



Shire of Denmark

Coastal Reserves Management Strategy and Action Plan

2010 - 2020

First Draft
Version 0b

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Shire of Denmark Coastal Reserves Management Strategy and Action Plan 2010 – 2020

Prepared for the
Shire of Denmark

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Cover photograph: Back Beach looking west towards Lights Beach. Photograph taken by Land Insights





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Acknowledgements

The preparation of this report was a collaborative process which included input from the Shire of Denmark, State Government, community groups and individual community members. It was prepared with valuable assistance from the following people:

- Helen Heydenrych, Yvette Caruso, Cr. Dawn Pedro and Cr. Alex Syme (Shire of Denmark)
- Christopher Lukes and Ben Bassett (Department of Planning)
- Chris Stewart (Department of Environment and Conservation)
- Tony Duckett (South Coast Management Group)
- Jean Brenton, Jenny Brenton and Belinda Dufall (Parry Beach Voluntary Management Group).

The recommendations and background information contained within this report was highly based on the information in the *Shire of Denmark Coastal Management Plan 2003-2008* (Neil Blake and Associates, 2003) and the *Coastal Management Plan – Shire of Denmark* (Riney, *et al.*, 1987) as well as other valuable resources prepared by the Shire of Denmark and the Department of Environment and Conservation. Local knowledge and site specific information was gratefully received from members of the community.

1 INTRODUCTION

1.1 Preamble

The Shire of Denmark has a spectacular coastline on the Southern Ocean, covering a distance of 84km (ALGA, 2010). The coastal areas have discrete nodes of activity interspersed by national parks and coastal reserves. Council recognised the need to protect large areas of pristine coastline in 1987 when the Shire prepared the first coastal management plan for a regional area in Western Australia. This plan was subsequently reviewed and updated in 2003 to provide specific actions which reflected increasing demand and use. The 2003 report was operative for 5 years, after which it was recommended that the plan was reviewed and that an updated framework was prepared to guide coastal management for the next 10 years. This report is the result of the review and audit.

In summary, the preparation of the Shire of Denmark Coastal Reserves Management Strategy and Action Plan 2010-2020 has involved a thorough review of the previous Coastal Management Plan and integration of new management recommendations to assist with enhanced coastal management and protection for the next 10 years.

The purpose of the Coastal Reserves Management Strategy and Action Plan 2010-2020 is to provide detailed information on the following:

- The characteristics of each coastal reserve (including current uses, access and environmental condition)
- Management recommendations for environmental protection and rehabilitation
- Management recommendations for the future land uses
- Priorities for each recommendation over the next 10 years
- Detailed plans that provide an indication of the location of the management recommendations.

The strategies and actions contained within this plan apply only to reserves that are managed by the Shire and excludes land managed by the Department of Environment and Conservation (DEC) and freehold land.

1.2 Study Area

The Shire of Denmark is located approximately 420km to the south of Perth. A majority of the southern coastline is either contained within Conservation Reserves or National Parks (which are managed by the DEC). The Shire-managed coastal reserves are located intermittently along the coast. They are generally used for a wide range of recreational uses such as swimming, walking/hiking, surfing, surf club training, fishing, camping, boating, dog exercising, and limited professional activities, such as seasonal salmon fishing and surfing lessons.

The study area consists of the four coastal reserves managed by the Shire. They are as follows:

- Ocean Beach Reserve (including Ocean Beach, Back Beach and Lights Beach) (R24913, R20578, and R24596)
- Parry Beach Reserve (R20928, R50244, R36578, R39668)
- Boat Harbour Reserve (R7723)
- Peaceful Bay Reserve (R24510).

The location of the Shire's coastal reserves in the local context can be seen in Figure 1.1.

- **Ocean Beach Reserve** (R24913, R20578, R24596 and 39727) commences at the outlet of the Wilson Inlet and comprises of Ocean Beach, Wilson Head (Sinker Bay Lookout, Black Hole Lookout, McGeary's Rock Lookout), Back Beach and Lights Beach. R24913 borders in the west at Lights Beach onto the William Bay National Park (DEC estate). Ocean Beach is a popular tourist location and is used for a wide variety of recreational land uses as well as commercial (surfing lessons & kiosk) and club-based activities. Management recommendations of this document includes consideration of R20578 (Prawn Rock Channel reserve) within Ocean Beach reserve, as the activities and management issues of Prawn Rock Channel are continuous with the Ocean Beach recreational precinct.

Ocean Beach Reserve (R24913) includes:

Back Beach: located to the west of Ocean Beach, approximately mid-way along the Ocean Beach Reserve coastline and faces the south-west. Access is provided via a track which is only suitable for off-road vehicles due to its deep sandy nature.

Pedestrian access to the beach is provided via a wooden pedestrian staircase from an internal parking area at the end of the access track. Back Beach is a popular location for fishing and surfing.

Lights Beach: located west of Back Beach, bordering onto the William Bay National Park. Access to the beach is from a gravel road which is accessible by 2-wheel drive vehicles all year round. This results in higher visitor numbers and greater utilisation for fishing, swimming, dog exercising etc. The Bibbulman Track extends through a section of this reserve from the adjacent National Park which makes this area popular with walkers.

- **Parry Beach Reserve** (R20928, R50244, R36578, R39668) is located 25km west of Denmark and is situated in between William Bay National Park and Quarrum Nature Reserve. The main beach (Mazzoletti Beach) extends for approximately 1km from the outlet of Parry Inlet to the outcrops near the caretakers cottage to the south. The Parry Beach Camping and Caravan Park is a low-key camping ground located within the reserve. Professional fishermen shacks are located to the north of the camping area. This location is popular for surfing, walking, fishing and boating, and the camp ground is increasingly popular for nature-based camping, with visitor numbers exceeding 500 at peak season. The reserve also includes Hiller Beach which is located to the south-west of Parry Beach.
- **Boat Harbour Reserve** (R7723) is located 30km to the west of Denmark and includes a 200m wide natural harbour. The reserve is surrounded by the Quarrum Nature Reserve which is managed by the DEC. It can be accessed by off-road vehicles via a sand and gravel track. It is a popular location for fishing and picnicking.

- **Peaceful Bay Reserve** (R24510) is surrounded by the Walpole-Nornalup National Park, with freehold town site development and farmland along the north-western boundary. The reserve includes a caravan park located close to the beach and a leased area consisting of small holiday houses and retiree homes. The beach is a popular tourist destination and is used for fishing, swimming, boating, horse riding and general beach-going activities. Peaceful Bay Reserve has approximately 75 permanent residents residing within the reserve, which increases with short-stay visitors to over 2000 people during peak seasons.

1.3 Report Scope

This report presents the Coastal Reserves Management Strategy and Action Plan 2010-2020 for the Shire of Denmark coastal reserves (Ocean Beach Reserve, Parry Beach Reserve, Boat Harbour Reserve and Peaceful Bay Reserve). The purpose of the 2010-2020 Strategy and Action Plan is to identify the current land uses, values and issues at the Shire's coastal reserves and to make recommendations for the future management for the next 10 years. The report was prepared with the view that natural environments have limited capacity to absorb land use pressures before they start to degrade and their capacity for regeneration is reduced.

The following broad steps were taken during the preparation of this document:

- review of the Shire of Denmark Coastal Management Plan 2003-2008 and determine the actions undertaken
- detailed site visit to each of the Shire's coastal reserves
- integration of relevant recommendations from the previous Coastal Management Plans
- Consultation with the community to identify concerns and issues and to include recommendations to address these

The objectives of the 2010-2020 Strategy and Action Plan are to:

- reduce land use conflicts and ensure safety and quality of experience in the long term
- encourage sustainable recreational land uses at each coastal reserve
- enhance and protect conservation values
- enhance community understanding of the environmental values of the coast and encourage a sense of ownership
- encourage that successful relationships between the community and the Shire continue in the future to allow for better coastal management
- to manage and protect the Shire's coastal reserves in a sustainable manner so that they can be enjoyed by future generations.



1.4 Key Issues

A number of broad issues have been considered as this document was prepared. These are summarised in Table 1.1.

Table 1.1 – Key issues

Issue	Context
Existing management plans and planning documents	The Shire of Denmark Coastal Management Plan was prepared for the Shire in 2003 with a focus to provide management recommendations for 5 years. This report was reviewed and relevant aspects were integrated into the 2010-2020 Strategy and Action Plan where appropriate. Southern Shores 2009-2030 is another coastal management document which provides recommendations for the management of the southern coastline of WA.
The impact of current land uses and managing land use conflict	The population of WA is expanding at an unprecedented rate with subsequent development and land use pressures. Coastal areas are also greatly desired for their amenity and lifestyle values and the recreational activities they provide. The aim of the 2010-2020 Strategy and Action Plan is to provide management actions to help minimise the impact that human activity has on the coastal environment. The 2010-2020 Strategy and Action Plan also addresses land use conflicts that arise from different land uses along the beach (such as off-road vehicles and beach swimming areas) to ensure safety to all users.
Access	Uncontrolled access to beach areas can lead to dune degradation which can have a significant impact on the overall health of the coast. The 2010-2020 Strategy and Action Plan identifies where the formal access points and informal tracks are located and includes recommendations to address uncontrolled access. Off-road vehicle access has also been considered.
Remnant vegetation	The coastal environment comprises its own, unique form of vegetation which provides habitat for native fauna and helps to stabilise dune systems. Native vegetation can be destroyed and degraded from uncontrolled access, illegal camping, driving through dunes etc. The 2010-2020 Strategy and Action Plan includes recommendations to address vegetation degradation and protection, and ensure the conservation of biodiversity and habitat values.
Landscape	It is important that current and future land uses do not negatively impact on the visual landscape and amenity. The aim of the 2010-2020 Strategy and Action Plan is to propose actions which have minimal impact on visual amenity and landscape and enhance opportunities for the landscape to be viewed and appreciated.
Tourism and Recreation Land Uses	The Shire’s coastal reserves are mostly used for recreation and tourist purposes. The recommendations in the 2010-2020 Strategy and Action Plan should reflect the current use and the community’s visions for these reserves and help to address any potential management issues, manage expansion of facilities and inappropriate activities.
Heritage	European and Aboriginal heritage issues have been reviewed and considered during the preparation of the report, with protection of known and identified sites from land use activity as a priority.



Issue	Context
Sustainability	It is essential that management of the Shire’s costal reserves occurs with the view of protecting these areas for the use of future generations for many years to come. The management recommendations in the 2010-2020 Strategy and Action Plan aim to achieve this objective.

1.5 Project Management

The preparation of the Coastal Reserves Management Strategy and Action Plan 2010-2020 was managed by the Shire of Denmark.

Members of the Steering Committee included:

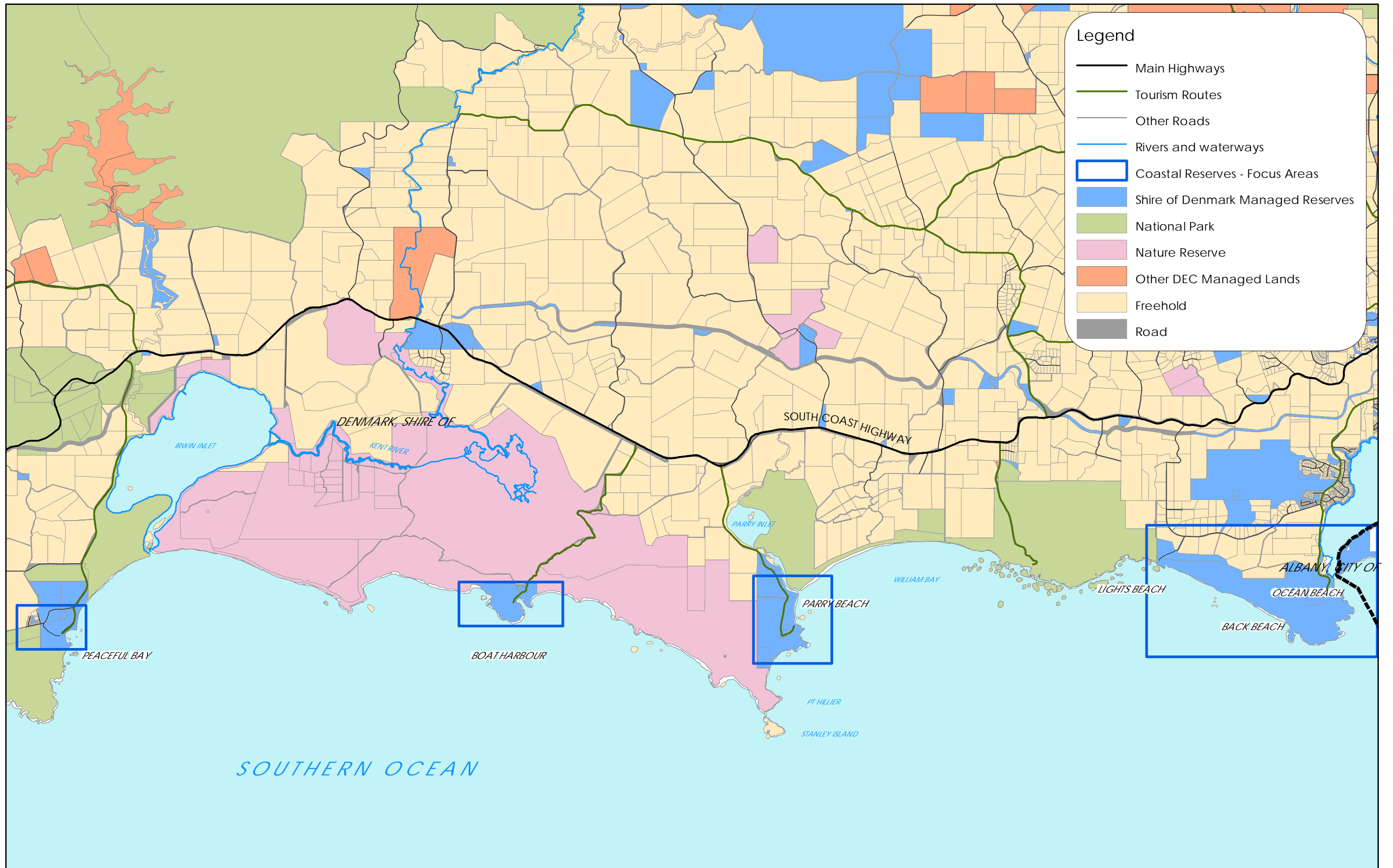
- Ms Helen Heydenrych – Shire of Denmark, Natural Resource Management Officer
- Cr Dawn Pedro – Shire of Denmark Councillor
- Cr Alex Syme – Shire of Denmark Councillor and proxy for Cr Dawn Pedro
- Mr Christopher Lukes – Department of Planning, Coordinator Coastal Zone Management
- Mr Chris Stewart – Department of Environment and Conservation
- Mr Tony Duckett – South Coast Management Group
- Mr Michael Taylforth – Land Insights
- Mrs Sharee Rasmussen – Land Insights

1.6 Consultation

This project involved a number of different consultation mechanisms to ensure that a variety of opportunities were available for a range of people to provide their opinions about the management of the Shire’s coastal reserves.

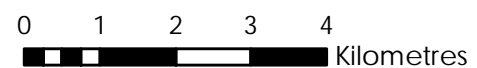
Consultation undertaken for this project included:

- Meetings with the Steering Committee
- A community workshop to identify issues and concerns
- An online community forum to allow community members to discuss their opinions and ideas
- A community questionnaire which was available in hardcopy and electronic format
- Public advertising of the draft report
- A Public Information Evening/community meeting to be held during the public advertising period.
- Focus group meetings with the Parry Beach Voluntary Management Group and the Department of Environment and Conservation



Legend

- Main Highways
- Tourism Routes
- Other Roads
- Rivers and waterways
- Coastal Reserves - Focus Areas
- Shire of Denmark Managed Reserves
- National Park
- Nature Reserve
- Other DEC Managed Lands
- Freehold
- Road



1:100,000

Date: 4/10/2010 Plan: Figure 1_1a_Study Area
 Data: Shire of Denmark and DEC

COASTAL RESERVES MANAGEMENT STRATEGY:

SHIRE OF DENMARK

Figure 1.1
 STUDY AREA

2 COASTAL MANAGEMENT POLICY FRAMEWORK

2.1 *Western Australian Planning Commission (WAPC) Policy No. Development Control (DC) 6.1 – Country Coastal Planning Policy*

DC Policy 6.1 was prepared in 1989 and is currently under review by the WAPC. The objectives of the policy are to:

- *Encourage orderly and balanced development on and adjacent to the coast consistent with the protection of coastal resources*
- *Protect, conserve and enhance, as appropriate, coastal resources*
- *Permit public access to the coast consistent with the protection of coastal resources (WAPC, 1989).*

The policy requires that a number of different issues are considered when planning along the coast and incorporated into coastal management plans. These include:

- Land use priorities
- Land tenure
- Ecology
- Visual amenity
- Land preservation
- Soil protection
- Water quality
- Pedestrian access
- Roads and parking.

DC Policy 6.1 also explains the principles which should be applied when considering the above issues.

2.2 *Statement of Planning Policy 2.6 – State Coastal Planning Policy*

The State Coastal Planning Policy (SPP 2.6) was published in the Government Gazette in 2003 and is currently under review by the WAPC and Department of Planning (DoP). It sets out objectives, policy measures, coastal plan requirements and a set of revised guidelines for coastal development setbacks. The objectives of the policy are to:

- *protect, conserve and enhance coastal values, particularly in areas of landscape, nature conservation, indigenous and cultural significance*
- *provide for public foreshore areas and access to these on the coast*
- *ensure the identification of appropriate areas for the sustainable use of the coast for housing tourism, recreation, ocean access, maritime industry, commercial and other activities*
- *ensure that the location of coastal facilities and development takes into account coastal processes including erosion, accretion, storm surge, tides, wave conditions, sea level change and biophysical criteria.*

The document includes policy measures relating to public interest, coastal foreshore reserves, coastal strategies and management plans, environment, development and setbacks and physical process setbacks. SPP 2.6 also outlines the information which should be included in coastal plans and was referred to in the preparation of this management strategy.

The review of SPP 2.6 intends to take into account the latest scientific information regarding the impacts of climate change. Based on this review, it's considered that the sea level rise prediction of 0.38m in SPP 2.6 is no longer appropriate. A vertical sea level rise of 0.9m is considered appropriate by the WAPC and DoP. On a sandy coastline, this will result in a horizontal setback of 52m which will increase the total setback in SPP 2.6 from 100m to 150m.

2.3 Shire of Denmark Town Planning Scheme No. 3

The Shire of Denmark Town Planning Scheme No. 3 (TPS) was gazetted in March 1994 and provides for land use zoning and the definition of reserves land within the Shire. It identifies that Ocean Beach Reserve; Parry Beach Reserve and Peaceful Bay Reserve as reserves vested in the Shire of Denmark and zoned for *Parks and Recreation*. Boat Harbour Bay is reserved as *Public Use*.

2.4 Coastal Planning and Management Manual 2003

The Coastal Planning and Management Manual was prepared by the WAPC in 2003 to *provide a practical guide to coastal planning and management* in WA. It provides information on a broad range of issues which should be considered when managing the coastline such as the following:

- Common coastal management problems
- Techniques for dune stabilisation
- Rehabilitation of coastal landscapes
- Revegetation methods
- Weed management.

A number of principles are described in the manual, the aim of which is to advise readers about an appropriate framework for managing the coast. These principles address the following:

- Sustainable management
- Identifying the limits of acceptable change
- Maintenance of ecosystem integrity
- Consultation
- Respect for and protection of Indigenous rights, interests, culture and heritage
- Identification of management objectives
- Staged management approaches
- Minimal intervention
- Site-specific management approaches.

2.5 The Shire of Denmark Coastal Management Plan 2003-2008

The Shire of Denmark Coastal Management Plan was prepared in 2003 with the intent of providing management recommendations for a period of 5 years, after which it was recommended that it be reviewed. A summary of the management actions in the Coastal Management Plan is included at Appendix B, however some of the more relevant or important actions are listed in Table 2.1 below.



Table 2.1 – Actions from the Coastal Management Plan 2003-2008

Category	Management Recommendation	Audit	Response
Off-Road Vehicles (ORVs)	The Denmark Shire adopt a policy for the management of ORVs/4-Wheel-Drives in coastal areas and Shire reserves which outlines conditions under which ORVs/4-Wheel-Drives can operate in these areas. This policy should also identify those coastal areas and reserves where ORVs/4-Wheel-Drives access is not acceptable.	Not undertaken.	This recommendation should be repeated, particularly with the closure of some areas of popular swimming beaches to vehicles.
	The Denmark Shire examine potential areas for gazettal as designated ORV use areas.	Has occurred at Ocean Beach.	This recommendation has been elaborated on in the 2010-2020 Strategy and Action Plan.
Pedestrian Access to the Coast	As part of the Denmark Shire Disability Services Plan, pursue the ongoing improvement of access to the coast for those with mobility difficulties.		Disabled access and improvements have been considered in this 2010-2020 Strategy and Action Plan.
Signage	The Shire of Denmark review its signage policy with a view to creating uniform, recognisable and informative signs to educate and guide the community and visitors in appropriate behaviour in coastal areas.	This has occurred in most locations.	Some locations need new signage. Recommendations are included in the 2010-2020 Strategy and Action Plan.
	Conduct an audit to identify Shire coastal locations in need of signage and develop a work program to seek funding for the installation of necessary signs.	This is already occurring.	The 2010-2020 Strategy and Action Plan includes recommendations on signage in specific locations.
Boat Launching Facilities	The Denmark Shire review boat launching facilities every two years to manage beach access, safety and potential conflict between beach users.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.
	Shire rangers continue to monitor and regulate boat launching activities, especially during peak holiday periods.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.
Public Safety	Include coastal safety in any coastal education and awareness program developed for the Shire of Denmark.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.
Fire	Update the Shire of Denmark Fire Prevention Report by developing Fire Management Plans for all Shire of Denmark coastal reserves. Such plans should incorporate hazard reduction procedures and measures to protect natural values, community infrastructure and lives from fire.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan through the recommendation for fire management plans for specific locations.
Dieback Management	The Shire of Denmark strengthens its Dieback Management Policy by developing dieback management plans for Shire coastal reserves. This should be supplemented by signage and education material encouraging appropriate dieback management by coastal users.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.
Rubbish	Coastal users, especially those in remote locations, be encouraged to take their rubbish home with them for disposal.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.
	Rubbish bins should be provided at popular coastal sites that can be adequately serviced.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.



Category	Management Recommendation	Audit	Response
Weeds	Support efforts by local Weed Action Groups to identify and remove weeds from Shire coastal reserves.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.
	Map weed infestations in Shire coastal reserves on the Denmark Greening Plan GIS.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.
	Encourage Shire field officers to maintain weed identification and management skills.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.
	Support education campaigns that identify weeds and explain why they are a threat to natural environments.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.
Public Toilets	Install composting toilets at Lights Beach and Boat Harbour.	This has occurred.	No response necessary.
	Consider alternatives to septic tank disposal in future developments at any coastal location.	This action is still relevant.	This recommendation has been incorporated into the 2010-2020 Strategy and Action Plan.

2.6 Shire of Denmark Coastal Management Plan 1987

In 1987 the then Department of Conservation and Environment co-ordinated the preparation of a Coastal Management Plan for the Shire of Denmark. The purpose of the plan was to incorporate Council’s recommendations and policies for the coast as well as local community technical advice. The study area for the management plan included the entire coastal section within the Shire, but focussed on the reserves managed by the Shire.

A majority of the management recommendations were implemented by the Shire and some are no longer relevant due to the changes in use, visitor numbers and other factors. A majority of the background information in the report is relevant and proved useful during the preparation of this report.

The report was the first coastal management plan to be prepared for a regional local government in the state. It is therefore evidence of the Shire’s long history of coastal management commitment.

2.7 Southern Shores 2009 – 2030

Southern Shores 2009 - 2030 was prepared as a review of Southern Shores 2001- 2020. The purpose of the review was to recognise achievements in coastal management over the preceding 8 years and to identify management recommendations to assist with protection of the coast in the future. The aim of the report is to help guide the maintenance of the coastal environment, natural assets and lifestyle values and to promote development that is carried out in a sustainable manner.

The report was prepared by the South Coast Management Group (SCMG) which is a Local Government based regional representative body of coastal planners, managers and community delegates along the South Coast of Western Australia. The vision of the SCMG is to *bring together people, organisations and information, so that communities in the South Coast region are able to work in partnership, to improve the quality of the coastal zone environment, resulting in environmental, social and economic sustainability.*

The report acknowledges some of the actions that have occurred within the Shire of Denmark over recent years including the local community management of camping grounds at Boat Harbour and Parry's Beach by the Parry Beach Voluntary Management Group, weed management at Peaceful Bay and Parry's Beach and the establishment of the caretaker at Parry's Beach.

The report contains management actions that relate to the entire southern coast between the Shire of Denmark and the Shire of Esperance. There are no actions which specifically relate to the Shire's coastal reserves. Nevertheless, many of the broad actions were adapted and integrated into this Strategy to ensure consistency with Southern Shores 2009-2030.

2.8 The Denmark Greening Plan

The Denmark Greening Plan was prepared by the Denmark Environment Centre in 2003 to assist with the development of viable management regimes for the conservation of key areas of natural vegetation in the Shire. The project involved mapping of remnant vegetation throughout the Shire (through a review of vegetation surveys, field surveys and ground-truthing) the creation of a GIS database, evaluation of the regional significance of remnant vegetation in the Shire, and determining recommendations for management of vegetation on freehold land.

Of relevance to the Shire's Coastal Management Strategy are the following recommendations from the report:

- *All high-conservation value remnant vegetation within the Shire of Denmark should be protected and managed sustainably through planning mechanisms, covenanting, financial incentives, education and on-the-ground assistance programs.*
- *In order to maintain the biological diversity of flora and fauna...major remnant native vegetation areas should be sustained by the establishment of linkages incorporating smaller remnants.*
- *The Shire of Denmark and other natural resource management agencies should recognise the status of the Denmark region being located within an International Biodiversity Hotspot, and develop and implement strategies that are commensurate with a Biosphere Management Region.*

2.9 Wilson Inlet Foreshore Reserves Management Plan 2008

The Wilson Inlet Foreshore Reserves Management Plan was prepared 2008 to protect the unique ecological, landscape and heritage values of the Inlet's foreshore reserves and *to provide a management direction for existing and potential uses and developments that may be proposed in or adjacent to area.*

The only area within the management plan which relates to the Study Area for this report is the small reserves located at the mouth of the Inlet (R 20578 and R24596) known as Ocean Beach Dog Exercise Area and Prawn Rock Channel. The management plan comments that when Reserve 20578 was gazetted it was used for camping, which explains its gazettal purpose even though camping doesn't take place in the area anymore. The report states that it's *neither necessary or appropriate that the Reserve be used for camping.*

The recommendations in the management plan relating to Ocean Beach Dog Exercise Area and Prawn Rock Channel include the following:

- *Investigate the feasibility of making the Ocean Beach Dog Exercise Area an all-season facility.*
- *Inform residents of the outcome of the feasibility study.*
- *Provide picnic tables, seating and shaded areas at Prawn Rock Channel.*
- *Ensure facilities developed at Prawn Rock Channel are wheel-chair accessible.*
- *Resolve the issues and complete the sealing of the path towards the Surf Club from Prawn Rock Channel as soon as possible.*

While a majority of the above recommendations have already been implemented, there is an opportunity to include some of the remaining recommendations in the 2010-2020 Strategy and Action Plan..

2.10 Town Planning Scheme Policy No. 1 for Dieback Disease Management

The Shire of Denmark TPS Policy No. 1 for Dieback Disease Management was adopted in 1997 in response to the significant threat that the disease poses to the conservation, cultural and economic values of land within its boundaries, and in neighbouring municipalities, including impacts on horticulture, native fauna, tourism and biodiversity. It provides management strategies and actions to guide the detection and control of dieback.

The policy includes 7 overall management actions to guide dieback disease control in the Shire. It also contains a detailed description of the dieback disease control procedures that should be followed to reduce spread of the disease and ways to assess the dieback disease hazard and the risk of spread. The dieback disease mapping for the Shire's coastal reserves has been analysed and the appropriate response/control mechanisms have been incorporated into the recommended actions in this Strategy.

2.11 Peaceful Bay Five Stage Plan (2010)

The Peaceful Bay Five Stage Plan (2010) is a conceptual planning document which is annually prepared by the Peaceful Bay Progress Association and presented to Council to identify the settlements' infrastructure and servicing needs. The plan was developed by a working party representing the Peaceful Bay Progress Association, Peaceful Bay RSL and the Peaceful Bay Sea Rescue Group. The current Five Stage Plan was revised in February 2010 and incorporates the results of an 18 month community vision and planning process. A Community Planning Group was also formed in 2007 to develop a whole-community approach to managing the future of the town. The stages identified in the plan are reiterated below:

Stage 1 – *to effectively separate boat launching from general recreation and address damage to the beach environment.* This action is largely due to safety concerns due to the ineffective separation of different uses and the increasing size and number of boats and vehicles. The actions proposed include:

- the installation of bollards at the beach
- signage at the boat launching area to inform beach users of the boat launching area and dog exercise and picnicking towards the inlet
- expansion of the carpark near the Sea Rescue shed
- widening the vehicle access to separate pedestrians from vehicles
- investigate the possibility of developing a breakwater off Soft Beach.



Stage 2 – *Increase the general parking for beach goers.* There has been an increase in the number of day visitors to the area and the current parking area near the toilet block is inadequate. The action proposed is to expand this parking area onto the opposite side of the road.

Stage 3 to 5 – *Develop a multi-purpose community complex.* It's proposed that the community complex is developed in a staged manner over the next 2-5 years. Stage 3 involves planning the recreational precinct, stage 4 is building the complex and stage 5 is developing the recreational facilities associated with the complex. It's anticipated that the new community complex will meet future demand for non-beach associated recreational activities and will meet the expectations for the future demographic in the area and future population increases. The actions involve the development of a multi-purpose complex on the hill between Loppings Dump and Soft Beach Track and the development of recreational elements including a BMX track, skateboard park, tennis court, lawn bowls etc.

The current plan was presented to Council on the 20th June 2010 and it was resolved that Council would *receive the Peaceful Bay Progress Association Five Stage Plan 2010 (Concept) and request that the CEO form a Working Group in conjunction with Councilors Phair and Laing and the Association in reviewing the document to address opportunities and pathways suggested within the officer's report to incorporate elements of the 2007 Visioning Document with the intent that the Association resubmit the Plan for further consideration and joint adoption by both parties by March 2011.*

3 CONSULTATION

3.1 Introduction

A consultation program was undertaken to ascertain the views of coastal users and to seek comment from relevant Government agencies. Specific consultation mechanisms included:

- A community workshop which was conducted at the commencement of the project
- Seeking comments and input from community groups to assist in identifying issues
- A community questionnaire
- Consultation with a Steering Committee who provided guidance through the duration of the project.

3.2 Previous Consultation

Community and stakeholder consultation was included in the 2003 Coastal Management Plan which discussed the outcomes of consultation undertaken by a CSIRO/Curtin University Denmark Study research project in 2002. The consultation process involved the provision of a questionnaire from a random selection of Denmark ratepayers (236 responses were received).

The results of the questionnaire indicated that 40% of respondents visited the coast at least weekly and 80% of respondents visited the coast at least monthly. It also indicated that the most popular place to visit was William Bay National Park (40%), followed by Ocean Beach (29%), Peaceful Bay (12%), Lights Beach (7%), Boat Harbour (6%) and Parry Beach (6%).

3.3 Community Workshop

A community workshop was held to assist with the preparation of the 2010-2020 Strategy and Action Plan. The workshop was held on the 2nd June 2010 at the Shire of Denmark Council Chambers. The aim of the community workshop was to provide local residents with the opportunity to provide input into identifying community values and concerns regarding the use of coastal reserves, emergent coastal issues and recommended management actions. As such, the workshop was held early in the process of preparing this document so that community views would be taken into account as appropriate.

A summary of the outcomes from the community workshop is contained in Appendix A.

3.4 Community Survey

A community survey was prepared in order to obtain information on the community issues, values and opinions regarding the Shire's coastal reserves. The questionnaire was made available online and hard copies were distributed at the community workshop in June. The community were notified of the survey through a variety of means (notices on the Shire's website, information on the online forum, advertisements in the local newspaper, e-mails and correspondence sent to community groups and individuals and verbal correspondence at the community workshop).

A total of 21 responses were received which are summarised in Table 3.1 below.



Table 3.1 – Questionnaire summary from the community consultation conducted in 2010

Question	Most popular responses
Q1. What locality do you live in?	<ul style="list-style-type: none"> • Denmark • Parryville • Peaceful Bay
Q2. What beach do visit and use the most?	<ul style="list-style-type: none"> • Parry Beach (21 responses – 16.8%) • Lights Beach (16 responses – 12.8%) • Parry Inlet (13 responses – 10.4%) • Ocean Beach (main beach) (12 responses – 9.6%) • Hillier Beach (12 responses – 9.6%) • Ocean Beach Lookout (10 responses – 8.0%) • Boat Harbour (10 responses – 8.0%)
Q3. What is your main activity at your favourite coastal locations?	<ul style="list-style-type: none"> • Swimming (19 responses – 15.2%) • Walking (17 responses – 13.6%) • Fishing (16 responses – 12.8%) • 4 Wheel Driving (13 responses – 10.4%)
Q4. How often do you visit your favourite coastal locations?	<ul style="list-style-type: none"> • Everyday (7 responses – 29.0%) • Once a week (12 responses – 50.0%) • Once a month (4 responses – 16.6%) • Other (1 responses – 4.1%)
Q5. Is the conservation of the natural values on the Shire’s coastline important to you?	<ul style="list-style-type: none"> • Value 5 out of 5 (17 responses – 81.0%) • Value 4 out of 5 (3 responses – 14.3%) • Value 3 out of 5 (1 response – 4.8%)
Q6. Please identify which values or features at the coast are most important to you.	<ul style="list-style-type: none"> • Natural environment (21 responses – 19.3%) • Ocean and water features (16 responses – 14.7%) • Biodiversity (13 responses – 12%) • Overall experience (13 responses – 12%) • Landscape (12 responses – 11%)
Q7. What do you like about your preferred beach?	<ul style="list-style-type: none"> • Vehicle access/parking/all beaches accessible (8 responses – 16.6%) • Pristine environment (7 responses – 14.5%) • Beauty (6 responses – 12.5%) • Environment (migratory birds, seals, vegetation, marine life etc) (4 responses – 8.3%)



Question	Most popular responses
<p>Q8. What do you dislike about your preferred beach?</p>	<ul style="list-style-type: none"> • Litter (7 responses – 22.5%) • 4WDs, motorbikes and speeding vehicles (5 responses – 16.1%) • Dogs on beach (2 responses – 6.45%) • Environmental damage (2 responses – 6.45%) • Limited beach access (2 responses – 6.45%) • Uncared for by visitors (2 responses – 6.45%) • Lack of facilities (viewing platforms etc.) (2 responses – 6.45%)
<p>Q9. What do you want to change about your preferred beach?</p>	<ul style="list-style-type: none"> • Leave as is (4 responses – 17.4%) • Retain vehicle access at Parry Beach (3 responses – 11.0%) • More rubbish bins (3 responses – 11.0%) • No unsuitable tourist development (3 responses – 11.0%) • No 4WDs on beach (3 responses – 11.0%)

3.5 Steering Committee

A number of meetings were held with the Steering Committee for the project. The Steering Committee were consulted with at the commencement of the project and after the preparation of the draft Strategy. The membership of the steering committee is noted on page 8.

4 ENVIRONMENTAL CHARACTERISTICS

4.1 Introduction

Coastal environments are highly dynamic and valuable ecosystems. They have significant economic value as they form a highly desirable location for residential, tourism and recreational land uses. From a social perspective, coastal areas act as a meeting place for families and friends and are places in which a range of recreation activities can take place. It's important that the environmental value of coastal areas isn't neglected in order to cater for social and economic values as these are inextricably linked with the environmental.

4.2 Climate

The climate experienced in this region of Western Australia is described as Mediterranean which is characterised by cool, wet winters and hot, dry summers. At the Shire of Denmark, the mean daily temperatures are approximately 12°C at the coast in winter (which declines inland) and approximately 18°C at the coast in summer (which increases inland) (Neil Blake and Associates, 2003 and Riney *et al.*, 1987). The amount of rainfall decreases from west to east with a mean annual rainfall of more than 1250mm at Nornalup (west of Peaceful Bay) to less than 1000mm at Wilson Inlet (Neil Blake and Associates, 2003). The changes in temperature and rainfall have a significant impact on the visitor population to the Shire's coastal areas throughout the year.

Regional weather is influenced by surrounding oceans, mid-latitude coastal fronts, southerly changes and the sub-tropical ridge which create a variable climatic pattern. High pressure systems dominate the south-west area of Western Australia during the summer months and low pressure systems are more common during winter which brings cold fronts and winter rainfall (DEC, 2008).

During the summer months the dominant wind in the mornings is from the east followed by strong south westerlies in the afternoon which can reach 40km/h (Neil Blake and Associates, 2003). Occasional storms occur during winter in which the winds can exceed 50km/h. These storms can result in severe beach erosion, particularly during high tides.

4.3 Climate change

Annual rainfall in the south-west has declined by approximately 10% since the 1970's. Declines have been noted as occurring in autumn and early winter. There has been little change in late winter and spring rainfall, however a slight increase during summer. The frequency of extreme rainfall events is not expected to change. Australia has also warmed about 0.8°C over the last century, mostly after 1950 and the ongoing rate of global warming is 0.1 to 0.5°C per decade (DEC, 2008). Projections for rainfall suggest that a further reduction in autumn, spring and winter rainfall is likely for much of southern Australia (DEC, 2008).

Climate change projections also indicate that an increase in the mean sea level is also likely. The frequency of extreme events will continue to be highly modulated by inter-annual cycles of tides, mean sea level and storminess. Possible rises in sea level could have an impact on low-lying coastal areas and well established beaches. SPP 2.6 adopts greenhouse prediction based on the Third Assessment Report (2001) of the Intergovernmental Panel on Climate Change. The mean of the median values is used at a sea level rise of 0.38 metres in 100 years. It's understood that SPP 2.6 is currently under review, including the expected sea level rise.



The consequences and rates of climate change are still being debated within the scientific community. Issues relating to climate change will need to be continually monitored and appropriate measures taken to protect near-coastal and estuarine infrastructure as new information becomes available. This should involve continuous review and adaption of management in response to new knowledge and understanding of climate change and its effect on coastal areas.

4.4 Coastal processes

The Shire’s coast line is extremely varied and consists of a mixture of rocky headlands, steep cliffs and bays. The embayments generally exist between rocky headlands and steep cliffs which offers these areas protection from the elements. Sand is also deposited in the bays which results in sandy beaches with relatively calm, clear water.

The coast is one of the most dynamic natural environments. There is ongoing interaction between wind, water and land that produces a number of different landforms and coastal types. The forces in action include along the coast are explained in Table 4.1.

Table 4.1 – Coastal processes

Action	Description
Interaction of Wind and Sea	The Shire’s coast faces south and fronts the Southern Ocean where the major weather patterns include westerly winds in the Roaring Forties and south-east Tradewinds. Cyclones and northwest gales may disrupt the prevailing system and local breezes prevail at other times. Wind blowing over water generates waves and swells that impact on the coast.
Interaction of Wind and Land	When the wind blows onshore it moves beach sand, from the water’s edge, inland. This moving sand may be trapped by vegetation and as the vegetation grows, dunes of sand build. The dunes, being reservoirs of sand, may be attacked by storm waves and the sand moved into a sand bar to be later reworked and returned to the shore and the dune. If there is no vegetation sand may be blown inland to form sand sheets or blowouts. Loss of sand from the beach inland leads to recession of the coast.
Interaction of Sea and Land	The type of landform and geology and the action of the swells and currents largely determines the shape of the coast. Under the influence of the sea, the seabed is swept continually, and sediments are deposited onto the shore. Storm waves remove sediment from the beach and swell returns the material to shore. If the eroding and building forces are in balance the shore is stable. Alternatively, if building forces are stronger than the eroding forces, the shore will accrete and if the reverse should occur the shore will recede.
Interaction of Sea, Wind and Land	Over a few decades, if the sea, wind and land are in balance, equilibrium will be achieved and the coast remains unchanged. This balance, however, can be upset by climatic changes, extraordinary weather events, rapid physical changes or interference from human beings. Other forces at work include the interaction of the moon and earth (tides), seasonal changes in wind patterns (winter gales/summer breezes) and greenhouse gas affected climatic change.
Littoral drift	Wind on water creates swell, waves and currents that move sand laterally along beaches and shores. Littoral drift may move sand in one direction for certain months of the year and then this may reverse with changing seasonal weather



Action	Description
	conditions and move back again.
Sand Budgeting	Coastal managers need to understand the concept of sand budgeting. For example, what sand is entering the beach system and what sand is being lost from the beach system? If sand is being lost from the beach then roads, parking areas and buildings will be damaged or lost. Or, if the beach is accreting (gaining sand) the roads, car parks and buildings become further from the beach and need to be replaced and reconstructed.

Rip Currents

Rip currents are hazardous to beach use and development. The action of waves breaking against a beach pushes water up against the shore. This results in a return flow of water from the surf zone to the adjacent waters further offshore. Under conditions of relatively low wave energy, this return flow is likely to be diffused relatively uniformly along the coast. In the presence of moderate to high wave conditions however, this return flow is likely to be concentrated in rip currents.

Rip currents are most prevalent and severe during winter storms, however they also form during summer months particularly when the background swells and the sea breezes are quite strong. As far as hazards to beach users are concerned, the formation of rips during summer is of greatest concern as this is when exposure is greatest. Ocean Beach, Peaceful Bay and Parry Beach are subject to strong rip currents, especially when the inlets are open during late winter, or during periods of strong wave action and high swells.

4.5 Coastal Changes¹

Long Term Changes

The coast is subject to continual change and has been changing since the earliest geological time. Over the past 400 000 years the level of the ocean has fluctuated from between 150 metres above and below where it is at present. These rises and falls in sea level correspond to the advances and retreats of ice ages. The sea level has been rising since the end of the last ice age approximately 30 000 years ago and there is recent evidence that glaciers and the ice caps are still retreating/melting, which suggests that sea levels should still be rising. In addition it is generally agreed the “Greenhouse Effect” will result in increasing temperatures within the atmosphere, causing ocean levels to rise.

It should be noted that these movements are extremely slight. For example, a rise or fall in sea level of 100 metres over 30 000 years is in the order of 3.3 millimetre per annum. Although this may seem minute, a 3.3mm rise may cut back a sandy beach by 10 times that amount (33mm).

Medium Term Changes

From observations of storm activity on the Western Australian coast it is evident that there are cycles of higher and lower storm intensity. There appears to be an approximate 11-year cycle that may be related to cycles of wind movement, the El Nino effect or fluctuations in solar radiation.

The implication of this cycle of storminess is that storm waves attack the coast removing sediment. This may result in steep erosion faces on beaches, destruction of coastal management works such as

¹ Source: Jerramungup Coastal Management Plan

pathways, fences and carparks and the deterioration of coastal buildings. The best course of action in these instances is for the Shire to take short term action to ensure that people are not harmed i.e. close off damaged pathways etc. With the change of season, sand should begin to accrete on the beach and dune building will recommence. An important consideration is not to overreact by attempting to stabilise the coast immediately.

If any stabilisation work is thought to be necessary then sand renourishment is the best method. This involves the delivery of large quantities of good quality sand along the water's edge to advance the shoreline seaward. The worst reaction, which is common on the Western Australian coast, is to stabilise the beach with rocks. Incoming wave energy reflects off the rocks and results in more beach sand being lost by scouring effects.

Short Term Changes

Short term changes take place on beaches from summer to winter. Generally, on the Western Australian coast, sand is removed from beaches during winter resulting in narrower beaches. The sand is taken into the surf zone where it forms a sand bar. As the season changes and lighter southerly breezes take over, the sand bar migrates back to the beaches and the beach widens again. The wind in turn picks up this sand returning it to the dunes. Coastal vegetation recolonises the new sand and building occurs.

Very Short Term Changes

Severe storms can cause massive dune erosion in a short time. They also result in damage to seagrass and large amounts may be deposited on the beach, which can protect the beach from additional wave damage.

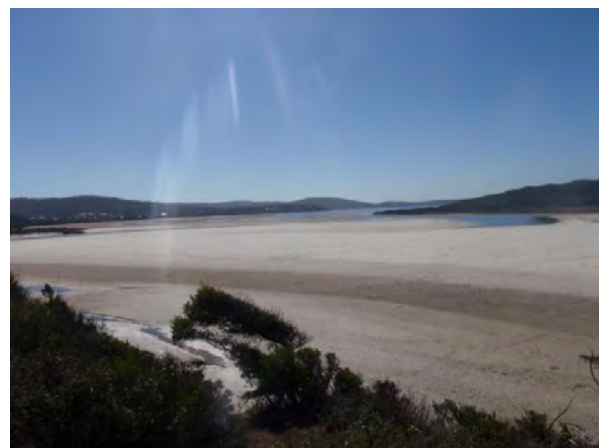
4.6 Estuaries and Wetlands

Most of the Shire's coastal reserves are adjacent to estuarine water bodies which are annually artificially opened to the ocean during late winter. The estuaries include:

- Wilson Inlet – associated with Prawn Rock Channel and situated near Ocean Beach
- Irwin Inlet – located to the north of Peaceful Bay
- Parry Inlet – located to the north of Parry Beach
- Owingup Swamp – a wetland located to the north of Boat Harbour.

The management of these estuaries is the responsibility of State Government authorities (Department of Environment and Conservation and the Department of Water). The management of Wilson Inlet foreshore reserves vested in the Shire of Denmark is guided by the Shire of Denmark Wilson Inlet Foreshore Reserves Management Plan (2008).

In addition to the estuarine water bodies, there are different wetland environments identified within the Shire's coastal reserves. These can be broadly identified as:



View of Wilson Inlet taken from Ocean Beach Lookout

- Ocean Beach – Ocean Foreshore
- Parry Beach – Palusplain
- Boat Harbour – Sumpland
- Peaceful Bay – a small sumpland, creeklines and palusplain further inland.

For more information on the coastal wetland characterisation refer to Neil Blake and Associates (2003) and Riney *et. al.*, (1987).

4.7 Geology

The Shire of Denmark lies within the Proterozoic Albany-Fraser Orogen geological province (DEC, 2008). The dominant rock type along the coastal areas is granite which formed around 345 to 1,140 million years ago when magma squeezed into the older gneisses to form batholiths. The granite rock formations are now exposed along the coast as large, rounded weathered boulders (DEC, 2008). Ancient geological processes have resulted in the variety of landforms along the Shire's coast such as sheer cliffs, headlands, bays and peninsulas.

In the coastal areas, the Tertiary and Precambrian crystalline and sedimentary rocks are overlain by Tamala limestone and Aeolian sand. The Tamala limestone was formed 10,000 to 1.8 million years ago during the Pleistocene period. These limestone formations form large, steep cliffs, some 100 metres in height and act as a barrier behind which estuaries such as the Irwin Inlet have formed. They also provided the protection required to allow the formation of sandy beaches (DEC, 2008). By the end of the Pleistocene period a poorly drained coastal plain had formed around granite hills and the estuaries and inlets were formed (Riney *et al.*, 1987). The dune systems are known as the Meerup dunes and were formed between 10,000 years ago and the present. The beaches are typically located in small bays with exposed granite headlands and are linked by ridges and steep cliffs of Tamala Limestone (DEC, 2008).

A number of important geological sites have been identified by Green and Wetherley (2000) who recommended the conservation of these areas as examples of unusual geological formations or sites that provide insight to the geological history of the area. These sites include:

- Boat Harbour – contains an example of magma mingling and assimilation
- Outcrops adjacent to Parry and Hillier Beaches – contains examples of magma mingling and assimilation, mafic dyke swarms and polydeformation features
- McGear's Rock – consists of excellent examples of refolded folds uncommon along the south coast.

4.8 Soils

The land resources of the Study Area have been previously documented by the Department of Agriculture and Food (DAFWA) and are available via an online database. The land resource information referred to in this report encompasses land systems and phases as identified by the DAFWA. Soils are generally categorised by DAFWA into soil-landscape units which are then refined into more detailed soil 'phases'. The different soil phases found throughout the Shire's coastal reserves are described in Table 4.2 below.

Table 4.2 – Soil phases and soil types found in at the Shire’s coastal reserves

Code	Name	Location	Description	Soil types	Soil Qualities
254NkMRp	Meerup podzols over calcareous sand	Ocean Beach Reserve Peaceful Bay (inland) Boat Harbour – western section	Parabolic dunes with steep slopes and sharper crests on Aeolian calcareous and siliceous sands over sediments and granite.	Pale deep sands with some Yellow deep sands.	Wind erosion – high to extreme hazard Water erosion – high to extreme hazard.
254BrOW	Owingup Subsystem	Prawn Rock Channel Boat Harbour - embayment	Swamps plains adjacent to estuaries on estuarine deposits and Aeolian sands.	Wet soils, Semi-wet soils and Tidal soils.	Wind erosion – medium to high hazard Water erosion – medium to high hazard.
254NkMRs	Meerup podzols in siliceous sands	Parry Beach – inlet	Older, smooth rounded sand dunes on Aeolian calcareous and siliceous sands over sediments and granite.	Pale deep sands.	Wind erosion – high to extreme hazard Water erosion – medium to high hazard.
254NkMRy	Meerup calcareous sand	Parry Beach – main beach Boat Harbour – eastern section	Young dunes adjacent to the beach with very steep slopes and very irregular crests on Aeolian calcareous and siliceous sands over sediments and granite.	Calcareous deep sands.	Wind erosion – high to extreme hazard Water erosion – medium to high hazard.
254NkMRc	Meerup leached calcareous sand	Parry Beach Reserve – Hillier Beach	Steeply sloping parabolic dunes with steep slopes and sharp irregular crests on Aeolian calcareous and siliceous sands over sediments and granite.	Calcareous deep sands with Pale deep sands and Calcareous stony soils.	Wind erosion – high to extreme hazard Water erosion – medium to high hazard.
254NkMRy	Meerup calcareous sand	Boat Harbour – north-eastern section	Young dunes adjacent to the beach with very steep slopes and very irregular crests on Aeolian calcareous and siliceous sands over sediments and granite.	Calcareous deep sands.	Wind erosion – high to extreme hazard Water erosion – medium to high hazard
254NkMRr	Meerup beach ridges	Peaceful Bay – beach	Beach ridge dunes and intervening swales on aeoliana calcareous and siliceous sands over sediments and granite.	Calcareous deep sands.	Wind erosion – high to extreme hazard Water erosion – medium to high hazard.
254NkMRf	Meerup podzols on interdune plains	Peaceful Bay – residential area	Interdunal flats and Aeolian calcareous and siliceous sands over sediments and granite.	Pale deep sands and some semi wet soils.	Wind erosion – high to extreme hazard Water erosion – low to medium hazard.

Source: DAFWA (2010)

Soil Qualities

As can be seen in the table above, most of the soil phases at the Shire's coastal reserves have a high to extreme hazard of wind erosion and a medium to extreme risk of water erosion. This is common for coastal areas due to the nature of the soil and the weather characteristics.

Erosion can be accelerated when the soil surface is disturbed or vegetation is removed. This can result in changes to the landform, soil structure and nutrient loss. Human activities in coastal areas generally result in the disturbance of soils and removal of vegetation. Activities such as 4-wheel driving, horse riding, camping and picnicking can result in soil disturbance which can result in erosion, compaction and degradation. Therefore, it's important that land uses within coastal areas are appropriately managed to control access, development and activities to reduce the level of disturbance and hence the amount of erosion.

4.9 Vegetation and flora

Native vegetation within the state of Western Australia has been assessed and classified in a number of different ways. A study conducted by Beard (1980) resulted in the division of the state into botanical provinces, districts and sub-districts based on ecological, climatic, geological and soil characteristics. The Shire of Denmark is located within the South West Botanical Province and the coastal areas lie within the Warren sub-district (DEC, 2008). The South West Botanical province is recognised as one of 34 recognised biodiversity 'hotspots' in the world due to its rich species diversity and endemism.

The Warren sub-district is characterised by karri forests with extensive paperbark and sedge swamps occurring on low-lying areas. The soil types which occur at the coastal areas are generally poor in nutrients and have little soil structure. This, combined with strong winds and harsh weather conditions experienced on the coast, means that only the hardiest plants can survive in these areas.

In general, native plants such as peppermint trees (*Agonis flexuosa*) and *Banksia spp.* occur within the scrub and low woodlands on older dunes situated slightly inland from the coast. Limited patches of karri (*Eucalypts diversicolor*) and marri (*Corymbia calophylla*) grow on older weathered sands inland of the sand mantle. Granite outcrops, which emerge at numerous locations through the sand mantle, are usually covered in moss and pin grass and scattered shrubs. The native plants most commonly present on the coastal dunes include *Olearia axillaris*, *Scaevola crassifolia*, *Spyridium globulosum*, *Rhagodia baccata* and *Carpobrotus virescens*. The foredunes consist of *Spinifex hirsutus* and *Lepidosperma gladiatum* (Neil Blake and Associates, 2003).



Vegetation at Back Beach

Figures 4.1a - 4.1d indicate the vegetation types present within each of the Shire's coastal reserves. A description of the dominant vegetation type/s in each reserve is further described in Table 4.3 below.



Table 4.3 – Vegetation types and species at each Shire-managed coastal reserve

Location	Vegetation Type	Description
Ocean Beach Reserve	Peppermint-banksia woodland	Peppermint-banksia woodlands generally have a shrub layer of <i>Acacia pulchella</i> , <i>A. cochlearis</i> , <i>Melaleuca thymoides</i> , <i>Jacksonia furcellata</i> , <i>Hakea prostrata</i> and <i>Allocasuarina humilis</i> . Peppermint woodlands can be associated with <i>Hakea oleifolia</i> , <i>Allocasuarina fraseriana</i> , <i>Banksia grandis</i> and <i>B. ilicifolia</i> . The shrub layer include <i>Acacia cyclops</i> , <i>A. cuneata</i> , <i>Hibbertia spp.</i> , <i>Melaleuca thymoides</i> , <i>Jacksonia furcellata</i> and <i>Xanthorrhoea preissii</i> .
Parry Beach Reserve	Coastal Heath	<i>Spyridium globulosum</i> , <i>Olearia axillaris</i> , <i>Alyxia buxifolia</i> , <i>Phyllanthus calycinus</i> , <i>Boronia alata</i> , <i>Diplolaena dampieri</i> , <i>Acacia spp.</i> and scattered clumps of <i>Agonis flexuosa</i> occur
	Peppermint-banksia woodland	Peppermint-banksia woodlands generally have a shrub layer of <i>Acacia pulchella</i> , <i>A. cochlearis</i> , <i>Melaleuca thymoides</i> , <i>Jacksonia furcellata</i> , <i>Hakea prostrata</i> and <i>Allocasuarina humilis</i> . Peppermint woodlands can be associated with <i>Hakea oleifolia</i> , <i>Allocasuarina fraseriana</i> , <i>Banksia grandis</i> and <i>B. ilicifolia</i> . The shrub layer include <i>Acacia cyclops</i> , <i>A. cuneata</i> , <i>Hibbertia spp.</i> , <i>Melaleuca thymoides</i> , <i>Jacksonia furcellata</i> and <i>Xanthorrhoea preissii</i> .
Boat Harbour Reserve	Coastal Heath	<i>Spyridium globulosum</i> , <i>Olearia axillaris</i> , <i>Alyxia buxifolia</i> , <i>Phyllanthus calycinus</i> , <i>Boronia alata</i> , <i>Diplolaena dampieri</i> , <i>Acacia spp.</i> and scattered clumps of <i>Agonis flexuosa</i> occur
	Tea tree thickets and Banksia-Sheoak woodlands	Dense thickets of <i>Agonis juniperina</i> and <i>Oxylobium lanceolatum</i> are common while <i>Lepidosperma spp.</i> are on the more poorly drained areas.
	Peppermint-banksia woodland	Peppermint-banksia woodlands generally have a shrub layer of <i>Acacia pulchella</i> , <i>A. cochlearis</i> , <i>Melaleuca thymoides</i> , <i>Jacksonia furcellata</i> , <i>Hakea prostrata</i> and <i>Allocasuarina humilis</i> . Peppermint woodlands can be associated with <i>Hakea oleifolia</i> , <i>Allocasuarina fraseriana</i> , <i>Banksia grandis</i> and <i>B. ilicifolia</i> . The shrub layer include <i>Acacia cyclops</i> , <i>A. cuneata</i> , <i>Hibbertia spp.</i> , <i>Melaleuca thymoides</i> , <i>Jacksonia furcellata</i> and <i>Xanthorrhoea preissii</i> .
Peaceful Bay Reserve	Mixed coastal heath	<i>Acacia spp.</i> , <i>Spyridium globulosum</i> , <i>Alyxia buxifolia</i> , <i>Olearia axillaris</i> , <i>Boronia alata</i> and <i>Diplolaena dampieri</i> . Swales have <i>Acacia spp.</i> scrub together with <i>Agonis flexuosa</i> and <i>Lepidosperma longitudinale</i>
	Peppermint-banksia woodland	Peppermint-banksia woodlands generally have a shrub layer of <i>Acacia pulchella</i> , <i>A. cochlearis</i> , <i>Melaleuca thymoides</i> , <i>Jacksonia furcellata</i> , <i>Hakea prostrata</i> and <i>Allocasuarina humilis</i> . Peppermint woodlands can be associated with <i>Hakea oleifolia</i> , <i>Allocasuarina fraseriana</i> , <i>Banksia grandis</i> and <i>B. ilicifolia</i> . The shrub layer include <i>Acacia cyclops</i> , <i>A. cuneata</i> , <i>Hibbertia spp.</i> , <i>Melaleuca thymoides</i> , <i>Jacksonia furcellata</i> and <i>Xanthorrhoea preissii</i> .

Source: Department of Agriculture and Food (DAFWA), 2010.



Rare and Priority Flora

Species of protected and priority flora can be classified under the *Wildlife Protection Act 1959* if they are in danger of extinction, rare or need special protection. Declared Rare Flora (DRF) are species of plants which have been identified as being rare, threatened or otherwise in need of special protection and are therefore published in the State government gazette as such. Priority flora are also identified by the DEC as species of plants which are poorly known, rare (but not currently threatened) and are being monitored. Priority flora do not have the special legislative protection that rare flora have.

It is important to identify these flora species within the Shire as their population numbers are very low and they require specific protection in viable environments (i.e. self-sustaining). Areas where these species are located should be identified and protected from activities (including access) that have the potential to disturb the vegetation or introduce weed species. Site specific flora surveys are recommended should any development be proposed within the coastal reserves.

Rare and priority flora identified within the Shire’s coastal reserves is as follows:

- Boat Harbour Reserve – nothing noted/no data
- Parry Beach Reserve – *Andersonia amabilis*
- Ocean Beach Reserve – *Thomasia quercifolia*
- Peaceful Bay Reserve – *Caladenia evanescens*.

Vegetation Condition

The condition of the vegetation within the Shire’s coastal reserves is shown in Figures 4.2a – 4.2d. This is necessary in order to identify area which are degraded and in most need of rehabilitation. The vegetation condition scale in Figures 4.2a – 4.2d is consistent with the scale described in Volume 2 of *Bush Forever* which classifies vegetation from *Pristine* to *Completely Degraded*. The definition of these terms is described in Table 4.4 below.

Table 4.4 – Vegetation condition ratings.

Vegetation condition	Classification
Pristine	No obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance limited to individual species, non-aggressive weeds present.
Very Good	Vegetation structure altered and some signs of disturbance (as a result of fire, dieback, the presence of weeds etc.)
Good	Vegetation structure significantly altered and obvious signs of disturbance (as a result of frequent fires, some clearing, dieback, high density of weeds etc.). Basic vegetation structure retained and possibility of regeneration.
Degraded	Vegetation structure severely impacted. Scope for regeneration, but only possible with intensive management.
Completely degraded	Vegetation structure no longer intact and almost no native species present.

Source: Department of Environmental Protection, 2000, *Bush Forever Volume 2*.

The vegetation condition within the Shire's coastal reserves is summarised below:

- Ocean Beach Reserve – majority classified as *Pristine*
- Parry Beach Reserve – vegetation around high use areas classified as *Excellent* and surrounding areas range from *Pristine* to *Very Good*
- Boat Harbour Reserve – majority classified as *Pristine*
- Peaceful Bay Reserve – dune vegetation surrounding the bay is classified from *Very Good* to *Degraded*. Vegetation around the leased area classified as *Good* to *Degraded*.

Biodiversity

Biodiversity is a descriptive term for the different species of flora, fauna, micro-organisms, genetic material and the ecosystems they form (Department of Environment, Water, Heritage and the Arts, 2009). The Shire of Denmark is located within the South-west of Western Australia, which is identified as an international 'Biodiversity Hotspot'. This means that the natural ecosystems in the Shire (as well as other Shires within the South-west) have an extremely high level of endemism and biodiversity, and are at a high level of threat of loss of vulnerable species.

As the level of biodiversity is an important asset to the Shire it is important that all future planning and land use decisions take into account the issue of biodiversity protection. Human disturbance to the environment can have a variety of impacts on the environment. These impacts are usually cumulative – that is, the direct impact that development might have on one aspect of the environment has an impact on another aspect of the environment and so forth. Use of coastal areas for recreation or development should be carefully managed to ensure that small impacts do not accumulate and result in large-scale degradation, particularly with increased visitation and use.

Impacts on Ecosystems

It's important to understand that every component of the environment is linked and that the deterioration of one component affects other aspects of the environment, and this can sometimes have a direct impact on our way of life. In some cases, the original impact might seem negligible to some people, but it's common that these impacts will indirectly impact a favourite pastime or an aesthetic quality of the environment.

One important example is the use of vehicles, particularly 4WDs, along the beach. Research at the University of the Sunshine Coast has identified that the use of vehicles along the beach substantially modifies the habitat of intertidal fauna (Department for Planning and Infrastructure, 2008). The intertidal areas of bare sand are populated by a variety of invertebrates under the sand. Disturbance of the sand and their habitats cause a decrease in invertebrate numbers which have important roles in the beach ecosystem such as recycling nutrients, breaking down organic matter and also as food for birds and fishes. Naturally, a decrease in the number of invertebrates decreases the amount of food available for birds and fishes higher in the food web, which can result in fewer numbers of these species.

Threatened Ecological Communities

Threatened Ecological Communities (TEC's) are defined in the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) as communities which consist of native vegetation which are poorly represented and in danger of extinction. The rarity of TEC's makes them matters of national environmental significance under the EPBC Act. Therefore, any proposed activities

that could possibly have an effect on a TEC must undergo the approvals process outlined in the EPBC Act and obtain approval from the Commonwealth Minister for Environment and Water Resources.

TEC's are continually being identified by the DEC, so it's possible that some exist that have not yet been identified. This is particularly relevant in remote areas which are not regularly accessed as limited survey work is generally conducted in these areas and, as such, the presence of TEC's is not identified.

Environmental Weeds

The presence of weeds and introduced flora in natural ecosystems is a significant environmental issue in Australia. Most weeds are capable of colonising and flourishing in the Australian environment (particularly in degraded areas) and generally have the following impacts on the environment:

- Outcompete native flora for nutrients, light, water etc. and prevent their regeneration
- Influence the ecology and provide habitat to the advantage of introduced fauna species
- Reduce suitable habitat for native fauna species
- Affect the natural ecological and physical processes of the environment (e.g. fire regimes).

Weeds are usually introduced to the area for use in private gardens and spread into coastal reserves. Weeds also spread from general vegetation disturbance which increases the likelihood of colonisation. Some of the most common weed species found at the coastal reserves are identified in Table 4.5.

Table 4.5 – Shire of Denmark Weed Species List

Scientific Name	Common Name
<i>Eragrostis curvula</i>	African Love Grass
<i>Asparagus asparagoides</i>	Bridal Creeper
<i>Cortaderia selloana</i>	Pampas Grass
<i>Ricinus communis</i>	Caster Oil Tree
<i>Soliva pterosperma</i>	Onehunga
<i>Phytolacca octandra</i>	Inkweed
<i>Contoneaster sp.</i>	Contoneaster
<i>Digegon lignosus</i>	Dolichos Pea
<i>Conyza sp.</i>	Fleabane
<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Acacia longifolia</i>	Sydney Golden Wattle
<i>Psoralea pinnata</i>	Taylorina
<i>Leptospermum laevigatum</i>	Coastal (Victorian) Tea Tree
<i>Watsonia sp.</i>	Watsonia
<i>Ailanthus altissima</i>	Tree of Heaven
<i>Emex Australia</i>	Doublegee
<i>Datura suaveolens</i>	Angels Trumpet
<i>Agapanthus praecox</i>	Agapanthus
<i>Homalanthus novo-guineensis</i>	Bleeding Heart
<i>Polygala myrtifolia</i>	Butterfly Bush
<i>Acacia iteaphylla</i>	Flinders Ranges Wattle
<i>Lantana camara</i>	Lantana
<i>Psoralea pinnata</i>	Tagasaste

Source: Neil Blake and Associates, (2003) and Shire of Denmark (n.d.)

4.10 Fauna

The abundance of native fauna in the South-West has declined since European settlement mainly due to impacts such as habitat destruction and the introduction of feral predators (foxes and cats). The Shire's coastal reserves consist of relatively large areas of intact remnant vegetation which is likely to support a range of habitat types and associated fauna.

Previous studies on native fauna along the south coastal areas have been carried out by Christensen *et al.* (1985). The results of these studies are referred to in the descriptions below.

Mammals

Christensen *et al.* (1985) found that there is a distinct mammal fauna of the southern Banksia woodland and heathland areas. This includes species such as *Tarsipes rostratus* (Honey Possum), *Cercartetus concinnus* (Western Pygmy Possum), *Phascogale tapoatafa* (Brush-tail Phascogale), *Rattus fuscipes* (Bush Rat) and *Antechinus flavipes* (Yellow-footed Antechinus) (Neil Blake and Associates, 2003).

Marine mammals are regularly seen in the ocean including Bottlenose Dolphins (*Tursiops truncatus*) and occasional sightings of Australian Sea Lions and New Zealand Fur Seals. Southern Right Whales and Humpback Whales pass by the coast on their migration northwards (Neil Blake and Associates, 2003).

Bats

The most commonly recorded bats in the area include *Vespadelus regulus* (King River Eptesicus), *Falsistrellus mackenziei* (Western False Pipistrelle) and *Chalinolobus morio* (Chocolate Wattled Bat) (Neil Blake and Associates, 2003).

Birds

Birds are abundant within the Shire's coastal areas, largely owing to the large, intact areas of native vegetation and the variety of habitat types. The proteaceous heath habitats include a large number of different species of honeyeaters as well as White-breasted Robins (*Eopsaltria seorgiana*) and the Red-Eared Fire Tail (*Emblema oculata*). Bird species typically found in forest habitats are also found in coastal areas including the Western Rosella (*Platycercus icterotis*) and the Red-capped Parrot (*Purpureicephalus spurius*) (Christensen *et al.* 1985).

Migratory waterbirds frequently inhabit the southern coastal areas of Western Australia during certain times of the year. These birds travel from northern Asia (including China and Japan) and migrate to wetlands throughout Australia to nest. Migratory shorebirds are present from mid-spring to mid-autumn. A number of wetlands in the Shire are important breeding areas for migratory birds and native waterbirds including Owingup Swamp, Boat Harbour, Lights Beach, Peaceful Bay, Rame Head, Quarrum Beach, William Bay National Park, Foul Bay, Clifly Head Beach, Lost Beach, Parry Inlet and Mandalay Beach. Waterbird species include the threatened species Australian Bittern (*Botaurus poiciloptilus*), Hooded Plover (*Thinornis rubricollis rubricollis*) and Little Bittern (*Ixobrychus minutus*) (Neil Blake and Associates, 2003). Migratory birds are protected under the EPBC Act (1999) and several international treaties.

Bondin A. (2008) conducted a bird survey of the Wilson Inlet in 2008 to collect data on the bird species present and to make observations about their requirements. The study found that changes in the water

levels of the Inlet have a huge impact on populations of migratory shorebird species and that recreational use of the Inlet and foreshore reserves can lead to unnecessary disturbance of waterbirds and recommended that domestic pets should not be allowed to interfere with birds.

Reptiles

There are few reptile species located along the southern coastal areas in Denmark compared to areas further east. One species of Geckos has been recorded and a number of species of skinks. Species restricted to the south-west coastal areas include Little Brown Snake (*Elapognathus minor*) and Muellers Snake (*Rhinoplocephalus bicolour*) and the threatened Carpet Python (*Morelia spilota imbricata*) (Christensen *et al.* 1985). The Long-Necked Turtle (*Chelodina oblonga*) is found in freshwaters in the southern coastal area (Neil Blake and Associates, 2003).

Amphibians

The Shire of Denmark has rich diversity in frog species, including six to eight different species located in the coastal areas. The Bell Frog (*Litoria moorei*) is the only climbing frog species found in the area and the remainder are either ground-dwelling or burrowing species.

Fish

The Parry, Wilson and Irwin Inlets are important habitats for native fish species. Most are marine species which enter the estuaries which the bars are open. Fish species regularly caught for commercial purposes include the Cobbler, King George Whiting, Black Bream, Pink Snapper, Herring, Leatherjacket, Flounder, Mullet, Flathead, Silver Bream and crab. Non-commercial species include the Western Pigmy Perch, Zebra Fish and Hardyhead. The Wilson Inlet is an important nursery ground for the King George Whiting and it's estimated that 70% of Cobbler caught in the south coast come from Wilson Inlet (Neil Blake and Associates, 2003).

Threatened Fauna

Threatened Fauna species present in a given area can be searched for on the DEC's database, which includes species which are declared as 'Rare or likely to become extinct (Schedule 1)', 'Birds protected under an international agreement (Schedule 3)', and 'Other specially protected fauna (Schedule 4)'.

Previous research conducted by Neil Blake and Associates (2003) indicates that there are three threatened mammal species and three threatened bird species in the Shire. The threatened mammals includes the Quokka (*Setonix brachyuran*), the Western Ringtail Possum (*Pseudocheirus occidentalis*) and the Chuditch (*Dasyurus goeffroi*). The Western Ringtail Possum occurs in coastal vegetation and Peppermint Woodland. Threatened bird species in the Shire include the Australian Bittern (*Botaurus poiciloptilus*), Carnaby's Black Cockatoo (*Calyptorhynchus latrostris*) and Baudin's Cockatoo (*Calyptorhynchus baudinii*). The Australian Bittern occurs at Owingup Swamp and has been recorded at Parry Inlet. Carnaby's Black Cockatoo feed in the coastal heath and scrub vegetation (Neil Blake and Associates, 2003), and these coastal feeding grounds are very significant for the long-term conservation of cockatoo populations along the South Coast

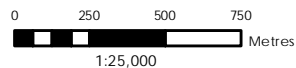
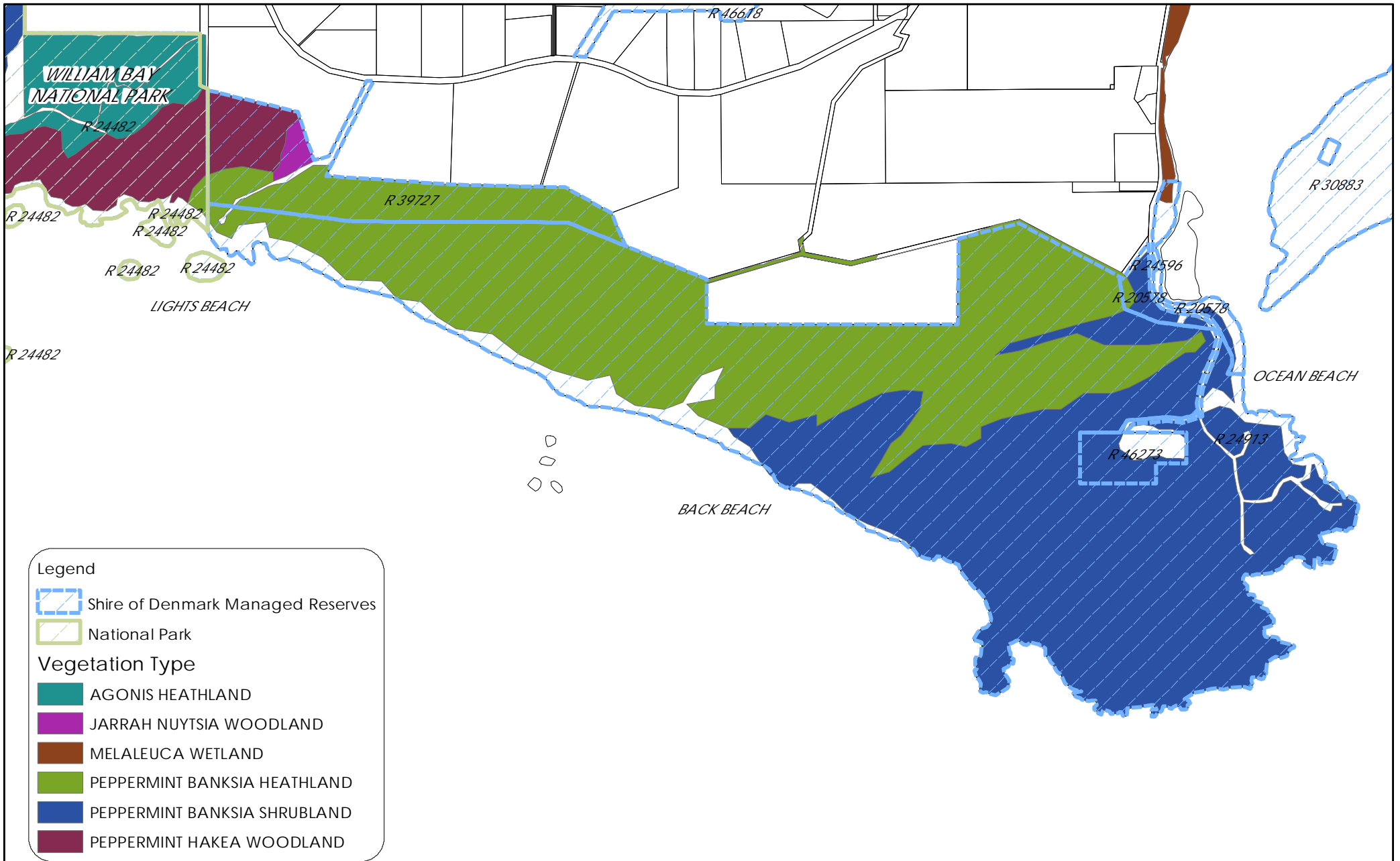
The survival of these species is threatened by destruction of habitat areas and predation by feral animals. Therefore, it's important that the future use and management of the Shire's coastal reserves aims to minimise impacts on vegetation cover and condition and retain habitat for native fauna.

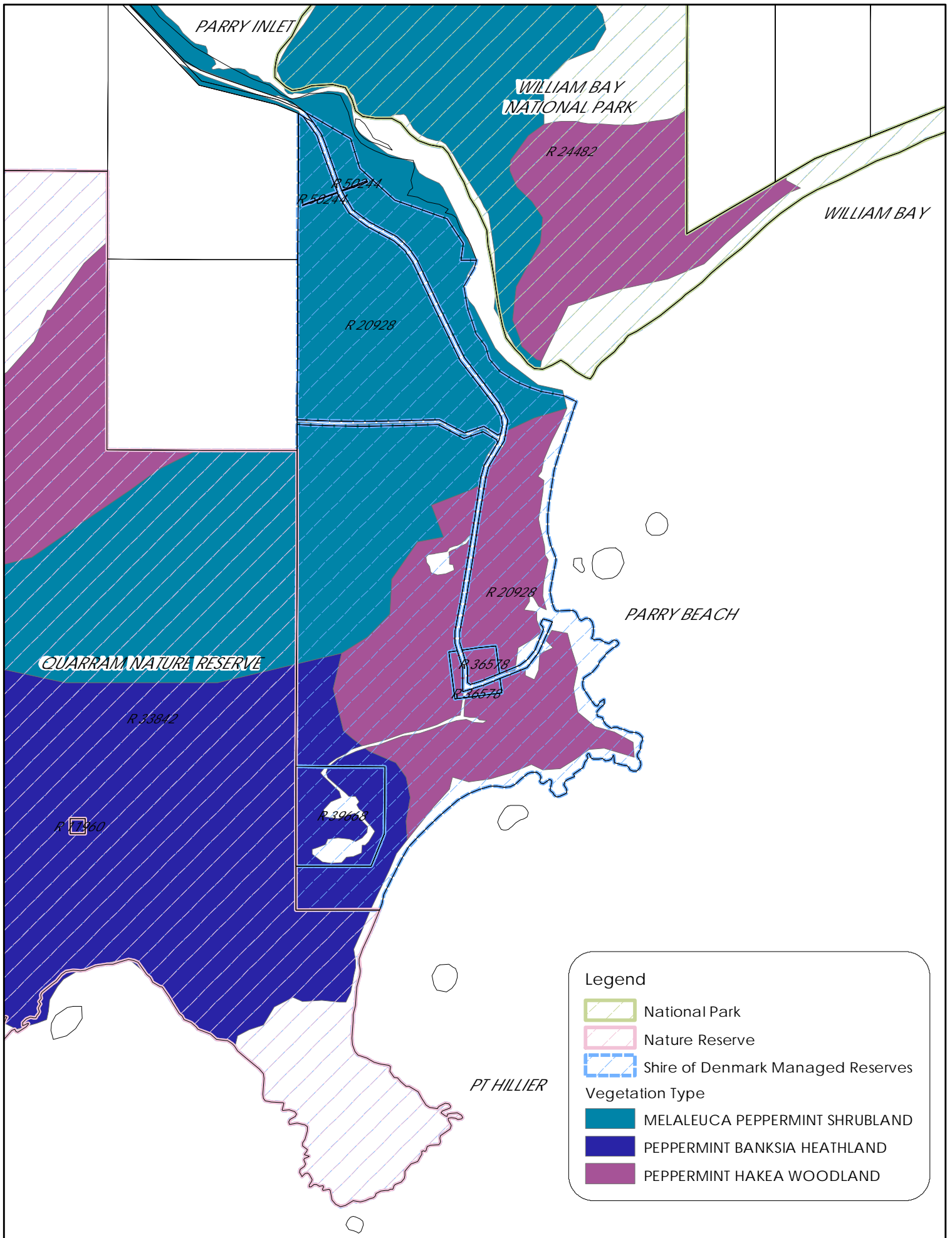


Introduced fauna such as rabbits, cats, dogs, foxes, mice and black rats have significant impacts on native fauna and vegetation condition, and in general contribute to vegetation disturbance and weed encroachment.




Marine Mammal Strandings

Marine mammal strandings occur fairly regularly along the South Coast. Different animals are likely to require different management strategies, either for relocation or disposal. DEC is responsible for the rescue and relocation of live animals; however the disposal of dead animals is the Shire's responsibility (although DEC will work with the Shire regarding this). At very remote locations it may be most appropriate to just leave a carcass to rot away. Conflict between vehicles and/or dogs on beaches with exhausted or injured stranded marine mammals will need specific management strategies such as information signage at access points to these beaches, with DEC contact details for observed animal strandings.






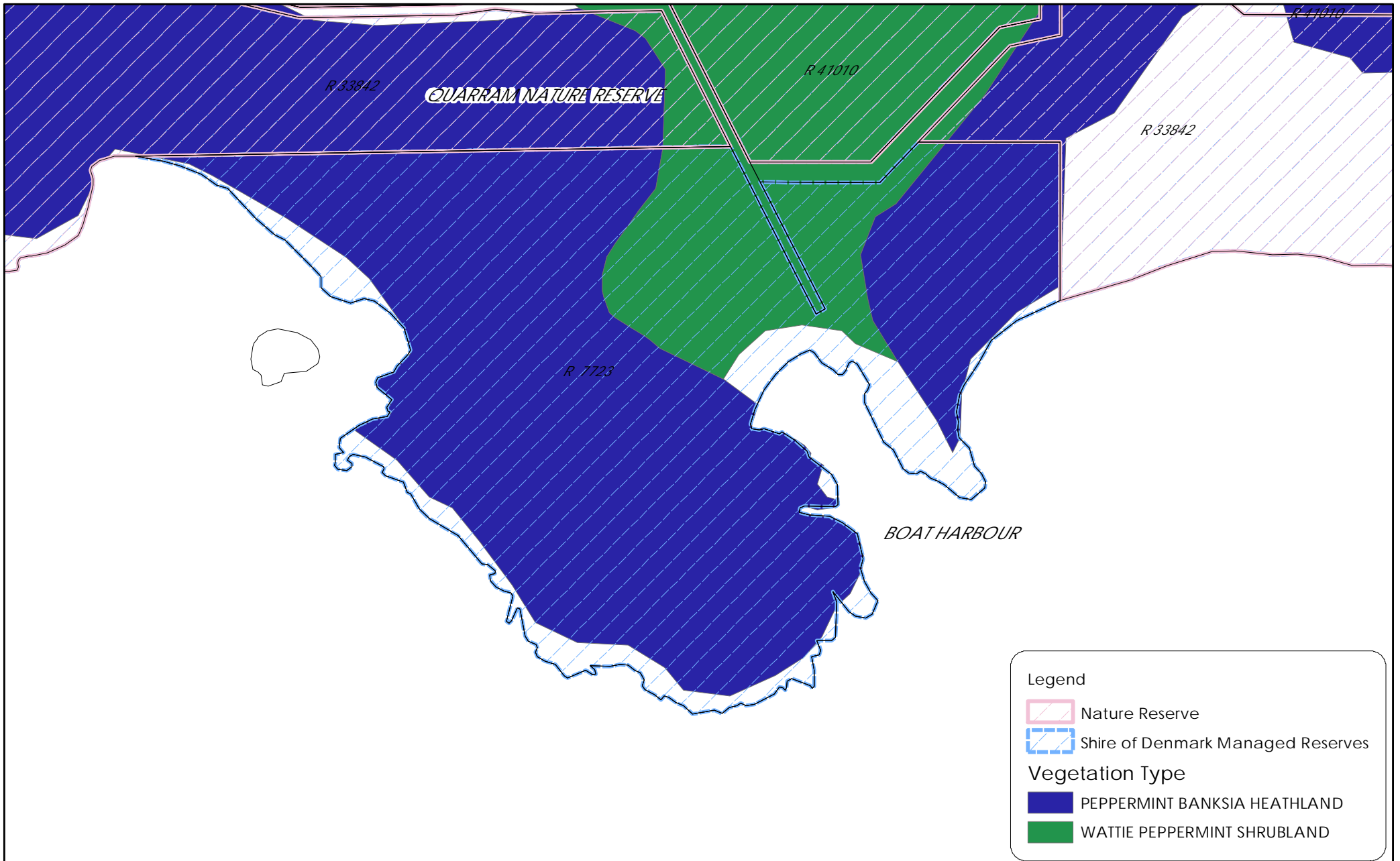


Legend

-  National Park
-  Nature Reserve
-  Shire of Denmark Managed Reserves

Vegetation Type

-  MELALEUCA PEPPERMINT SHRUBLAND
-  PEPPERMINT BANKSIA HEATHLAND
-  PEPPERMINT HAKEA WOODLAND

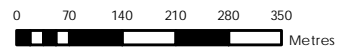


Legend

-  Nature Reserve
-  Shire of Denmark Managed Reserves

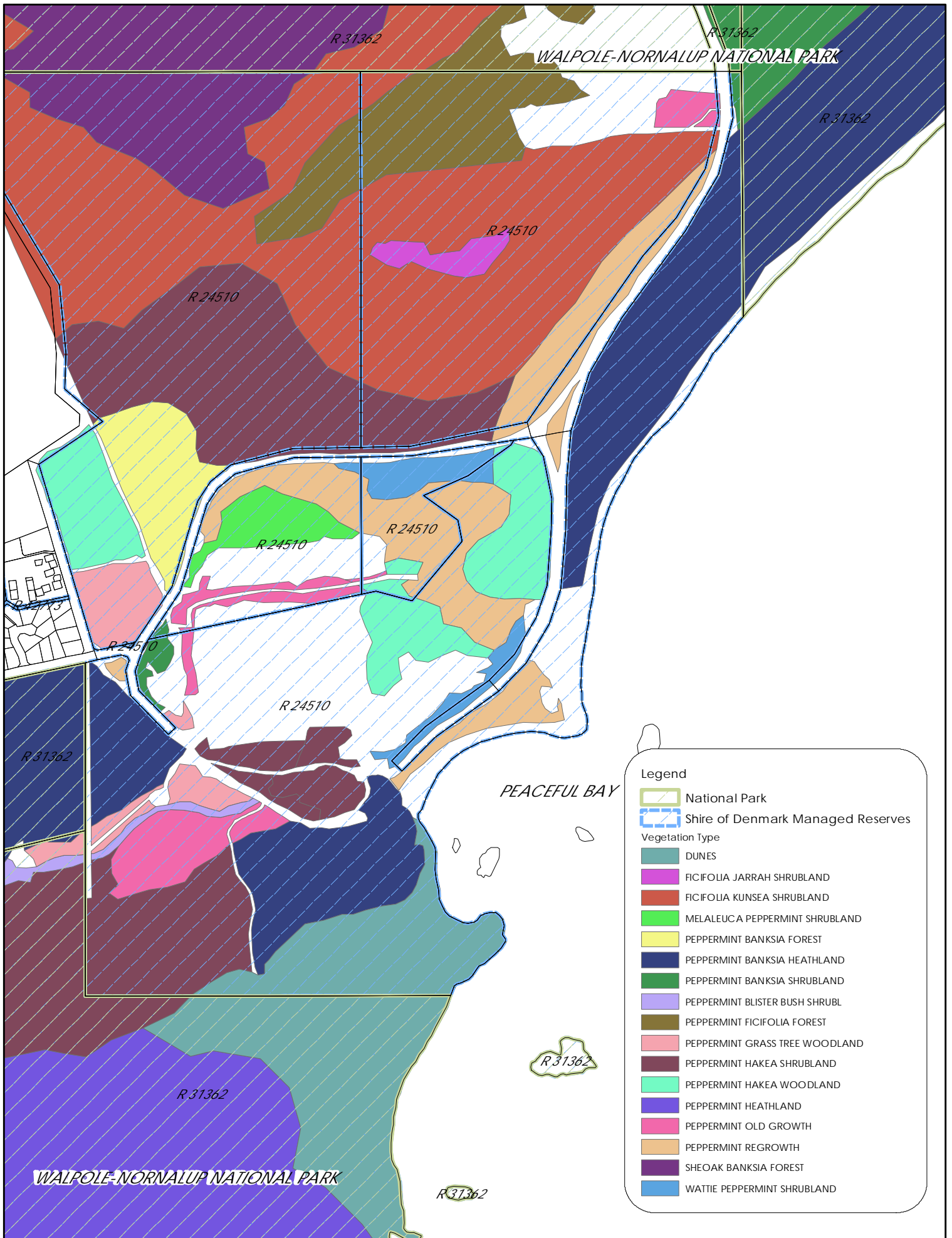
Vegetation Type

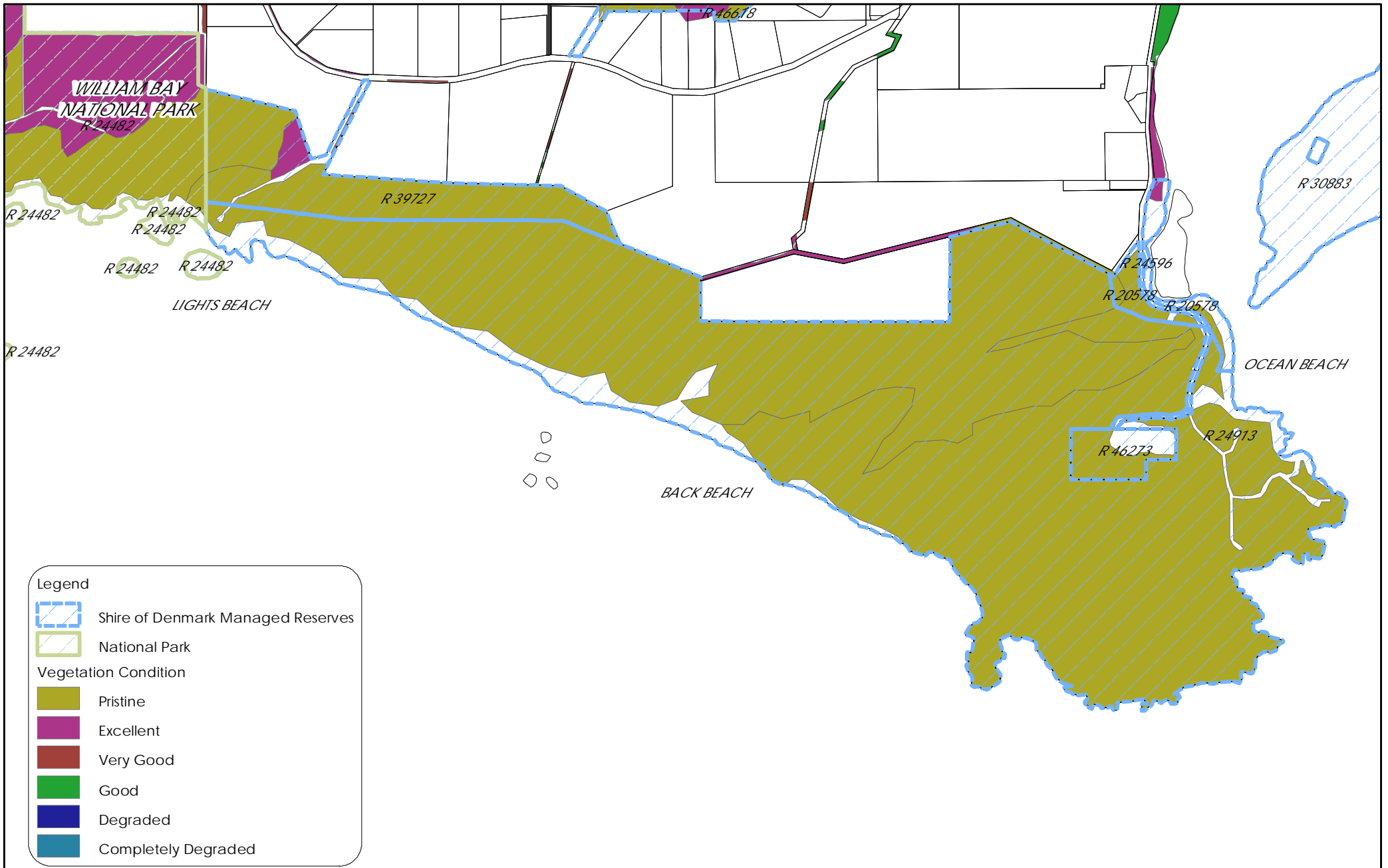
-  PEPPERMINT BANKSIA HEATHLAND
-  WATTIE PEPPERMINT SHRUBLAND



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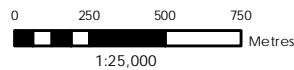
Date: 5/10/2010 Plan: Figure4_1c_VegetationType_BH
 Data: Shire of Denmark and DEC

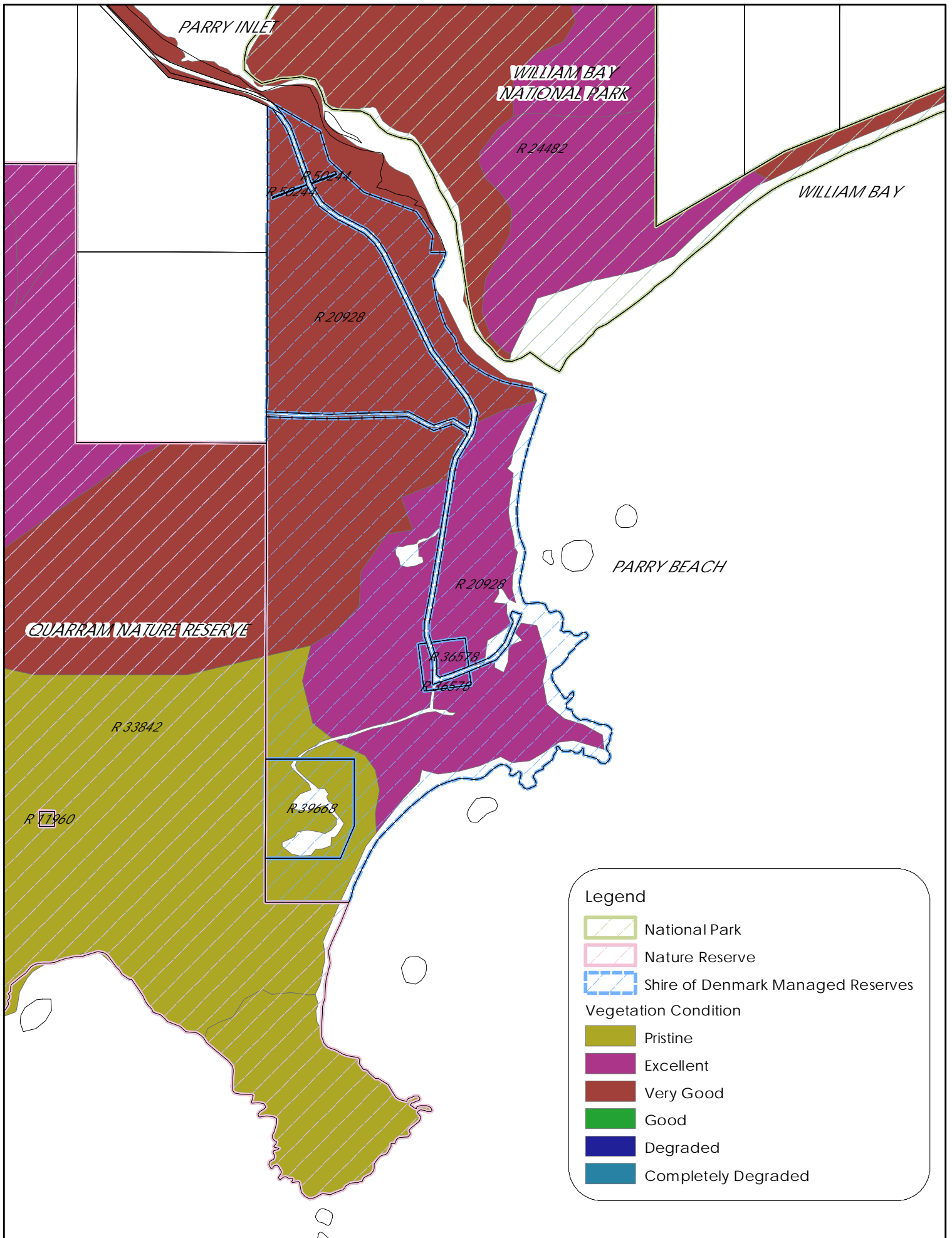







Legend

-  Shire of Denmark Managed Reserves
-  National Park
- Vegetation Condition
 -  Pristine
 -  Excellent
 -  Very Good
 -  Good
 -  Degraded
 -  Completely Degraded









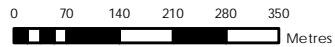
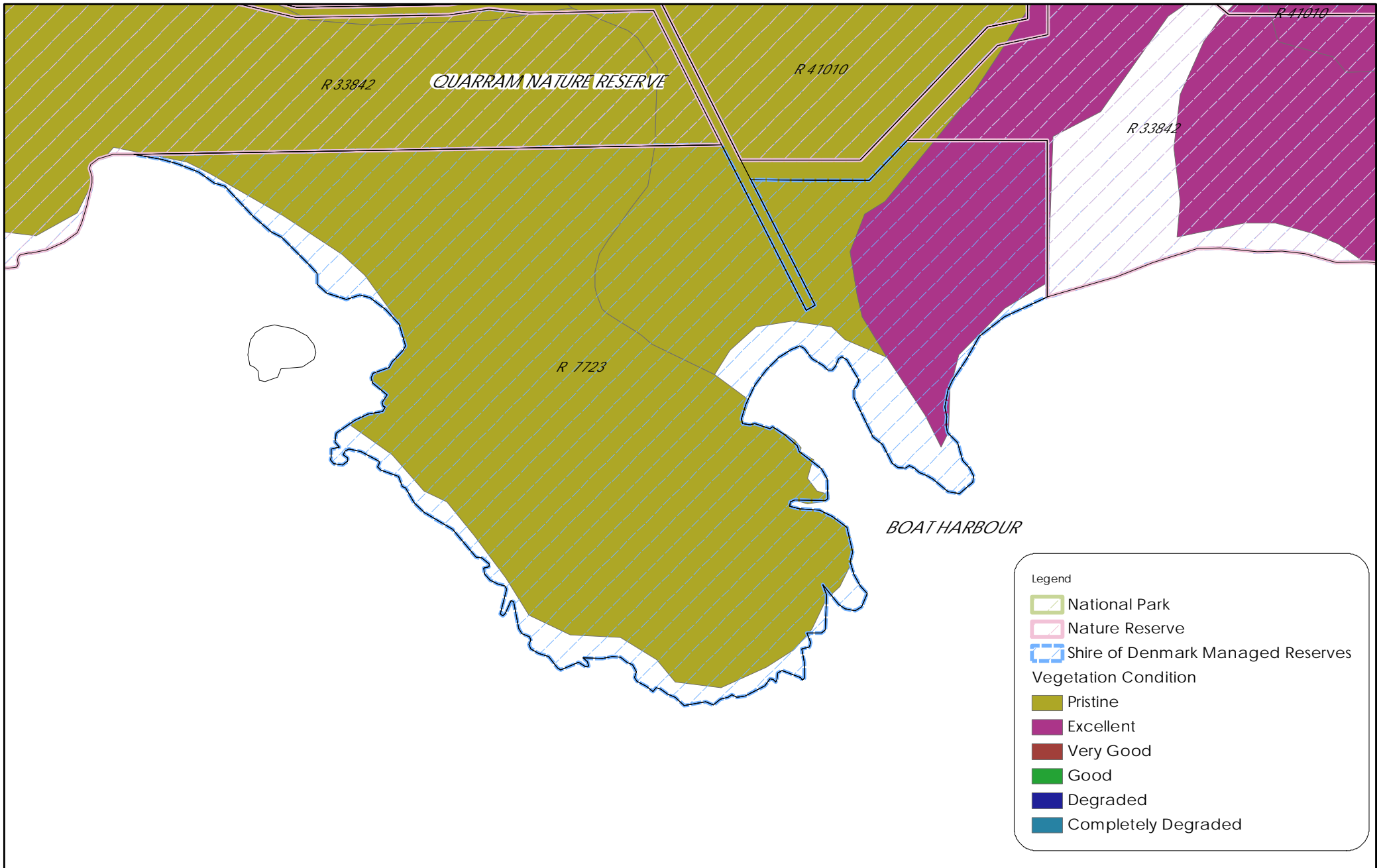


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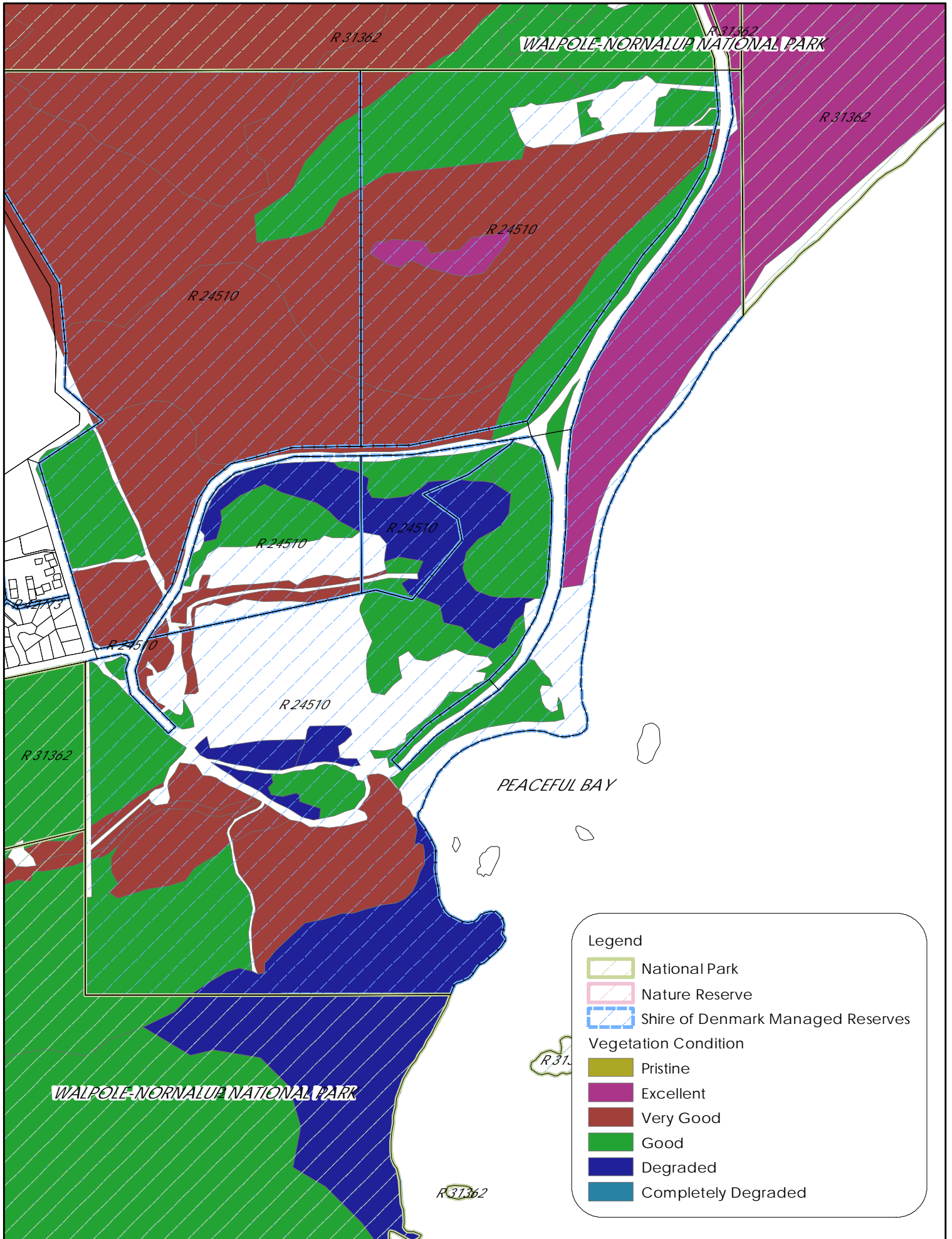
-  National Park
-  Nature Reserve
-  Shire of Denmark Managed Reserves

Vegetation Condition

-  Pristine
-  Excellent
-  Very Good
-  Good
-  Degraded
-  Completely Degraded



1:10,000



Legend

- National Park
- Nature Reserve
- Shire of Denmark Managed Reserves

Vegetation Condition

- Pristine
- Excellent
- Very Good
- Good
- Degraded
- Completely Degraded

5 CULTURAL & SOCIAL CHARACTERISTICS

5.1 Land status and zoning

The Shire of Denmark Town Planning Scheme No. 3 (TPS) indicates that Ocean Beach Reserve; Parry Beach Reserve and Peaceful Bay Reserve are reserved as *Parks and Recreation*. Boat Harbour Reserve is reserved as *Public Use*.

5.2 Land vesting and tenure

All areas considered within this 2010-2020 Strategy and Action Plan are contained within reserves which have their management orders with the Shire of Denmark. The purpose and responsibility of each reserve is described in more detail below. The specific location of each reserve can be seen in Figures 5.1a-5.1d. These plans also indicate the tenure of surrounding areas such as other reserves, freehold land, unallocated crown and, road reserves and the Shire boundary.

Ocean Beach Reserve – 24913 (Lot 7625 on P216756)

The total area of this reserve is 545ha and is classified as a Class 'A' reserve. The management orders are with the Shire of Denmark and the current purpose is listed as *Parklands and Recreation*.

Ocean Beach Reserve – 20578 (Lots 8234 and 8235 on P35326)

The total area of this reserve is 13ha and is classified as a Class 'C' reserve. The reserve is located at the north-west end of the Ocean Beach Reserve Study Area and includes two small parcels of land near the opening of the Wilson Inlet. The management orders are with the Shire of Denmark and the current purpose is listed as *Camping*.

Ocean Beach Reserve – 24596 (Lot 6119 on P164260)

This reserve includes a very small area of land (0.06ha) along Ocean Beach Road near the Wilson Inlet. It's classified as a Class 'C' reserve. The management orders are with the Shire of Denmark and the current purpose is listed as *Recreation*.

Ocean Beach Reserve – 39727 (Lot 7622 on P14650)

This reserve borders the northern boundary of R24913 at the western end of the study area. The management orders are with the Shire of Denmark and the land use is listed as *Public Recreation*. The reserve is 56.45 ha in size and includes the access road to Lights Beach.

Parry Beach Reserve – 20928 (Lots 303 and 304 on P49014)

This reserve is 205ha and is also classified as a Class 'A' reserve. The management orders are with the Shire of Denmark and the current purpose is listed as *Camping and Recreation*.

Parry Beach Reserve – 50244 (Lots 305 and 306 on P49014)

This reserve is 0.1ha in size and is a long strip of land located at the northern end of the Parry Beach Reserve Study Area branching either side from Parry Road. It's classified as a Class 'C' reserve. The management orders are with the Shire of Denmark and the current purpose is listed as *Drainage*.

Parry Beach Reserve – 36578 (Lots 307 and 308 on P49014)

This reserve is 3.3ha and is also classified as a Class 'C' reserve. It's located at the southern end along Parry Road. The management orders are with the Shire of Denmark and the current purpose is listed as *Caravan Park*.

Parry Beach Reserve – 39668 (Lot 7553 on P186775)

This reserve is 15ha and is located at the southern end of the Parry Beach Reserve Study Area, to the west of Hillier Beach. It's classified as a Class 'C' reserve. The management orders are with the Shire of Denmark and the current purpose is listed as *Quarry Site*.

Boat Harbour Reserve – 7723 (Lot 7594 on P91575)

Boat Harbour Reserve is the smallest study area at 59ha and is classified as a Class 'C' reserve. The management orders are with the Shire of Denmark and the current purpose is listed as *Recreation and Foreshore Protection*.

Peaceful Bay Reserve – 24510 (Lots 1423, 1424, 2229 on P240012)

The Peaceful Bay Reserve Study Area consists of a number of small lots which combine into the one reserve. A majority of the recreational land uses are contained on Lot 2229 which is approximately 83ha in size. The entire reserve is classified as a Class 'A' reserve. The management orders are with the Shire of Denmark and the current purpose is listed as *Camping and Recreation*.

5.3 Existing use

Since European settlement of the area the reserves have historically been used for recreational purposes, commercial uses such as fishing and other activities relating to the recreational or tourism industry. The reserves are still currently used for much the same purpose, although the intensity of development has increased from the early settlement days to include buildings associated with boating and angling clubs, sea rescue groups and surf lifesaving clubs and a variety of other facilities.

Recreational land uses

The Shire's coastal reserves are commonly used for the following activities:

- Walking
- Swimming
- Surfing/Sail boarding
- Fishing
- 4-wheel driving
- Boating
- Camping
- Dog exercise
- General beach activities
- Picnics and relaxation
- Enjoyment of natural surroundings
- Horse riding
- Surf club training

- Sea kayaking.

Prohibited activities include the following:

- Camping on the beach
- Fires on the beach
- Trail Bike/Motorbike riding on the beach
- Vehicle access or 4-wheel driving in certain defined beach swimming areas.
- Dog exercising in defined beach swimming areas.

The recommendations in the 2010-2020 Strategy and Action Plan aim to focus on reducing the land use conflicts and human-induced impacts on the coastal environments, and increasing the safety of visitors and their quality of experience at each reserve, in the long-term.

Commercial uses

Commercial fishing has historically been an important economic resource for the Shire. At Parry Beach Reserve, the area between Point Hillier and William Bay National Park is a Proclaimed Fishing Area under the *Fish Resources Management Act 1994*. The northern end of Peaceful Bay Reserve is also a Proclaimed Fishing Area. Professional fishermen move to these areas between February and April each year to fish predominantly for salmon. Shacks for this purpose are located behind the foredunes at Parry Beach and at the northern end of Peaceful Bay Reserve. The portions of the Parry Beach reserve (R20928) and Peaceful Bay Reserve (R24510) which includes the existing fishing shacks is currently under leasehold for professional fishing purposes only.

A portion of the Peaceful Bay Reserve (R24510) is currently under leasehold for the operation of a commercial caravan park, with an associated general store.

Other commercial land uses include the South Coast Surfing School which operates at Ocean Beach. The school has been running at this location for more than 12 years. The Council resolved on the 4th December 2009 to renew the approval for the school for a further five years. The resolution also provided recommendations regarding signage, parking and land use conflicts such as the following:

- *The school vehicle being parking in such a manner that it minimises the potential for conflict with the school, recreational boat and other beach users.*
- *The school, vehicle being parked in a location adjacent to the beach bollards as determined from time to time by the Senior Ranger.*
- *The school is not to operate during the times that Surf Life Saving carnivals are held at Ocean Beach.*
- *One vehicle being permitted to be parked in the boat trailer parking area only when lessons are being conducted.*
- *The request for a dedicated parking bay be deferred and considered as part of the upcoming review of the Coastal Management Plan.*



There are opportunities for future commercial activities in the Shire’s coastal reserves such as the operation of guided interpretive tourist walks and bus routes to popular tourist beaches such as Ocean Beach.

5.4 Heritage

The heritage related to the Shire’s coastal reserves includes both Indigenous and European history which has influenced the current land use and development in the area.

Indigenous

There is evidence to suggest Aboriginal people have inhabited the south-west of Western Australia for at least 38 000 years. At the time of European settlement, the south-west was occupied by a semi-sedentary Aboriginal population of several similar tribal groups, known collectively as Noongar (also spelled Nyungar) or Bibbulmun (also spelled Pibulmun) people (Goode and Irvine 2006)

It is known that the Wilson Inlet historically formed a focal point for the Noongar people who managed and utilised the Inlet and its abundant natural resources (Green Skills, 2008; Mitchell, 2008). There’s an extensive range of archaeological evidence in and around the Inlet to support its use for a variety of cultural activities and for resource acquisition (Green Skills, 2008). *The Wilson Inlet Cultural Management Plan 2008* (authored by Myles Mitchell) was developed by State Government Agencies and South Coast NRM Inc. to assess the Noongar cultural values associated with the Wilson Inlet, and guide culturally sensitive management of the Wilson Inlet in the future.

The Department of Indigenous Affairs (DoIA) provides mapping to show the location of identified Aboriginal sites and related information. Details of these sites are provided in Table 5.1 below. The location of Aboriginal heritage sites is also depicted in Figures 5.2a-5.2d and further details are contained at Appendix C.

Table 5.1 – Aboriginal Heritage

Location	Site Name	Site Type
Ocean Beach	Katelsia Rock Shelter	Artefacts / Scatter, Midden / Scatter
Lights Beach	Lights Beach	Artefacts / Scatter
Boat Harbour Reserve	Boat Harbour	Artefacts / Scatter
Peaceful Bay Reserve	Point Irwin Quarry	Quarry, Artefacts/Scatter
Peaceful Bay Reserve	Little Groper Rock	Grinding patches/grooves
Peaceful Bay Reserve	Point Irwin 1	Grinding patches/grooves
Peaceful Bay Reserve	Point Irwin 2	Grinding patches/grooves
Peaceful Bay Reserve	Nornalup National Park	Artefacts / Scatter
Peaceful Bay Reserve	Peaceful Bay 01	Artefacts / Scatter

Source: Department of Indigenous Affairs (2010)

Development that has the potential to impact on any Aboriginal heritage site (whether discovered or not) is governed by the *Aboriginal Heritage Act 1972*. The DoIA suggests that ethnographic and

archaeological surveys are undertaken prior to any development to ensure that the provisions of the Act are not breached.

It is recommended that some form of educational information is provided at each coastal reserve to make visitors aware of the specific Indigenous values of the area (e.g. interpretative signage). Consultation with indigenous landowners is recommended during the implementation of any educational information or signage.

The DoIA provides advice to developers regarding any form of development. Should an Aboriginal site be uncovered during construction or skeletal material found, work on the site needs to cease immediately. Various approvals need to be obtained prior to work re-commencing.

European

European discovery of the south coast took place in 1622 when the Dutch ship called the 'Leeuwin' travelled past this region. The town of Denmark was established in the 1880's during the establishment of the timber industry which was fuelled by the farming potential between York and Albany, the Kalgoorlie gold rush and new railway lines which were under construction in the broader region. The establishment of the railway line further supported economic development in the region through the improvement of transport of goods.

The decrease in timber in the early 1900's meant that many early settlers left the region in search of alternate employment. Land was sold cheaply and the steady flow of migrants from Great Britain saw the development of vegetables, fruit and dairy farming. The Group Settlement Scheme of the 1920's created a 'boom' period for Denmark and brought the establishment of schools, roads, and bridges. During the 1940's the government settled many ex-servicemen on farms in the district which resulted in further population growth (Riney *et al.*, 1987).

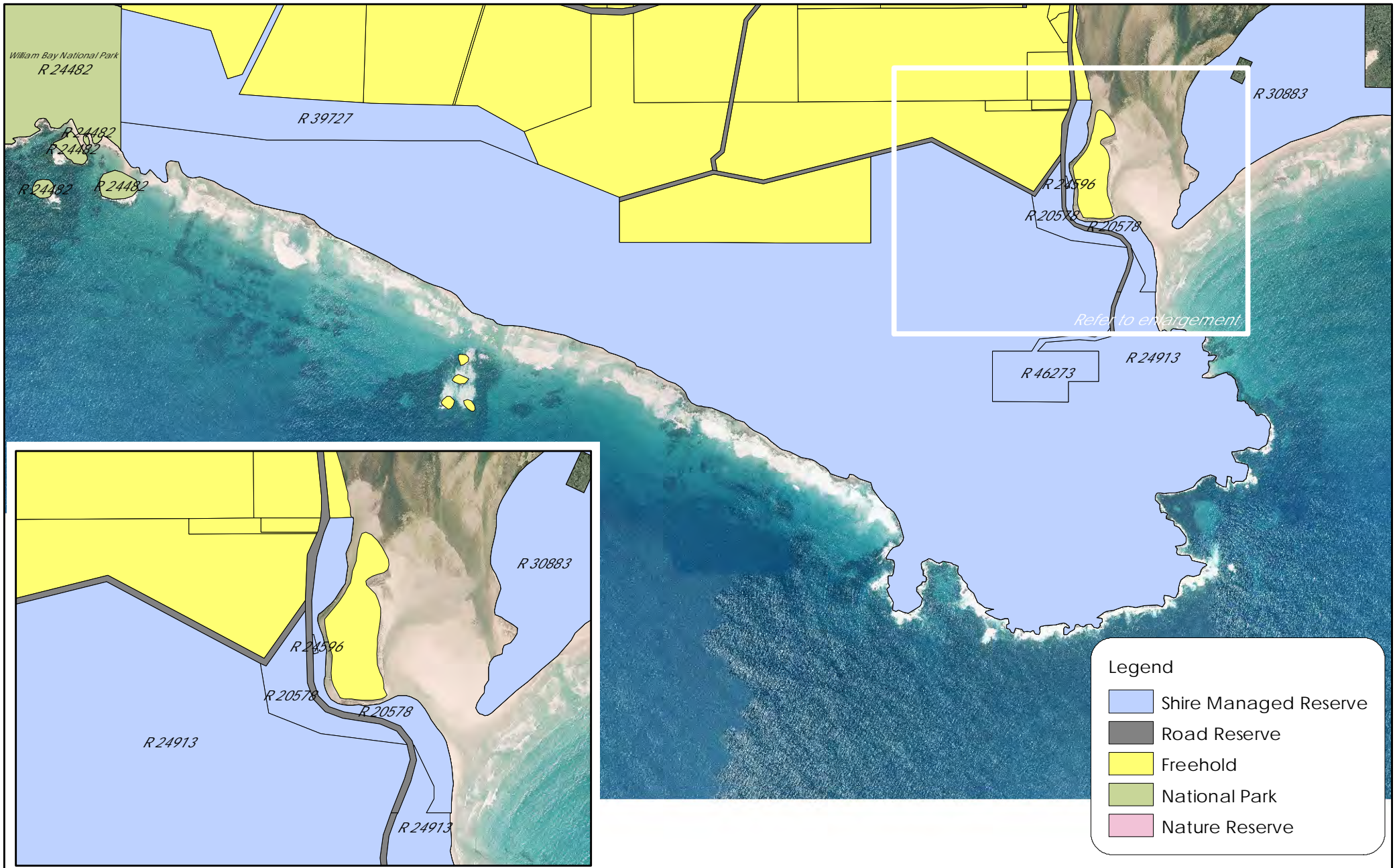
Tourism also gradually developed during the 1940's and 50's. Prawn Rock Channel and Ocean Beach were popular holiday spots during this time. These areas were mainly visited during the summer months for camping and fishing purposes. Reserve 20578 at Prawn Rock Channel was used for camping on either side of the road and other conveniences were also present such as tea rooms, a general store and picnic facilities (Green Skills, 2008).

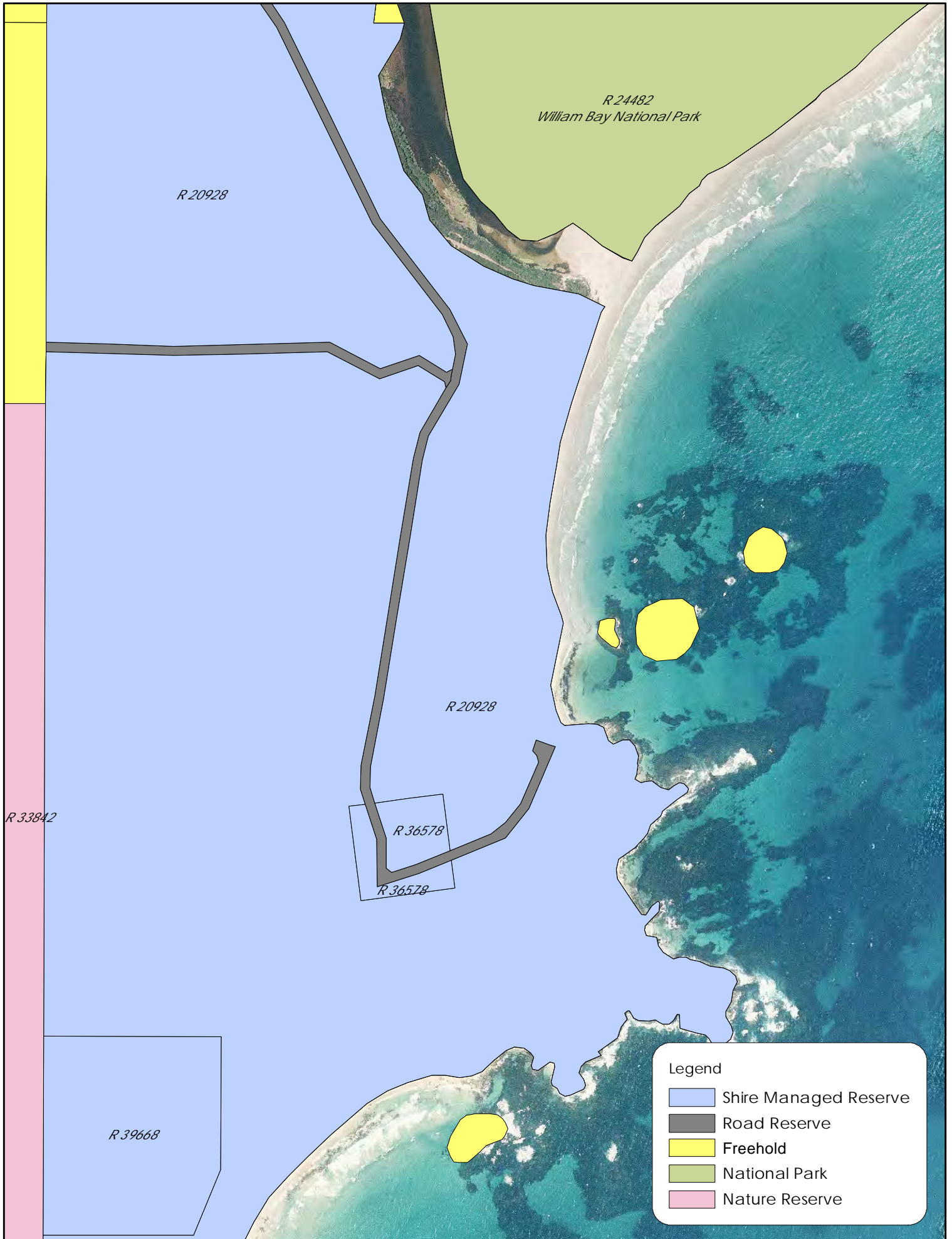
There are no places registered with the Heritage Council of WA as being of European heritage significance at Ocean Beach Reserve, Parry Beach Reserve and Boat Harbour Reserve. One place is listed within Peaceful Bay Reserve as *Peaceful Bay Settlement – Original* (on the local register). It has the following description:

The settlement comprises 163 informal vernacular style holiday cottages on compact blocks with no fencing but separated by native peppermint trees and narrow gravel grid style lanes. The cottages are predominantly of timber and fibrous cement construction and were constructed at low cost using basic materials. The individual low-key elements of the precinct, its original layout, siting amongst lawns and shady trees and remote bushland setting help to create a distinctive informal character.



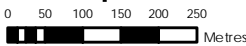
The construction date is listed as 1950 and the historic themes are listed as demographic settlement and mobility, social and civic activities (sport, recreation and entertainment), outside influences (tourism) and people (innovators). The site is located slightly inland and to the west of the coastal/beach area.





Legend

- Shire Managed Reserve
- Road Reserve
- Freehold
- National Park
- Nature Reserve

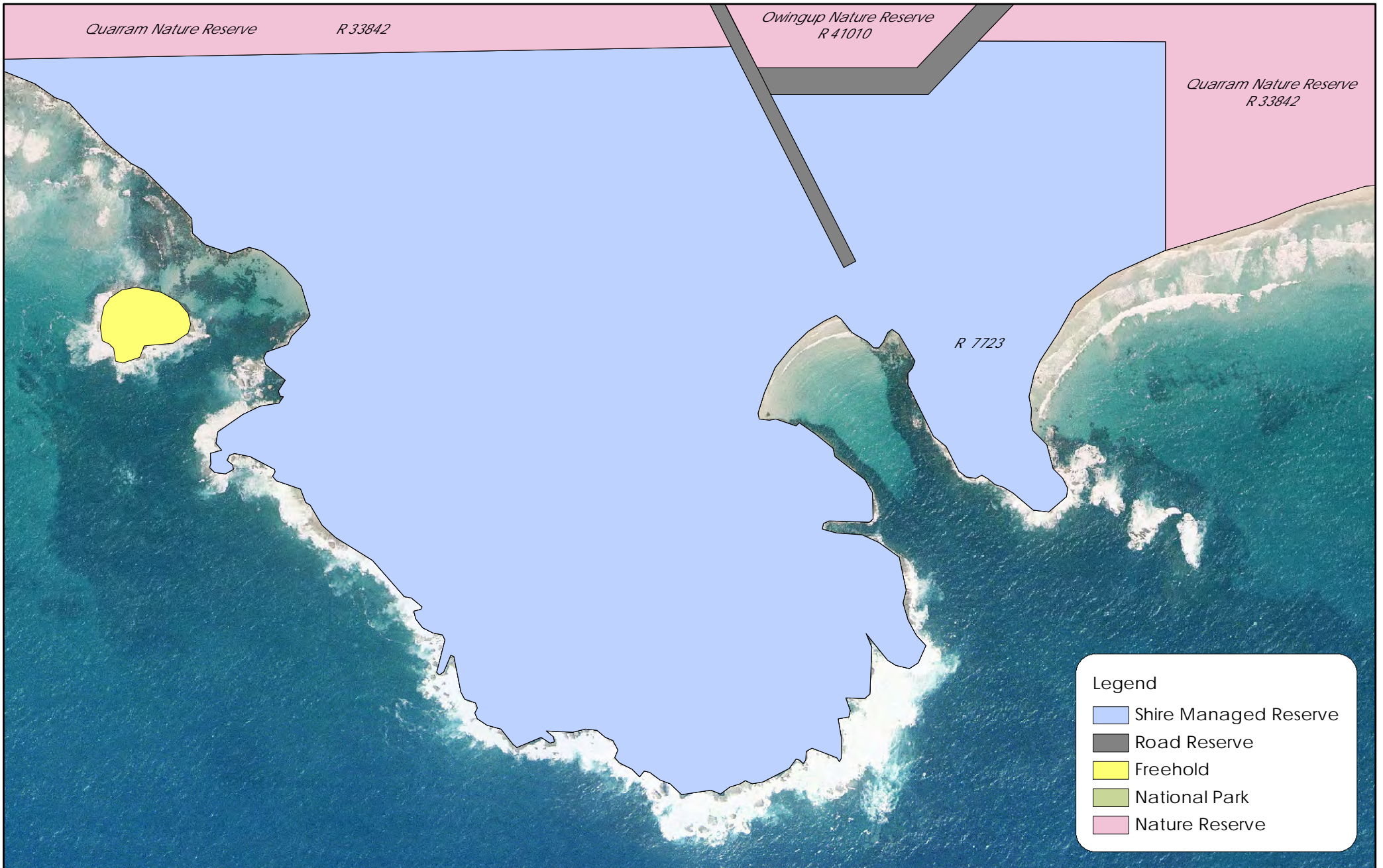


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Figure 5.1b

TENURE - Parry Beach Reserve

COASTAL RESERVES MANAGEMENT STRATEGY



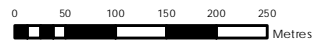
Legend

- Shire Managed Reserve
- Road Reserve
- Freehold
- National Park
- Nature Reserve

Figure 5.1c

TENURE - Boat Harbour Reserve

COASTAL RESERVES MANAGEMENT STRATEGY
SHIRE OF DENMARK

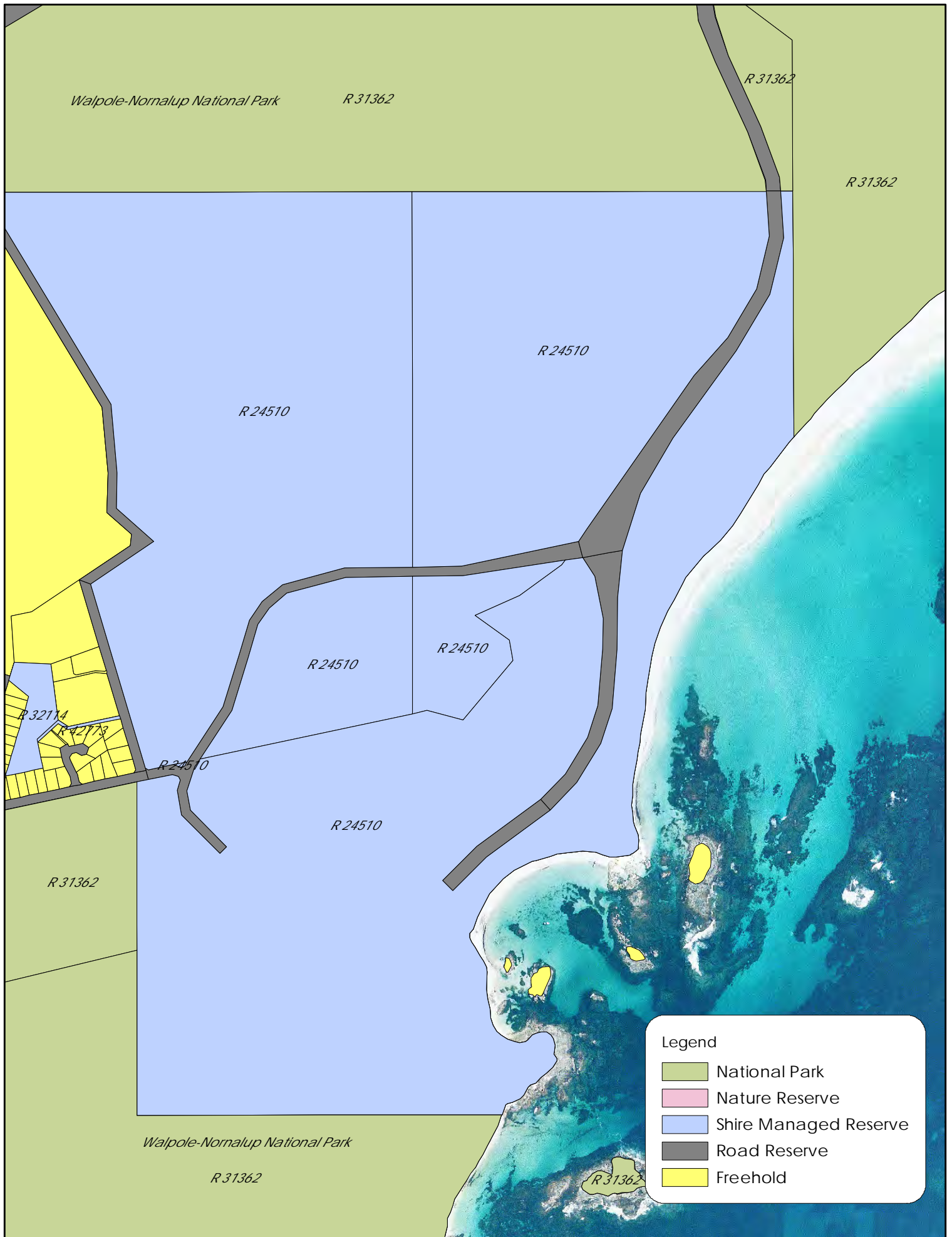


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Date: 5/10/2010

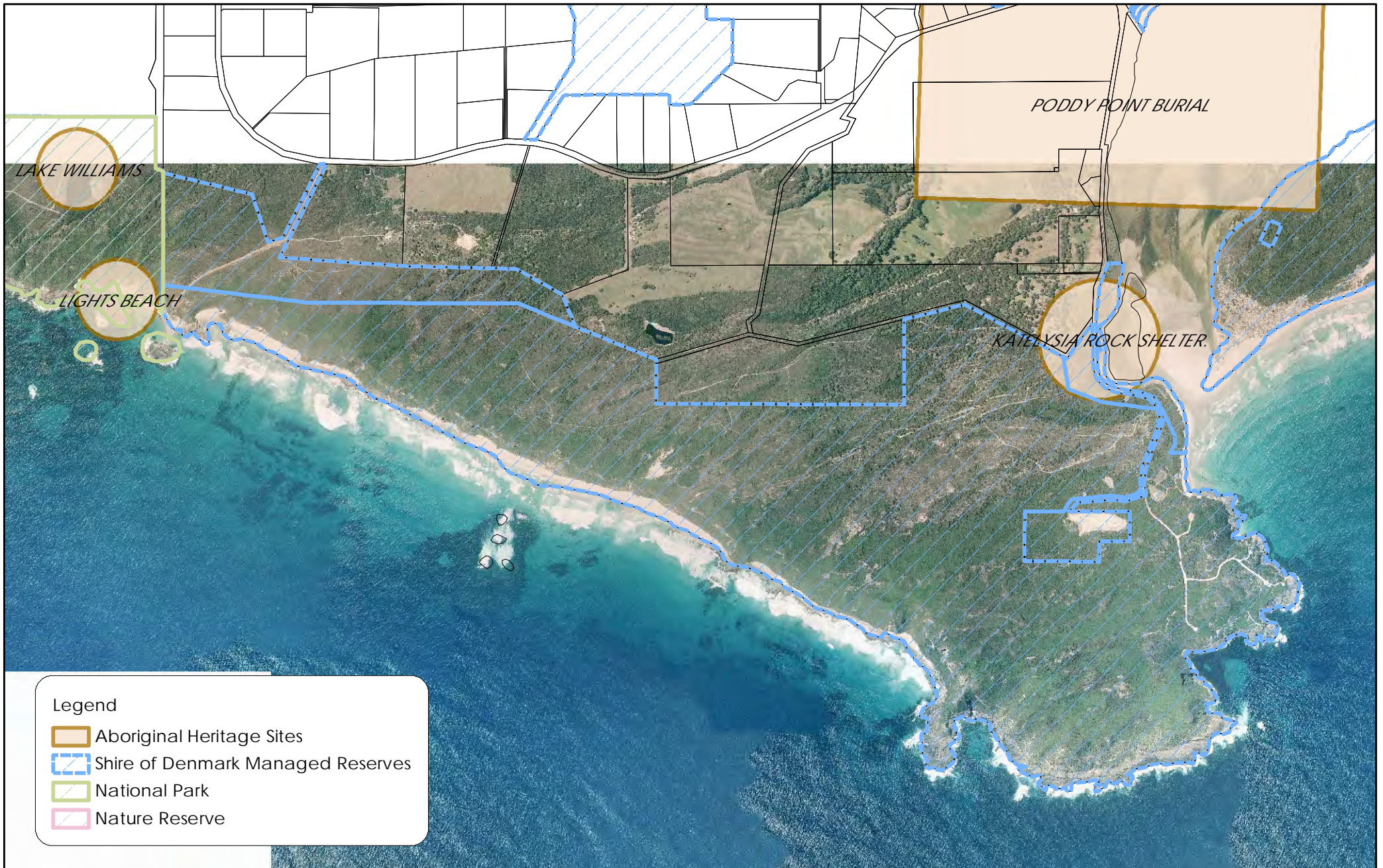
Plan: Figure5_1c_Tenure_BH

Data: Shire of Denmark and DEC







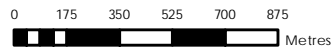
Legend

- National Park
- Nature Reserve
- Shire Managed Reserve
- Road Reserve
- Freehold



Legend

-  Aboriginal Heritage Sites
-  Shire of Denmark Managed Reserves
-  National Park
-  Nature Reserve



1:25,000





Date: 5/10/2010

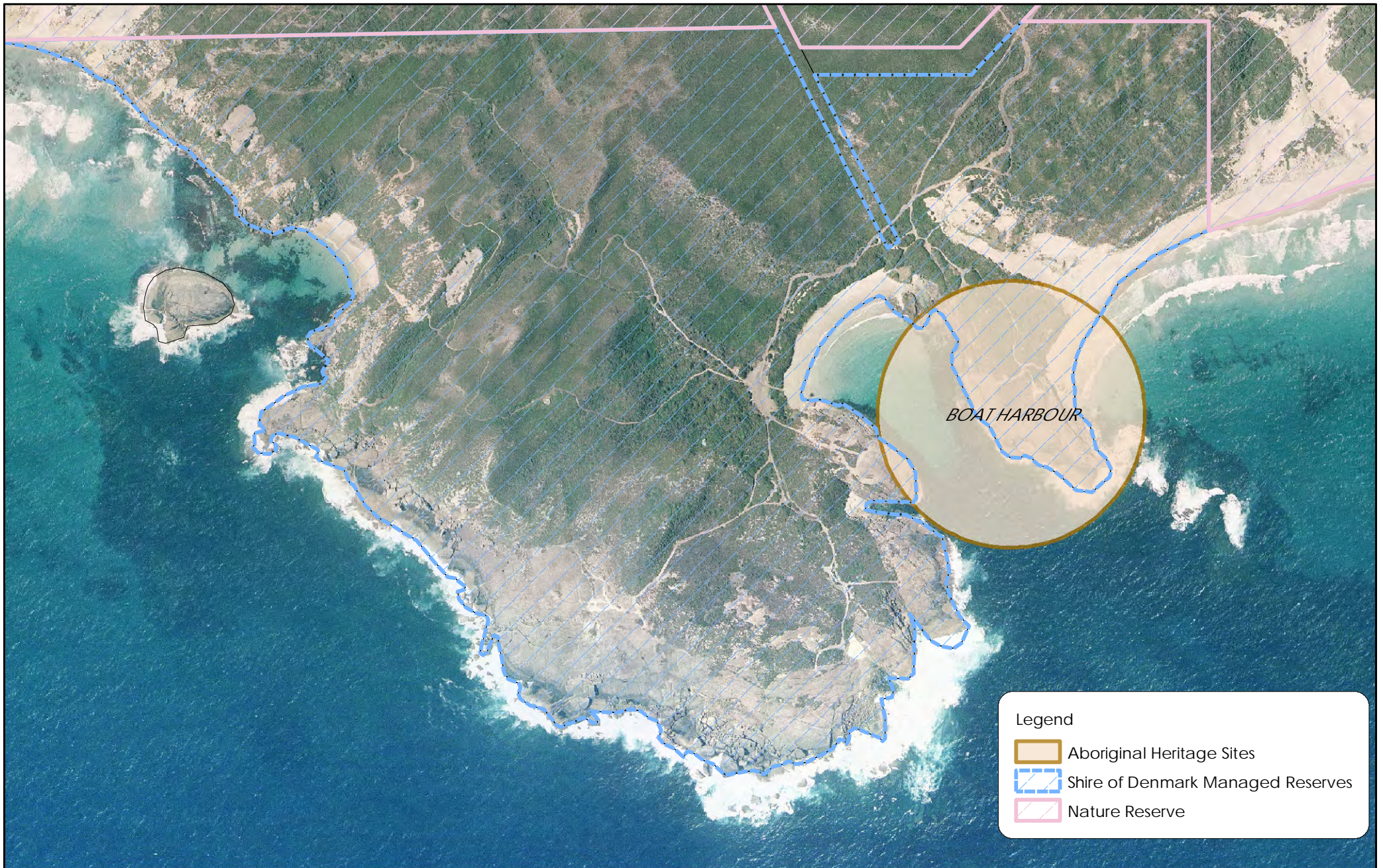
Plan: Figure5_2a_AHS_OB

Data: Shire of Denmark, DEC and DIA



Legend

-  Aboriginal Heritage Sites
-  Shire of Denmark Managed Reserves
-  National Park
-  Nature Reserve



Legend

- Aboriginal Heritage Sites
- Shire of Denmark Managed Reserves
- Nature Reserve



Legend

- Aboriginal Heritage Sites
- Shire of Denmark Managed Reserves
- National Park
- Nature Reserve

LITTLE GROPER ROCK

PEACEFUL BAY 01

NORNALUP NATIONAL PARK

POINT IRWIN 1



1:10,000

6 COASTAL MANAGEMENT STRATEGIES

6.1 Introduction

This chapter includes a discussion on the coastal management issues that are considered in this report and the strategies for each. Coastal management issues include coastal tenure, coastal processes, environmental management, recreational activity management, fire management, access, heritage and community involvement.

6.2 Guiding Principles

Conservation

- To maintain and restore terrestrial and marine ecosystem components.
- Ensure ongoing rehabilitation (i.e. revegetation, weed control and erosion control) of dunes which show evidence of disturbance.
- Commence weed control and revegetation works on areas identified in the action plan.
- Encourage long-term rehabilitation of dunes by ensuring that beach users keep to formal pathways to protect vegetation from human disturbance.
- Carry out weed control in areas more heavily infested and work towards smaller infestations.
- Ensure soil disturbance is minimised during any implementation and maintenance of facilities and infrastructure.
- Ensure that erosion is controlled by closing informal tracks, encouraging the use of formal pathways and rehabilitating and maintaining dune vegetation.
- Educate the local community and visitors about respecting the environment and minimising their impacts to allow for environmental protection and enjoyment in the future.

Recreation

- Recreational land uses should be recognised as a major value of the Shire's coastal reserves.
- To provide appropriate facilities to cater for a wide range of recreational activities which are consistent with the use of each reserve and which are wheelchair accessible where possible.
- To maintain the safety and quality of recreational activities and experiences within the Shire's coastal reserves, which are consistent with the social and natural values of each reserve .
- To encourage the development of new tourist opportunities where appropriate, consistent with the social and natural values of each reserve.
- The possible expansion of the Peaceful Bay residential area and increasing visitor numbers to the Shire during peak periods means that the recreational use of the coast will increase in the short-term.
- To ensure that public access to the coast causes minimal environmental damage.
- Pedestrian access to the beach at each reserve is considered adequate. No new paths are recommended to allow for dune and vegetation protection. It's recommended that some existing informal tracks are formalised.

- Restricted vehicle access along the beach at Ocean Beach is considered appropriate. Further vehicle restriction zones are recommended for sections of Parry Beach and Peaceful Bay.
- Some interpretative signs should be implemented in certain locations with the aim of providing public education in relation to indigenous heritage and the environment and should be designed and situated to enhance the landscape and aesthetics.

Social/Community Uses

- Recognise the importance of community ownership of the beach and encourage a sense of respect for general safety and 'ownership' of the environment.
- To encourage further local participation in coastal planning, management and monitoring processes.
- Provide ongoing opportunities for the community to be involved in the environmental management of the beach such as weed control, vegetation surveys, fauna spotting, reporting vandalism and damage etc. to allow them to 'experience' the natural environment.
- Recognise the financial limitations of the Shire of Denmark and allow them to prioritise actions which require more attention.
- Recognise the importance of the beach to the Noongar people.

6.3 Coastal Tenure

Issues

The details relating to the Shire's coastal reserves are included in section 5.2 of the report. It is considered that the current tenure and reserve purpose for a majority of the Shire's coastal reserves is appropriate for their designated use and for future conservation and management. A small number of actions propose to change 'C' Class reserves to 'A' Class reserves as appropriate and to change the purpose of reserves where necessary. In general however, the purpose of the reserves is for recreation and environmental protection which is consistent with the current and future use of these areas.

Another issue relating to coastal tenure has been the historic creation of numerous smaller reserves with different purposes in coastal areas. This can lead to ad-hoc management and possible conflicts in use. The most straight-forward solution to this is to merge smaller reserves into a larger, single reserve.

The definition and gazettal of formal road reserves where these are lacking or incorrect, also needs to be addressed to facilitate improved management of the road infrastructure in Shire coastal reserves.

The boundary of the reserves along most of the beach areas indicates that a portion of the beach in sections has not been allocated to the reserve. Therefore, these sections of the beach are not in the Shire's control. This matter can be rectified by contacting Landgate and possibly amending the cadastre information to follow the shoreline.

Objectives

To retain the focus of coastal reserve management on recreation and conservation of natural values.

Strategies

The recommended strategies are as follows:

1. Avoid segregation of the coastal reserves into smaller reserves, and merge reserves where appropriate.
2. Review the discrepancies between the boundary of coastal reserves and Unallocated Crown Land along the beach areas.
3. Undertake the formalising of road reserves where appropriate to facilitate the management of road infrastructure.

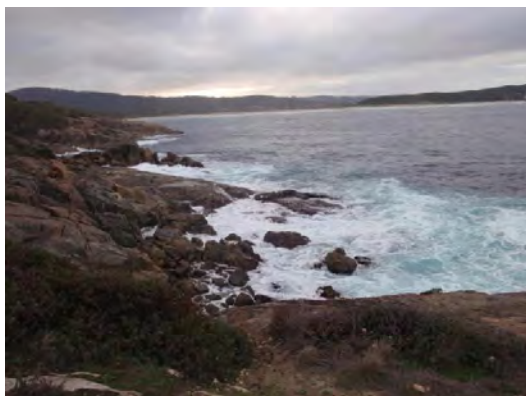
6.4 Coastal Processes

Issues

Waves constantly change the shape of the coastline as part of a natural cycle of beach erosion and accretion (short-term changes). The winter months are associated with a large number of storms and high wave energy which results in increased shoreline erosion where sand is deposited offshore. During the months of summer and autumn, the wave energy decreases resulting in the movement of sand back onto the beach and the foredunes. In general, the onshore-offshore movement of sediment does not represent a significant loss from the beach system.



Rocky granite coastline at Boat Harbour



Rocky granite coastline at Black Hole

The process of cross-shore transport during storm events is part of the continuous adjustment that occurs in response to variation of the coastal climate. The nature of this adjustment can be altered by human intervention, where effort is made to provide an immobile section of coast. None of the Shire’s coastal reserves consist of any defensible or man-made structures.

In addition, an increase in mean sea level resulting from climate change and global temperature rises could result in the reduction of foreshore width and an increased frequency of coastal flooding. The response of the coastal sediment transport regime, coastal inlets and marine and terrestrial vegetation is more complex to predict but also potentially important (Damara and Shore Coastal, 2008).

Objectives

Ensure the Shire is well-equipped to deal with issues which might arise from the impacts associated with climate change.

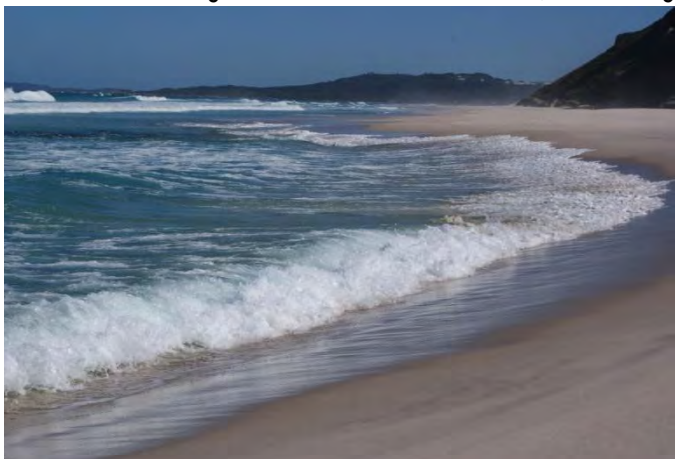
Strategies

The principal of adaptation to climate change has been outlined in SMEC Australia (2007) *Climate Change Adaptation Actions for Local Government as making adjustments to existing activities so that vulnerability to potential impacts associated with climate change can be reduced or opportunities realised.*



Steep cliffs at Wilson Head, near Sinker Bay car park

It is important to focus effort in coastal areas which have a current erosion trend, a narrow foreshore reserve, low relief and inadequate coastal protection works as they tend to have a low capacity to accommodate the potential impacts of climate change (Damara and Shore Coastal, 2008). In general, the Shire’s coastal reserves do not



Waves at Back Beach

exhibit any of the above-mentioned characteristics. However, it is recommended that site specific investigations are carried out should beach erosion and inundations be a concern in order to more accurately determine the distance required for the placement of building and structures to absorb erosion from extreme storm events and from short-term processes such as seasonal erosion and accretion.

The strategies for the management of coastal processes are as follows:

1. Prepare an Asset Management Plan focussing on existing infrastructure and recreational facilities in Shire-managed reserves and how they can be protected from coastal process such as storm events.
2. Consider the need for a Regional Coastal Inundation Risk Assessment, in collaboration with Shires across the South Coast (i.e. South Coast Management Group).
3. Conduct regular monitoring of the beach and the dune systems.
4. Conduct regular monitoring of infrastructure and recreational facilities along the beach.

6.5 Environmental Management

Issues

Management of the environment is essential in order to reduce the impacts caused from human use and to protect the coast from future degradation. Depending on the specific land use, humans generally have a negative impact on the environment through, for instance, removal of vegetation, introduction of weeds and dune erosion etc. Environmental management efforts such as erosion control, weed control, revegetation, access control and protection of important areas (such as habitat conservation) can assist in improving the environmental value of the area.

Native Vegetation

A majority of the Shire's coastal reserves are in pristine or excellent condition and contain significant habitat for native fauna. Habitat protection and conservation involves the protection of vegetation along the primary, secondary and tertiary dunes as well as other areas of vegetation further inland. Protection of remnant vegetation along the coastline and inland provides valuable ecological linkages across the landscape.



Coastal heath vegetation at Back Beach

Vegetation protection can be achieved through pedestrian and vehicular access control, rehabilitation of dunes, fencing, signage and community education about the importance of the natural environment.

Rehabilitation and restoration of coastal areas involves revegetation, weed control and erosion control activities. This includes activities such as dune stabilisation (from brushing etc.), planting of seedlings in disturbed areas, removal of weeds (particularly high priority species) and access prevention.

Non-Native Animals

Feral animals such as rabbits, foxes and cats contributes to dune erosion, destruction of native vegetation and the spread of weeds and they also compete with native fauna for habitat and resources. Control of rabbits, foxes and feral cats can be achieved through baiting, trapping and poisoning.

Some locations within the Shire's coastal reserves have been designated as dog exercise areas (usually along the sandy beach areas). It's important that dogs are under the control of owners at all times and are prohibited from running through native vegetation and dunes and from chasing native fauna.



The variety of landscapes at Back Beach

Landscape

The Shire's coastal reserves provide spectacular views from almost every location. A key component of the landscape is the undeveloped coastline and wildness of the adjoining natural areas. Environmental degradation of the coastal reserves will impact on landscape values of the reserves. It is considered that the wilderness views and aesthetic quality of the Shire's coastal reserves greatly contributes to the region's popularity as both a holiday destination and attraction for permanent resident

accommodation. The considerations of potential impacts on visual landscapes are increasing valued as a significant component for overall management planning for coastal areas. It's recommended that the following document is consulted during visual assessments and planning: *Visual Landscape Planning in WA: A manual for evaluation, assessment, siting and design*, (WAPC 2007).

Dieback

'Dieback' is the common name given to the soil pathogen *Phytophthora cinnamomi*. It is a soil borne water mould which invades and destroys the root systems of many native flora species in Western Australia. Approximately 40% of native plant species in Western Australia are susceptible to dieback. Its ability to destroy root systems has resulted in many plant deaths and the consequent destruction of entire ecosystems in the south-west of Western Australia.

P. cinnamomi is easily spread throughout plant communities through the production of spores, which are dispersed through the movement of soil particles. A variety of vectors can disperse soil particles from one environment to the next including native species, humans, vehicles, machinery and other equipment. As a result, if soil particles from an area infected with *P. cinnamomi* are dispersed, new areas can be infected.

Dieback cannot be eradicated once it's established in an area. Control should focus on preventing the disease from spreading and establishing in new areas and minimising the additional spread in areas where the disease currently occurs. Areas of vegetation that are susceptible to dieback should be closely monitored for signs of infection, tests are regularly conducted and that if dieback is found, that certain measures are put into place to prevent its further spread. Dieback can be monitored by searching for dead or dying 'indicator species' such as *Banksia sp.* and by conducting soil tests.

Appropriate hygiene procedures should be followed by the Shire when undertaking roadworks in coastal reserves to ensure that vehicles and machinery are clean and that construction materials/soils are not infected prior to use.

Fire Management

Fire is a natural phenomenon in the South Coast Region which is largely caused or influenced by summer droughts and lightning storms. It was used deliberately by Aboriginal people prior to European settlement, mainly to assist in hunting practises. Since the advent of European settlement, fires have become more common, especially in the moister southern forests.



The Shire of Denmark has a very active Local Emergency Management Committee (LEMC) which consists of Councillors and staff from the Shire, staff from the Police Service, DEC, Department of Communities, Department of Health, FESA and local businesses together with volunteers from St John Ambulance, Red Cross, Fire and Rescue Service, SES and Bush Fire Brigades. The LEMC provides support to organisations in the Shire to help prevent some emergencies from occurring and to best prepare in the event of an emergency. The LEMC is in the process of reviewing the following documents:

- Local Emergency Management Arrangements
- Local Emergency Management Arrangements Review Flowchart
- Last Exercise to Evaluate the Emergency Arrangements
- DRAFT Emergency Evacuation Plan
- WA State Bushfire Emergency Plan (Westplan-Bushfire).

It's advisable that the Shire and LEMC continue to liaise with the DEC regarding the control of bushfires on local reserves, and also in relation to prescribed burning and fuel reduction techniques and management.

The frequency of fire may also be a determining factor for biodiversity values in coastal reserves, and may differ from habitat to habitat. The Shire needs to continue to work in collaboration with DEC to determine fire sensitivity of different coastal habitats, and adapt prescribed burns to manage the reserve vegetation complexes accordingly.

The maintenance and development of firebreaks may complement opportunities for formalising 4 wheel drive tracks, or the development of new recreational walk-trails in coastal reserves.

Objectives

Protect the landform, dune systems, vegetation and water features from future disturbances caused by human impacts, dieback and wildfires, and to restore degraded areas through revegetation, access control and monitoring.

Strategies

The following strategies are recommended in terms of environmental management in the Study Area.

1. Discourage pedestrian and vehicle access in dune areas by implementing management techniques relevant to the particular site, such as fencing or signage.
2. Monitor dunes located close to higher-use recreation locations for signs of disturbance and close and revegetate informal tracks.
3. Liaise and work with the DEC with regards to conservation of natural habitat and management of environmental impacts across Shire and DEC reserve boundaries, in particular for dogs, threatened wildlife and flora, and frequency of wildfires.

4. Support efforts by local Weed Action Groups to identify and remove weeds from Shire coastal reserves.
5. Map weed infestations in Shire coastal reserves on the Denmark Greening Plan GIS.
6. Encourage Shire field officers to maintain weed identification and management skills.
7. Support education campaigns that identify weeds and explain why they are a threat to natural environments.
8. Implement biodiversity surveys in coastal reserves, and compile a flora and fauna species list for each coastal reserve based on scientific surveys and studies.
9. Encourage long-term rehabilitation techniques such as constant weed control, access control and monitoring for disturbance.
10. Conduct feral animal control.
11. Conduct regular maintenance (such as repairing fences and signs which protect vegetation, weed control, fencing new areas which are being disturbed etc.).
12. Prohibit vehicular use along the proposed beach vehicle exclusion areas at Oceans Beach, Parry Beach and Peaceful Bay Reserve.
13. Provide educational signage in beach areas where shorebird bird nesting (e.g. Hooded Plover) occurs.
14. Continue to provide support to the LEMC and the bush fire control services they provide.
15. Liaise and work with the DEC and LEMC to carry out the recommendations in the Shire's fire management manuals including prescribed burning, hazard reduction techniques and emergency procedures.
16. Liaise and work with DEC regarding specific fire management activities required to enhance biodiversity values in coastal vegetation complexes.
17. Update the Shire of Denmark Fire Prevention Report by developing fire management plans for all Shire of Denmark coastal reserves. Such plans should incorporate hazard reduction procedures and measures to protect natural values, community infrastructure and lives from fire.
18. Monitor and manage areas susceptible to the spread of dieback for signs of infection (such as dead banksia plants) and monitor sites known to be affected for signs of spread. Areas susceptible to dieback include areas containing susceptible species (such as *Banksia sp.* and Jarrah) and areas near access tracks and highly utilised areas.

6.6 Access

Issues

The beach is accessed by the locals from around the Shire and nearby locations as well as a large number of visitors and tourists, especially during peak holiday seasons. The Shire's coastal reserves are all accessible by vehicles, although the ease of access varies depending on the location.

Uncontrolled vehicle and pedestrian access often leads to vegetation damage and erosion. This detracts from the natural landscape and environmental quality and creates management issues. The strategies and actions aim to control access to the coast and ensure vehicles and pedestrians are confined to formal roads and tracks.

Car Parking

Parking is available at each coastal reserve and car parks are located at numerous lookouts or beach access locations such as the following:

- Prawn Rock Channel
- On Ocean Beach Road between Prawn Rock Channel and Ocean Beach Lookout
- Ocean Beach Lookout
- Ocean Beach (main beach)
- Lions Car Park
- McGeary's Rock
- Black Hole Car Park
- Sinkers Bay Car Park
- Back Beach
- Lights Beach
- Parry Inlet
- Parry Beach
- Boat Harbour
- Peaceful Bay – north (near the Sea Rescue Emergency Centre)
- Peaceful Bay – south (near the toilets).



Lights Beach car park

The recommendations in the action plan address the possible future need to expand car parks in popular beach locations where it is expected that visitor numbers might increase over the next 10 years (e.g. Ocean Beach and Peaceful Bay). It's also recommended that the main car park at Parry Beach is redesigned in order to provide improved parking and safer access to the beach for vehicles and pedestrians.

Vehicular Access: 4 Wheel Drive (4WD) and Unlicensed Off-road Vehicles

Vehicular access to the beach is provided at Ocean Beach, Parry Beach, Boat Harbour and Peaceful Bay. Some car parks do not have vehicular access to the beach simply due to the landscape of the coast and the steep cliffs (e.g. Lights Beach and Back Beach). Pedestrian access is provided from all car parks to lookout points, rocky outcrops, inlets or sandy beaches.

Ocean Beach (main beach), Wilson Head car parking areas, Parry Beach, Lights Beach and Peaceful Bay have formal vehicle access (such as bitumen or gravel roads) which are accessible by 2-wheel-drive vehicles. Back Beach, Boat Harbour and Hilliers Beach are only accessible by 4WD along sand/unsurfaced tracks which are very effective at controlling access to these locations by restricting the number of people that have the ability to visit these areas. Sand tracks exist throughout the Shire's coastal reserves for off-road vehicle access. A sand track provides access from Ocean Beach Road to Back Beach. However, some of these existing tracks are duplications or do not necessarily provide a connection between the different beach locations and some require closing.

Currently there are minimal restrictions in place for the management of licensed vehicles access to beaches in shire reserves. The Shire of Denmark Council resolved in 2007 under the Property Local Law to close vehicle access to Ocean Beach swimming area in front of the surf club up to the Wilson Inlet mouth, and in May 2008 to enforce a boat prohibited area and formalise the boat launching area and channel at Ocean Beach to create a safer environment for other beach users.

Issues associated with uncontrolled off-road vehicle access to the coast include:

- Degradation of dunes and dune vegetation and associated instability
- User conflict – the perception of those who wish to use the coast/beach for more passive forms of recreation (swimming, relaxing etc) is that off-road vehicles are an unacceptable intrusion
- Safety concerns, particularly to children in more heavily-used areas
- Destruction of habitat.



Vehicle access bollards closure at Peaceful Bay allowing access for emergency vehicles only

The Shire will need to continually monitor the attitudes, behaviour and impacts of off-road vehicle users to ensure that environmental degradation does not occur and that provisions of the *Control of Vehicles Act 1978* and associated regulations are adhered to. Off-road vehicle operators need to be aware that their activities have the potential to adversely impact the ecology of the coastal environment. Dune degradation and erosion, and the destruction of fauna habitat need to be avoided. The provision of educational signage, along with a 'code of conduct' for off-road vehicles could be considered to raise awareness of these issues.

Irresponsible off-road vehicle behaviour was identified during the community consultation program as an important issue within the Shire. The Shire currently has powers under the *Control of Vehicles Act 1978* to designate areas where vehicles are permitted, and to manage the operation of off-road vehicles. Penalties are prescribed for a range of offences under the Act, including:

- Use of a vehicle outside permitted areas
- Use of a vehicle in a dangerous conditions
- Causing undue or excessive noise
- Failure to register a vehicle
- Allowing a person under 8 years of age to have control of a vehicle.

Enforcement of the Act lies with the Shire Rangers. Understandably, with such a large area of land to cover, the rangers are not likely to be able to apprehend all offenders.

It's predicted that with increased usage at the Shire's beaches and increased safety concerns that additional vehicle prohibited areas are established by Council resolution to increase safety and to reduce land use conflicts. Vehicular access across the western half of Peaceful Bay has now also been restricted to emergency vehicles only, in accordance with recommended actions of the Peaceful Bay 5 Stage Plan. The vehicle exclusion zone has been delineated through the implementation of bollards approximately half way around the bay to create a safe beach area across the western half of the bay.

A risk assessment is urgently required at Parry Beach focussing on passive recreational activities (walking, swimming etc.), the use of vehicles and the behaviour of vehicle drivers along the beach. Should the results of the risk assessment indicate that safety issues and land use conflicts exist, this will require immediate management by Council through the delineation of vehicle prohibited areas and prescribed boat launching areas.

Boat Launching

Boat launching is possible at Ocean Beach, Parry Beach, Boat Harbour and Peaceful Bay. The boat launching area at Ocean Beach includes a 30 metre wide area at the southern end of the beach. The remainder of the beach is a 'boat prohibited area'. The Council resolution on the 13th August 2008 was to support the boat prohibited area, boat launching area and channel and signage as proposed by the then Department for Planning and Infrastructure.



Boat launching area is located behind the bollards at Ocean Beach

Boat launching is permitted at Peaceful Bay and Parry Beach. No restrictions are currently in place at Parry Beach, however recommendations relating to vehicle access and boat launching are proposed in this strategy. Vehicle access to the beach and boat launching areas have been delineated at Peaceful Bay by the Peaceful Bay Progress Association and bollards have been installed along the beach to separate vehicles from beach picnicking and family swimming recreational uses.



Pedestrian access steps to the safe swimming beach at Peaceful Bay

Pedestrian Access

It's considered that access for pedestrians is well-managed within the Shire's coastal reserves, due largely to the implementation of the actions from the 2003 Coastal Management Plan. There are very few informal tracks and pathways through the dunes where formal pathways are provided. Locations where formal pathways have not been provided (such as Ocean Beach Lookout and Parry Inlet) show evidence of informal tracks that people have created to gain access down the cliffs to the

Wilson and Parry Inlets respectively. Informal pedestrian tracks leads to vegetation destruction, the spread of dieback, increases the occurrence of erosion and is a safety issue. The Strategy includes actions specifically directed towards formalisation of informal tracks to provide greater control over access.



Pedestrian access timber staircase at Back Beach

Access through shire reserves for walkers using the Bibbulmun track and emergency vehicle access at swimming beaches needs to be maintained as required, in collaboration with DEC and state emergency services.

Disabled Access

Disabled access is catered for in many of the coastal location where appropriate. It should be noted that in some situations the natural landform and topography of coastal areas makes it difficult to provide wheelchair access at every site without making major changes to the landscape. The Strategy provides recommendations for wheelchair access where possible.

Objectives

Implement access control and reduce the level of disturbance to the environment caused by vehicles and pedestrians.

Strategies

The strategies in relation to access are as follows:

1. Adopt a policy for the management of licensed 4 wheel drive (4WD) and unlicensed off-road vehicles in coastal areas and Shire reserves which outlines conditions under which these vehicles can operate in these reserves. This policy should also identify those coastal areas and reserves where 4WD and unlicensed off-road vehicles access is not acceptable.
2. Consider supporting a driver education program for 4WD vehicle use on the Shire’s beaches where access is still permitted.
3. Maintain formal pedestrian walkways to throughout the Shire’s coastal reserves and close informal tracks and discourage their use.
4. Monitor access points, carparks and pathways for evidence of dune disturbance and the creation of informal tracks, and respond immediately with closure/brushing of informal tracks.
5. Review boat launching facilities every two years to manage beach access, safety and potential conflict between beach users.
6. Continue to monitor and regulate boat launching activities, especially during peak holiday periods.

6.7 Land Use and Facilities

Issues

Existing Land Use

As discussed in Chapter 5.3, the Shire's coastal reserves are highly valued for their recreational, conservation and cultural uses, including the following:

- Walking
- Swimming
- Fishing
- Surfing
- Camping
- Boating
- 4-wheel-driving
- Dog exercise
- Beach activities
- Picnicking

- Professional fishing
- Enjoyment of natural surroundings
- Horse riding.



Recreational facilities at Prawn Rock Channel (shades, benches and bike racks)

Recreational Facilities

The recreational facilities present at each coastal location varies depending on the level of use. A majority of the recreational activities are fairly passive and low-key which is reflected in the recreational facilities available. Very low-key sites such as Back Beach and Boat Harbour have limited facilities to cater for their low usage. In comparison, more high-use sites such as Ocean Beach, Peaceful Bay and Parry Beach includes a boat launching area, campgrounds, buildings for the Surf Lifesaving Club, Sea Rescue, the Denmark Boating and Angling Club, toilets and BBQ's. Wooden viewing platforms are located at Ocean Beach lookout (at the Inlet), Ocean Beach, Sinker Bay, Lights Beach car park, and at Peaceful Bay.

Land Use Conflicts

Land use conflicts arise when different land uses and activities are incompatible and reduce enjoyment of the activity. A more significant issue is when land use conflicts lead to safety issues. This is particularly relevant to vehicle use along coastal areas which are also used for swimming and other recreational uses. Safety issues have been recognised at Peaceful Bay and Ocean Beach where the beaches have been divided into different land uses sections. Areas have been designated for vehicle access and boat launching which are separate from swimming and general recreation areas. Conflict continues to occur between vehicles use and other recreational activities on the narrow beach at Parry Beach, creating safety concerns which require urgent attention. While it is difficult to allocate different land use zones along the beach and alternative access, it's important that the safety risks relating to the current situation are assessed and if the risks are great enough, the Shire will need to act accordingly.

Toilets, Picnic and Playground Facilities

Toilets and amenities are located at Ocean Beach (main car park), Lights Beach (composting toilet), Boat Harbour (composting toilet), Parry Beach and Peaceful Bay. Therefore, each of the Shire’s coastal locations are well serviced. The composting toilets at Boat Harbour are located behind the main car park/picnic area and cater for the low-key use of the area (such as hikers using the Bubbulman Track and campers and day



Public toilets at Peaceful Bay (second car park)



Composting toilets at Lights Beach

visitors). More advanced toilet systems are located at Ocean Beach, Parry Beach and Peaceful Bay to cater for more frequent usage.

It’s recommended that toilet facilities are developed at the second car park to the south of Prawn Rock Channel to cater for day visitors and locals and to relieve the pressure from the facilities at Ocean Beach and also at first car park Peaceful Bay (near the Sea Rescue Emergency Centre)

Signage

The signage within the Shire’s coastal reserves varies depending on the specific location. Signage has recently been replaced at a number of the coastal car park areas. The new signage is consistent, clear and located in non-obtrusive areas (to avoid disrupting the view lines). And example of the new signage can be found in the picture to the right.

Some locations currently consist of ad-hoc and inconsistent signage which is sometimes difficult to interpret and understand. An example is the variety of signs at the access to Parry Beach (below).



Sign at Parry Inlet car park



The variety of signs at the vehicle entrance to Parry Beach

Signage at Back Beach is old and dated and in desperate need of replacement. It's recommended that the new signage is placed at the east or western side of the car park to avoid the view lines of the ocean. It should indicate the accepted and prohibited activities at Back Beach and contact emergency information.



Signs at Back Beach car park

Signs at Peaceful Bay are provided at the main access points to the beach which indicate the acceptable and prohibited activities. Some signs (below picture) should be replaced with clearer, easy to understand signage which clearly indicates the different recreational 'zones' along the beach. Information on existing coastal signage needs to be checked for accuracy and currency.



Current signage at Peaceful Bay advising of the different land use zones

Signage relating to the dog exercise area at Wilson Inlet and Lights Beach needs to be replaced with signs which more clearly indicate which areas are prohibited and allowed dog exercise areas, signage for Lights Beach to be developed in collaboration with DEC.

Camping

Camping is not permitted within any of the Shire’s coastal reserves unless carried out in an approved camping and caravan area (such as the Parry Beach Caravan Park and the Peaceful Bay Caravan Park). Despite the prohibition on camping and notices around the reserves to inform users of the rules,



illegal camping is still commonplace on the Shire’s beaches and dune areas. For example, a few informal camping areas have been created at Boat Harbour behind the foredunes and close to the beach. The camping and caravan park at Parry Beach and Peaceful Bay are well-managed and don’t pose any significant problems to the management of these reserves. A caravan and camping area is located close to Ocean Beach. The action plan aims to make recommendations to address illegal camping and the demand for more camping and caravan areas.

Informal camping area at Boat Harbour (flat green area in the background)

Objectives

- To ensure that existing and potential land use conflicts are identified and that the management actions address these conflicts
- To ensure that facilities provided are adequate to provide for future permanent and visitor populations over the next 10 years and the different recreational activities along the coast
- To ensure that the provision of facilities and the resolution of land uses conflicts can also assist in environmental management.

Strategies

The strategies in relation to facilities within the Shires coastal reserves are as follows:

1. Maintain the amenities at all coastal locations (toilets, showers, viewing platforms, seating, shelters, etc.), and complement or improve where necessary.
2. Ensure appropriate signage is located at each coastal reserve (e.g. directional signs to advise of vehicle restrictions, safety signs, interpretative signs and emergency signs).
3. Ensure signage is consistent and does not obstruct views.
4. Encourage coastal users to take their rubbish home with them for disposal, or use bins provided, especially at popular fishing locations with problematic bait-bag litter.
5. Ensure all popular coastal sites are adequately serviced with rubbish bins, amenities etc.



6. Continue to enforce a no camping rule within all the Shire’s coastal reserves unless it is carried out within designated camping and caravan areas.

The strategies in relation to land use conflicts are as follows:

1. Continue to enforce the boat launching and vehicle prohibited areas and maintain the different coastal use areas at Peaceful Bay and Ocean Beach to help reduce land use conflicts. Implement a clear zoning of recreational activities to ensure safety for users.
2. Investigate the necessity and options for enforcing different land use zones along Parry Beach to create a safe swimming beach area for users.
3. Review/consult with other agencies regarding areas suitable for use by jet skis and formalise Council decision regarding the use of jet skis in coastal reserves.

6.8 Heritage

Issues

As is discussed in Chapter 5.4, there are a number of Indigenous Heritage Sites located within the Shire’s coastal reserves. It’s important that these areas are respected and protected. Fortunately they seem to be located in undeveloped and unused areas within the reserves which provides some level of protection. It’s important that the Shire continues to liaise with local Indigenous representatives when new development is proposed within or in close proximity to an identified site and ensure that all concerns are taken into account.

The only site listed on the Heritage Council of WA as being of European heritage significance is *Peaceful Bay Settlement – Original*. This site is located inland from the beach and there should be no significant issues associated with this site.

Objectives

To further recognise and promote areas of Indigenous and European significance and aim to educate the public of the value and importance of certain sites.

Strategies

The strategies in relation to heritage are as follows:

1. Continue to liaise with local Indigenous representatives to ensure a culturally sensitive approach to recreational activities and the provision of visitor amenities in coastal reserves.
2. Consider the implementation of interpretative signage which describes the Indigenous heritage of the area.

3. Consult with Indigenous representatives during any future biodiversity surveys to develop a better understanding of the Noongar traditional values and uses of biodiversity of coastal reserves.

6.9 Community Involvement

Issues

Public education and community involvement is one of the key factors behind the success of any coastal management program. It encourages local residents to be involved in their surrounding environment which helps increase their knowledge and appreciation of the area and feel a sense of 'ownership'. Community involvement can be fun, rewarding and provide an arena for people to get-together as a team.

There are a number of established community groups who provide considerable assistance with the management of the Shire's coastal reserves including:

- Peaceful Bay Progress Association
- Parry Beach Voluntary Management Group
- Wilson Inlet Restoration Group (Prawn Rock Channel).

It is also important for the Shire to recognise that some community members who do not participate in community groups might also want the opportunity to be involved and/or want to learn more about the area.

There are a number of different ways in which the community can be involved in coastal protection and management. These are listed below:

- Hold a workshop on seed collection, plant identification and revegetation. If the workshop can be run by an expert in the field, this will help participants trust the information provided.
- Organise practical activities which involve weed control, dune stabilisation, planting and plant identification.
- Organise rubbish clean-up days.
- Involve the local schools and children groups to be actively involved in coastal management. They can learn about the coastal environment in class and be involved in activities on the coast. They can design coast and marine posters to display at the beach as a class project.
- Run activities as part of national Weedbuster Week in October (www.weedbusterweek.info.au).

Objectives

To provide opportunities for local residents and visitors to learn about and be involved in the protection and management of the Shire's coastal reserves.

Strategies

The strategies for community involvement are as follows:

1. Support programs that actively engage the local community in managing the Shire's coastal reserves e.g. school education programs, beach clean-up days.
2. Provide opportunities for the community to be involved in rehabilitation, monitoring, flora and fauna surveys, facility and access management etc.
3. Provide support for existing community groups which focus on coastal management.
4. Assist and encourage the community with forming "Friends of Coastal Reserves" groups.
5. Undertake ongoing public education and engagement programs to encourage the conservation and care for coastal biodiversity and bird nesting sites e.g. Hooded Plover nesting sites.
6. Include coastal safety in any coastal education and awareness program developed for the Shire of Denmark.

7 ACTION PLANS

7.1 Introduction

This chapter provides the Action Plan for all four Shire coastal reserves. The aim of this chapter is to provide a description of each site (including its use and current management issues), to outline the objectives and to describe in detail the recommended actions to help achieve these objectives.

7.2 Ocean Beach Reserve

Description

Summary

Ocean Beach Reserve consists of approximately 10km of coastline which extends from the outlet of Wilson Inlet to the east to William Bay National Park to the west. It includes the land to the west of the Wilson Inlet (known as Prawn Rock Channel), Ocean Beach, Lions car park, McGeary's Rock, Black Hole car park, Sinker Bay car park, Back Beach and Lights Beach). The reserve is a popular tourist attraction and several viewpoints and access roads offer spectacular views of the ocean.

Prawn Rock Channel

The area included in the Prawn Rock Channel precinct generally includes the area at the western side of the Wilson Inlet opening and includes two car parking areas along Ocean Beach Road, the dog exercise area at the Inlet and Ocean Beach Lookout located at the southern end of the opening (please refer to Figure 7.1a).

The first car park in this precinct is located to the west of the channel. It has been recently upgraded to consist of seating and bike racks. A small pedestrian bridge provides across the channel to the island located within the Inlet. Another car park is located on the southern side of the channel, a bit further along Ocean Beach Road. The Inlet opening is a gazetted dog exercise area. The sand access track to Back Beach is located slightly to the north of the northern car park.



Prawn Rock Channel

During the 1940's and 50's, people visited Prawn Rock Channel and Ocean Beach during the summer months for holiday making purposes such as camping and fishing. Reserve 20578 at Prawn Rock Channel was used for camping on either side of the road and other conveniences were also present such as tea rooms, a general store and picnic facilities (Green Skills, 2008).

Ocean Beach

The main beach is known as Ocean Beach and is located at the north-east section of the reserve. It consists includes a strip of sand of approximately 500 metres in length and is used for recreational, commercial, club-based and emergency services activities. It's also the closest reserve to the Denmark townsite which makes the beach a popular tourist destination and is used all year round. Activities at

Ocean Beach include swimming, surfing, sandboarding, fishing, sunbathing, exercise, boat launching, 4-wheel drive access, sightseeing, picnicking, surf lifesaving and surfing instruction. A small commercial surfboard hire and instruction business operates from a vehicle near the boat launching area of the beach during the summer months. Fishing is also popular at Ocean Beach. Herring and Salmon can be caught at the beach, Mulloway and Salmon are prevalent at high tide and the channel contains Silver Bream and Flathead. Kingfish, Whiting, Skippy and Herring can be caught off the rocks at Wilson Head.



Ocean Beach – in front of viewing area and Surf Club buildings

Ocean Beach is also the location of the Denmark Surf Lifesaving Clubrooms (situated on the foredunes of the beach) and the combined Denmark Boating and Angling Club and Denmark Sea Rescue Group building which is located behind the clubrooms. Surfing at Ocean Beach is excellent and the location is well-known for surfing events.



Picture of Ocean Beach taken from Lions car park

Ocean Beach is accessible via a gazetted road (Ocean Beach Road) which also provides access to a number of lookout points/ car parks around Wilson Head including Lions car park, McGeary’s Rock, Black Hole car park and Sinker Bay car park. These locations are popular for sightseeing, fishing and walking.

Back Beach

Back Beach is located to the west of Ocean Beach, approximately mid-way along the Ocean Beach Reserve coastline and faces the south-west. Access is only provided via a soft sand track which is only suitable for off-road vehicles. Pedestrian access from the car park to the beach is provided via a wooden pedestrian staircase. The staircase was constructed by a prison work-team and local surfing and fishing club volunteers and funded by the Shire and Coastcare.



Back Beach, taken from the pedestrian steps

Activities at Back Beach include swimming, surfing, fishing, walking and enjoyment of nature and does not attract a high number of visitors due to the difficulties with access. The beach is undeveloped apart from a small car park at the top of the cliff, timber steps to the beach and some signage.

Lights Beach

Lights Beach is located to the west of Back Beach and adjoins the William Bay National Park (managed by the DEC). It consists of three small embayments situated between small granite headlands which create relatively calm and peaceful beach areas. The Bibbulman Track extends through a section of this reserve from the William Bay National Park which makes this area popular with walkers. Lights

Beach is predominantly used for surfing, fishing, walking, enjoyment of nature, dog exercise,



Lights Beach, looking towards Williams Bay National Park



Lights Beach, looking south from the pathway

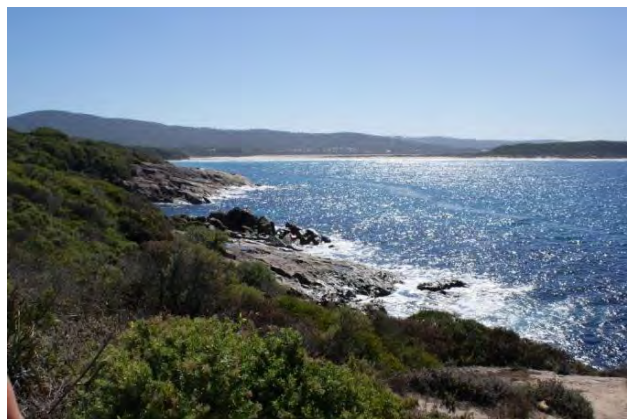
picnicking and some swimming, although strong rips and ocean swells makes it dangerous at times. Kingfish, Whiting, Skippy and Herring can be caught off the rocks and Salmon and Flathead can be caught at the beach. Development at Lights Beach is restricted to a car park at the top of the cliff, pathways to the beach, a viewing platform, a composting toilet and signage.

Wilson Head Car parks

Ocean Beach Reserve also includes a number of lookouts which are scattered around Wilson Head. The car parks are named (from north to south) Lions car park, McGeary's Rock, Black Hole and Sinker Bay. They can be accessed from Ocean Beach Road and each access road and car park is constructed from limestone from the nearby quarry. Pedestrian walking tracks and off-road vehicle tracks currently connect Sinker Bay and Black Hole.

Wilson Head is a popular spot for enjoying the environment, sightseeing and walking. Fishing off the rocks around Black Hole and McGeary's Rock is also popular.

It's considered that the Wilson Head locality is currently underutilised from a low-key/passive recreational perspective. Although a few pedestrian walking tracks exist, there is no continuous walking/cycling track from Ocean Beach to Sinker Bay. It's considered appropriate to implement a walking/cycling trail around Wilson Head so users can enjoy the views and seasonally see whales and other marine life off the coast. This will assist in promoting the appreciation of Denmark's spectacular coastal environment. A new viewing platform has recently been established at Sinker Bay car park.



View from Black Hole rocks, looking towards Ocean Beach

Objectives

To manage Ocean Beach Reserve (including Prawn Rock Channel, Ocean Beach, Back Beach and Lights Beach) for recreation ensuring that activities do not adversely impact on the reserve’s natural values and cater for increased use in short to medium term.

Issues

Overall

Each location within Ocean Beach Reserve is used and valued for different reasons and therefore the issues and management recommendations will vary. Prawn Rock Channel and Ocean Beach in particular will be subject to the most pressures from increased residential population in Denmark and increased visitor numbers. It’s important that the demands and pressures created from increased use is met by providing appropriate facilities and implementing controls to ensure the environment is protected from degradation. The management recommendations aim to anticipate higher usage and demand. It should be noted that the most significant increase in visitor numbers is during peak season which places pressure on facilities and the environment. However, even with the high demand on facilities during holiday seasons, it can still be unjustifiable to invest in facilities to cater for short peak periods at Christmas and Easter. Alternatively, limited change and management is recommended for other locations such as Back Beach as it’s considered that the difficulties with access provide self management.

Environmental issues include the impact that human activity potentially has on migratory bird habitat at the Wilson Inlet opening. One of the concerns is that the use of the area for dog exercise and vehicle access in particular could have a negative impact on habitat for migratory birds which is a significant environmental impact. Other environmental concerns include vegetation and dune degradation along the beaches and the tracks and car parks at Wilson Head which is generally caused by vehicle and pedestrian disturbance. It’s important the vehicles and pedestrians keep to designated pathways and roads to avoid unnecessary disturbance to vegetation and the spread of dieback and weeds.

The proposed wind farm is also located on Wilson Head, to the south of the existing limestone quarry. The environmental and aesthetic impacts associated with the wind farm should also be considered, although not as part of this report.

No camping is permitted within the reserve, although this is occasionally is an issue. Informal camping causes unnecessary vegetation disturbance and increases the fire risk. Regular monitoring of the area will help control and manage this issue.

Prawn Rock Channel

The issues at Prawn Rock Channel mainly relate to the lack of recreational facilities such as picnic areas, wheelchair access and public toilets. It is recommended that additional picnic facilities are provided at the picnic area at the first car park and toilets constructed at the second car park.

The Ocean Beach Lookout (located to the east of the channel) currently has an informal access track which travels down the cliff to the Inlet. This track



Pathway extending from Ocean Beach Lookout car park down the cliff

poses a safety concern due to its informal nature and unstable limestone base. It's recommended that this track is formalised by providing a timber staircase.

Pedestrian access from Ocean Beach Lookout and across the southern side of Prawn Rock Channel is incomplete and poses a safety risk as pedestrians walk along the road. It's recommended that a formal access track is delineated by qualified engineers which links Ocean Beach Lookout with the current pathway at the southern side of Prawn Rock Channel.

Ocean Beach

The issues at Ocean Beach include the lack of parking during peak holiday season, the vehicle restriction zone along the beach and potential land use conflicts and safety issues. These issues are largely a direct result of the popularity of this location with both locals and tourists. The main issues include:

- The relatively unstable nature of the beach means that it's prone to erosion and allows little capacity for expansion.
- Increased use of beach access pathways and roads can lead to degradation of the dunes and surrounding vegetation (particularly if pedestrians and drivers diverge from access ways).
- Occasional vehicles driving past the boat launching area into the vehicle prohibited area of Ocean Beach which is a safety concern.
- The parking area at Ocean Beach reaches full capacity during peak holidays periods, but is used to a much smaller extent during the remainder of the year.
- Access for pedestrians and cyclists from Ocean Beach Lookout to the north and the main beach area at Ocean Beach is potentially dangerous as the only access track is Ocean Beach Road which is windy and holds a heavy flow of traffic. The establishment of a dual use pathway is an option which should be considered (in conjunction with the environmental, engineering and financial issues) to provide a safer way for pedestrians and cyclists to access these areas.

Back Beach

The isolation and difficulties with access at Back Beach provides protection from human pressures as well as vulnerability to human impact due to the lack of management presence. Issues include:

- Dune erosion and vegetation destruction are the most pertinent issues along the access track to Back Beach which is caused by the diversion of off-road vehicles from the track into the surrounding vegetation.
- Some vehicle drivers do not let the tyre pressures down before driving which leads to track degradation (creation of wallow holes) and causes them to get bogged



Picture of the broken timber step at Back Beach

- The pedestrian access down the cliff is well exposed to the elements such as strong winds, salt spray and moisture which can cause the stairway to become degraded. It's important that it's regularly inspected and maintained to avoid safety issues.
- There's evidence of the use of trail bikes through sidetracks from the main access tracks which destroys vegetation and causes dune erosion.

Lights Beach

Access to Lights Beach is via a well maintained gravel road which makes it more accessible to locals and visitors. This increase in use requires careful management to ensure the values and current land uses at Lights Beach are retained. The main issues at Lights Beach include:

- Some dune erosion and degradation currently occurs near the car park and along the access tracks to the beach. The beach is an unstable natural environment and is vulnerable to the impacts of the Southern Ocean and human pressures which can lead to further degradation.
- Dog faeces along the pathways and beach.
- Ensuring the variety of land uses at the beach remain compatible and that facilities cater for each.
- Capacity of the car park. The car park reaches capacity during peak periods, however this is also an effective management action which restricts the number of people able to use the beach at any one time.
- Signage at Lights Beach either needs to be replaced and new signage placed away from view lines of the ocean and new signage should be placed around the beach which provides information on the location and National Park and Bibbulman Track.
- The William Bay National Park commences a short distance from the Lights Beach car park area. The difference in ownership and management within William Bay National Park (managed by the DEC) and the Ocean Beach Reserve means that different activities are permitted within each area. The area between the western boundary of Ocean Beach Reserve and Back Beach is a designated dog exercise location under the Shire of Denmark's Local Laws, where as dogs are not permitted within the National Park. The boundary of the National Park is sometimes not distinct or people do not take notice which can lead to prohibited activities in the National Park. This can be improved through better notification (signage, bollards) and more regulation by the Shire and DEC rangers.



Signage at Lights Beach – to be replaced and relocated

Actions

The recommended actions are depicted in Figure 7.1a (Prawn Rock Channel), Figure 7.1b (Wilson Head), Figure 7.1c (Ocean Beach), Figure 7.1d (Back Beach) and Figure 7.1e (Lights Beach).

Prawn Rock Channel

- OB 1. Provide picnic facilities (such as covered picnic benches and a limited number of barbeques) on the grassed area near the first car park. Picnic facilities will need to be raised above the flood level.
- OB 2. Ensure that facilities established at Prawn Rock Chanel are wheelchair-accessible.
- OB 3. Investigate the engineering solutions for continuing the formal dual-use path which extends from the Ocean Beach Surf Club past Ocean Beach Lookout and along Ocean Beach Road to the south of Prawn Rock Channel. This will assist in minimising the potential for vehicle, pedestrian and cyclist conflict between these locations.
- OB 4. Establish public toilets at the second car park.
- OB 5. Erect signage further north along Ocean Beach Road to indicate the availability of public amenities at the second car park.
- OB 6. Erect signage to indicate that no camping is permitted on the foreshore reserves managed by the Shire. These should be placed in areas which don't obscure or interrupt views.
- OB 7. Replace the signage showing the dog exercise areas with clearer, easily-interpretable information regarding which areas are prohibited.
- OB 8. Formalise the track which currently travels down the cliff face at Ocean Beach Lookout with a staircase.
- OB 9. Rationalise and replace the signage at Ocean Beach Lookout with new signs which do not obscure or interrupt views of the Inlet.
- OB 10. Modify the purpose of Reserve 20578 from *Camping* to *Recreation*.

Ocean Beach

- OB 11. Ensure that the beach remains closed to vehicles except for a small section at the southern end which can be used for boat launching.
- OB 12. Retain the vehicle access track to the beach and ensure that no parking is permitted on the beach or on the access road and all vehicles are parked in the parking area.
- OB 13. Maintain the toilet facilities as required.

- OB 14. Discourage pedestrian access through the dunes and vegetated areas through appropriate fencing and signage where indicated on the plans and through regulation.
- OB 15. Investigate the possibility of expanding the Ocean Beach car park in the long term (i.e. 5 years from now) to accommodate increased usage during peak times.
- OB 16. Install several shaded wooden picnic tables and gas or push-button electric barbeques to the east of the toilet block.
- OB 17. Establish a viewing platform at Lions car park.
- OB 18. Erect signage at the gated entrance to the road leading to the limestone quarry to advise motorists of the existence of the quarry and safety issues.
- OB 19. Close the 4WD access across the southern end of Wilson Head (between Sinker Bay and Black Hole) and revert to pedestrian access only.
- OB 20. Formalise pedestrian pathways linking Ocean beach to Lions Lookout, McGeary's Lookout and Black Hole Lookout which will link to the existing 4-Wheel-Drive access tracks which link Black Hole Lookout to Sinker Bay Lookout. The exact alignment of the pathways will need to be determined by a qualified specialist.
- OB 21. Monitor and appropriately manage erosion at each car park and lookout by erecting fences (if human disturbance is evident), brushing the dunes and revegetating with native plants.
- OB 22. Erect signage at the Sinker Bay Lookout car park and along the access road advising motorists to be aware that pedestrians are likely to walk along the road to gain access back to Ocean Beach.
- OB 23. Close and manage duplicate 4-Wheel-Drive access tracks throughout the reserve.
- OB 24. Consider the implementation of a small parking area at the end of the vehicle access on the foredunes for use by the South Coast Surfing School during peak times.
- OB 25. Excise the existing roads from Ocean Beach Reserve and create these areas as specific road reserves.

Back Beach

- OB 26. Retain the soft sand access track as the only access to the Back Beach car park. Do not upgrade the road in order to limit the number of vehicles able to access the beach.
- OB 27. Continue to close vehicle access to newly formed vehicle tracks which diverge from the main track to Back Beach, and rehabilitate disturbed areas.

- OB 28. Close the off-road vehicle track which extends to the north-west of Back Beach car park to prevent vehicle use.
- OB 29. Implement new signage at the Back Beach car park (located at the northern side of the car park to reduce impact on views) which is consistent with signage at other Shire's coastal location including emergency information and the restrictions and guidelines for the area.
- OB 30. Ensure all signage at Back Beach (including signs at the car park and the beginning of the track) are maintained and provide clear instructions and warnings.
- OB 31. Replace broken timber steps on the pedestrian access from the Back Beach car park to the beach.
- OB 32. Maintain the pedestrian access from the Back Beach car park to the beach in good condition by inspecting on a monthly basis (or more frequent if possible).

Lights Beach

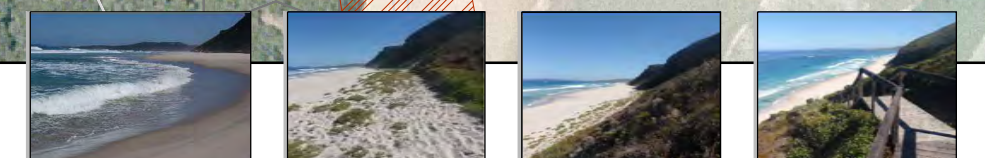
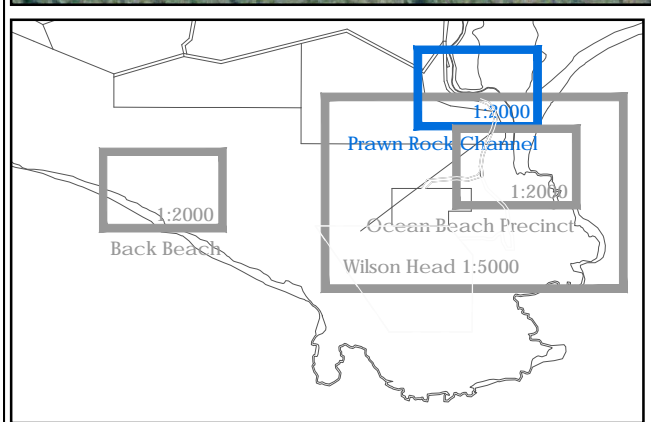
- OB 33. Install dog faeces bag dispensers and rubbish bins at the Lights Beach car park and at the end of the access paths to the beach.
- OB 34. Retain the foredune to the south-east of the Lights Beach car park as a 'sacrificial dune' for children to play on to reduce the potential for disturbance on other areas of the beach.
- OB 35. Carry out brushing and revegetation of sidetracks near access pathways to Lights Beach and around the car park when there's evidence of disturbance.
- OB 36. Replace signage at Lights Beach with signs of a consistent standard with other signs erected by the Shire at other coastal reserves. Place signage in areas which so not obstruct view lines of the ocean (i.e. at the rear of lookout points) and ensure they include information on the area, prohibited and permitted activities, warnings about coastal safety issues and details of what to do in an emergency.
- OB 37. Increase ranger presence to ensure recreational uses are appropriate and to monitor any potential conflicts.
- OB 38. Increase regularity of Shire maintenance services, namely more regular bin collection and toilet maintenance.



- Actions:**
- OB1** Provide Picnic Facilities (above flood level)
 - OB2** All Facilities need to be wheel chair accessible
 - OB3** Establish a complete Dual Use Path from Ocean Beach to Prawn Rock Channel
 - OB4** Establish new Toilet Facilities
 - OB5** Signage regarding Toilets at second Car Park
 - OB6** Signage regarding illegal camping
 - OB7** Replace Signage for Dog Exercise Area
 - OB8** Formalise Track with Steps
 - OB9** Replace signage
 - OB10** Change Purpose of R24596
 - OB23** Close & Manage Duplicate Tracks

- Legend**
- Vehicle Exclusion Zone
 - Pedestrian Pathway
 - Vehicle Access

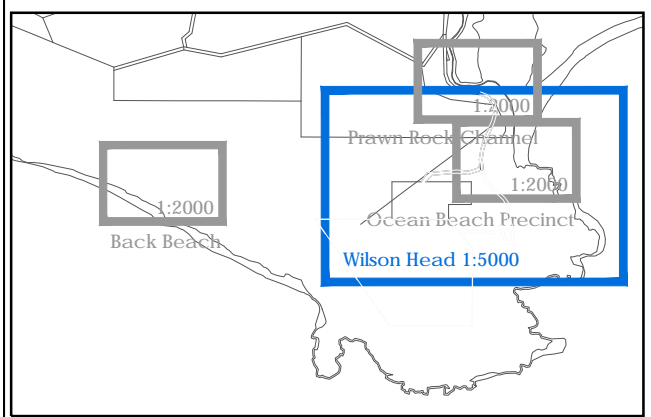
Dog Exercise Area
(Seasonally Inundated)

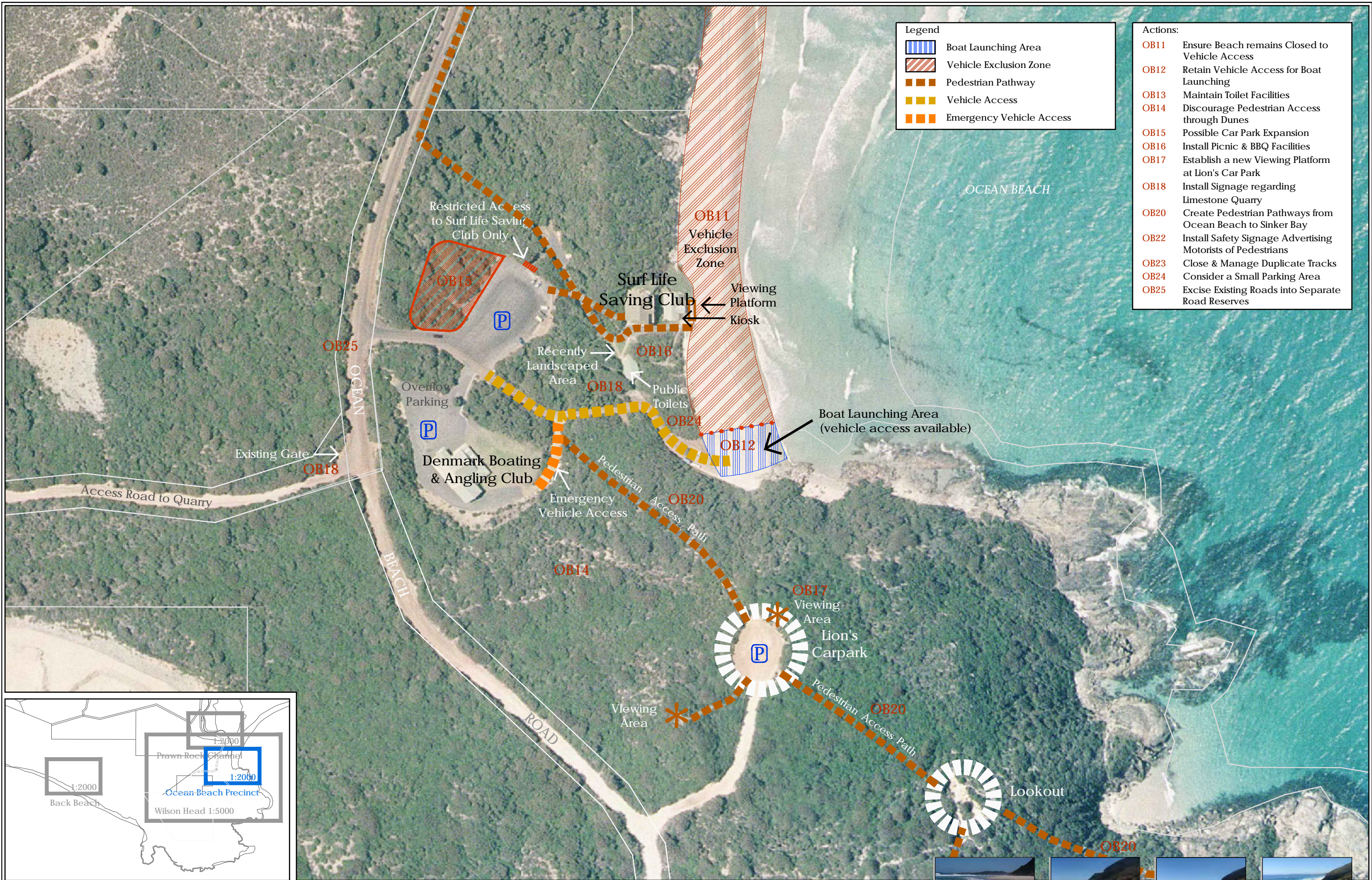




- Actions:**
- OB11** Ensure Beach remains Closed to Vehicle Access
 - OB12** Retain Vehicle Access for Boat Launching
 - OB13** Maintain Toilet Facilities
 - OB14** Discourage Pedestrian Access through Dunes
 - OB15** Possible Car Park Expansion
 - OB16** Install Picnic & BBQ Facilities
 - OB17** Establish a Viewing Platform at Lion's Car Park
 - OB18** Install Signage regarding Limestone Quarry
 - OB19** Close 4WD Access - revert to Pedestrian Access Only
 - OB20** Create Pedestrian Pathways from Ocean Beach to Sinker Bay
 - OB22** Install Safety Signage Advertising Motorists of Pedestrians
 - OB23** Close & Manage Duplicate Tracks
 - OB24** Consider Small Parking Area
 - OB25** Excise Existing Roads into separate Road Reserves

- Legend**
- Boat Launching Area
 - Vehicle Exclusion Zone
 - Existing Pedestrian Pathway
 - Existing Vehicle Access
 - Emergency Vehicle Access



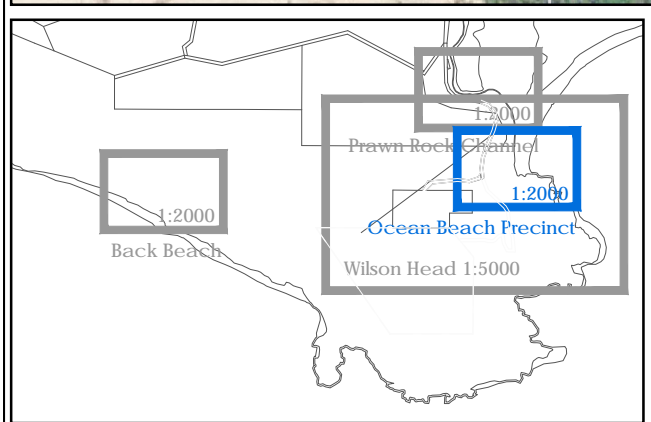


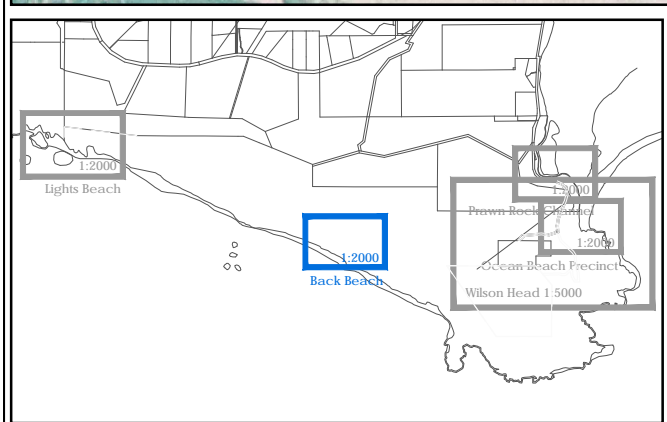
Legend

	Boat Launching Area
	Vehicle Exclusion Zone
	Pedestrian Pathway
	Vehicle Access
	Emergency Vehicle Access

Actions:

OB11	Ensure Beach remains Closed to Vehicle Access
OB12	Retain Vehicle Access for Boat Launching
OB13	Maintain Toilet Facilities
OB14	Discourage Pedestrian Access through Dunes
OB15	Possible Car Park Expansion
OB16	Install Picnic & BBQ Facilities
OB17	Establish a new Viewing Platform at Lion's Car Park
OB18	Install Signage regarding Limestone Quarry
OB20	Create Pedestrian Pathways from Ocean Beach to Sinker Bay
OB22	Install Safety Signage Advertising Motorists of Pedestrians
OB23	Close & Manage Duplicate Tracks
OB24	Consider a Small Parking Area
OB25	Excise Existing Roads into Separate Road Reserves





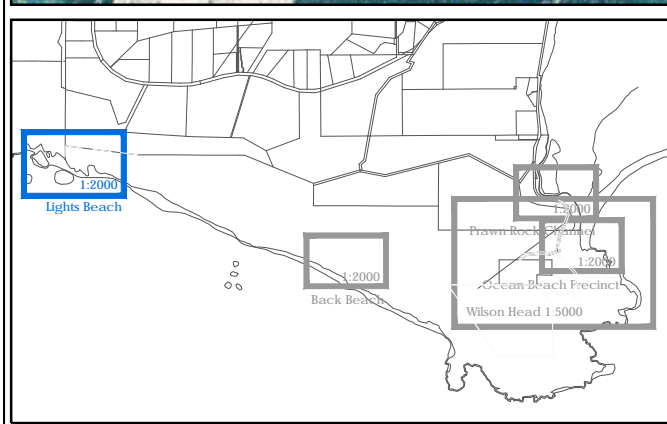


Actions:

- OB33 Install Doggie Bag Dispensers
- OB34 Retain Dune in Current State
- OB35 Brushing & Re-vegetation of Side Tracks
- OB36 Replace Signs

Legend

- Study Area Boundary
- Pedestrian Pathway



7.3 Parry Beach Reserve

Description

Parry Beach Reserve is located 25km west of Denmark and is situated in between William Bay National Park and Quarram Nature Reserve. It consists of three main recreation sites:

- Parry Inlet – located at the northern end of the reserve at the mouth of the inlet and includes a small parking area and lookout
- Parry Beach – which is situated to the south of the Inlet and includes a small camping and caravan park, professional fishermen shacks and access to the beach
- Hillier Beach – Located at the southern end of the reserve and includes 4WD tracks, small car parking areas, lookouts and access to the beach.



Parry Inlet viewed from the Parry Inlet lookout

The main recreational beach area within Parry Beach Reserve commences at the mouth of the Inlet and extends for approximately 1km in a southerly direction before the coastline curves and the landscape turns into a granite hill and rocky outcrops.



Entrance to the Parry Beach camping and caravan park

A low-key camping ground is located on the reserve which is managed by the Parry Beach Voluntary Management Group under agreement with the Shire of Denmark. It consists of 30 tent bays, 10 caravan bays and two toilet blocks and shower facilities which are nestled amongst Peppermint trees. The site is managed by volunteers from the local community and resident campers and has a reputation for being one of the cleanest, friendliest and well-managed sites in

WA. There is no booking system in place and available spots are provided on a first-come-first-served method. This management method, combined with the limited places available means that the number of people able to stay at the beach is limited and this assists with regulating and managing the beach.

A small number of shacks are located to the north-east of the camping ground nestled inconspicuously behind the foredunes. These shacks are inhabited by professional fishermen during the salmon fishing season (which is predominantly between the months of February to April), and this portion of the reserve including the fishing shacks is currently under leasehold to a local professional fisherman. The area between Point Hillier and William Bay National Park is a Proclaimed Fishing Area under the Fisheries Act. The shared use of Parry Beach Reserve between commercial fishing and general recreation has not had any significant conflict in the past.



Parry Beach is also popular for amateur fishing. Malloway and Salmon are common at high tide and fish can be caught off the rocks. Other popular uses at the beach include swimming, surfing, walking, fishing and boating. The beach is used by both tourists and local residents. The Bibbulman Track passes through the Parry Beach Reserve, and along Mazzolleti Beach to William Bay National Park.

View of the vehicle access to Parry and Mazzolleti Beach

Objectives

To manage Parry Beach Reserve in its present state, maintain its current use as a low-key public camping site and manage the reserve for general recreational land uses while ensuring that activities do not adversely impact on the reserve’s natural values or compromise human safety.

Issues

Overall

Although no site is without management issues, it should be noted that Parry Beach Reserve is extremely well-cared for by the Parry Beach Voluntary Management Group and a range of management solutions are already in place to minimise potential impacts. Furthermore, the restrictions on the number of camping areas means that visitor numbers are less likely to increase, apart from a possible increase in day visitors. Restrictions such as this make the area more self-manageable and help ensure the area is not over-utilised. Nevertheless, a number of current issues still need to be addressed to increase the safety of the beach and to address matters such as access and environmental management.

Parry Inlet

The Parry Inlet site consists of a small parking area for day visitors and a lookout area which is situated a short walk from the car park through surrounding vegetation. It is noted that visitors sometimes camp informally at the lookout site which is illegal, unhygienic (lack of toilets) and environmentally damaging. This act should be discouraged by increased Shire Ranger monitoring of the area.



Example of illegal camping at Parry Inlet lookout

Parry Beach

Parry Beach is used for a range of uses including swimming, surfing, fishing, walking, boating, 4 wheel driving and other general recreational pursuits. One of the main issues is balancing or managing these different uses to ensure they do not conflict with each other and cause tensions or safety concerns. Vehicle access to the beach is popular in order to access fishing and surfing spots around William Bay,



View of Parry Beach, looking north

however, the beach width at this western location is relatively narrow and also popular for other recreational and pedestrian uses, which poses a safety concern. The risks associated with these different uses (vehicle use/boat launching and swimming/general recreation) within this area need to be urgently assessed.

It's apparent from the consultation process undertaken as part of this report that there is a difference of opinion regarding the safety issues along the main beach. Therefore, it's considered that a risk assessment should be undertaken which will provide further information on this

issue. If the results of the risk assessment indicate that it would be beneficial from a safety perspective to separate these uses it's essential that alternative access is considered at a different location along the beach and that vehicle exclusion areas are implemented. The location of alternative access will need to take into consideration the instability of the foredunes, longshore sand movement and vegetation disturbance. Careful site planning, drainage management and track orientation will be required to overcome environmental and dune erosion concerns and provide a long-term, environmentally stable solution.

The gravel access road which travels from Parry Inlet and Parry Beach extends very close to the professional fishermen shacks and was originally implemented as a recommendation from the 1987 Coastal Management Plan to provide access for fishermen. Concerns have been raised regarding public access along this gravel track as it passes very close to the shacks. It's therefore recommended that public access to this road past the shacks continues to be restricted.

Fire management at Parry Beach Reserve is an issue that needs to be addressed by the Shire through the implementation of ongoing fire management prescribed burn procedures, and in collaboration with the Parry Beach Voluntary Management Group and DEC.

Hillier Beach

Management issues at Hillier Beach are relatively less due to the low-key nature of the site. Access to Hillier Beach is via an unsealed road and a 4WD sand track. Small parking areas are located along the tracks and views of the ocean can be enjoyed from these locations.

Issues relating to Hillier Beach largely relate to dune disturbance from vehicles and pedestrians that divert from the current tracks. It's also considered that the beach and lookout locations should be accessible by 2-wheel-drive vehicles, hence the recommendation below to upgrade the access track. The section of the access track which extends north of the beach to the decommissioned limestone quarry is accessible by pedestrians only. It's recommended that this is not changed.

Actions

The recommended actions are depicted in Figure 7.2a (Parry Inlet), Figure 7.2b (Parry Beach) and Figure 7.2c (Hilliers Beach).

Parry Inlet

- PB 1. Conduct regular inspections of the car park at Parry Inlet, especially during peak seasons, to reduce the incidence of informal camping.
- PB 2. Prohibit vehicle access to the Parry Inlet picnic site by placing bollards at the entrance and place an additional sign saying 'no camping' on the bollards to further discourage illegal camping.
- PB 3. Formalise the existing pedestrian beach access tracks which lead from the Parry Inlet picnic site down the cliff to the inlet. Provide a lookout platform at the dune high point, to reduce trampling of dune vegetation at the site.

Parry Beach

- PB 4. Replace signage at the Parry Beach car park to the beach. The signage should include information on the area, danger of vehicles and boat launching on the beach, safety information, the permitted and prohibited activities along the beach, the appropriate management of dogs and emergency contact details.
- PB 5. Continue to allow vehicle access to the rocks south of the Parry Beach car park. Monitor the suitability of this activity in this area.
- PB 6. Redesign the main car park at Parry Beach to improve its function and safety. The design should consider:
 - Separating pedestrian and vehicle access
 - Re-locating the picnic area and BBQ's from the middle of the car park to a more suitable location which does not require crossing of a road or car park to access the beach.
 - Retention of the grassed island and peppermint trees in the middle of the car park
 - Improved parking management through kerbing and parking bay delineation.
- PB 7. Undertake a risk assessment for the recreational use of Parry Beach, focussing on passive recreational activities (walking, swimming, families relaxing with small children on the beach) and the use of vehicles and the behaviour of vehicle drivers along the beach. Following the outcomes of this risk assessment, develop and implement a strategy to

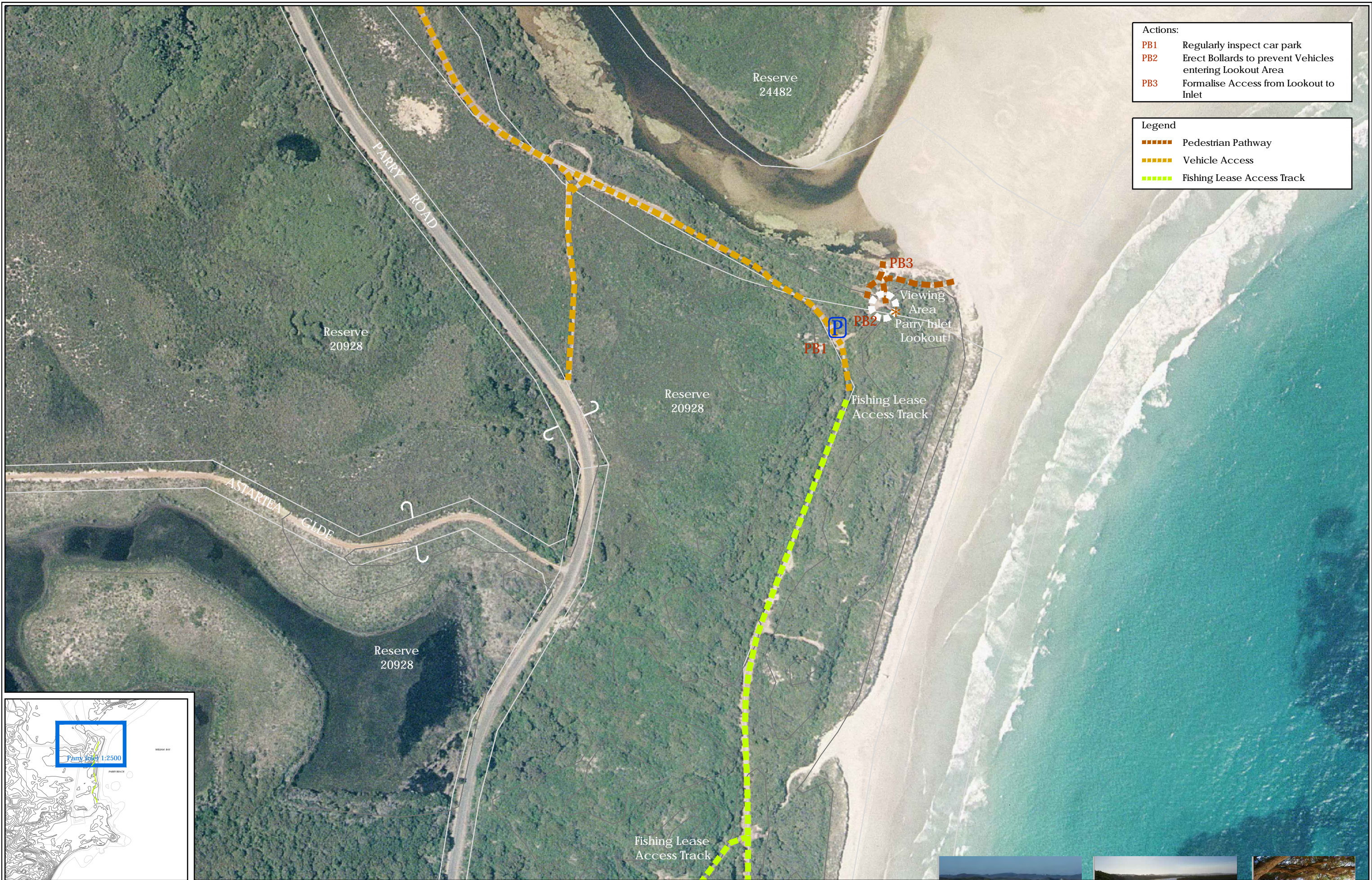


separate/zone recreational activities to reduce areas of high risk and improve safety for all users.

- PB 8. Consider alternative locations for vehicle access which will allow for the separation of boat launching/vehicle use and swimming/general beach activities.
- PB 9. Place a gated fence at the fisherman's lease area to prohibit general public accessing this track. Continue to allow access to professional fishermen and pedestrians.
- PB 10. Amalgamate R36578 into Parry Beach Reserve (R20928).

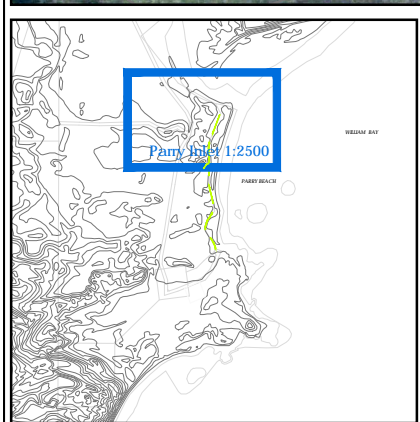
Hillier Beach

- PB 11. Upgrade and maintain the road leading from Parry Beach to Hillier Beach (to the main car park) for 2-wheel-drive access.
- PB 12. Improve pedestrian access from the current parking areas at Hillier Beach to the beach. Implement timber steps to assist with access down the foredune onto the beach.
- PB 13. Install a viewing platform on the foredune high point at Hillier Beach, to be continuous with the pedestrian stair access to the beach.
- PB 14. Repair and implement more bollards around the car parks at Hillier Beach to reduce disturbance to dune vegetation. Provide for a turn-around area to delineate the end of the vehicle track and parking area.



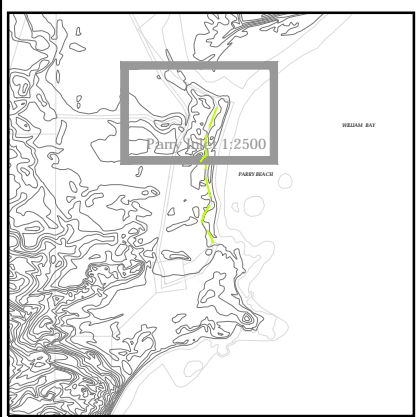
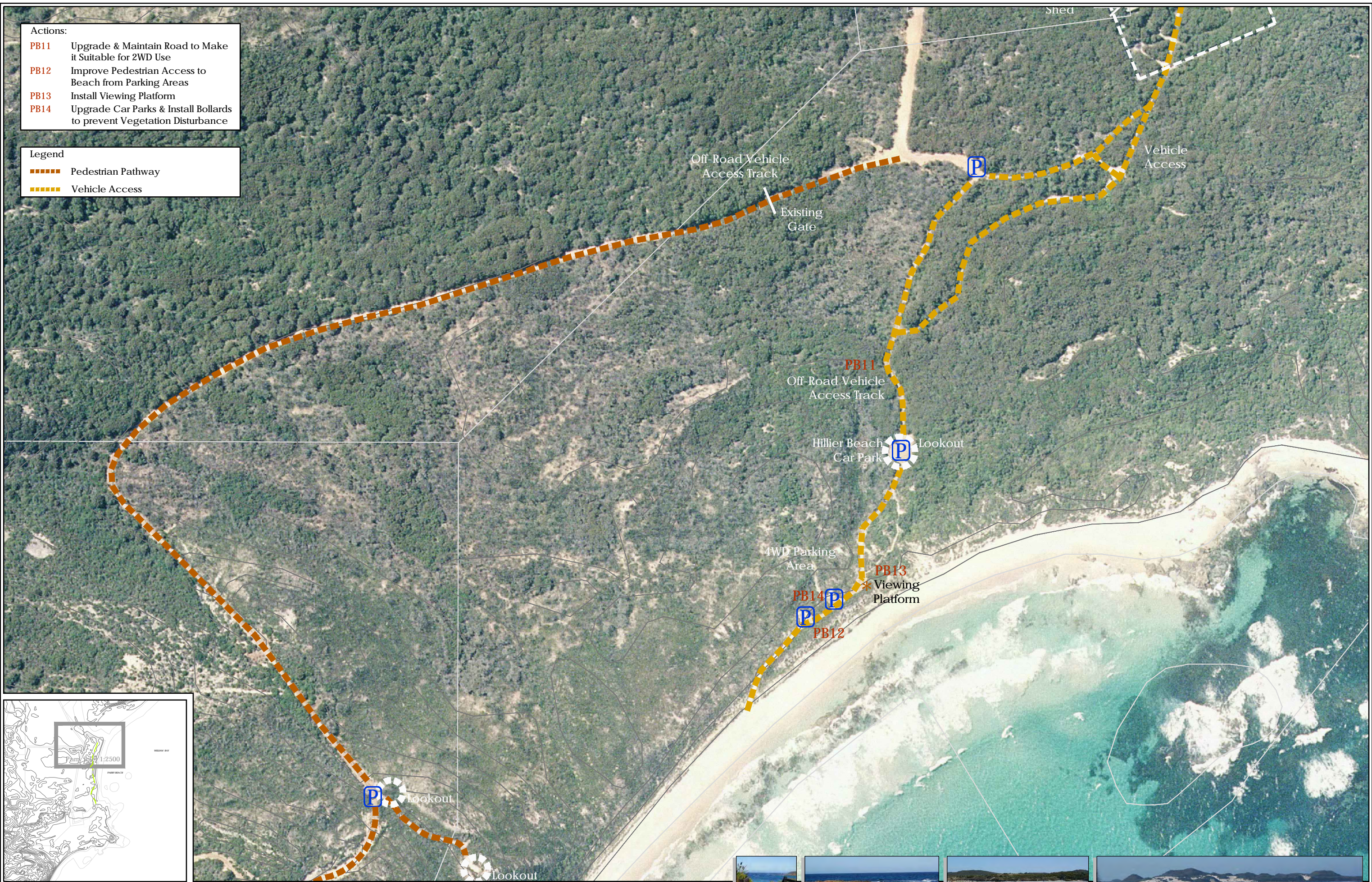
- Actions:**
- PB1** Regularly inspect car park
 - PB2** Erect Bollards to prevent Vehicles entering Lookout Area
 - PB3** Formalise Access from Lookout to Inlet

- Legend**
- ▬▬▬▬ Pedestrian Pathway
 - ▬▬▬▬ Vehicle Access
 - ▬▬▬▬ Fishing Lease Access Track



- Actions:
- PB11** Upgrade & Maintain Road to Make it Suitable for 2WD Use
 - PB12** Improve Pedestrian Access to Beach from Parking Areas
 - PB13** Install Viewing Platform
 - PB14** Upgrade Car Parks & Install Bollards to prevent Vegetation Disturbance

- Legend
-  Pedestrian Pathway
 -  Vehicle Access



7.4 Boat Harbour Reserve

Description

Boat Harbour Reserve is a 200m wide natural harbour which is located 30km to the west of the Denmark townsite. The reserve is situated between two nature reserves managed by the DEC. The reserve is the smallest, least accessible Shire reserve. It has the least amenities and is least visited as the track is inaccessible during certain times of the year when it gets too wet and boggy.

The bay is situated between two granite headlands which provide protection to the bay from the strong waves and winds which are prevalent along the south coast. The remainder of the reserve (situated to the north of the harbour) consists of a low swampy plain inhabited with wetland plant species such as *Agnois juniperina*, *Banksia littoralis* and *Melaleuca preissiana*. The reserve includes Boat Harbour to the east and Rope Hill located at the western end.



Rocky headland to the south-west of the harbour

Access to Boat Harbour is via a sand and gravel track which extends through Quarrum Nature Reserve and ends at the harbour. The track can only be accessed by off-road vehicles as it can get wet and boggy during winter and the sand is quite deep in places. The track was historically upgraded to a gravel track in the 1970's to provide access for professional fishermen to Boat Harbour. The road was funded by the Federal Government and implemented by the Shire. Over time the area was used less by fishermen and less funding was allocated to its upkeep.



View of Boat Harbour in the background taken at the end of the south-west rocky headland

Boat Harbour is a popular location for fishing and picnicking and is valued for its spectacular scenery and views and the sandy beach which is sheltered on either side by granite headlands. Boat launching is possible when conditions are favourable. The site is not popular for recreational boating but is sometimes used as an emergency boat launching site for Denmark and Peaceful Bay Sea Rescue Groups. A small car park is located at the western side of the harbour and picnic facilities such as benches are located near the car park. A composting toilet was implemented recently and is located to the north-west of the car park behind some vegetation.

The Bibbulmun Track passes through Boat Harbour Reserve and an overnight hut is located at the western end on Rope Hill. Some illegal camping occurs within the bush areas on the eastern side of the harbour.

A number of vehicle access tracks traverse over the reserve and near the harbour. These tracks are only accessible by off-road vehicles. Most were created decades ago when the area was used by professional fishermen. Off-road vehicle tracks lead from Boat Harbour toward Irwin Inlet and remote bays, beaches and rocky granite cliffs in between. Formal vehicle access is provided at the main car park at Boat Harbour to the beach. Another access track on the eastern side of the harbour extends to the beach to the east of the granite headland. This access is subject to change depending on the weather conditions and the tide and can be dangerous to use. Small parking areas are scattered at the end of the access tracks. This is to help prevent the creation of further tracks and vegetation disturbance created by a lack of space for vehicles.

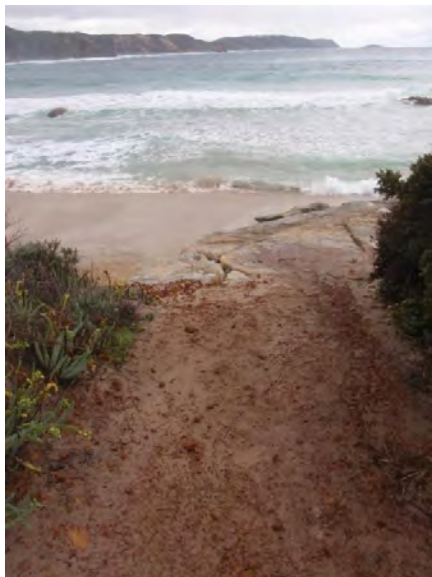


Photo of the beach to the east of Boat Harbour

The next 10 years are likely to bring an increase in user numbers, with the re-opening of the formal camping and caravan park located to the north of Boat Harbour Reserve at the commencement of Boat Harbour access road, and following any improvements to the access track and the informal camping facilities. However, the opening of the camping and caravan park will relieve some of the pressure from Parry Beach during peak season. It can also possibly reduce the occurrence of illegal camping at Boat Harbour by providing a location where it can legally take place.

Objectives

To manage Boat Harbour Reserve for low-key recreational use, permitting only low-key development of facilities and undertake ongoing environmental improvement and management to protect the site from further degradation.



Vehicle access to the beach to the east of the harbour

Issues

Boat Harbour is not the focus of any community management group, nor is it highly utilised by the community (such as Ocean Beach) which means that the site is less actively managed than the other reserves in the Shire. The Parry Beach Voluntary Management Group provides a low level of voluntary management input into the upkeep of this site. However, the remote aspect of this reserve makes it open to abuse and environmental degradation.

On the other hand, the relatively poor condition of the access track restricts the number of visitors to the area which is a strong management tool in itself. The lower number of visitors reduces the potential for abuse and the amount of environmental degradation. The action plan should focus on increasing the management of the reserve to resolve existing environmental issues and to help manage any problems in the future. This is particularly important if the camping and



caravan park at the north of Boat Harbour re-opens and the number of visitors increases. An application to re-open the Boat Harbour camping area has recently been lodged with the Shire.

The beach is a relatively unstable environment and is highly susceptible to degradation, especially if higher user numbers visit the area. Activities that lead to further degradation include sidetracking along pedestrian footpaths and vehicle tracks, illegal camping, removal of vegetation for firewood, uncontrolled 4-wheel-drive access onto the granite headlands and rocks and accumulation of rubbish in vegetation. The dune blow-out to the north-east of the bay has been progressively expanding over the last few decades and now threatens to engulf the access track and travel further inland. Urgent action is needed to rehabilitate the dune and prevent disturbance to this area.

The issues associated with illegal camping mainly relate to environmental impacts. The issue can't be easily resolved through more ranger presence at Boat Harbour as the site is too far and difficult to access to make daily trips realistic. The other option is to formalise a low-key camping area with room available for 5-8 tents/caravans near the bay. The re-opening of the camping and caravan park might also relieve some of this pressure.

The access track (Boat Harbour Road) is in fairly poor condition and is in urgent need of some upgrading. Issues of concern include the narrow width of the track in some places (surrounding vegetation needs pruning), the number of blind corners without warnings signs and the areas which have been cut up by attempted 2-wheel-drive access and bogged vehicles.

Actions

The below actions for Boat Harbour Reserve are depicted in Figure 7.3.

- | | |
|-------|---|
| BH 1. | Retain the Boat Harbour Road access track as an unsurfaced road as a means of limiting numbers to the area and ensuring that use remains low-key. |
| BH 2. | Review sections of the Boat Harbour Road access track from a safety perspective and improve and maintain where necessary such as widening blind corners, adding passing bays, placing signage at bends and improving sections subject to bogging. |
| BH 3. | Implement signage at the commencement of the main access track to warn drivers of the condition of the road and that it should only be driven by 4-wheel-drive vehicles.. |
| BH 4. | Replace existing picnic furniture with new seating and benches. |
| BH 5. | Close and rehabilitate side tracks. |
| BH 6. | Close and maintain duplicate off-road vehicle tracks through the reserve. Vegetation should regenerate over these areas. |
| BH 7. | Implement bollards around the main car parking areas on the granite headlands to prevent disturbance to vegetation. |
| BH 8. | Retain the existing vehicle access to the main beach at Boat Harbour. |

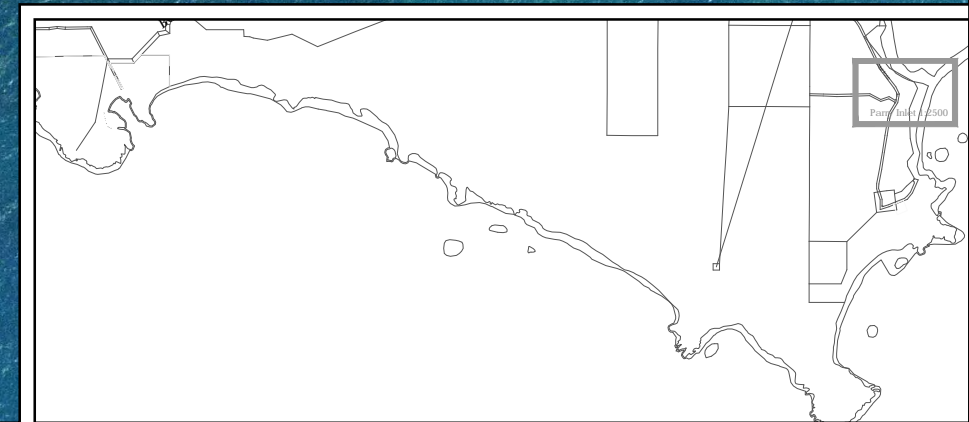


- BH 9. Erect signage that is consistent with the signs erected by the Shire at other coastal locations which include information about the area, the prohibited activities and emergency information.
- BH 10. Establish a formal low-key camping facility at the north-eastern side of the harbour (where illegal camping currently exists) to assist with the management of this issue.
- BH 11. Install a second composting toilet at the camping facility.
- BH 12. Erect signage along the access tracks before the granite headlands and coastal areas to warn drivers of the dangers and potential hazards.
- BH 13. Carry out urgent rehabilitation on the dune blow-out to the north-east of Boat Harbour to prevent further expansion inland and encroachment on the access track.
- BH 14. Investigate changing Boat Harbour Reserve from a 'C' class reserve to an 'A' class reserve.
- BH 15. Implement feral animal control programs, in particular rabbit control to reduce damage to dune vegetation and grassed areas.
- BH 16. Liaise with DEC regarding fire management in the reserve, to ensure co-ordination of objectives of protection of assets and conservation of biodiversity across the Shire-DEC management boundaries.
- BH 17. Encourage the formation of a "Friends of Boat Harbour Reserve" group to assist with community-based management of this reserve, in collaboration with the Parry Beach Voluntary Management Group.



- Actions:**
- BH1** Retain Boat Harbour Access Track as Sand
 - BH2** Monitor Track for Safety Issues
 - BH4** Replace Picnic Furniture
 - BH5** Close & Rehabilitate Side Tracks
 - BH6** Close Duplicate 4WD Tracks
 - BH7** Implement Bollards near Vegetation at parking areas
 - BH8** Retain Vehicle Access to Beach
 - BH9** Implement Signage
 - BH10** Possible Future Low-key Camping Area
 - BH11** Install Composting Toilets at Camping Area
 - BH12** Implement Safety Signage at Rocky Areas
 - BH13** Urgent Rehabilitation for Dune Blowout

- Legend**
- Study Area Boundary
 - Pedestrian Pathway
 - Vehicle Access



7.5 Peaceful Bay Reserve

Description

Peaceful Bay Reserve is bordered to the north, west and south by the Walpole-Nornalup National Park and is the western-most coastal reserve managed by the Shire. The reserve is made up of three separate lots and includes a small village which is leased by the Shire, community facilities (general store, fire brigade etc.), camping and caravan park and the coastal area.

Peaceful Bay is a small embayment situated at the south-east section of the reserve which is protected by a granite headland and limestone barrier to the south. The beach to the north of Peaceful Bay extends to the Irwin Inlet and is accessible to vehicles. Boat launching occurs in front of the Sea Rescue Emergency building. The beach to the west of the Sea Rescue building has been recently closed with bollards to exclude vehicles (see photo insert right), to provide a safe family picnicking and swimming recreational area in accordance with the 5 stage plan outlined below.



Peaceful Bay beach looking to the west, showing the bollards in the distance

This reserve also includes of a small village and resident population. The village is situated within the Shire reserve and consists of a number of small, weatherboard cottages which are occupied by retirees, permanent residents and holiday-makers. Most dwellings are seasonally occupied. The village also includes a caravan park, general store, local fire brigade, public toilets and picnic area which are generally located to the south and south-east of the homes.



View of Peaceful Bay and the ocean taken from the pedestrian access to the swimming beach

Freehold residential development has occurred to the west of the village. Recent expansion to the residential area has occurred and the townsite has been identified as a future development area. This expected increase in the permanent and visitor population will result in higher use of the area and subsequent pressures on facilities and the natural environment.

The Peaceful Bay Progress Association works closely with the Shire to assist with the future planning and Council budgeting for the town. Their activities are particularly important given the expected future development at the town. The Association

has recently prepared a 5 Stage Plan following an 18 month community vision and planning process. The stages identified in the plan are:

Stage 1 – to effectively separate boat launching from general recreation and address damage to the beach environment. This action is largely due to safety concerns due to the ineffective separation of different uses and the increasing size and number of boats and vehicles. The actions proposed include:

- the installation of bollards at the beach
- signage at the boat launching area to inform beach users of the boat launching area and dog exercise and picnicking towards the inlet
- expansion of the car park near the Sea Rescue shed
- widening the vehicle access to separate pedestrians from vehicles
- investigate the possibility of developing a breakwater off Soft Beach.

Stage 2 – Increase the general parking for beach goers. There has been an increase in the number of day visitors to the area and the current parking area near the toilet block is inadequate. The action proposed is to expand this parking area onto the opposite side of the road.

Stage 3 to 5 – Develop a multi-purpose community complex to meet future demand for non-beach associated recreational activities. The 5 Stage Plan proposes that the complex is developed on the hill between Loppings Dump and Soft Beach Track and the recreational elements will include a BMX track, skateboard park, tennis court, lawn bowls etc.

Peaceful Bay is popular for as swimming, fishing, boat launching, dog exercise, picnicking, walking and general recreational activities. Camping is prohibited within the beach areas. In accordance with the 5 Stage Plan (discussed above) the coastal area within the reserve is split into three sections:

- Dog exercise, picnicking and vehicle access and boat launching is permitted along the beach to the north of the bay
- Vehicle access, boat launching and fishing is permitted along the northern section of the bay
- Other recreational pursuits such as swimming and walking occur along the southern section of the bay. Vehicle access and boat launching is prohibited in this section.

A gravel car park is located at the northern end of the bay. The Peaceful Bay Sea Rescue building is located at the southern end of the car park. A formal vehicle access track is provided from the car park and vehicles are permitted to park along the northern section of the bay. A bituminised car park is located at the southern end of the bay behind the foredunes. Public toilet facilities are provided at the car park. Considering the different land use zones along the beach, the northern car park is generally used by those interested in fishing, boating and dog exercise and the southern car park is used by those interested in swimming, walking and other recreational pursuits. Both car parks reach capacity during peak periods and it's expected that the increase in permanent and visitor populations will increase demand.



Peaceful Bay Sea Rescue Emergency Centre

The bay provides an excellent location for boat launching because of its protected location. Vehicle access is provided at the northern car park (near the Peaceful Bay Sea Rescue building) and boat launching is permissible within the northern section of the bay and further north along the reserve.



Fisherman shack at Peaceful Bay

Along the coast to the north of the bay is situated a single fisherman shack which is leased by the Shire. An RSL memorial has recently been erected close to the fishermen shack. The northern end of the reserve is a Proclaimed Fishing Area and professional fishing is undertaken in the area between February and April each year. Shacks are located behind the foredune at the northern end of the reserve. Professional fishermen catch salmon during February to March, herring in April and May and shark throughout the year.

Objectives

To manage Peaceful Bay Reserve for low-key recreational uses and to cater for increased demand while ensuring that natural and cultural values are maintained and protected.

Issues

Peaceful Bay is a well-used and popular coastal location with both locals and visitors. Existing issues caused by land use pressures and recreational pursuits are well-managed by the Shire, the local community and the Peaceful Bay Progress Association. Current issues which require attention include:

- Enforcing and regulating the separation of different land uses within their allocation zones along the beach
- Managing the increase in demand for beach access and boat launching during peak periods
- Lack of car parking available at both car parks during peak periods
- Ensuring that dogs are only exercised along the beach to the north of the bay
- The formation of sidetracks and consequent vegetation degradation and dune erosion caused when pedestrians diverge from allocated pathways
- Unclear signage
- Illegal camping occurs along the beach occasionally.



Sign at Peaceful Bay

It is expected that future land uses at Peaceful Bay will remain relatively low-key, however increased use and pressure could lead to degradation of environmental and social values if not well-managed. Some of the expected issues that this plan addresses within the next 10 years include:

- Both car parks reach capacity during peak periods which is expected to worsen

- The expanded resident population will require appropriate community facilities, hence the proposal by the Progress Association to construct a multi-purpose complex at the top of the hill near Soft Beach Track.
- The separate land use zones will need constant regulation to ensure they're adhered to, especially when the number of people increases and the pressures to ignore the zonings are likely increase
- Safety concerns regarding the use of vehicles along the beach (which should be less of an issue if this land use is adequately separated from other recreational uses)

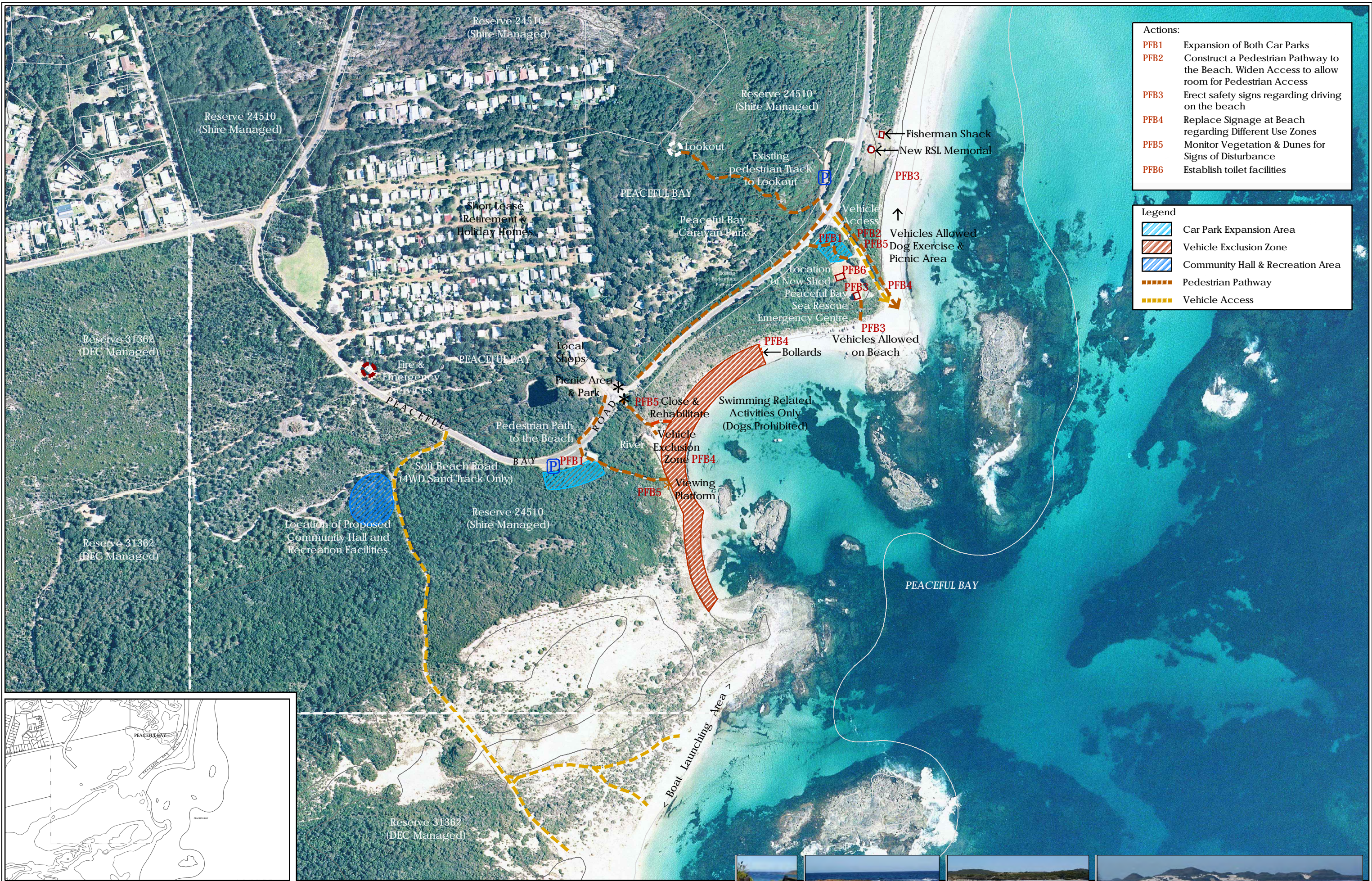


The second car park at Peaceful Bay, located near the swimming beach

Actions

The recommended actions are depicted in Figure 7.4.

- PFB 1. Expand both car parks to cater for increased use (expansion of the northern car park to the north and west and expansion of the southern car park to the south).
- PFB 2. Widen existing vehicle access to Peaceful Bay at the first car park to accommodate pedestrian movement, including people with prams or wheelchairs.
- PFB 3. Erect safety signs regarding driving along the beach at vehicle entry points and along the beach at the northern section of the bay and along the northern beach which extends towards the Irwin Inlet.
- PFB 4. Replace existing signage at the beach with clearer, easy to interpret signage regarding the different recreational zones and place the same signs at other locations along the beach and within the car parks. The signs should also clearly indicate where the reader is located.
- PFB 5. Monitor the vegetation and dune systems for signs of damage and erosion and carry out appropriate management (such as fencing, brushing and revegetation) if degradation is evident.
- PFB 6. Establish new toilet and shower facilities at the first car park adjacent to the Sea Rescue Emergency buildings.



- Actions:**
- PFB1** Expansion of Both Car Parks
 - PFB2** Construct a Pedestrian Pathway to the Beach. Widen Access to allow room for Pedestrian Access
 - PFB3** Erect safety signs regarding driving on the beach
 - PFB4** Replace Signage at Beach regarding Different Use Zones
 - PFB5** Monitor Vegetation & Dunes for Signs of Disturbance
 - PFB6** Establish toilet facilities

- Legend**
-  Car Park Expansion Area
 -  Vehicle Exclusion Zone
 -  Community Hall & Recreation Area
 -  Pedestrian Pathway
 -  Vehicle Access



8 IMPLEMENTATION AND REVIEW

8.1 Introduction

This section of the Coastal Reserves Management Strategy provides guidance on the implementation of the Action Plan. Essentially, it provides a framework to ensure coastal management is adequately catered for in future budgets. It is anticipated that the recommendations will be implemented over the next 10 years.

The implementation of recommendations from the Action Plan will need to be appropriately costed and programmed for implementation by the Shire of Denmark. Several recommendations will require ongoing management.

8.2 Implementation of management recommendations and coastal infrastructure

The recommended foreshore management actions have been allocated a priority to assist with implementation. Priorities have been classified as follows:

- I: Immediate term – within the next 2 financial years
- M: Medium term – within the next 5 years
- L: Long term – 5+ years
- O: Ongoing – as required.

It is envisaged that all management actions with *Immediate* priority will be works provided for either in the Shire annual budget or through grant funded projects within the next 2 years (by 2012). All management actions with *Medium* priority will be implemented by Council within the next 5 years (by 2015), and all management actions and coastal infrastructure requirements identified as *Long-term* priorities will be implemented by 2020.

The Shire of Denmark Council is responsible for providing budget allocation and decision-making support to their staff to enable the effective and safe long-term management of the coastal reserves vested with the Shire of Denmark. These coastal reserves represent a significant asset for the Shire of Denmark, providing primary tourism and recreational activity nodes for residents and visitors, and these coastal environments have a high level of demonstrated community value and attachment. It is in the interests of the entire community of Denmark for the Shire Council to invest annually in the maintenance, safety and improvement of the Shire's coastal reserves infrastructure assets and natural values.

The priorities assigned to each recommendation are advisory only. Priorities can be reviewed as required by the Shire to take into account availability of resources and granting of funding requests.

8.3 Responsibilities

The Shire of Denmark is responsible for recommendations within this plan. In some instances another party may be able to 'partner' the Shire when implementing recommendations.

Responsibilities and partners have been classified as follows:



- Shire of Denmark Council and Directorate SOD
- Department of Environment and Conservation DEC
- Peaceful Bay Progress Association PBPA
- Parry Beach Voluntary Management Group PBVMG

8.4 Monitoring

Monitoring is an essential component of the rehabilitation or maintenance program. Its purpose is to assess the success of management activities and to determine whether certain objectives or goals have been achieved. It can also indicate whether the action plan requires modification to help reach this goal more efficiently. Monitoring of recreational elements is important to ensure they are safe and undamaged.

Many factors can contribute to decreasing the success of restoration actions, such as the invasion of weeds and the disturbance of the area by humans. It also takes time for newly vegetated areas to become self-sustaining and better adapted to combat these disturbances. In this case, the ultimate goal of rehabilitation and management is to protect vegetation. Monitoring the vegetation condition, dune stability and weed cover will help indicate whether this goal has been reached.

It is recommended that monitoring is conducted once a year. This should involve inspections of high use areas to determine whether the condition is improving, static or worsening. Relevant action such as replanting or weed eradication should be undertaken if monitoring results indicate no improvement or degradation.

Monitoring of recreational facilities can be conducted using visual assessments and safety inspections. These should be carried out regularly, and issues attended to immediately if they arise.

8.5 Indicative Costs for coastal revegetation and dune restoration

Indicative costs have been provided to assist Council in finalising priorities and preparing works programs as required. Implementation costs will generally need to be met by Council, and may vary depending on, for example, whether works are carried out in-house or contracted externally, the design scope, materials used and the degree of public consultation required. It should be noted that the costs provided below are indicative only, and will require further investigation and detailed planning prior to a detailed cost being determined.

Table 7.1 below provides an estimate of the indicative costing for rehabilitation. It should be noted that these amounts are estimated only and are based on the generalised costs for revegetation works in WA including acquisition of seedlings, labour, maintenance and other expenses. Cost estimates for these types of works can change significantly depending on the scope of work required and the area and method of rehabilitation. These costs assume that the ultimate goal is to improve the vegetation condition to *Excellent*. They also assume that a majority of revegetation will be with seedlings which cost approximately \$0.80 each and that 3-4 will be planted per square metre in degraded areas.



Table 7.1 – Rehabilitation costs per square metre for different vegetation conditions

Condition	Excellent	Very Good	Good	Degraded
Establishment			\$2.20	\$2.65
After 1 st Year	\$0.10	\$0.55	\$0.90	\$1.30
After 2 nd Year	\$0.10	\$0.10	\$0.44	\$0.55
After 3 rd Year	\$0.10	\$0.10	\$0.22	\$0.22
After 4 th Year	\$0.10	\$0.10	\$0.10	\$0.10
Years thereafter	\$0.10	\$0.10	\$0.10	\$0.10

Adapted from Ecoscape, 2004.

8.6 Funding Sources

In some instances, the Shire may be able to seek funding for certain activities from other sources. Funding opportunities such as these tend to change on a regular basis and as a result a review of options should be undertaken each year.

Potential sources include:

- Coastwest/Coastcare – administered by the Department of Planning. Funding is available for projects that encourage coastal protection through research, education and protection works.
- Community Conservation Grants – administered by TSN Coordinator, WWF Australia. Grants are provided for activities such as habitat restoration, weeding and feral animal control, monitoring and surveying species populations, fencing, fire management.
- Lotteries Commission Gordon Reid Foundation for Conservation – supports community organisations involved in conservation activities and environmental protection. Examples of projects that may be considered are revegetation activities and the protection of remnant vegetation, flora and fauna surveys, management plans for reserves, public education projects, research projects which will assist in the conservation of Western Australia's biodiversity.

8.7 Summary Action Plan

A summary of the Action Plan (as presented in Chapter 7) is provided in Table 8.2 below. The recommended actions are also shown in Figures 7.1a-7.4.

Table 8.2 – Action Plan for the Shire of Denmark's Coastal Reserves

(I – Immediate, M – Medium, L - Long-term (+ 5 years), O – Ongoing)

Reserve	No.	Recommendation	Priority	Responsibility
Ocean Beach Reserve	OB1	Provide picnic facilities (such as covered picnic benches and a limited number of barbeques) on the grassed area near the first car park. Picnic facilities will need to be raised above the flood level.	M	SOD
	OB2	Ensure that facilities established at Prawn Rock Chanel are wheelchair-accessible.	I	SOD

Reserve	No.	Recommendation	Priority	Responsibility
	OB3	Investigate the engineering solutions for continuing the formal dual-use path which extends from the Ocean Beach Surf Club past Ocean Beach Lookout and along Ocean Beach Road to the south of Prawn Rock Channel. This will assist in minimising the potential for vehicle, pedestrian and cyclist conflict between these locations.	I	SOD
	OB4	Establish public toilets at the second car park.	M	SOD
	OB5	Erect signage further north along Ocean Beach Road to indicate the availability of public amenities at the second car park.	M	SOD
	OB6	Erect signage to indicate that no camping is permitted on the foreshore reserves managed by the Shire.	M	SOD
	OB7	Replace the signage showing the dog exercise areas with clearer, easily-interpretable information regarding which areas are prohibited.	I	SOD
	OB8	Formalise the track which currently travels down the cliff face at Ocean Beach Lookout with a staircase.	I	SOD
	OB9	Rationalise and replace the signage at Ocean Beach Lookout which do not obscure or interrupt views of the Inlet.	M	SOD
	OB10	Modify the purpose of Reserve 20578 from <i>Camping to Recreation</i> .	M	SOD
	OB11	Ensure that the beach remains closed to vehicles except for a small section at the southern end which can be used for boat launching.	O	SOD
	OB12	Retain the vehicle access track to the beach and ensure that no parking is permitted on the beach or on the access road and all vehicles are parked in the parking area.	O	SOD
	OB13	Maintain the toilet facilities as required.	O	SOD
	OB14	Discourage pedestrian access through the dunes and vegetated areas through appropriate fencing and signage where indicated on the plans and through regulation.	O	SOD
	OB15	Investigate the possibility of expanding the Ocean Beach car park in the long term (i.e. 5 years from now) to accommodate increased usage during peak times.	L	SOD
	OB16	Install several shaded wooden picnic tables and gas or push-button electric barbeques to the east of the toilet block.	M	SOD
	OB17	Establish a viewing platform at Lions car park.	M	SOD
	OB18	Erect signage at the gated entrance to the road leading to the limestone quarry to advise motorists of the existence of the quarry and safety issues.	I	SOD
	OB19	Close the 4WD access across the southern end of Wilson Head (between Sinker Bay and Black Hole) and revert to pedestrian access only.	M	SOD



Reserve	No.	Recommendation	Priority	Responsibility
	OB20	Formalise pedestrian pathways linking Ocean beach to Lions Lookout, McGeary's Lookout and Black Hole Lookout which will link to the existing 4-Wheel-Drive access tracks which link Black Hole Lookout to Sinkers Bay Lookout. The exact alignment of the pathways will need to be determined by a qualified specialist.	M	SOD
	OB21	Monitor and appropriately manage erosion at each car park and lookout by erecting fences (if human disturbance is evident), brushing the dunes and revegetating with native plants.	O	SOD
	OB22	Erect signage at the Sinkers Bay Lookout car park and along the access road advising motorists to be aware that pedestrians are likely to walk along the road to gain access back to Ocean Beach.	M	SOD
	OB23	Close and manage duplicate 4-Wheel-Drive access tracks throughout the reserve.	O	SOD
	OB24	Consider the implementation of a small parking area at the end of the vehicle access on the foredunes for use by the South Coast Surfing School during peak times.	I	SOD
	OB25	Excise the existing roads from Ocean Beach Reserve and create these areas as specific road reserves.	M	SOD
	OB26	Retain the soft sand access track as the only access to the Back Beach car park. Do not upgrade the road in order to limit the number of vehicles able to access the beach.	O	SOD
	OB27	Continue to close vehicle access to newly formed vehicle tracks which diverge from the main track to Back Beach, and rehabilitate disturbed areas.	O	SOD
	OB28	Close the off-road vehicle track which extends to the north-west of Back Beach car park to prevent vehicle use.	I	SOD
	OB29	Implement new signage at the Back Beach car park (located at the northern side of the car park to reduce impact on views).	I	SOD
	OB30	Ensure all signage at Back Beach (including signs at the car park and the beginning of the track) are maintained and provide clear instructions and warnings.	I	SOD
	OB31	Replace broken timber steps on the pedestrian access from the Back Beach car park to the beach.	I	SOD
	OB32	Maintain the pedestrian access from the Back Beach car park to the beach in good condition by inspecting on a monthly basis (or more frequent if possible).	O	SOD
	OB33	Install dog faeces bag dispensers and rubbish bins at the Lights Beach car park and at the end of the access paths to the beach.	I	SOD
	OB34	Retain the foredune to the south-east of the Lights Beach car park as a 'sacrificial dune' for children to play on to reduce the potential for disturbance on other areas of the beach.	O	SOD

Reserve	No.	Recommendation	Priority	Responsibility
	OB35	Carry out brushing and revegetation of sidetracks near access pathways to Lights Beach and around the car park when there's evidence of disturbance.	O	SOD
	OB36	Replace signage at Lights Beach with signs of a consistent standard with other signs erected by the Shire at other coastal reserves.	I	SOD
	OB37	Increase ranger presence to ensure recreational uses are appropriate and to monitor any potential conflicts.	O	SOD
	OB38	Increase regularity of Shire maintenance services, namely more regular bin collection and toilet maintenance.	O	SOD
Parry Beach Reserve	PB1	Conduct regular inspections of the car park at Parry Inlet, especially during peak seasons, to reduce the incidence of informal camping.	O	SOD
	PB2	Prohibit vehicle access to the Parry Inlet picnic site by placing bollards at the entrance and place an additional sign saying 'no camping' on the bollards to further discourage illegal camping.	I	SOD
	PB3	Formalise the existing pedestrian beach access tracks which lead from the Parry Inlet picnic site down the cliff to the inlet. Provide a lookout platform at the dune high point, to reduce trampling of dune vegetation at the site.	I	SOD
	PB4	Replace signage at the Parry Beach car park to the beach. The signage should include information on the area, danger of vehicles and boat launching on the beach, safety information, the permitted and prohibited activities along the beach, the appropriate management of dogs and emergency contact details.	I	SOD
	PB5	Continue to allow vehicle access to the rocks south of the Parry Beach car park. Monitor the suitability of this activity in this area.	O	SOD
	PB6	Redesign the main car park at Parry Beach to improve its function and safety. The design should consider: <ul style="list-style-type: none"> • Separating pedestrian and vehicle access • Re-locating the picnic area and BBQ's from the middle of the car park to a more suitable location which does not require crossing of a road or car park to access the beach. • Retention of the grassed island and peppermint trees in the middle of the car park • Improved parking management through kerbing and parking bay delineation. 	I	SOD



Reserve	No.	Recommendation	Priority	Responsibility
	PB7	Undertake a risk assessment for the recreational use of Parry Beach, focussing on passive recreational activities (walking, swimming, families relaxing with small children on the beach) and the use of vehicles and the behaviour of vehicle drivers along the beach. Following the outcomes of this risk assessment, develop and implement a strategy to separate/zone recreational activities to reduce areas of high risk and improve safety for all users.	I	SOD
	PB8	Consider alternative locations for vehicle access which will allow for the separation of boat launching/vehicle use and swimming/general beach activities.	M	SOD PBVMG
	PB9	Place a gated fence at the fisherman's lease area to prohibit general public accessing this track. Continue to allow access to professional fishermen and pedestrians.	I	SOD
	PB10	Amalgamate R36578 into Parry Beach Reserve (R20928).	M	SOD
	PB11	Upgrade and maintain the road leading from Parry Beach to Hillier Beach (to the main car park) for 2-wheel-drive access.	M	SOD
	PB12	Improve pedestrian access from the current parking areas at Hillier Beach to the beach. Implement timber steps to assist with access down the foredune onto the beach.	M	SOD PBVMG
	PB13	Install a viewing platform on the foredune high point at Hillier Beach, to be continuous with the pedestrian stair access to the beach.	M	SOD
	PB14	Repair and implement more bollards around the car parks at Hillier Beach to reduce disturbance to dune vegetation. Provide for a turn-around area to delineate the end of the vehicle track and parking area.	I	SOD
Boat Harbour Reserve	BH1	Retain the Boat Harbour Road access track as an unsurfaced road as a means of limiting numbers to the area and ensuring that use remains low-key.	O	SOD
	BH2	Review sections of the Boat Harbour Road access track from a safety perspective and improve and maintain where necessary such as widening blind corners, adding passing bays, placing signage at bends and improving sections subject to bogging.	I	SOD
	BH3	Implement signage at the commencement of the main access track to warn drivers of the condition of the road and that it should only be driven by 4-wheel-drive vehicles.	I	SOD
	BH4	Replace existing picnic furniture with new seating and benches.	M	SOD
	BH5	Close and rehabilitate side tracks.	I	SOD



Reserve	No.	Recommendation	Priority	Responsibility
	BH6	Close and maintain duplicate off-road vehicle tracks through the reserve. Vegetation should regenerate over these areas.	I	SOD
	BH7	Implement bollards around the main car parking areas on the granite headlands to prevent disturbance to vegetation.	M	SOD
	BH8	Retain the existing vehicle access to the main beach at Boat Harbour.	O	SOD
	BH9	Erect signage that is consistent with the signs erected by the Shire at other coastal locations.	M	SOD
	BH10	Establish a formal low-key camping facility at the north-eastern side of the harbour (where illegal camping currently exists) to assist with the management of this issue.	M	SOD
	BH11	Install a second composting toilet at the camping facility.	M	SOD
	BH12	Erect signage along the access tracks before the granite headlands and coastal areas to warn drivers of the dangers and potential hazards.	I	SOD
	BH13	Carry out urgent rehabilitation on the dune blow-out to the north-east of Boat Harbour to prevent further expansion inland and encroachment on the access track.	I	SOD
	BH14	Investigate changing Boat Harbour Reserve from a 'C' class reserve to an 'A' class reserve.	M	SOD
	BH15	Implement feral animal control programs, in particular rabbit control to reduce damage to dune vegetation and grassed areas.	O	SOD DEC
	BH16	Liaise with DEC regarding fire management in the reserve, to ensure co-ordination of objectives of protection of assets and conservation of biodiversity across the Shire-DEC management boundaries.	O	SOD DEC
	BH17	Encourage the formation of a "Friends of Boat Harbour Reserve" group to assist with community-based management of this reserve, in collaboration with the Parry Beach Voluntary Management Group.	I	SOD PBVMG
Peaceful Bay Reserve	PFB1	Expand both car parks to cater for increased use (expansion of the northern car park to the north and west and expansion of the southern car park to the south).	I-M	SOD
	PFB2	Widen existing vehicle access to Peaceful Bay at the first car park to accommodate pedestrian movement, including people with prams or wheelchairs.	I	SOD
	PFB3	Erect safety signs regarding driving along the beach at vehicle entry points and along the beach at the northern section of the bay and along the northern beach which extends towards the Irwin Inlet.	I	SOD



Reserve	No.	Recommendation	Priority	Responsibility
	PFB4	Replace existing signage at the beach with clearer, easy to interpret signage regarding the different recreational zones and place the same signs at other locations along the beach and within the car parks. The signs should also clearly indicate where the reader is located.	I	SOD
	PFB5	Monitor the vegetation and dune systems for signs of damage and erosion and carry out appropriate management (such as fencing, brushing and revegetation) if degradation is evident.	O	SOD PBPA
	PFB6	Establish new toilet and shower facilities at the first car park adjacent to the Sea Rescue Emergency buildings.	M	SOD

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APPENDIX A

Summary of Consultation Outcomes

Shire of Denmark Coastal Reserves Management Strategy and Action Plan

Community Workshop Summary Report

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APPENDIX B – WORKSHOP PRESENTATION

1 INTRODUCTION

The Shire of Denmark Coastal Management Plan (CMP) was prepared in 2003. The purpose of the plan was to provide objectives and actions to assist with the management of the Shire's coastal reserves. A review of the management plan was recommended after a five year period. The preparation of the Shire of Denmark Coastal Reserves Management Strategy and Action Plan will involve a thorough review of the previous Coastal Management Plan and integration of new management recommendations to assist with enhanced coastal management and protection for the next 10 years.

The purpose of the Coastal Management Strategy (CMS) is to provide detailed information on the following:

- A description of the characteristics of each coastal reserve (including current uses, access and environmental condition)
- The management recommendations for environmental protection and rehabilitation
- The management recommendations for the future land uses
- A list of priorities for each recommendation over the next 10 years
- Detailed plans to that provide a spatial indication of the location of the management recommendations.

A community workshop was held to assist with the preparation of the CMS. The workshop was held on the 2nd June 2010 at the Shire of Denmark Council Chambers. The aim of the community workshop was to provide local residents with the opportunity to provide input into CMS. As such, the workshop was held early in the process of preparing the CMS so that community views would be taken into account as appropriate.

The workshop was advertised and promoted in the Denmark newspaper, on posters which were placed around the town and on the Shire's website. A total of 17 people attended the workshop comprising representatives of community groups and individuals.

The evening was broken into two broad stages, as follows:

- Presentation to attendees on the introduction and background to the project and the purpose of the workshop and

- Community input via group-based work.

The workshop was facilitated by Elizabeth Jack from the Centre of Sustainable Tourism and assisted by Michael Taylforth and Sharee Rasmussen from Land Insights and Helen Heydenrych from the Shire. The Shire CEO, Dale Stewart, started the evening with a formal welcome and introduction to the attendees. The first part of the workshop focussed on providing information on the purpose and aims of the project, the study areas, ideas for discussion for each reserve and the purpose of the workshop (presented by Land Insights). Elizabeth explained how the evening would proceed and commenced the explanation of the first group exercise.

The group-work component of the workshop comprised the majority of the evening. It focused on identifying and documenting the views of the participants in respect to:

- Values associated with the Shire's coastal reserves
- Concerns or issues associated with the Shire's coastal reserves
- Visions for the future use and management of the Shire's coastal reserves.

The workshop process was designed to be a collaborative exercise aimed at eliciting the views of all participants. To facilitate this, workshop participants worked in three groups. The original purpose was to divide participants into groups depending on the reserve or location in which they were most particularly interested in. However, there was a lack of specific interest in Boat Harbour Reserve (most likely due to the low-key nature of the site) so the participants interested in Parry Beach Reserve also worked on Boat Harbour. Each participant considered and identified values, concerns and visions on both an individual and group level before reporting back to the main group at various points of the evening. Discussions within the groups was both energetic and passionate, with many common themes emerging.

This report highlights the key outcomes of the workshop. The outcomes will assist in providing a basis and framework for the preparation of the CMS. To provide an accurate representation of discussions during the workshop, the comments received from each group have been transcribed directly where possible.

2 VALUES

The participants were firstly asked to identify what they value most about the Shire's coastal reserves and beach locations and what their strengths are. These were explained as the things that need to be *protected, preserved* and *enhanced* in the CMS. Each group was asked to record the values and strengths which were raised.

Key themes emerging included:

- The peacefulness and natural beauty of the Shire's coastal reserves
- Low levels of development
- Current lifestyle attributes.

The specific values identified by each group are presented below.

2.1 **Group 1 – Ocean Beach Reserve**

- Migratory birds at Ocean Beach and Prawn Rock Channel
- Coastal vegetation in good condition (need to maintain healthy vegetation)
- Proximity to residential area and town (Ocean Beach)
- Freedom (beaches are close to 'pristine')
- Good quality water and air
- Recreational uses
- Minimal development and excising of reserves
- Uncluttered viewscape (no imposing infrastructure)
- Whale watching
- Unique flora and fauna
- Youth centred (surf club) – affordable, healthy, belongingness
- Facilities at Lights Beach – good in general, but not elderly friendly
- Fishing, surfing, aesthetics at Lights Beach
- Dune rehabilitation improvements at Ocean Beach
- Tourist friendly at Lights Beach and Ocean Beach
- Healthy condition of natural vegetation and fauna due to lack of management
- Opportunity to repair Prawn Rock Channel
- Cleanliness

- Limited disturbance
- Ownership – sense of home
- Youth centre – diversity of ages
- Viewing platforms
- Rugged nature of the coast requires knowledge and respect to access certain areas
- The Shire included substantial tracts of Reserves which were ‘given’ to the local government in the mid-1970’s to counteract the excessive mining that was occurring at the time).

2.2 Group 2 – Peaceful Bay Reserve

- Peace and quiet
- Access to the beach in a safe way
- Access to 4WD tracks
- An intact community that is involved with caring for the community and the bush
- Diversity of age groups and types
- No ‘over-glitzed’ tourism development
- ‘Old-world’ charm.

2.3 Group 3 – Parry Beach Reserve

- Fishing (recreational and commercial)
- Surfing
- Beach walking
- Wind/kite surfing
- Bird watching
- Camping
- Whale watching
- Hang gliding
- Balance of activities
- Leave it as it is (visitor’s comments)
- Bibbulmun track
- History – long time camping place
- No booking at the camping area – first in best dressed (some people nervous about flexibility and don’t come)
- Numbers controlled at peak times and excess visitors sent away – self managing

- Dogs
- Words to describe the area ('gorgeous', 'good', 'love', 'home', doesn't need a lot of changing', 'preserve it').
- 1957 – held the Australian Spearing Championship in Denmark and had over 2000 competitors.

2.4 Group 3 – Boat Harbour Reserve

- Surfing
- Fishing
- Beach walking
- Only 4WD access – self regulating
- Remoteness, away from maddening crowds
- Rugged
- Boat launching
- Peace and solitude
- Bibbulmun track
- Old salmon fishing huts (4-5 present)
- Boat Harbour chalets and caravans – unviable and still licenced.

3 CONCERNS

This section of the workshop focused on issues or concerns at each of the Shire's coastal reserves.

These were explained as the things that need to be *avoided*, *repaired* and *managed* in the CMS.

From these, four key concerns emerged:

- Safety concerns over the different beach uses (such as 4WDs and swimming)
- Demand for facilities and beach use increases during peak times
- Erosion along tracks and roads
- Desire to keep the reserves low-key, low development and to retain the natural beauty.

The concerns and issues identified by each group are presented below.

3.1 Group 1 – Ocean Beach Reserve

- Dog management at Ocean Beach and Lights Beach (dog faeces in particular) which negatively affects migratory bird habitat
- 4WD use at Ocean Beach (negatively affects migratory bird habitat)
- Dredging at Ocean Beach (negatively affects migratory bird habitat)
- Track and road quality – leads to erosion
- Dieback in some areas at Wilson Head
- Rubbish
- Parking limited – capacity reached at Ocean Beach car park during peak times
- Boat launching conflicts with other beach users from a safety perspective
- Littering at Back Beach from the public use and from the ocean
- Broken glass at Prawn Rock Channel
- Dune erosion along the 4WD track to Back Beach and at Lights Beach (from people)
- More seating required at platform lookouts
- Maintenance of public toilets at Ocean Beach and Lights each
- Viewing platforms need to be wheelchair friendly
- Lack of public notice board at Ocean Beach
- No drinking fountain at Ocean Beach
- The reserves are constantly having sections excised for a variety of reasons (boatsheds, angling clubs etc.)

- The lookout near Prawn Rock Channel includes an access track on unstable cliff and erosion is worsening
- Safety concern between vehicles and bicycles travelling along the access road to the lookout at Prawn Rock Channel.

3.2 Group 2 – Peaceful Bay Reserve

- Need to clearly delineate appropriate areas for certain activities – separate activities such as swimming, boat launching, beach fishing, dog exercise and general recreation
- Increasing incidences of abuse of coastal areas (4WD, motorbikes, quadbikes etc.)
- Managing the increasing impact of tourism/sea changers and the changing demographic who don't feel the same level of ownership of the community
- How to get 'blow-ins' to take ownership of the bay
- How do we get control of increasing incidence of 'bush bashing'
- Pressure of new development and the numbers this will bring to the bay – permanents, temporary holiday makers and day visitors
- Lots of work being done on hard infrastructure – also need work on soft infrastructure
- Parking separation for different activities (such as swimming, boat launching, general recreation etc.)

3.3 Group 3 – Parry Beach Reserve

- Weed control – escapees from gardens
- Camping – is a spatial footprint – now at 40, overflow at 50
- 4WD beach speed control
- Access for pedestrians and vehicles – safety concerns
- Carpark drainage
- Mobile homes – too big
- Rabbits
- Other campsites could take pressure off Parry's Beach
- Maintaining flow of caretakers
- Fire management – need firebreaks.

3.4 Group 3 – Boat Harbour Reserve

- Bring back low-key camping (6-12 sites)
- Upgrade road

- Safety concerns when people get bogged
- Poor access restricts use
- Inaccessible in winter
- Weeds from private gardens
- Realignment away from hills to straight went through swampy country
- Road used to be upgraded as community fishing access by Federal Government and the Shire
- Increase in recreational boating (safer launching than Parys Reserve) – don't advertise boat launching
- Keep as a Shire reserve.

4 VISION

Workshop participants were finally asked to identify their visions for the Shire's coastal reserves for the next 10 years (or more). The aspirations and visions of the local community should guide the preparation of the CM S by taking into account the community's visions for the future purpose and use of each reserve. For the purposes of this exercise it was explained that vision ideas:

- should enhance the things you value
- should address the things that concern you
- can be solutions to issues or trends.

The visions identified by each group are presented below:

4.1 Group 1 – Ocean Beach Reserve

- Retain pristine vegetation (exclude prescribed burning)
- Improved biodiversity shared with cultural diversity
- Bitumen road access at Lights Beach and past Ocean Beach to Black Hole Lookout
- Secure reserves to 'A' Class reserves
- Rehabilitate Ocean Beach lime pit and other areas currently suffering from erosion and dieback
- Educate locals/tourists of coastal value (ownership and responsibility)
- Make a migratory birds sanctuary at Poddyshot Bay in season
- Establish an Ocean Beach advisory group e.g. Friends of Ocean Beach
- Structural solutions to have artistic input
- Limit development to accommodate growth with no 'glitzy' development
- Bus service to Ocean Beach and bike hire
- Keep areas sacred to open limited access to new areas
- Clean Prawn Rock Channel and implement an effective channel to service inlet
- New road access from Lights Beach to Mad Fish
- Improve toilets at Lights Beach
- Maintain limited access to Back Beach
- Low impact track management (e.g. rocks and logs)
- Decent boat launch ramp at Ocean Beach
- Zone the area into different precincts to protect community values

- Local authorised officers to educate infringers
- The reserves are our investment of biodiversity for the future. They should not be reduced in any size or form but their integrity should be retained for future generations.
- Increase the number of employed rangers
- The toilet block at Ocean Beach needs artistic/creative input.

4.2 **Group 2 – Peaceful Bay Reserve**

- Refer to the Peaceful Bay 5 Stage Plan
- Protect and maintain vehicle access to eastern side of the beach to the Inlet
- Identify key activities and effectively separate those from each other and the village areas
- Effectively manage future development so that current 'village' and 'community' values are retained and impact on the environment is minimised
- Develop a soft beach 'breakwater' for boat launching (including a car ark, toilet facilities and fish cleaning facilities)
- Expand current boat trailer car park
- Implement bollards and signs to clearly indicate designated areas for certain activities
- Strive to review levels and issuing of infringement notices for illegal camping and illegal activities
- Expand swimming beach parking
- Identify other key activities and develop infrastructure and management strategies for these to be pursued opportunities
- Develop recommendations of TME infrastructure services report.

4.3 **Group 3 – Parry Beach Reserve**

- Less recreational fishing off rocks
- More beach and 4WD fishing
- Continue low-key camping
- Retain no power
- Retain as low-key
- No motorhomes under Peppermint trees
- Caravans stay in the overflow car park if staying overnight if coming in late
- Firebreak along walk trail to Hilliers Beach to allow burning towards headland

- Traffic control for car park access to the beach – integrate speed humps and crosswalks
- Family-orientated camping and recreation
- Campers to help with cleaning occasionally
- Increased presence of rangers
- Lookout opportunities exist at Hilliers Beach
- Picnic area at Hilliers Beach
- Separate walk trail from 4WD track at Hilliers Beach
- Keep existing car park at Hilliers Beach near the beach, but limited vehicle numbers

4.4 Group 3 – Boat Harbour Reserve

- Low-key camping (limit number of nights and no booking)
- Upgrade road and maintain services
- Water tank
- Rationalise tracks and rehabilitate closed tracks
- Investigate ways and means of managing e.g. ranger have the key to the gate
- Boat launching to continue
- Upgrade caretakers to look after the area and prohibit illegal camping.

5 CONCLUSION

The feedback obtained from the community workshop will be referred to as the CMS is prepared. Other opportunities are available to the community for consultation including an online community forum which will stay active through the duration of the project and provides an avenue for the community to discuss their thoughts with each other and the consultants. A community questionnaire has also been created which is available online and in hard copy format if requested. The draft report will be advertised for public comment for 21 days and during that time another community information evening will be organised which will provide the community with an opportunity to discuss the report with the consultant team and the Shire in an informal forum.

Questionnaire Summary

Questionnaires 21

2. Which coastal locations do you visit and use the most?

Prawn Rock Channel	9
Ocean Beach Lookout	10
Ocean Beach (main car park)	12
Lions Lookout	1
McGeary's Lookout	5

Black Hole Lookout	2
Sinker Bay Lookout	1
Back Beach	4
Lights Beach	16
Parry Inlet	13

Parry Beach	21
Hillier Beach	12
Boat Harbour	10
Peaceful Bay	9

3. What is your main activity at your favourite coastal locations?

Swimming	19
Fishing	16
4 Wheel Driving	13
Surfing	10

Walking	17
Sunbathing	7
Dog exercise	11
Picnicking	9

Horseriding	3
Boating	10
Camping	10
Other	

4. How often do you visit your favourite coastal location?

Everyday	7
Other	1

Once a week	12

Once a month	4

5. Is the conservation of natural values on the Shire's coastline important to you?

	1	
	4	3

	2	
	5	17

	3	1

6. I Please identify which values or features at the coast are most important to you

Aesthetics	7
Landscape	12
Natural environment	21
Ocean & water features	16

Sandy Beaches	10
Biodiversity	13
Facilities	5
Access	5

Wheelchair Access	1
Overall experience	13
Lookouts & Viewing platforms	6
Other	

7 What do you like about your preferred coastal location?

Pristine environment	7
Beauty	6
Vehicle access/parking/all ac	8
Limited development	3
Views	3
Not overcrowded	2

Fishing	2
Coastline/rocky headlands	3
Clean	2
Environment (migratory birds	4
Safety	1
Facilities	1

Clean air and water	1
4WD access to Parry Beach	1
Multi-use, surfing etc.	2
Good for kids/family orientated	1
Sense of belonging	1

8 What do you dislike about your preferred coastal location

Litter	7
4WDs, motorbikes on beach	5
Dogs on beach	2
Environmental damage	2
Limited vehicle access at be	2
Uncared for by visitors	2

Lack of facilities (viewing plat	2
Lack of signage	1
Not enough parking	1
Feral animals	1
Lack of surf	1
Overused in summer	1

Land use conflicts	1
Smoking	1
Lack of 4WD disables access	1
Proposed windfarm	1

9 Is there anything you'd like to change about your preferred coastal location?

Leave as is	4
Retain vehicle access at Par	3
More rubbish bins	3
No unsuitable tourist develop	3
No 4WDs on beach	3
No dogs on beach	2

Better management of bush	1
Dog faeces signage	1
More designated campsites	1
More doggie bags	1
More safety signage	1
Better parking	1

Manageable access at Ocean	1
Keep as natural as possible	1

Shire of Denmark Coastal Reserves Management Strategy and Action Plan

Community Questionnaire 2010 – General Comments

- More ranger presence.
- Not enough rangers and nothing much done about people breaking the rules.
- To date the Shire is doing an ok job.
- Taking vehicles off the popular swimming beaches will make the Denmark, Parrys and Peaceful Bay beaches safer for everyone!
- Keep up the good work.
- To maintain vehicle access at Parrys Beach is a must. It's a great family beach for the local community.
- I would like to see things left as natural as possible.
- This area is beautiful and should be accessible for all to enjoy.
- Leave it alone! Don't take away our access to the lovely coastlines.
- More bins please! Dog exercise area has signs asking to put dog waste in the bin but there isn't one!
- Very well managed, especially Parrys campsite. Problems with people getting stuck on the access track to Boat Harbour and visitors leaving broken glass or defacing the beach.
- Minimise development, manage use by extending trails and servicing 4WD tracks, rehabilitate and cordone off dunes close to beaches, educate and inform users to care for our precious resources.
- On the whole I think the Shire is doing a good job. Keep involving the community groups and looking after reserves.
- I think we are very lucky to have such a lovely coastline and the Shire and Shire Rangers are doing a great job at looking after the place.
- They appear to be doing a good job (the Shire).

APPENDIX B

*Actions from the Shire of Denmark Coastal
Management Plan 2003-2008*

APPENDIX B

ACTIONS FROM SHIRE OF DENMARK COASTAL MANAGEMENT PLAN 2003-2008

Table 1.1 – General Recommendations from the Coastal Management Plan 2003-2008

Category	Management Recommendation
Informal Camping	Ensure that information promoting established camping and caravan sites, their locations and capacity is readily available to both residents and visitors. The Shire of Denmark should explore the possibility of producing a guide to camping and caravanning within the Shire, which could include educational material explaining the damage caused by unmanaged camping and how to minimise it.
	Erect appropriate signage where informal camping is a problem, and seek ways to increase the frequency of patrols and regulation of these sites.
	Improve track management to discourage access to informal camping areas
	Review the availability of low-cost camping facilities in the Shire of Denmark...and examine possible locations for the establishment of new facilities
Coastal Education	The Denmark Shire, with the assistance of the Regional Coastcare Facilitator develop a coastal education program to educate local people and visitors about the natural and cultural values of the Shire's coast, and how to sustainably manage those values. The program should address the production of educational material, including effective signage
	Encourage all Denmark Shire staff involved in coastal management to become involved in training programs to improve their understanding of coastal environments and processes.
	Facilitate and encourage research into coastal environments and processes in the Denmark Shire
Aquaculture	The Denmark Shire adopt the South Coast Management Group guidelines for the development of land-based marine aquaculture proposals adjacent to marine and coastal areas
	Ensure the protection of environmental, social and recreational values in the assessment of any land-based aquaculture proposals in the Denmark Shire
	Ensure proponents undertake extensive community consultation so that aquaculture development does not conflict with established stakeholders and tourism interests
Off-Road Vehicles (ORVs)	The Denmark Shire adopt a policy for the management of ORVs in coastal areas and Shire reserves which outlines conditions under which ORVs can operate in these areas. This policy should also identify those coastal areas and reserves where ORV access is not acceptable.
	The Denmark Shire examine potential areas for gazettal as designated ORV use areas
	Working in conjunction with recreational ORV clubs and the South Coast Management Group, develop educational material promoting the responsible use of ORVs
Pedestrian Access to	Review the condition of existing public access ways to the coast on an ongoing basis

Category	Management Recommendation
the Coast	to ensure their continued effectiveness and safety
	Annually review the need for new access points, and seek funding from coastal grant programs to assist in their implementation
	As part of the Denmark Shire Disability Services Plan, pursue the ongoing improvement of access to the coast for those with mobility difficulties
	Examine options for a pedestrian/dual use path to link Denmark with the Ocean Beach Surf Life Saving Club
Signage	The Shire of Denmark review its signage policy with a view to creating uniform, recognisable and informative signs to educate and guide the community and visitors in appropriate behaviour in coastal areas
	Conduct an audit to identify Shire coastal locations in need of signage and develop a work program to seek funding for the installation of necessary signs
Commercial Recreational Enterprises in Coastal Reserves	Decisions regarding the approval of commercial recreational enterprises on Shire coastal reserves should be consistent with: 1. The Overall Management Objective for the coastal reserve 2. The ability of the enterprise to both complement other coastal uses and not degrade the coastal environment
	The hire and operation of motorised recreational craft at popular locations on shire coastal reserves should not be permitted
Harvesting of Seaweed and other Beach Resources	The Shire of Denmark develop a policy to manage the harvesting of seaweed, shellgrit and other beach resources on Shire reserves for both domestic and commercial purposes
Boat Launching Facilities	The Denmark Shire review boat launching facilities every two years to manage beach access, safety and potential conflict between beach users
	Shire rangers continue to monitor and regulate boat launching activities, especially during peak holiday periods
Public Safety	Using the Denmark Injury Prevention Group report as a guide, contract a specialist coastal safety consultant to review coastal hazards in the Denmark Shire and make recommendations to reduce those hazards
	Include coastal safety in any coastal education and awareness program developed for the Shire of Denmark
Fire	Update the Shire of Denmark Fire Prevention Report by developing fire management plans for all Shire of Denmark coastal reserves. Such plans should incorporate hazard reduction procedures and measures to protect natural values, community infrastructure and lives from fire
Dieback Management	The Shire of Denmark strengthens its Dieback Management Policy by developing dieback management plans for Shire coastal reserves. This should be supplemented by signage and education material encouraging appropriate dieback management by coastal users
Rubbish	Coastal users, especially those in remote locations, be encouraged to take their rubbish home with them for disposal
	Rubbish bins should be provided at popular coastal sites that can be adequately serviced
Weeds	Support efforts by local Weed Action Groups to identify and remove weeds from Shire coastal reserves

Category	Management Recommendation
	Map weed infestations in Shire coastal reserves on the Denmark Greening Plan GIS
	Encourage Shire field officers to maintain weed identification and management skills
	Support education campaigns that identify weeds and explain why they are a threat to natural environments
Public Toilets	Install composting toilets at Lights Beach and Boat Harbour
	Consider alternatives to septic tank disposal in future developments at any coastal location
Barbeque Facilities	Install gas barbeques at the Ocean Beach precinct and Boat Harbour

Table 1.2 –Recommendations from the Coastal Management Plan 2003-2008 for Oceans Beach

Category	Management Recommendation
Vehicle Access to the Beach	To reduce pressure at the southern end of the beach, the Denmark Shire Council may consider the following options: 1. Do nothing - leave the access track as it is, and continue to manage erosion, conflict and potential public liability issues; 2. Leave the access track as it is, but strictly enforce a no parking policy on both the access way and on the beach (except for boat launching purposes) and manage erosion problems and potential public liability issues; 3. Seasonally restrict access to the track via a padlocked gate at the car park, with keys issued for purposes such as emergency services, commercial fishing and shire services; 4. Permanently restrict access to the track via a padlocked gate at the car park, with keys issued for purposes such as emergency services, commercial fishing and shire services; or 5. Permanently close access track to all vehicles and rehabilitate the entire track except for an emergency access way from the Sea Rescue building for the purposes of emergency sea rescue.
Access for Boat Launching	Quantify the amount of boat launching at Ocean Beach to assist it with its management decision making. If boat launching is minimal or restricted predominantly to local boat users, access for launching could be managed via keyed access
Pedestrian Access to Beach	To ease congestion during busy periods, develop another pedestrian access track from the car park (as part of a possible redevelopment of the picnic area) in between the Surf Club and the southern access track
	Discourage pedestrian access to vegetated and dune areas through appropriate fencing, track design, educational signage and regulation
	Either block pedestrian access down the cliff face at the Inlet Lookout car park or formalise an access way via a stairway down the cliff face
Rubbish	Continue the Shire rubbish collection service at Ocean Beach, and extend the collection to a bin placed at McGeary's
Car Parking	Parking bays are clearly marked
	Signs are erected directing vehicles to overflow parking in the Boating and Angling Club/Sea Rescue building carpark
	Restrict parking on Ocean Beach Road to one side of the road only
	Parking behaviour is more regularly policed

Category	Management Recommendation
Facilities	The grassed area be extended further towards the beach, allowing an adequate buffer to the primary dune.
	The toilet block be renovated, made lighter and more welcoming. Relocation of this building to the western side of the picnic area should be examined as it could greatly enhance the amenity of the area
	Several gas or push-button electric barbeques and wooden picnic tables be installed throughout the picnic area
	Lighting be upgraded
	Another access way from the car park be considered
	Opportunities for the construction of interpretive panels describing the natural and social values of Ocean Beach be explored
	Construct a viewing platform, with disabled access at carpark level
Foredune Management	No further development of the foredune should be permitted
	Negotiations begun with the Surf Club to enable the relocation of the old clubrooms to a more appropriate site off the primary dune system and less prone to erosion
Pedestrian/ cyclist access	The Shire of Denmark examine the feasibility of constructing dual use pedestrian/cycleway access to the Ocean Beach precinct to join the existing dual use path from Denmark
Commercial Recreational Enterprises	Commercial recreation-based enterprises be strictly limited to no more than two leases at Ocean Beach. Such leases should be granted by the Denmark Shire for a maximum of two years
	Commercial activities operate from designated areas in the Ocean Beach carpark for all operations other than beach based instruction
	The type of commercial operation be restricted to the hire of beach equipment or the provision of services related to appropriate passive recreational pursuits
	The hire of motorised recreational craft or vehicles, or watercraft longer than 2.5 metres not be permitted at Ocean Beach
	Decisions regarding the approval of commercial recreational enterprises on Shire coastal reserves should be consistent with: <ul style="list-style-type: none"> o the Overall Management Objective for the Ocean Beach reserve o the ability of the enterprise to both complement other coastal uses at Ocean Beach and not damage the coastal environment
Monitoring and evaluation	Establish a series of fixed photo points at Ocean Beach to enable photographs to be taken quarterly as a means of monitoring natural coastal processes and any environmental degradation.

Table 1.3 – Recommendations from the Coastal Management Plan 2003-2008 for Back Beach

Category	Management Recommendation
Track Access	Retain existing track as it is, but consider occasionally providing limestone fill to stabilise especially boggy patches
	Continue the program of progressive brush rehabilitation and active revegetation of old side tracks and blow-outs
	Initiate discussions with the Ocean Beach Caravan Park for the possible installation of an air compressor at the Park to encourage drivers accessing Back Beach to reduce

Category	Management Recommendation
	<p>their tyre pressures.</p> <p>Install signs at the beginning of the Back Beach track informing drivers of track conditions, the need to stick to established tracks, reduce tyre pressures (and the location of the nearest air compressor), and to be aware of safety issues such as speed, cliffs, ocean swells and rips</p>
Beach Access	Ensure beach access steps are maintained in good condition by inspecting on a monthly basis
Foot Track	<p>Address sidetracking of foot path to steps by:</p> <ul style="list-style-type: none"> ○ Replacing existing track fill with a smaller gauge gravel (perhaps bluemetal fines); ○ Brushing sidetracks, eroding areas and sides of footpath with prickly native vegetation (such as <i>Acacia littorea</i> or <i>Acacia divergens</i>); and ○ Create a small formalised footpath to vantage point on west of steps.
Trail Bike Management	<p>Encourage trail bike riders to keep to main access track through signage and more regular management presence</p> <p>Continue program of rehabilitation of side tracks with stout, prickly native brush wood</p>
Alternative access track	The Shire consider closing this track at the Ocean Beach end (except for fire access), in consultation with the Denmark Boating and Angling Club and other interested parties. This would still allow access to fishing spots from the Light's Beach end.
Commercial Recreational Enterprises	Given the isolated nature of Back Beach, and the restricted size of its car park, the operation of commercial enterprises would be inappropriate at this site
Monitoring and Evaluation	Establish a series of fixed photo points at Back Beach to enable photographs to be taken quarterly as a means of monitoring natural coastal processes and any environmental degradation.

Table 1.4 – Recommendations from the Coastal Management Plan 2003-2008 for Lights Beach

Category	Management Recommendation
Control of Visitor Impact	<p>Find a suitable site with minimal visual and environmental impact to install a composting toilet</p> <p>Seek funding to install viewing platforms:</p> <ol style="list-style-type: none"> 1. immediately in front of main carpark, and 2. in between the carpark and the staircase to the east <p>Manage sidetracking of access trails by:</p> <ul style="list-style-type: none"> ○ Replacing existing track fill with an alternative surface; ○ Brushing and where possible revegetating sidetracks, eroding areas and sides of footpath with prickly native vegetation; and ○ Adequately bollarding the carpark and necessary access trails <p>Repair inappropriate access tracks down dunes in front of carpark by brushing with prickly native vegetation</p>
Car Parking	Survey the car park area, design and construct a suitable area for overflow parking during busy periods
Signage	<p>Install more effective signage at Light's Beach to:</p> <ul style="list-style-type: none"> ○ Give warning when approaching the car park; ○ Warn of coastal safety issues;

Category	Management Recommendation
	<ul style="list-style-type: none"> ○ Encourage visitors to keep to tracks; and ○ Provide some interpretive information about the area
Animal Exercising	<p>Ensure adequate signage which clearly explains animal exercise options at Light's Beach</p> <p>Improve management presence to encourage appropriate animal exercising</p>
Commercial Recreational Enterprises	The establishment of commercial enterprises at Light's Beach is inappropriate and unnecessary due to its restricted size, rugged and relatively unspoiled natural features and close proximity to an existing café and shop
Monitoring and Evaluation	Establish a series of fixed photo points at Light's Beach to enable photographs to be taken quarterly as a means of monitoring natural coastal processes and any environmental degradation.

Table 1.5 – Recommendations from the Coastal Management Plan 2003-2008 for Parry Beach Reserve

Category	Management Recommendation
Vehicle Management	<p>The Shire of Denmark, in consultation with the leaseholder of the commercial fishing licence and the Parry Beach Voluntary Management Committee, implement a speed control zone along Parry beach of 20km/hr</p> <p>Erect speed limit signs at the entry to the beach, and mid way along the beach between the camping ground and the Parry Inlet</p> <p>With assistance from the police, enforce the speed limit with speed checks</p>
Car parking	<p>Establish an overflow car park in an area of sparse vegetation to the south west of the caretaker's cottage</p> <p>Formalise parking on the 4WD track near Hillier Beach</p>
Foredune management	<p>Examine options for managing pedestrian access to the mouth of Parry Inlet to reduce damage to foredunes</p> <p>Rehabilitate damaged foredune near the mouth of Parry Inlet</p> <p>Rehabilitate damaged foredunes at beach south of caretakers cottage</p>
Commercial Recreational Enterprises	<p>Any proposal for a commercial recreational lease at Parry Beach must address issues related to:</p> <ul style="list-style-type: none"> ○ adequate and safe operating space and conditions; ○ existing commercial fishing operations; ○ the protection of the coastal and marine environment; ○ existing recreation uses; ○ the on-going operation of the Parry's camping ground; and ○ the maintenance of the relaxed and non-commercial atmosphere at this location <p>No more than one lease for commercial recreational operations should be granted at any one time at Parry Beach. The lease should be granted by the Denmark Shire for a maximum of two years, with any lease renewal based on a review of compliance with previous lease conditions</p> <p>Commercial activities should operate from a designated area in the Parry Beach carpark for all operations other than beach based instruction</p> <p>The type of commercial operation be restricted to the hire of beach equipment or the provision of services related to appropriate passive recreational pursuits</p>

Category	Management Recommendation
	The hire of motorised recreational craft or vehicles should not be permitted at Parry Beach
	Decisions regarding the approval of commercial recreational enterprises on Shire coastal reserves should be consistent with: <ul style="list-style-type: none"> ○ the Overall Management Objective for the Parry Beach reserve; and ○ the ability of the enterprise to both complement other coastal uses at Parry Beach and not damage the coastal environment
Aquaculture Development	The Shire of Denmark should only support aquaculture development at Parry Beach if: <ul style="list-style-type: none"> ○ it can be shown to be in keeping with the overall management objective for the reserve; and ○ any proposal is subject to a management plan that protects the environmental, social and economic values of Parry Beach
Track Management	Vehicle access tracks into the mouth of Parry Inlet should be rationalised to reduce damage to the natural environment and discourage illegal camping
	Pedestrian access tracks between the caretaker's cottage and the southern beaches should be rationalised and rehabilitated to reduce damage to the natural environment
	Consideration should be given to reopening part of the old Lime Pit access road and constructing a carpark and viewing platform at a high point overlooking Hillier Bay.
Fire management	Upgrade the Shire of Denmark Fire Prevention Report to include a comprehensive fire management plan for Parry Beach
Monitoring and Evaluation	Establish a series of fixed photo points at Parry Beach to enable photographs to be taken quarterly as a means of monitoring natural coastal processes and any environmental degradation.

Table 1.6 – Recommendations from the Coastal Management Plan 2003-2008 for Boat Harbour Reserve

Category	Management Recommendation
Control of Human Impacts	Retain the main Boat Harbour access road as 4WD only to limit visitor numbers, while reviewing road safety measures
	Find a suitable site with minimal visual and environmental impact to install a composting toilet
	Discourage vegetation stripping for fuel by installing a gas barbeque in the picnic area adjacent to the car park
	Clear rubbish from around old shack sites at the northern and southern end of the Boat Harbour, including breaking up old building pad. Clear up old rubbish tip near start of Rope Hill track and rehabilitate
	Close and rehabilitate sidetracks and blowouts
	Stabilise pedestrian beach access from Rope Hill to the beach
	Use track bollards to protect vegetation on rocky areas from vehicles
	Retain only one access track down to Boat Harbour beach, via the existing concrete ramp
Illegal Camping	In the short to medium term the Denmark Shire should manage illegal camping through: <ul style="list-style-type: none"> ○ more frequent Shire Ranger presence;

Category	Management Recommendation
	<ul style="list-style-type: none"> ○ possible cooperative arrangements with CALM to regulate illegal camping; ○ examining the potential for the appointment of more locally based Honorary Rangers; ○ improved public information and appropriate signage <p>The issue of illegal camping at Boat Harbour should be reviewed in 2005 with a view to examining the possible need to establish a permanently managed low-key camping ground</p>
Aquaculture Development	<p>The Denmark Shire should only support aquaculture development at Boat Harbour if:</p> <ul style="list-style-type: none"> ○ it can be shown to be in keeping with the overall management objective for the reserve; and ○ any development is subject to a management plan which protects the environmental and social values of Boat Harbour.
Car Parking	<p>Survey the car park area, design and construct a suitable area for overflow parking during busy periods</p> <p>Construct small designated parking areas at other adjacent vantage points to better control vehicle access</p>
Boat Harbour Access Road	<p>Review road safety aspects of South Coast Highway/Boat Harbour access road, and if necessary consider improving signage, installing passing places or widening blind corners. Signage should strongly discourage 2WD access and encourage 4WD owners to engage 4WD at the beginning of the road to preserve track condition</p>
Commercial Recreational Enterprises	<p>Denmark Shire should not consider the operation of commercial enterprises at this site</p>
Signage	<p>Install more effective signage at Boat Harbour to:</p> <ul style="list-style-type: none"> ○ Inform potential visitors of the condition of the access track before they enter the reserve; ○ Warn of coastal safety issues; ○ Encourage visitors to keep to tracks; and ○ Provide some interpretive information about the area
Monitoring and Evaluation	<p>Establish a series of fixed photo points at Boat Harbour to enable photographs to be taken quarterly as a means of monitoring natural coastal processes and any environmental degradation.</p>

Table 1.7 – Recommendations from the Coastal Management Plan 2003-2008 for Peaceful Bay Reserve

Category	Management Recommendation
Access for Boat Launching	<p>Expand the current car park near the boat launching area to better accommodate overflow trailer parking during busy periods</p> <p>Construct a boardwalk across the foredune from the Sea Rescue building to the beach</p> <p>Assist the Peaceful Bay community with a feasibility study into the establishment of a permanent finger jetty at the settlement</p>
Vehicle Management	<p>The Shire of Denmark, in consultation with the leaseholder of the commercial fishing licence and the Peaceful Bay Progress Association, implement a speed control zone</p>

Category	Management Recommendation
	<p>along Irwin Inlet beach to 20km/hr</p> <p>Erect speed limit signs at the entry to the beach, and mid way along the beach between the settlement and the Irwin Inlet</p> <p>With assistance from the police, enforce the speed limit with speed checks</p>
Commercial Recreational Enterprises	<p>Any proposed commercial recreational lease at Peaceful Bay must operate from the existing commercial areas of the shop or caravan park. The Peaceful Bay Progress Association should be fully consulted over any application to establish a commercial recreational enterprise</p> <p>No more than one lease for commercial recreational operations should be granted at any one time at Peaceful Bay. The lease should be granted by the Denmark Shire for a maximum of two years, with any lease renewal based on a review of compliance with previous lease conditions</p> <p>The type of commercial operation be restricted to the hire of beach equipment or the provision of services related to appropriate passive recreational pursuits</p> <p>The hire of motorised recreational craft or vehicles should not be permitted at Peaceful Bay</p> <p>Decisions regarding the approval of commercial recreational enterprises on Shire coastal reserves should be consistent with:</p> <ul style="list-style-type: none"> ○ the Overall Management Objective for the Peaceful Bay reserve; and ○ the ability of the enterprise to both complement other coastal uses at Peaceful Bay and not damage the coastal environment
Signage	<p>Ensure adequate and relevant signs are placed for maximum visibility</p> <p>Encourage a greater management presence during busy periods</p>
Foredune Management	<p>With the assistance of the Shire of Denmark engineer, monitor the erosion site and the stability of adjacent buildings at the professional fishing site</p> <p>Regularly monitor the progress of the erosion and establish sandbag buttressing</p>
Beach Access	<p>Rehabilitate degraded areas by covering with prickly native brush (such as <i>Acacia littorea</i> or <i>Acacia divergens</i>) and if necessary revegetate</p> <p>Create barriers to channel pedestrian traffic along designated access ways</p>
Monitoring and Evaluation	<p>Establish a series of fixed photo points on Peaceful Bay and Irwin Beach to enable photographs to be taken quarterly as a means of monitoring natural coastal processes and any environmental degradation</p>

APPENDIX C

Aboriginal Heritage Site Information



Search Criteria

1 sites in a search box. The box is formed by these diagonally opposed corner points:

MGA Zone 50	
Northing	Easting
6121937	528479
6124911	531110

Disclaimer

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Legend

Restriction	Access	Coordinate Accuracy
N No restriction	C Closed	Accuracy is shown as a code in brackets following the site coordinates.
M Male access only	O Open	[Reliable] The spatial information recorded in the site file is deemed to be reliable, due to methods of capture.
F Female access	V Vulnerable	[Unreliable] The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.

Status

L Lodged	IR	Insufficient Information (as assessed by Site Assessment Group)	Site Assessment Group (SAG)
I Insufficient Information	PR	Permanent register (as assessed by Site Assessment Group)	Sites lodged with the Department are assessed under the direction of the Registrar of Aboriginal Sites. These are not to be considered the final assessment.
P Permanent register	SR	Stored data (as assessed by Site Assessment Group)	
S Stored data			Final assessment will be determined by the Aboriginal Cultural Material Committee (ACMC).

Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000:Z50' means Easting=5000000, Zone=50.



Aboriginal Heritage Inquiry System

Register of Aboriginal Sites

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
4668	P	O	N	Katelsia Rock Shelter.	Artefacts / Scatter, Midden / Scatter	Archeological Deposit, Rockshelter		529740mE 6124296mN Zone 50 [Unreliable]	S02276



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Search Criteria

0 sites in a search box. The box is formed by these diagonally opposed corner points:

MGA Zone 50	
Northing	Easting
6119927	511971
6125162	516684

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Search Criteria

1 sites in a search box. The box is formed by these diagonally opposed corner points:

MGA Zone 50	
Northing	Easting
6122357	505512
6124271	507750

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Aboriginal Heritage Inquiry System

Register of Aboriginal Sites

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
4945	P	O	N	Boat Harbour	Artefacts / Scatter			506890mE 6123246mN Zone 50 [Reliable]	S01719



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Search Criteria

6 sites in a search box. The box is formed by these diagonally opposed corner points:

MGA Zone 50	
Northing	Easting
6119766	491354
6124221	495091

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Aboriginal Heritage Inquiry System

Register of Aboriginal Sites

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
4700	P	O	N	Point Irwin Quarry	Quarry, Artefacts / Scatter			492640mE 6120646mN Zone 50 [Unreliable]	S02123
4754	I	O	N	Little Groper Rock	Grinding patches / grooves			493840mE 6122646mN Zone 50 [Reliable]	S02056
4755	I	O	N	Point Irwin 1	Grinding patches / grooves			493340mE 6121246mN Zone 50 [Reliable]	S02057
4756	I	O	N	Point Irwin 2	Grinding patches / grooves			493040mE 6120746mN Zone 50 [Reliable]	S02058
5181	P	O	N	Nornalup National Park	Artefacts / Scatter			493640mE 6121646mN Zone 50 [Unreliable]	S01353
15084	I	O	N	Peaceful Bay 01	Artefacts / Scatter			492640mE 6121646mN Zone 50 [Unreliable]	S02996



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