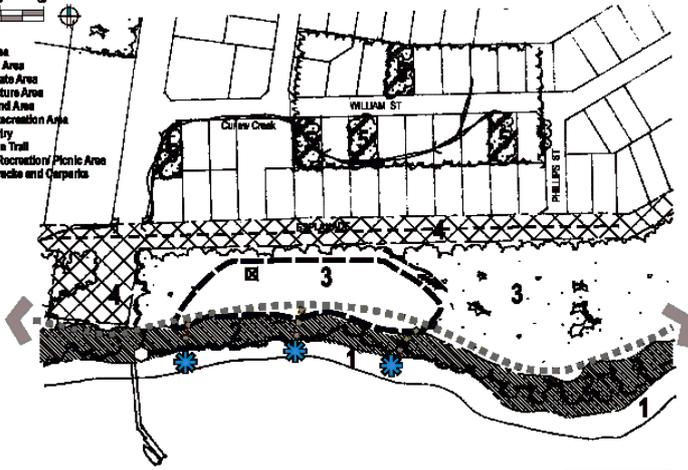
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### coochiemudlo island land management plan

Management Precinct: Main Beach East



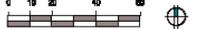
- 1 Beach Area
- 2 Foredune Area
- 3 Intermediate Area
- 4 Infrastructure Area
- 5 Inner Island Area
- 6 Sport & Recreation Area
- Beach Entry
- ⊞ Recreation Trail
- ⊞ Informal Recreation/ Picnic Area
- ⊞ Vehicle Tracks and Carparks



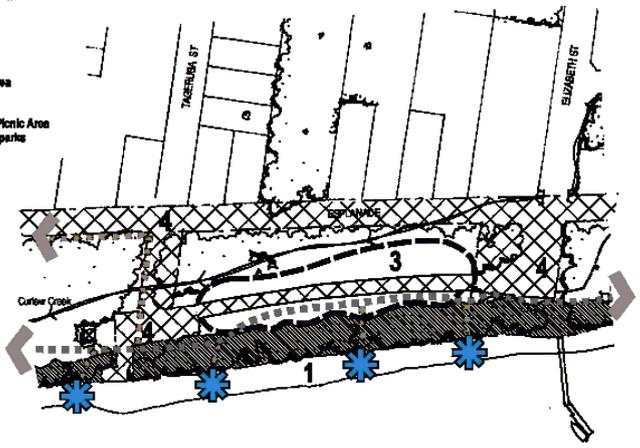
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### coochiemudlo island land management plan

Management Precinct: Main Beach Central



- 1 Beach Area
- 2 Foredune Area
- 3 Intermediate Area
- 4 Infrastructure Area
- 5 Inner Island Area
- 6 Sport & Recreation Area
- Beach Entry
- ⊞ Recreation Trail
- ⊞ Informal Recreation/ Picnic Area
- ⊞ Vehicle Track and Carpark

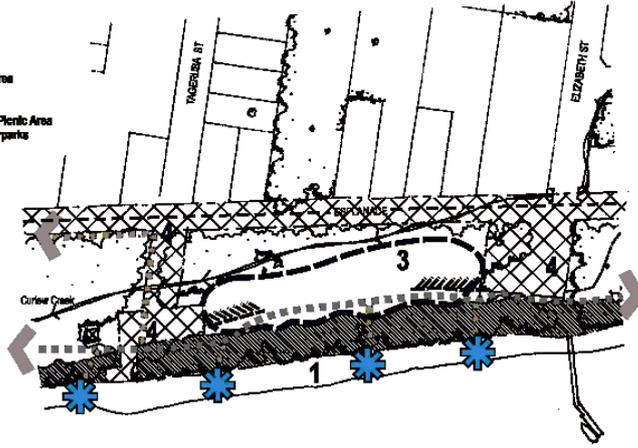


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### coochiemudlo island land management plan

Management Project: Main Beach Central

- 0 10 20 40 60
- 1 Beach Area
  - 2 Foredune Area
  - 3 Intermediate Area
  - 4 Infrastructure Area
  - 5 Inner Island Area
  - 6 Sport & Recreation Area
  - Beach Entry
  - ⊞ Recreation Trail
  - ⊞ Informal Recreation/ Picnic Area
  - ⊞ Vehicle Track and Carparks

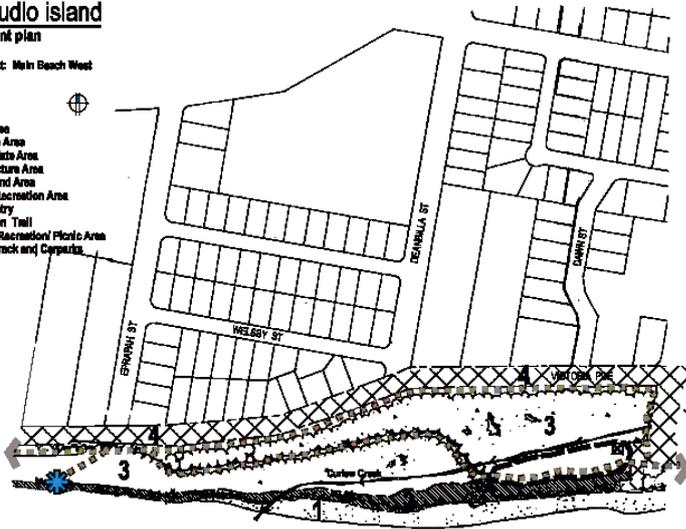


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### coochiemudlo island land management plan

Management Project: Main Beach West

- 0 10 20 40 60
- 1 Beach Area
  - 2 Foredune Area
  - 3 Intermediate Area
  - 4 Infrastructure Area
  - 5 Inner Island Area
  - 6 Sport & Recreation Area
  - Beach Entry
  - ⊞ Recreation Trail
  - ⊞ Informal Recreation/ Picnic Area
  - ⊞ Vehicle Track and Carparks

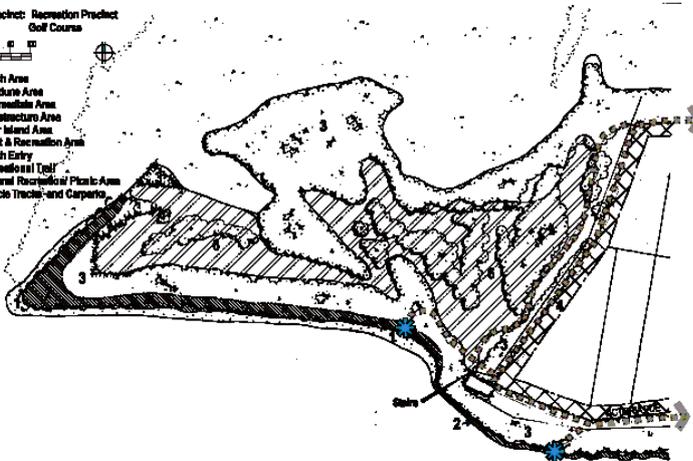


DWG: No: 04

### coochiemudlo island land management plan

Management Project: Recreation Project  
Golf Course

- 0 10 20 40 60
- 1 Beach Area
  - 2 Foredune Area
  - 3 Intermediate Area
  - 4 Infrastructure Area
  - 5 Inner Island Area
  - 6 Sport & Recreation Area
  - Beach Entry
  - ⊞ Recreation Trail
  - ⊞ Informal Recreation/ Picnic Area
  - ⊞ Vehicle Track and Carparks



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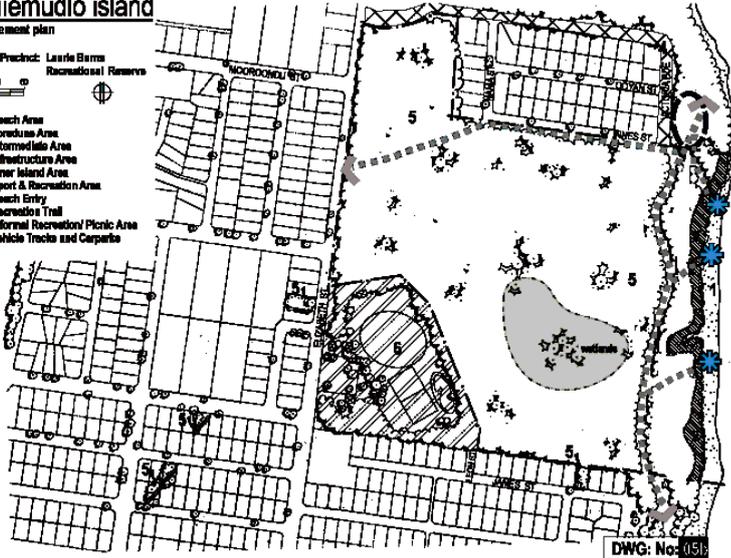
### coochiemudlo island

land management plan

Management Precinct: Laurie Barrs  
Recreational Reserves



- 1 Beach Area
- 2 Foredune Area
- 3 Intermediate Area
- 4 Infrastructure Area
- 5 Inner Island Area
- 6 Sport & Recreation Area
- 7 Beach Entry
- 8 Recreational Trail
- 9 Informal Recreation/ Picnic Area
- 10 Vehicle Tracks and Carparks



DWG: No: 051

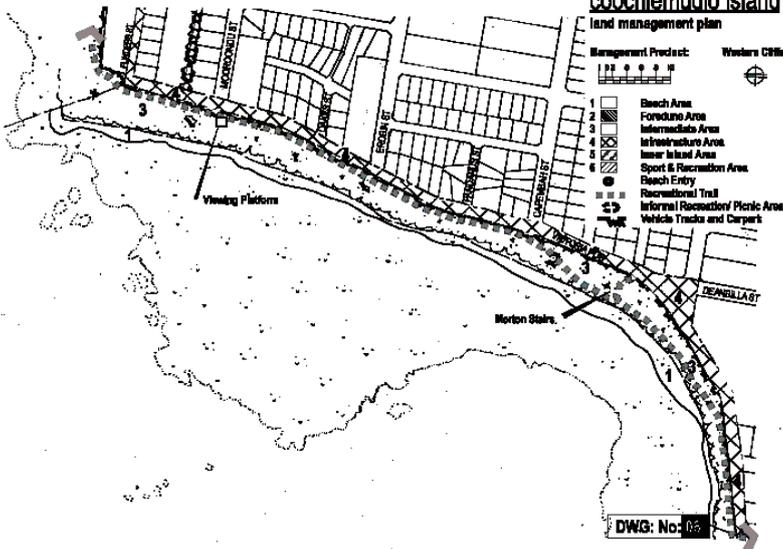
### coochiemudlo island

land management plan

Management Precinct: Western Cliffs



- 1 Beach Area
- 2 Foredune Area
- 3 Intermediate Area
- 4 Infrastructure Area
- 5 Inner Island Area
- 6 Sport & Recreation Area
- 7 Beach Entry
- 8 Recreational Trail
- 9 Informal Recreation/ Picnic Area
- 10 Vehicle Tracks and Carparks



DWG: No: 052

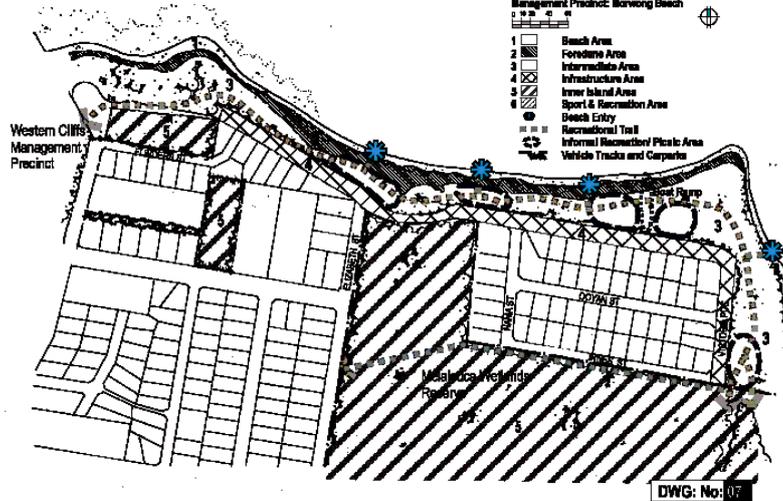
### coochiemudlo island

land management plan

Management Precinct: Marwong Beach



- 1 Beach Area
- 2 Foredune Area
- 3 Intermediate Area
- 4 Infrastructure Area
- 5 Inner Island Area
- 6 Sport & Recreation Area
- 7 Beach Entry
- 8 Recreational Trail
- 9 Informal Recreation/ Picnic Area
- 10 Vehicle Tracks and Carparks



DWG: No: 053

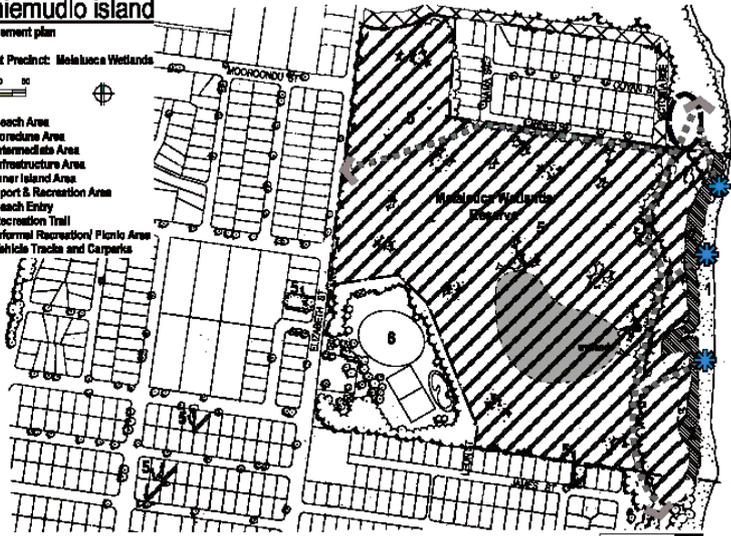
**coochiemudlo island**

land management plan

Management Precinct: Melaleuca Wetlands

0 10 20 40 60

- 1 Beach Area
- 2 Foredune Area
- 3 Intermediate Area
- 4 Infrastructure Area
- 5 Inner Island Area
- 6 Sport & Recreation Area
- 7 Beach Entry
- 8 Recreation Trail
- 9 Informal Recreation/ Picnic Area
- 10 Vehicle Tracks and Carports



DWG: No: 08

**coochiemudlo island**

land management plan

Management Precinct: Norfolk Beach

0 10 20 40 60 80 100

- 1 Beach Area
- 2 Foredune Area
- 3 Intermediate Area
- 4 Infrastructure Area
- 5 Inner Island Area
- 6 Sport & Recreation Area
- 7 Beach Entry
- 8 Recreational Trail
- 9 Informal Recreation/ Picnic Area
- 10 Vehicle Tracks and Carports



DWG: No: 09

**Appendix 2 Flora Species List**

The following flora species list is a compiled species from several sources.

Codes

Form	Habitat	Source	Status
T = tree t = small tree s = shrub g = grass or grass like f = fern v = vine h = herb a = aquatic plant	d = dune area o = woodland/ open forest w = wetland m = mangrove/ marine	a Rosalie Eustace Redland Shire Council b David Gastine, Ecologist c Margaret Walker, Local Naturalist d Rob Friend, Consultant	C = common R = Rare V = vulnerable E = endangered W = environmental L = locally significant ? = unknown

Family/Species	Common name	Form	Habitat	Source	Status
<b>Aizoaceae</b>					
<i>Carpobrotus glaucescens</i>	pig face	h	d	a,b,d	C
<i>Sesuvium portulacastrum</i>	sesuvium	h	d	a	C
<b>Asteraceae</b>					
<i>Wedelia biflora</i>	a daisy	h	d	a	C
<i>Sphagneticola trilobata</i>	Singapore daisy	h	o,w	a,b,c,d	W
<b>Casuarinaceae</b>					
<i>Allocasuarina littoralis</i>	black she-oak	t	o	a,b,d	C
<i>Casuarina equisetifolia</i>	coastal she-oak	t	d	a	C

<b>Convolvulaceae</b>					
<i>Ipomea pes-caprae</i>	goats foot convolvulus	v	d	a	C
<b>Cupressaceae</b>					
<i>Callitris columellaris</i>	cypress pine	T	d	a,b,d	L
<b>Dilleniaceae</b>					
<i>Hibbertia scandens</i>	snake vine	v	d	a	C
<b>Elaeocarpaceae</b>					
<i>Elaeocarpus reticulatus</i>	blue-berry ash	t	o	a,b,d	C
<b>Epacridaceae</b>					
<i>Acrotriche aggregata</i>	a heath plant	s	o	a,b,d	C
<i>Leucopogon leptospermoides</i>	a bearded heath	s	o	a	C
<i>Leucopogon margarodes</i>	a bearded heath	s	o	a	C
<i>Monotoca scoparia</i>	prickly broom heath	s	d,o	a	C
<b>Euphorbiaceae</b>					
<i>Breynia oblongifolia</i>	coffee bush	s	o	a,b,d	C
<i>Petalostigma pubescens</i>	quinine tree	t	o	a,b,d	C
<b>Fabaceae</b>					
<i>Canavalia rosea</i>	beach bean	v	d	a	C
<i>Daviesia ulicifolia</i>	native gorse	s	o	a,b,d	C
<i>Gompholobium latifolium</i>	glory pea	h	o	a,b	C
<i>Gompholobium pinnatum</i>	poor mans gold	h	o	a,b,d	C
<i>Gompholobium virgatum</i>	wallum glory pea	h	o	a	
<i>Jacksonia scoparia</i>	native dogwood	s	o	a,b,d	C
<i>Kennedia rubicunda</i>	dusky coral pea	v	o	a,b,d	C
<i>Phyllota phyllicoides</i>					C
<i>Pultenaea paleacea</i>	A pea	s	o	a	C
<i>Pultenaea retusa</i>	a pea	s	o	a,b,d	C
<b>Goodeniaceae</b>					
<i>Scaevola calendulacea</i>	dune fan flower	h	d	a	C
<i>Goodenia bellidifolia</i>	a fan flower	h	o	a,b	C
<i>Goodenia rotundifolia</i>	a fan flower	h	o	a,b,d	C
<b>Liliaceae</b>					
<i>Dianella congesta</i>	blue flax lily	g	d	a	C
<b>Myrtaceae</b>					
<i>Angophora leiocarpa</i>	Smoothed bark apple	t	o	a,b,d	C
<i>Austromyrtus dulcis</i>	midjem berry	s	o	a,b,d	C
<i>Baeckea stenophylla</i>	narrow leaf baeckea	s	o	a,b,d	C
<i>Callistemon salignus</i>	White bottlebrush	s	o	a,b,d	C
<i>Corymbia intermedia</i>	pink bloodwood	T	o	a,b,d	C
<i>Eucalyptus seeana</i>	narrow leaf red gum	T	o	a,b,d	C
<i>Eucalyptus siderophloia</i>	grey ironbark	T	o	a,b,d	C
<i>Eucalyptus tereticornis</i>	Qld blue gum	T	o	a,b,d	C
<i>Eucalyptus umbra</i>	white mahogany	T	o	a,b,d	C
<i>Leptospermum polygalifolium</i>	wild may	t	o	a,b,d	C
<i>Leptospermum trinervium</i>	a tea tree	s	o	a	C
<i>Lophostemon confertus</i>	brush box	T	o	a,b,d	C
<b>Oleaceae</b>					
<i>Jasminum didymum</i> var <i>didymum</i>	native jasmine	v	d	a	C
<i>Notelaea longifolia</i>	native olive	t	o	a,b,d	C
<b>Orchidaceae</b>					
<i>Phaius australis</i>	Swamp orchid	o	o	a	E
<b>Poaceae</b>					
<i>Imperata cylindrica</i>	blady grass	g	d	a	C

<i>Spinifex hirsutus</i>	sand spinifex	g	d	a	C
<b>Proteaceae</b>					
<i>Banksia integrifolia</i>	coastal banksia	t	d	a,b,d	C
<i>Hakea florulenta</i>		s	o	a,b,d	C
<i>Lomatia silaifolia</i>	crinkle bush	s	o	a,b,d	C
<i>Persoonia cornifolia</i>	broad-leafed geebung	s	o	a,b,d	C
<b>Rhamnaceae</b>					
<i>Alphitonia excelsum</i>	red ash	t	o	a,b,d	C
<b>Rutaceae</b>					
<i>Acronychia imperforata</i>	beach acronychia	t	d	a,b,d	C
<b>Malvaceae</b>					
<i>Hibiscus tiliaceus</i>	Coast hibiscus	t	c	a,b,c,d	C
<b>Mimosaceae</b>					
<i>Acacia disparrima</i>	hickory wattle	t	o	a,b,d	C
<i>Acacia concurrens</i>	late black wattle	t	o	a,b,d	C
<i>Acacia leiocalyx</i>	early black wattle	t	o	a,b,d	C
<i>Acacia maidenii</i>	maidens wattle	s	o	a,b,d	C
<b>Sapindaceae</b>					
<i>Cupaniopsis anacardioides</i>	tuckeroo	t	d	a,b,d	C
<b>Santalaceae</b>					
<i>Exocarpos cupressiformis</i>	bush cherry	t	o	a,b,d	C
<b>Thymelaeaceae</b>					
<i>Pimelea linifolia</i>	Queen of the bush	s	o	a	C
<b>Verbenaceae</b>					
<i>Lantana camara</i>	Lantana	s	o	d	W
<i>Lantana montevidensis</i>	Creeping lantana	s	o	d	W
<i>Trema tomentosa</i>	poison peach	s	o	a,b,d	C

NOTE this list is not complete

### Appendix 3 Fauna Species List

This species list was compiled by Adrian Caneris (1999) Conservation Officer Fauna, Redland Shire Council.

Status: - E = endangered; V = Vulnerable; R = rare; ? = unknown; C = common; S = locally significant; \* = introduced/pest species

Species name	Common name	Status
<b>Mammals/Marsupials</b>		
<i>Tadarida australis</i>	White-striped Mastiff-bat	c
<i>Hydromys chrysogaster</i>	Water Rat	s
<i>Mus musculus</i>	House Mouse*	c*
<i>Isodon macrourus</i>	Northern Brown Bandicoot	c
<i>Pteropus alecto</i>	Black Flying-fox	c
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	s
<b>Birds</b>		
<i>Pelecanus conspicillatus</i>	Australian Pelican	c
<i>Anhinga melanogaster</i>	Darter	c
<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant	c
<i>Phalacrocorax varius</i>	Pied Cormorant	c
<i>Ardea novaehollandiae</i>	White-faced Heron	c
<i>Ardeola ibis</i>	Cattle Egret	c
<i>Egretta garzetta</i>	Little Egret	c
<i>Egretta intermedia</i>	Intermediate Egret	c
<i>Anseranas semipalmata</i>	Magpie Goose	c
<i>Platalea regia</i>	Royal Spoonbill	c
<i>Threskiornis aethiopica</i>	Sacred Ibis	c
<i>Anas superciliosa</i>	Pacific Black Duck	c
<i>Chenonetta jubata</i>	Maned Duck	c
<i>Accipiter fasciatus</i>	Brown Goshawk	s
<i>Aviceda subcristata</i>	Pacific Baza	c
<i>Haliastur indus</i>	Brahminy Kite	c
<i>Haliastur sphenurus</i>	Whistling Kite	c
<i>Gallinula tenebrosa</i>	Dusky Moorhen	c
<i>Porphyria porphyria</i>	Purple Swamphen	c
<i>Rallus philippensis</i>	Buff-banded Rail	c
<i>Burhinus grallarius</i>	Bush stone Curlew	s
<i>Vanellus miles</i>	Masked Lapwing	c
<i>Geopelia humeralis</i>	Bar-shouldered Dove	c

<i>Geopelia placida</i>	Peaceful Dove	C
<i>Ocyphaps lophotes</i>	Crested Pigeon	C
<i>Streptopelia chinensis</i>	Spotted Turtle-Dove*	C*
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	C
<i>Cacatua roseicapilla</i>	Galah	C
<i>Glossopsitta pusilla</i>	Little Lorikeet	C
<i>Anthus novaeseelandiae</i>	Richard's Pipit	S
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	C
<i>Coracina tenuirostris</i>	Cicadabird	C
<i>Microeca leucophaea</i>	Jacky Winter	S
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	C
<i>Pachycephala rufiventris</i>	Rufous Whistler	C
<i>Dicrurus hottentottus</i>	Spangled Drongo	C
<i>Grallina cyanoleuca</i>	Australian Magpie-lark	C
<i>Myiagra rubecula</i>	leaden Flycatcher	S
<i>Rhipidura fuliginosa</i>	Grey Fantail	C
<i>Rhipidura leucophrys</i>	Willie Wagtail	C
<i>Cisticola exilis</i>	Golden-headed Cisticola	C
<i>Malurus cyaneus</i>	Superb Fairy-wren	C
<i>Gerygone olivacea</i>	White-throated Gerygone	C
<i>Pardalotus striatus</i>	Striated Pardalote	C
<i>Daphoenositta chrysoptera</i>	Varied Sittella	C
<i>Cormobates leucophaea</i>	White-throated Treecreeper	C
<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater	C
<i>Lichmera indistincta</i>	Brown Honeyeater	C
<i>Melithreptus albogularis</i>	White-throated Honeyeater	C
<i>Philemon comiculatus</i>	Noisy Friarbird	C
<i>Dicaeum hirundinaceum</i>	Mistletoebird	C
<i>Zosterops lateralis</i>	Silveryeye	C
<i>Lonchura castaneothorax</i>	Chestnut-breasted Mannikin	C
<i>Poephila bichenovii</i>	Double-barred Finch	C
<i>Oriolus sagittatus</i>	Olive-backed Oriole	C
<i>Sphecotheres viridis</i>	Figbird	C
<i>Cracticus nigrogularis</i>	Pied Butcherbird	C
<i>Gymnorhina tibicen</i>	Australian Magpie	C
<i>Corvus orro</i>	Torresian Crow	C

**Reptiles**

<i>Pogona barbata</i>	Barded Dragon	C
<i>Morelia spilota</i>	Carpet Python	C
<i>Demansia psammophis</i>	Yellow-faced Whip Snake	C
<i>Carlia vivax</i>	Lively Skink	C
<i>Cryptoblepharus virgatus</i>	Wall Skink	C
<i>Lampropholis delicata</i>	Eastern Grass Skink	C
<i>Varanus varius</i>	Lace Monitor	S

**Amphibians**

<i>Bufo marinus</i>	Cane Toad	C*
<i>Litoria caerulea</i>	Common Green Tree Frog	C
<i>Litoria fallax</i>	Eastern Dwarf Tree Frog	S
<i>Litoria gracilentia</i>	Graceful Tree Frog	S
<i>Litoria rubella</i>	Purple Tree Frog	S
<i>Limnodynastes peronii</i>	Striped Marsh Frog	C

**Appendix 4 Climatic Averages**

Supplied from the Bureau of Meteorology

Climate averages for Station: 040265 REDLANDS HRS													Commenced: 1953; Last record: 2001; Latitude (deg S): -27.5281; Longitude (deg E): 153.2500; State: QLD			
Element	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Number of years	Percentage complete	
Mean daily maximum temperature - deg C	28.8	28.2	27.6	26.2	23.1	20.7	20.4	21.4	23.3	25.1	26.7	28.2	24.2	19.4	41	
Mean no. of days where Max Temp >= 40.0 deg C	0	0	0	0	0	0	0	0	0	0	0	0	0	16.8	53	
Mean no. of days where Max Temp >= 35.0 deg C	0.1	0	0	0	0	0	0	0	0	0	0.1	0	0.2	16.8	53	
Mean no. of days where Max Temp >= 30.0 deg C	5.4	3.3	1.7	0.2	0	0	0	0	0.2	0.6	1.4	3.2	15.9	16.8	53	
Highest daily Max Temp - deg C	37.5	34.3	35.6	32.7	29.3	25.5	27.4	28	33.4	32.8	36.6	35.5	37.5	35.3	99	
Mean daily minimum temperature - deg C	19.8	20	18.7	15.8	12.7	9.4	8.3	8.2	10.7	13.8	16.7	18.9	13.2	19	40	
Mean no. of days where Min Temp <= 2.0 deg C	0	0	0	0	0	0.1	0.5	0.1	0	0	0	0	0.8	16.3	47	
Mean no. of days where Min Temp <= 0.0 deg C	0	0	0	0	0	0	0	0	0	0	0	0	0	16.3	47	
Lowest daily Min Temp - deg C	8.6	13	12.1	6.3	2.3	1	0	0.5	2.8	4.2	7.5	9.2	0	35.1	95	
Mean 9am air temp - deg C	26	25.3	24.6	22.6	19	15.6	15.1	16.3	19.6	21.9	23.9	25.5	20.4	19.1	40	
Mean 9am wet bulb temp - deg C	21.8	22	21.1	19.2	15.9	12.7	12.2	12.8	15.4	17.6	19.3	21.5	16.8	16.8	35	
Mean 9am dew point - deg C	19.4	19.7	18.6	16	13.3	10.2	9	9.3	11.7	14.5	16.3	18.9	14.1	19	53	
Mean 9am relative humidity - %	68	73	72	69	71	70	69	65	62	64	63	68	67	22.8	48	
Mean 9am wind speed - km/h	9.6	9.8	9.2	7.7	7	7.4	7.6	7.7	8.9	9.6	9.7	9.1	8.6	22.3	62	
Mean 3pm air temp - deg C	26.9	26.5	25.8	24.3	21.4	18.9	19	19.6	21.4	23.3	24.7	26.7	22.6	10.5	22	
Mean 3pm wet bulb temp - deg C	22.2	22.2	21.5	19.7	16.8	14.1	14.3	14.4	16.6	18.3	19.7	21.8	17.8	9.7	20	
Mean 3pm dew point - deg C	19.6	19.8	18.6	15.9	13.1	10	9.5	9.6	12.8	14.8	16.7	18.5	14.5	12.1	34	
Mean 3pm relative humidity - %	66	68	67	62	59	55	56	54	59	60	60	65	60	15.3	32	
Mean 3pm wind speed - km/h	12.3	12.1	11.6	9.9	8.4	7.7	8.3	9.6	11.3	11.8	12.1	11.4	10.5	20.7	58	
Mean monthly rainfall - mm	161.3	166	163.8	104.6	118	82.2	77.4	50.6	39	89.6	104.1	137.3	1293.9	53.8	53	
Median (5th decile) monthly rainfall - mm	134.8	117.1	152.6	72.4	94.8	43.1	55.9	36.8	36.2	70	78.5	119.6	1273.3	49		
9th decile of monthly rainfall - mm	309.9	305.1	335.3	236.6	228.4	218.7	175.9	108.7	84.3	170.1	238.2	266	1822.2	49		
1st decile of monthly rainfall - mm	52.9	64.9	35.3	23.7	18.4	4	6.9	9.8	3.2	18.1	31.1	41.6	859.4	49		
Mean no. of raindays	11.9	13.6	12.9	10.5	10.6	7.2	7.3	6.7	6.6	9.2	10.6	10	117	43.7	43	
Highest monthly rainfall - mm	909.7	709.3	585.4	491	534.8	669.2	490.7	154.8	109.9	450.9	322	423.7		53.8	53	
Lowest monthly rainfall - mm	19.6	45.6	7.4	9.1	0	0	2.8	0	0	10.4	10	9.6		53.8	53	
Highest recorded daily rainfall - mm	158.2	174.5	215.4	171.6	154.4	241	172.6	97.8	48.8	160.8	107.2	137.2	241	48.4	47	
Mean no. of clear days	4.1	3.5	4.9	5.9	6	8.2	10.5	9.8	10.1	7.2	5.9	3.7	79.9	35	98	
Mean no. of cloudy days	6.1	6.8	6.5	4.7	6.2	4.3	4.2	3.2	3	4.8	5.3	5.4	60.5	35	98	
Mean daily evaporation - mm	6	5.6	4.9	3.6	2.6	2.2	2.2	3	4.1	4.9	5.8	5.9	4.2	26.7	96	

**Appendix 5 Beach Protection Authority Guidelines**

These guidelines can be found at

<http://www.epa.qld.gov.au/cgi-bin/w3-mssl/environment/science/coasts/msqlwelcome.html?page=bc.html#coastal>

## Appendix 6 Summary of consultation workshops

### Summary of Values, Threat, Constraints & Preferred Activities (VTCA)

VTCA Area	Values	Threats	Constraints	Preferred Activities
Main Beach	<ul style="list-style-type: none"> <li>▪ Location of jetty and boat ramp/barge landing</li> <li>▪ Island entrance</li> <li>▪ Swimming</li> <li>▪ Recreation area</li> <li>▪ Car parking</li> <li>▪ Morton Jetty (below Red Cliffs)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Marina</li> <li>▪ Buildings on the foreshore</li> <li>▪ Additional car parking</li> <li>▪ Environmental weeds</li> <li>▪ Public safety</li> <li>▪ Rubbish and litter</li> <li>▪ Pollution/water quality into Curlew Creek</li> </ul>	<ul style="list-style-type: none"> <li>▪ public seating</li> <li>▪ rubbish &amp; litter</li> <li>▪ shade for users</li> <li>▪ island entrance</li> <li>▪ maintenance program along Curlew Creek</li> </ul>	<ul style="list-style-type: none"> <li>▪ Site hardening for visitors</li> <li>▪ management of rubbish</li> <li>▪ Island entry statement</li> <li>▪ Wind protection\</li> <li>▪ Safe swimming</li> <li>▪ No additional building on the foreshore</li> <li>▪ Signage standards</li> <li>▪ Management of Curlew Creek and re-introduction of island fauna eg frogs</li> <li>▪ Link Man Beach to Norfolk and Morwong via a recreation track</li> </ul>
Norfolk Beach	<ul style="list-style-type: none"> <li>▪ Flinders landing</li> <li>▪ Foreshore protection</li> <li>▪ Picnic areas</li> <li>▪ Beach access</li> <li>▪ Dog walking</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ dog walking off-leash</li> <li>▪ erosion</li> <li>▪ environmental weeds</li> <li>▪ uncontrolled picnic access</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ road traffic and speed</li> <li>▪ beach access</li> <li>▪ access to the foreshore</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ informal foreshore recreation</li> <li>▪ environmental protection</li> <li>▪ integration with Main beach and the Melaleuca Wetlands</li> <li>▪ protection of Flinders Landing</li> <li>▪ improved shelter</li> </ul>
Melaleuca Wetlands A & B	<ul style="list-style-type: none"> <li>▪ environmental importance</li> <li>▪ flora &amp; fauna protection</li> <li>▪ bird breeding area</li> <li>▪ nature appreciation</li> <li>▪ drainage</li> </ul>	<ul style="list-style-type: none"> <li>▪ fire</li> <li>▪ dogs &amp; cats</li> <li>▪ environmental weeds invasion</li> <li>▪ stormwater run-off &amp; water quality</li> <li>▪ back yard dumping</li> <li>▪ rubbish from the WTS</li> <li>▪ increase expansion pressure from the recreation area (Perception)</li> <li>▪ road works and sedimentation</li> <li>▪ unregulated/illegal use eg car and boat parking</li> </ul>	<ul style="list-style-type: none"> <li>▪ forest fuel and fire</li> <li>▪ environmental weeds</li> <li>▪ mosquitoes</li> <li>▪ exist pedestrian access between James St and Innes St.</li> </ul>	<ul style="list-style-type: none"> <li>▪ environmental &amp; ecosystem protection,</li> <li>▪ re-introduction of lost island fauna eg frogs</li> <li>▪ scenic amenity</li> <li>▪ bushland protection</li> <li>▪ drainage</li> <li>▪ tree preservation and protection</li> <li>▪ passive recreation with minimal impact walking track/boardwalk</li> </ul>
Recreations areas A (Rec Area)	<ul style="list-style-type: none"> <li>▪ diverse recreation facilities - oval, croquet/bowls, Tennis, BMX track &amp; BBQs</li> <li>▪ location within the island</li> <li>▪ reuse of degraded land fill site</li> <li>▪ proximity to the Melaleuca Wetlands Reserve</li> </ul>	<ul style="list-style-type: none"> <li>▪ visual amenity of the WTS</li> <li>▪ landscaping around the WTS and the existing recreation facilities</li> <li>▪ potential expansion of the recreation area into the wetlands??</li> </ul>	<ul style="list-style-type: none"> <li>▪ under utilisation of facilities</li> <li>▪ maintenance of existing facilities</li> <li>▪ lack of pedestrian access along the length of Elizabeth St</li> </ul>	<ul style="list-style-type: none"> <li>▪ development of a recreation centre/hall</li> <li>▪ waste transfer at the existing location</li> <li>▪ integrate with proposed Recreation Trail around the island</li> <li>▪ improve maintenance via an island ranger</li> </ul>
B (Golf Course)	<ul style="list-style-type: none"> <li>▪ provides a valued recreation area</li> <li>▪ existing environmental values with mature trees, ephemeral and intertidal wetlands</li> <li>▪ provision of passive recreation such as walking, nature appreciation, dog walking (off-lead area)</li> <li>▪ potential to re-use treated waste water on the island</li> </ul>	<ul style="list-style-type: none"> <li>▪ water quality from the treated waste water and its impact on the surrounding environmental values</li> <li>▪ camping (illegal &amp;/or formal)</li> <li>▪ mosquitos</li> <li>▪ location of a possible waste pumping station</li> <li>▪ course maintenance and impact on the local ecosystems eg ephemeral wetlands</li> </ul>	<ul style="list-style-type: none"> <li>▪ existing use eg Golf</li> <li>▪ access to the site (formal)</li> </ul>	<ul style="list-style-type: none"> <li>▪ maintain existing use</li> <li>▪ provide for increased access for other passive uses</li> <li>▪ protection of ephemeral wetlands and significant trees</li> <li>▪ monitor and quantify maintenance program and set environmental maintenance criteria</li> <li>▪ integrate an information centre with the community hall</li> </ul>

	<ul style="list-style-type: none"> <li>▪ WW II army camp site</li> <li>▪</li> </ul>			<ul style="list-style-type: none"> <li>▪</li> </ul>
<b>Morwong Beach</b>	<ul style="list-style-type: none"> <li>▪ swimming</li> <li>▪ boat ramp/launching area</li> <li>▪ off-lead dog walking area</li> <li>▪ midden site</li> <li>▪ picnic area &amp; shelter shed</li> </ul>	<ul style="list-style-type: none"> <li>▪ environmental weeds</li> <li>▪ mowing</li> <li>▪ fore-dune destabilisation/erosion</li> <li>▪ boat speeds around swimming area</li> <li>▪ sewage pumping station</li> <li>▪ stormwater run-off through the foreshore area</li> <li>▪ fencing and beach access</li> </ul>	<ul style="list-style-type: none"> <li>▪ road dust along Victoria Parade</li> <li>▪ environmental weed management</li> <li>▪ informal beach access and foreshore protection</li> <li>▪ access to the beach</li> <li>▪ signage</li> </ul>	<ul style="list-style-type: none"> <li>▪ swimming and small group picnicking</li> <li>▪ limited facilities eg shelter sheds, car parking</li> <li>▪ no sewage pumping station</li> <li>▪ defined boat use areas away from swimming areas</li> <li>▪ linking to Main and Norfolk Beach as well as western cliffs via a recreation track</li> <li>▪ formalise signage</li> </ul>
<b>Western Cliffs</b>	<ul style="list-style-type: none"> <li>▪ the rocky cliffs and connection to the marine ecosystem eg mangroves</li> <li>▪ minimal access</li> <li>▪ significant vegetation on RSC freehold land off Flinders St</li> <li>▪ the old quarry site</li> <li>▪ floristic and fauna diversity along the ecotone between the terrestrial and marine ecosystems</li> <li>▪ Mortons Steps and platform</li> <li>▪ Other Aboriginal heritage sites &amp; artefacts within the area</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased access degrading the fragile ecotonal area</li> <li>▪ Stormwater run-off onto and into the cliffs area</li> <li>▪ Environment weeds</li> <li>▪ Use of the quarry site as a hard stand</li> <li>▪ Improper location of the recreation track</li> <li>▪ Illegal tree removal/pruning for visual amenity enhancement</li> </ul>	<ul style="list-style-type: none"> <li>▪ area for the proper location of a recreation track</li> <li>▪ mosquitos</li> <li>▪ Aboriginal and European heritage sites</li> <li>▪ Fragile ecosystem</li> </ul>	<ul style="list-style-type: none"> <li>▪ Nature conservation and appreciation</li> <li>▪ Low impact recreation track</li> <li>▪ Stormwater run-off management</li> </ul>

## Appendix 7 Proposed Coochiemudlo Island Surf Life Saving Club facility

This report is included as an appendix to the Land Management Plan as an example of the assessment of a proposed use against the Land Management Plan objectives and guidelines.

### Scope of Investigation

#### Background

As an adjunct to the preparation of a *Land Management Plan* for the public reserve land on Coochiemudlo Island, the Redland Shire Council requested the Rob Friend and Associates (RF&A) Consultant team to liaise with key stakeholders with the goal of locating a possible site for a Coochiemudlo Island Life Saving Club (hereafter referred to as CSLSC) storage and training facility on the island, and if possible within the study area.

Previously, the club had prepared several proposals for discussion with the Department of Natural Resources and Mines (NR&M), the Council, community and Surf life Saving Queensland. The most recent of these constituted a building located immediately adjacent to the existing toilet block near the vehicular ramp / barge access at Main Beach.

For several years this matter has generated some concern within the community, culminating in the expression of considerable negative response and comment at a community meeting in late 2002. The Redland Shire Council and NR&M therefore considered that a possible way forward to resolve this matter might be for the independent Land Management Plan process to be utilised to locate a site that was entirely consistent with the LMP outcomes and environmental management requirements.

#### Councils requirements

In scoping this additional task, Council provided the Consultant team with some givens, namely that:

- o it was generally supportive of the CSLSC having a storage and training facility on the island;
- o the acceptable scale and function of the building / facility had been determined by Council and subsequently reflected in the building design plans prepared by the Club, following their consultation with Council;
- o subject to addressing community concerns, it should be possible to find a suitable location within the LMP study area, in *reasonable* proximity to the clubs operation at Main Beach; and
- o NR&M had advised Council that tenure could be allocated for a facility if the Council supported the allocation and an appropriate area was determined.

#### Primary Focus

It is important to note that the Councils brief to the RF&A Consultant Team was specifically associated with the LMP task that being location of buildings and structures within the LMP study area. The task was not one that required a further assessment of the value of the CSLSC to the islands residents or visitors or the possible alternatives to community facility planning and management on the island. This would be a much larger investigation with considerably more scope and consultation.

Rather, the task was specific to the possible location of a site for a structure of size and function similar to the building plans (refer Attachment 1) submitted to the Council by the CSLSC.

Further, during the consultation some within the island community suggested a policy position for the island that no public land within the entire Emerald Fringe on Coochiemudlo Island should be alienated for the purposes of a lease to a specific community organisation. As indicated above, this present investigation is relating to the physical suitability of sites for a defined building and has not sought to comment on the relative merits or otherwise of the relative benefits / dis-benefits of leases to community organisations involving public land.

#### The Clubs Functions and Preferred Site

The CSLSC had informally submitted building design plans to Council in late 2002. These proposed a revised building scale and layout and were designed around a site adjacent to the existing toilet block near the vehicular/boat ramp (refer Attachment 1).

This proposed use of this site arose out of negotiations with Council and NR&M. However, in the Clubs perspective, this site offered a less than optimum, but still acceptable, location. However, in this present investigation, other sites were also to be investigated.

The need for the storage and training facility arises from the functions and activities of the Coochiemudlo Island Surf Life Saving Club. These may be summarised as (Slone, 2003 pers comms):

- o To provide surf life saving patrol within the designated bathing area along Main Beach;
- o To provide satisfactory surf life saving training opportunities for local young girls and boys through the Nipper program;
- o To provide patrol duties, as required, on other beaches on the island depending on resources;
- o To provide a safe bathing environment for persons using the bathing area along Main Beach. This requires the cleaning of the beach to remove sharps and other things which may present harm to beach visitors.

## Findings from Consultation

Consultation was undertaken with several key stakeholders to ascertain and clarify needs, requirements and concerns. This included general community, Redland Shire Council, Department of Natural Resources and Mines and the Coochiemudlo Surf Lifesaving Club itself. Input from each of these is summarised below:

### Community

The views of the islands community are integral to finding a solution to the issue of a suitable location for the CSLSCs proposed facility. The various views, issues and concerns may be summarised as:

- o Wants no additional buildings on the foreshore;
- o Concerns about possible ecological impacts on the Foreshore and the local creek areas, particularly from vegetation removal (for construction) and ongoing trampling of vegetation from use;
- o Has generally expressed support for the Surf Life Saving Club, recognising its contribution to the island particularly its visitors;
- o Concerns regarding possible alienation of public land within the emerald fringe, being the exclusive use of a special lease by a club;
- o Is concerned that the proposed facility would be exclusively for the CSLS Club, not a wider community facility; and
- o Is concerned that the club facility, once established under a lease agreement with the State Government, could incrementally and inappropriately increase in scale and operation.

### Redland Shire Council

Redland Shire Council staff identified the CSLSC as a useful and important community service and were keen to ensure the clubs requirements were catered for. The Council were satisfied with the scale and function of the clubs most recent plan (refer Attachment 1), but were open to negotiating a site more acceptable to the community. In summary, the Council:

- o Supports the club having this facility, recognising it as an important community service;
- o Recognises the environmental and landscape constraints of the clubs preferred site; and
- o Could envisage the facility located elsewhere within the study area, and possibly co-located with other community facilities.

The co-use of community buildings (eg clubhouses, training facilities etc) is to be encouraged to limit duplication of resources and maximise functionality of buildings. Council, and the Island, does not have the capacity (space or financial) to provide buildings for each individual interest group on the Island.

### Department of Natural Resources and Mines

Similarly, the Department of Natural Resources and Mines representative on the Project Steering Committee expressed a view that it was appropriate for the community land to be used for a community facility such as the Surf Life Saving Club. In general, the indications given were that the Department:

- o Supports the club having this facility, recognising it as an important community service;
- o Recognises the environmental and landscape constraints of the clubs preferred site;
- o Could see the building located elsewhere within the study area; and
- o Has a requirement that the building be located on land with appropriate land tenure as detailed under the Land Act. (For example, the building could not be located on land designated as Road.)

### Coochiemudlo SLSC (and Surf Life Saving Queensland)

The club has been operating on the island for 4 years. It has a membership of approximately 50 adults and 30 nippers. Its two main activities on the island are:

- o beach patrol and surveillance; and
- o nipper training program (with approximately 50 children).

The Club is affiliated with Surf Life Saving Queensland and operates under an agreement from the State Government. It provides surveillance at the designated bathing area at Main Beach and patrols other beaches on the island as necessary. In addition, one of its major functions is the training of nippers.

The club has traditionally stored its limited equipment and facilities at several private residences across the island, often in the open and with minimal security. With the gradual increase in the scope of its activity over a number of years, the club now has a justified need for a permanent base and suitable storage for valuable patrol and training equipment.

In summary, feedback from the Club is that it:

- o Has a well demonstrated need for a suitable club facility for storage, training and as a base for first aid and beach surveillance;
- o Requires that the building be located within a reasonable proximity to the patrolled section of Main Beach, so that equipment, life saving personnel and nipper training can interact efficiently between the beach and the facility;
- o Conducts a large nipper training program (approx 50 participants) and has requirements for reasonable and safe proximity to Main Beach;
- o Requires equipment storage facility proximity and accessibility to the Councils designated Main Beach bathing area / patrol zone;
- o Desires proximity to Main Beach to facilitate its surveillance requirements.

The Club strongly prefers and requires proximity to Main Beach. Under the terms of its funding agreement, it is required to maintain a weekend patrol for a designated length of Main Beach. Its operational convenience would be enhanced with a near-beach facility.

The SLSC preferred site in descending order is Site 3, Site 2 or Site 5.

## Site Investigations

Possible sites for the location of the proposed storage and training facility have been identified and briefly investigated. However, this investigation did *not* include a full consideration of the range of alternative operational (transport; storage; surveillance; patrol; first aid) procedures that may allow the Club to continue operating *without* the proposed storage and training facility.

### Identification of possible sites

Within the scope of the Clubs requirements, possible sites and locations were suggested by a variety of stakeholders from community, government and the club. These sites then investigated by the consultant team included (refer Map 9):

1. Main Beach - near barge ramp;
2. Main Beach - near barge ramp behind creek (Tageruba St and Victoria Pde);
3. Main Beach adjacent to car parking area;
4. Main Beach - behind shop;
5. Laurie Burns Recreation Area (possibly co-located in a building with other community clubs/facilities).

Effectively, these sites may be grouped into two categories:

1. those with sufficient proximity to Main Beach to allow the club to operate in its preferred manner (safe beach access, base for convenient patrol and surveillance). This includes sites 1 to 4; and
2. those removed from Main Beach but can still fulfil club storage, training and meeting requirements (site 5 and possibly site 4)

Consideration of other sites more removed from Main Beach (eg other beaches) were dismissed as the primary functions of the facility require it being within *reasonable* proximity to the Clubs operations at Main Beach.

## Site evaluation and discussion

### Evaluation criteria

Table 1 below provides a summary of the scoring based on five assessment criteria used to provide a quantifiable comparison between each of the five potential sites on the Island. The factors used within each of the evaluation criteria is defined below.

- **Probable ecological impact** this criteria assessed the potential environmental impacts of a building and associated activities on a particular site. eg the need to remove vegetation to locate the building, closeness to sensitive environments (eg mangroves and Curlew Creek), and the possible impacts of activities including wash down of equipment, ground compaction etc.
- **Probable visual amenity impact** this criteria assessed the potential visual impact on the existing location should a building of the type proposed be constructed. This assessment was based on impact to the visual amenity from public areas (eg from Moreton Bay, and within the Emerald Fringe). Maintenance of private views was not a primary concern.
- **Operational effectiveness for the club** this criteria assessed the ability of the Club to operate effectively at their main location that being Main Beach. It has not attempted to provide a score with respect to the clubs operations over the whole island. This is due to the fact that the designated bathing reserve is located at Main Beach.
- **Accessibility for club members and visitors** this criteria rated the ability of visitors and members to access the proposed club building from all parts of the island with an awareness that the majority of access to and from the building would be from Main Beach.
- **Access safety for visitors and members** this criteria assessed the risk to visitors and members safety while accessing the building from the Main Beach bathing reserve, using existing infrastructure available to facilitate this access. It did not attempt to take into account that the development of additional infrastructure such as pathways, bridges pedestrian crossing etc may reduce the safety risk depending on the site and the infrastructure required.

Table 1 provides a summary of the evaluation of each of the five sites:

Sites (refer DRW 10)	Evaluation Criteria				
	Probable ecological impact	Probable visual amenity impact	Operational effectiveness for the club	Accessibility for club members and visitors	Access safety for visitors and members
1	Very high  (adjacent creek and potentially requiring vegetation removal)	Very high	High	Very high	Moderate to high  (direct conflict with barge ramp)
2	Low	Low-Moderate	High	High	Low moderate  (conflict with barge ramp)
3	Moderate  (adjacent creek)	Very high	Very high	Very High	Low moderate  (access directly across road from bathing reserve)
4	Moderate  (adjacent creek)	Low	Moderate	Moderate	Moderate high  (conflict with jetty traffic)
5	Very low	Very low	Low	Low	Moderate high  (distanced from bathing reserve)

#### Sites 1, 3 and 4

It is not possible to site the proposed facility within the *Foreshore Area* component of the Emerald Fringe at Main Beach without unacceptable ecological and landscape impacts. The siting of a building of this size and for the intended uses would also be contradictory to the foreshore Management Area Guidelines contained within the LMP.

Similarly, impacts in some areas within the *Intermediate Area* would also be unacceptable. Some vegetation may need to be removed and the presence of a building in such close proximity to the Foreshore and beach is incompatible with the landscape protection and enhancement goals expressed within the Land Management Plan.

The review of possible safety risks to visitors and members accessing a facility located at sites 1, 3 and 4 ranges between low to high where the rating level of safety associated with the site due primarily to potential interactions between pedestrians and vehicles. Therefore low is a low level of safety risk and high is a high level of safety risk.

Obviously the development of infrastructure to provide for an increased level of safety to pedestrians accessing the facility could be developed to increase the level of safety with all sites. The rating has been made based on the existing location of the site and other infrastructure such as roads, boat ramps and the use of these by vehicles on the island.

Site 4 is also zoned drainage problem land. Construction on this site is dependent on meeting the requirements of the planning scheme.

#### Site 2

Site 2 is considerably less constrained in regard to ecological and landscape impacts, being somewhat removed from the beach and Foreshore areas and bordered on two sides by formed roads. However, it presents some significant operational constraints and difficulties for the club, particularly with safe access to and from the beach for nipper training. Additionally, it does not allow the degree of beach surveillance being sought by the club. A further consideration is that the site does not have an existing toilet block, which would necessitate a further addition to the building size and cost.

Buildings and associated infrastructure would be required to be located within existing cleared areas to avoid interference with the endangered regional ecosystem.

In summary, site 2 offers a more acceptable alternative in respect of ecological and landscape impacts. However, as it does not offer significant advantages to the clubs patrol, surveillance and training operations, the additional cost of that site (public toilet facilities; safe pedestrian access to the beach) together with the (still present) environmental and landscape impacts, render this site as possible but with limited advantages.

#### Site 5

Operating a club facility from site 5 would constitute an alternative style to that preferred by the Coochiemudlo SLSC. Use of a co-located facility at the Islands primary sport and recreation area (the Laurie Burns Recreation Reserve) would meet some, but not all, of the clubs requirements. It would necessitate the club operating this as a remote facility from its primary operational site at Main Beach. One significant implication of this would be the implementation of safe, practical and convenient transport for members and nippers to and from Main Beach which may be required throughout the course of the clubs routine weekend operations. However, it would offer storage, training, and meeting facilities.

It is recognised that to operate effectively from this site would require implications for island transport. However, this site meets the community's expressed view that community facilities should be co-located and sites away from the emerald fringe and, where possible, co-located for efficiency and maximum use.

## Conclusion and Recommendations

### Conclusions

- There are substantial community concerns regarding the location of *any* additional buildings within the emerald fringe including, but not limited to, the siting and construction of a storage facility for the Surf Life Saving Club (SLSC);
- The community, Redland Shire Council and State Government are generally supportive of the community service provided by the SLSC for both island residents and visitors;
- Under its agreement with the State Government, the SLSC is required to patrol all beaches on the island and maintain continuous surveillance on weekends for the designated swimming area at Main Beach;

- o The club currently conducts its beach surveillance out of a mobile facility (a tracker) with equipment stored at various private residences around the island. Some gymnasium equipment is located in a small (garden) shed at the Laurie Burns Recreation Reserve. Training of nippers is limited to the beach during suitable weather;
- o A storage and training facility within safe and easy proximity to Main Beach is highly desirable to facilitate the Clubs effective operation. However, no evidence has been presented to suggest the Club would not continue to function should this *not* be possible;
- o If the final location of the clubs storage and training facility is determined to be remote from Main Beach, the club will need to retain the function of transporting equipment onto the beach for the purpose of temporary shelter and patrols. Additionally, transporting training staff and nippers will also be necessary. However, this is not the clubs preferred method of operation; and
- o Of all five site options investigated, site 5 is the most acceptable, maximising use of community facility space (eg co-location) and avoiding any landscape and ecological impacts within the Emerald Fringe; and
- o There are potentially substantial savings to the community and the Clubs with co-location in the areas of service facilities (electricity, sewage etc), traffic and parking space.

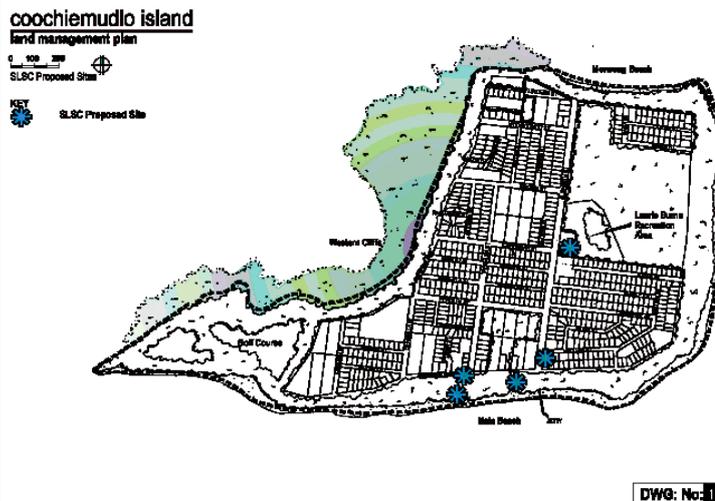
### Recommendations

1. That Redland Shire Council negotiate a suitable facility arrangement for the Coochiemudlo SLSC within the Laurie Burns Recreation Area, preferably co-located with other community facilities;
2. That, a landscape and rehabilitation plan be prepared as part of any site / construction works;
3. That Redland Shire Council, in consultation with the CSLSC and the community, identify a suitable location for the clubs designated beach access through the Foreshore Area and ensure these are suitably landscaped to repair any existing impacts and enhance local habitat and landscape values associated with this section of the emerald fringe; and
4. That, associated with recommendation 3, the Redland Shire Council, CSLSC and the Island Bushcare Group discuss the SLSCs possible ongoing contribution to dune care and rehabilitation at Main Beach - as part of the clubs contribution to implementing the Land Management Plan for the emerald fringe.

### NOTE:

At the General Meeting of 25 February 2004 Council resolved that Council agree to lease site 4 as shown on the Land Management Plan which is Lot 201 on RP97359, William Street, Coochiemudlo Island to the Coochiemudlo Island Surf Life Saving Club Inc., and that the terms and conditions of the proposed lease be consistent with Councils Policy CSAS-003 subject to building approval.

Drawing 10 SLSC site options



[1] Ann Wallin & Associates, An Assessment of the Historical Cultural Heritage of the Southern Moreton Bay Islands, Redland Shire Council, July 1997