

Belfast Coastal Reserve

Draft Coastal Management Plan

January 2018



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Your submission is invited on this plan

This draft plan for Belfast Coastal Reserve is now released for public comment. Interested Individuals, community organisations, groups and agencies are invited to make written submissions by Friday 16th March 2018. Submissions can be mailed to:

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or

lodged online via the project page at:

www.engage.vic.gov.au/belfast

All submissions will be carefully considered and taken into account when the final management plan is being prepared for approval. The names of people and groups making submissions will be published in the final plan unless comments are marked as CONFIDENTIAL when submitted.

For further information on this plan, please phone the Parks Victoria Information Centre on 13 1963.

Copies

This draft plan may be downloaded from:

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Aboriginal and Torres Strait Islander people are advised that this document may contain images, names, quotes and other references to deceased people.

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Disclaimer

This draft plan is prepared without prejudice to any negotiated or litigated outcome of any native title determination applications covering land or waters within the plan's area. It is acknowledged that any future outcomes of native title determination applications may necessitate amendment of this plan; and the implementation of this plan may require further notifications under the procedures in Division 3 of Part 2 of the *Native Title Act 1993* (Cwlth).

The plan is also prepared without prejudice to any future negotiated outcomes between the State or Federal Governments and Victorian Aboriginal communities. It is acknowledged that such negotiated outcomes may necessitate amendment of this plan.

Every effort has been made to ensure that the information in this plan is accurate. Parks Victoria does not guarantee that the publication is without flaw of any kind and therefore disclaims all liability for any error, loss or other consequence that may arise from you relying on any information in the publication.

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Front cover (continued on back cover)

Primary dune of the Belfast Coastal Reserve

Draft management plan

This draft Coastal Management Plan has been developed through consultation with a wide range of interested community and stakeholder groups and individuals. It has been prepared in accordance with section 30(3) of the *Coastal Management Act 1995* and consequently is to be consistent with the Victorian Coastal Strategy 2014.

This plan describes the current condition of the Belfast Coastal Reserve (the Reserve) and addresses the intent of future management. It articulates management directions for the Reserve over a 15-year time frame aimed at enhancing the scenic beauty, biodiversity, cultural heritage and community enjoyment of the Reserve.

When the final plan is approved it will guide the direction and strategic approach applied to managing the Belfast Coastal Reserve. Consequently, the plan does not detail operational work activity but rather will help shape such activity by encouraging compatibility with the vision for the Reserve and existing strategies and guidelines established by relevant governing bodies. It will align efforts and increase consistency between the delegated land managers (Parks Victoria, Warrnambool City Council, Moyne Shire Council and the Department of Environment, Land Water and Planning) across and around the Reserve.

The plan provides an important opportunity for Traditional Owners to express the significance and meaning of their Country. It is also an opportunity to produce a deeper understanding of the natural environment. By identifying the significant values of the area, management strategies and regulations can be established to protect and enhance these values. This includes how the Reserve is accessed and used by locals and visitors. Use of the Reserve by people, dogs, horses and vehicles has been a key focus of consultation to date.

The Reserve provides a place enjoyed by many who value the ability to escape to nature, appreciate the scenery, rest and relax, socialise or exercise in a setting removed from the busier developed areas of Warrnambool and Port Fairy. Strong partnerships with local Traditional Owner groups, neighbouring land owners, volunteers and community groups will be vital to the Reserve's future management.

The draft Coastal Management Plan has been prepared to prompt additional community insight on the proposed direction for management of the Belfast Coastal Reserve. Individuals and groups are encouraged to comment on this draft to help shape future management of the Reserve.



Let's talk...
Belfast Coastal Management Plan

Parks
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Healthy Parks
Healthy People

VICTORIA
State Government

Let's talk...
Belfast Coastal Reserve
Management Plan

Executive summary

The Belfast Coastal Reserve Draft Coastal Management Plan outlines the proposed management of an area of public land between Port Fairy and Warrnambool in south west Victoria along a 20 km stretch of the coast.

This draft plan focuses on protecting and enhancing the outstanding cultural and natural values of the Belfast Coastal Reserve while allowing for recreation and use compatible with the protection of those values. It recognises the importance of active and evidence-based adaptive management, and the need to improve our understanding of the Reserve through shared scientific, cultural and local community knowledge.

For thousands of years this has been the home of Gunditjmara and Eastern Maar Peoples living on the coastal and connected hinterland areas that make up the cultural landscape. Cultural heritage exists across the landscape in the form of coastal middens, stone artefacts, the names of local places and sites given by ancestors, and through many more features of Country. It is a place where living cultural heritage connections provide communities and individuals with a sense of identity and continuity.

This draft plan respects the relationships that Traditional Owners and the broader community have with the area, and seeks to strengthen these connections through participation in the management of the Reserve.

Beach-nesting birds, migratory waders and a rich variety of native plants and animals can be found in the Reserve's wetlands, beaches, dunes and waters. Much of the original flora of south west Victoria has been cleared for agriculture and the Belfast Coastal Reserve provides an important refuge for species of local, national, and international significance.

Many visitors use the Reserve for walking or running, with other uses including surfing and swimming or photography, birdwatching, fishing or boating, dog walking, socialising, and horse trail riding or training. The enjoyment and economic opportunities derived from these activities depends in large measure on maintaining and protecting the coastal land on which they take place.

In particular, horse training in the Reserve has been highlighted as an important activity for the regional economy. The plan sets out an approach for horse training that balances support for the racing industry, equity of access for all trainers and ensuring adequate protection for cultural and natural values.

A summary of all proposed permitted uses is shown in Chapter 6, table 6 and highlighted in Maps 2-6 at the rear of the document.

The Belfast Coastal Reserve

The Belfast Coastal Reserve protects a narrow section of land backed by flat open farmland, creating a sense of remoteness from nearby Warrnambool and Port Fairy.

Post-settlement occupation has produced a landscape modified by agriculture, timber harvesting, stock grazing and quarrying. Very little land in the Reserve retains its original vegetation. Wetland habitats have been altered by drainage and the diversion of flows, resulting in a decline in their health, impacting species dependent on them.

Coastal reserves are valued for the opportunities they provide for recreation, including water activities, birdwatching, fishing and walking. The appeal of many of these areas lies in their relative remoteness and undeveloped nature. Visitors to the Belfast Coastal Reserve are primarily locals from surrounding properties and the neighbouring towns with some tourists coming from further afield. Recent community consultation highlighted the Reserve's appeal as a location to escape to nature, enjoy the scenery, rest and relax, socialise or exercise in a setting removed from the busier developed areas to the immediate east and west.

Zones are applied to the Reserve to show where different management directions and priorities apply. They will be used to protect the most significant areas from impacts associated with activities.

Meeting legal requirements

The majority of public land in the area was set aside in 1983-84 under the *Crown Land (Reserves) Act 1978* for protection of the coastline, to be managed for conservation, education and compatible recreation. Management of the area addressed by this plan is delegated in large part to Parks Victoria, with some smaller sections of coastline managed by Moyne Shire Council, Warrnambool City Council and the Department of Environment, Land, Water and Planning.

Regulations have been applied to the reserved land since August 2017 as an interim measure for protection of the Reserve's values whilst this plan is developed. Additional regulations will be gazetted in accordance with the recommendations of the approved final plan.

The plan articulates the vision, goals and long-term strategies for the planning area. It is consistent with the existing strategies and guidelines of relevant governing bodies and is being prepared in consultation with the community. When approved the Coastal Management Plan will guide future management of the Belfast Coastal Reserve.

The Traditional Owners' connection to the land and their roles as custodians of Aboriginal cultural heritage and places are respected. Management of the Reserve will be consistent with the requirements of the *Aboriginal Heritage Act 2006* to recognise and protect tangible and intangible Aboriginal heritage. In addition, legislation such as the *Flora and Fauna Guarantee Act 1988* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* among others provide for protection of a range of values. This legislation is taken into account in this plan.

Strategies for management

The following chapters of this draft plan include proposed goals and strategies for directing the management of the Belfast Coastal Reserve for at least 15 years after the final plan is approved.

Cultural landscape and living heritage

Features and values of the cultural landscape, including Traditional Owner and local community connections, will be recognised, respected, protected and celebrated. The understanding of heritage values and places will be enhanced by improved information and interpretation.

Partnerships with Traditional Owners will protect and conserve Aboriginal features, places and objects of cultural significance. Some visitor practices, such as off-road or trail activity, are posing a significant risk to cultural sites. Strategies to alleviate these threats have been developed.

Interpretation of cultural sites is also proposed to be undertaken where Traditional Owners deem it suitable.

Healthy Country

Many of the Reserve's natural values are under serious threat from human use degrading the condition of ecosystems and fragmenting habitats used by nationally and internationally protected species. Other significant threats include weed invasion, predation from introduced species such as foxes, the impacts of vehicles, horses and dogs on wildlife (particularly shorebird disturbance) and dune structure, extreme weather events and coastal erosion.

Large areas of the Reserve will be managed for the primary objective of conservation, with 43% of the onshore area proposed as Conservation Zone. The Conservation Zone includes endangered vegetation communities, swamps listed on the Directory of Important Wetlands in Australia, critical habitat for the Orange-bellied Parrot and waterbirds, key breeding and flocking territory for resident and migratory shorebirds, and an estuary which provides breeding and nursery grounds for freshwater and marine fish at certain times in their life cycle.

Native vegetation and priority habitats will be protected and their condition improved by reducing disturbance, rehabilitating priority areas, managing weeds and pests, and implementing control measures to achieve appropriate and sustainable access to and use of the Reserve. The protection of vulnerable fauna such as Hooded Plover will require reducing threats to these species through controls on the key impacting activities of people, dogs and horses.

Recreation and use

This plan seeks to address a number of visitor management challenges and opportunities by establishing a clear direction that enables the Belfast Coastal Reserve to be sustainably managed, whilst also meeting future visitor needs. Use of the Reserve by people, dogs and horses has been a key focus of consultation. Passive recreation activities are generally supported given their limited impact on environmental and cultural values. There are however mixed opinions in the community about the ongoing impact of dogs and horses on the Reserve.

Walking is good for the wellbeing of both the dog and its owner, however the interests of dog owners must be balanced with the potential risks posed by dogs. Dogs present a significant risk to vulnerable wildlife and the experience and safety of other visitors, particularly when off-leash. Horse riding can impact dune health, cultural heritage, public safety and disturb beach-nesting birds. It is critical that the most significant areas for shorebird breeding are protected from disturbances including those from dogs and horses.

By implementing park zones identifying where recreational activities and authorised uses can occur, the impacts on significant values and other users can be minimised. Recommendations regarding the location/s at which different activities will be permitted are based on a detailed environmental risk assessment (Chapter 5); a cultural heritage values assessment (Chapter 4); community and stakeholder consultation (as described in Chapter 1); and consistency with relevant State and Federal legislation and policy. A summary of the proposed permitted uses in both the Conservation Zone and Conservation and Recreation Zone is shown in Chapter 6, table 6.

Other key directions include creating a more inviting visitor experience by providing sustainable, rationalised access and facilities; developing on-site interpretation on the Reserve's values and risks to enhance visitor experience and safety; and improving promotion of the values of the Belfast Coastal Reserve and the recreational opportunities it offers.

Managing in partnership

Coordinated management is a key objective of the plan, which forms a strategic guide for management across the planning area. The Coastal Management Plan will guide annual priority setting and work programming for the delegated land managers across the Reserve. Coordinated

management will enable efficiencies in program delivery and be supported by consistent land status and regulations. The moderate size and linear nature of the Belfast Coastal Reserve also highlights the need for complimentary and collaborative management across the landscape.

Traditional Owners caring for their Country will be an integral part of the Reserve's management. Community and volunteers skills, knowledge and assistance will also provide valuable stewardship and help in managing the Reserve.

Research and monitoring

Ecological, cultural and visitor research will play an important role in addressing key information gaps and increasing understanding of the values of the Belfast Coastal Reserve and the threats they face. Monitoring and evaluating management outcomes is an important step in ensuring management activities and programs can be adapted where required to improve effectiveness and efficiency. For example, monitoring of the impact of visitor use on cultural values will enable action to be taken if cultural features or sites are at risk.

Traditional ecological and cultural knowledge will be identified and applied to support sustainable land management practices. Partnerships with research institutions and researchers will be promoted, and citizen science opportunities in research and monitoring activities at the Belfast Coastal Reserve encouraged.



Spiny rush (*Juncus acutatus*)

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- 6 Licensed Racehorse Access

Maps are at located the end of the document.



Fencing beach access helps to protect dunes

1 Introduction

Between Port Fairy and Warrnambool is a series of beaches, dunes and wetlands that are referred to as the Belfast Coastal Reserve. This unique piece of land represents one of a small handful of public land reserves in the local area. To ensure the qualities of the Reserve can continue to be protected and enjoyed by locals and visitors, a management plan for the Reserve is being prepared. The plan provides strategic guidance to managers of the area, consistent with relevant legislation and policy. It also recognises the vital contributions that Traditional Owners and the community make to management of the Reserve and seeks to strengthen these relationships.

1.1 About the draft management plan

The Belfast Coastal Reserve Draft Coastal Management Plan is a strategic guide to the management of the natural and cultural values of the planning area which defines and provides for a range of continuing and future uses including coastal protection, recreation, conservation, interpretation and education. The plan outlines the natural and cultural values of the planning area and how land managers will provide for their protection, the services and facilities that will be delivered for visitors, and the many ways Traditional Owners, local communities, volunteer groups and government agencies can continue to be involved in caring for the site.

The plan articulates a **Vision** for Belfast Coastal Reserve (the Reserve) in Chapter 2: it is long-term and aspirational, expressing how the Reserve will look to a future visitor and describing the ultimate outcome of implementing the management strategies in this plan.

The **Management Zones** in Chapter 3 provide a framework of geographical areas where specific management directions and priorities are to be applied, and where certain uses and activities can occur.

Goals and **Strategies** follow in Chapters 4, 5, 6, 7 and 8. Each of these chapters has a particular focus. **Goals** describe what management seeks to achieve and **Strategies** define the approaches, activities or methods that will be used to achieve the Goals.

1.2 Planning area and land status

This Draft Coastal Management Plan is for an area of public land between Port Fairy and Warrnambool in south west Victoria along a 20 km stretch of the coast. The western end of the planning area is adjacent to Belfast Lough and Golfies carpark, west of the Port Fairy Golf Course. The eastern end of the planning area borders the Warrnambool Golf Course. Refer to Map 1 (Planning Area and Land Tenure). The area of public land includes several parcels of land that have been reserved over time under various land-based acts. Parts of the land were originally reserved in 1873. The majority of public land in the area was set aside in 1979 for protection of the coastline as a conservation reserve under the *Crown Land (Reserves) Act 1978* following the Land Conservation Council (LCC) Corangamite Area Final Recommendations 1978. Several parcels of land were later reserved in 1984. Areas of unreserved crown land are also included in the planning area.

Collectively these areas form one contiguous unit referred to as the Belfast Coastal Reserve (the Reserve) within this Coastal Management Plan. Regulations have been applied to the reserved land since July 2017 as an interim measure for protection of the Reserve's values whilst this plan is developed. Additional regulations will be gazetted in accordance with the recommendations of the approved final plan.

The Reserve is managed by several land managers under delegation of the Minister for Energy, Environment and Climate Change, through agreement with the Department of Environment, Land, Water and Planning (DELWP). The planning area covers a total area of approximately 2,260 hectares. Parks Victoria is the delegated land manager of an area totalling almost 1,660 hectares within the Reserve. Moyne Shire Council is the delegated land manager of approximately 23 hectares which includes Killarney Beach. Warrnambool City Council is the delegated land manager of the eastern section of the Reserve including parts of Levys Point Coastal Reserve, totalling approximately 176 hectares. The remaining area of the Levys Point Coastal Reserve is outside the planning area and covered by Warrnambool City Council's Warrnambool Coastal Management Plan 2013. DELWP manages nearly 400 hectares of public land within the extent of the planning area.

1.3 Regional context

The Portland Coast Basin is situated in the Glenelg Hopkins region, south of the Great Dividing Range in Victoria's south west. The boundaries of the region include marine and coastal waters out to the state limit of three nautical miles. The region is characterised by flat volcanic plains in the south.

The main economic drivers of the region are agriculture, fisheries, retail, manufacturing, health and community services, education and construction, while agriculture, forestry and fishing are the major employers, providing nearly 25 per cent of total employment (Glenelg Hopkins CMA 2013). Coastal areas of the region, particularly around Warrnambool, are experiencing unprecedented increases in population and tourism activity, with pollution, erosion and overdevelopment perceived by the community to be major threats to the coastal environment (ibid).

The City of Warrnambool is Victoria's largest coastal city outside Port Phillip Bay and the largest urban area within the Great South Coast region. In 2016 it had a population of 33,655 which is forecast to grow almost 40% by 2036 (Warrnambool City Council 2015). Port Fairy's population in 2016 was 3,340, with the town voted the world's most liveable small community (towns with a population of under 20,000) in the 2012 UN-recognised LivCom award.

1.4 Eastern Maar and Gunditjmarra Country

Throughout this plan the term 'Country' refers to the concept of Country expressed by Aboriginal Australians, and for this area by the Eastern Maar and the Gunditjmarra Traditional Owners. The concept of Country encompasses the physical landscape, its history, people, the indigenous plant and animal species that live there, knowledge and traditions, languages, stories both recent and ancient, sacred places, and the deeply felt meanings and connections between Aboriginal people, their ancestors and their traditional Country. In this plan the use of the word Country is offered as a mark of respect, not an expression of exclusivity. This plan recognises and values all community connections to the Belfast Coast.

The Country of Eastern Maar and Gunditjmarra people includes diverse landscapes of volcanic plains, hills, forests, rivers, freshwater wetlands, estuaries and marine waters, dramatic coastlines, limestone caves, beaches, basalt and limestone reefs, and islands such as Dean Maar (Lady Julia Percy Island). Prior to European colonisation, there existed two main Aboriginal groups that inhabited the area surrounding the Belfast Coastal Reserve: the Dhauwurd Wurrung to the west,

whose descendants are represented by the Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC); and the Girai Wurrung people to the East, whose descendants are represented by the Eastern Maar Aboriginal Corporation (EMAC).

The Dhauwurd Wurrung (Gunditjmara peoples) language group is comprised of several regional clan and language groups. Early research suggests that ‘fifty six clans belong to the Dhauwurd Wurrung language group that occupied the Warrnambool, Port Fairy, and Portland districts of southwestern Victoria’ (Clark 1995). The Eastern Maar Aboriginal Corporation represents the Traditional Owners of the region that includes Ararat, Warrnambool, Port Fairy, and the Great Ocean Road. “Eastern Maar is a name adopted by the people who identify as Maar, Eastern Gunditjmara, Tjap Wurrung, Peek Whurrong, Kirrae Whurrung, Kuurn Kopan Noot, and/or Yarro waetch (Tooram Tribe) amongst others” (Eastern Maar Aboriginal Corporation 2016).

The plan provides a key opportunity for Traditional Owners to be engaged in the management of the Reserve. Eastern Maar Traditional Owners’ rights and interests on Country are represented by the Eastern Maar Aboriginal Corporation (EMAC). Gunditjmara Traditional Owners’ rights and interests on Country are represented by Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC). EMAC and GMTOAC were represented on the Project Steering Committee for the preparation of the Draft Belfast Coastal Reserve Coastal Management Plan and have informed its development.

1.5 Native Title and Registered Aboriginal Parties

Registered Aboriginal Parties (RAPs) are organisations that hold decision-making responsibilities under the *Aboriginal Heritage Act 2006* for protecting Aboriginal cultural heritage in a specified geographical area.

On 30 March 2007, the Federal Court of Australia delivered a consent determination recognising the Gunditjmara People’s native title rights over almost 140,000 hectares across the southwest of Victoria. The ‘Part A determination area’ is bounded on the west by the Glenelg River, and to the north by the Wannon River. It abuts the ‘Part B determination area’ at the coast near the entrance to the Fitzroy River. GMTOAC has been appointed as the RAP for that area under the *Aboriginal Heritage Act 2006*. GMTOAC have also commenced negotiations with the Victorian Government under the *Traditional Owner Settlement Act 2010*, however a Recognition and Settlement Agreement has not yet been established.

On 27 July 2011, the Federal Court of Australia determined that both the Traditional Owners represented by EMAC and GMTOAC are the native title holders for the land between the Shaw and Eumeralla Rivers from Deen Maar (including Yambuk) to Lake Linlithgow. Deen Maar (Lady Julia Percy Island) holds deep and significant cultural association for Traditional Owners. The ‘Part B determination area’ is shared Country and EMAC and GMTOAC have both been appointed RAPs for the area.

Native Title rights and interests to the east of the Part B determination area are yet to be resolved. There is currently no appointed RAP for the area immediately east of the ‘Part B determination area’ (including Belfast Coastal Reserve). While neither EMAC nor GMTOAC have as yet been appointed as RAPs here, they both have a long association with the area. GMTOAC and EMAC both have existing RAP applications awaiting decision by the Aboriginal Heritage Council on an over-lapping area between the Shaw and Hopkins rivers. It is pre-emptive to consider a theoretical administrative boundary between Eastern Maar Country and Gunditjmara Country within this area. While this

boundary and associated Native Title and Aboriginal Cultural Heritage rights and responsibilities are presently unresolved, EMAC and GMTOAC continue to collaborate respectfully.

EMAC on behalf of Eastern Maar people have commenced negotiations with the Victorian Government to formally recognise Eastern Maar Traditional Owner rights over Crown land in southwest Victoria. The negotiation area stretches from Port Fairy to the Great Ocean Road (including the Belfast Coastal Reserve) and up to Beaufort and Ararat, taking in Warrnambool, the Shipwreck Coast and the Otways. The Government and the Eastern Maar will now work towards reaching a settlement under the *Traditional Owner Settlement Act 2010*. The negotiations will include recognition of the Eastern Maar people's right to access, own and manage public land as well as take and participate in the management of natural resources.

1.6 Stakeholder and community input

Development of the Draft Coastal Management Plan has been informed by extensive engagement with community and stakeholders to help guide decisions about managing the environment, cultural values, recreation and uses, and community partnerships. Key stakeholder engagement commenced in January 2017 regarding the future of the Reserve. The engagement identified issues and opportunities for a Coastal Management Plan, who needed to be involved in broader consultation, and how to engage them.

A range of community engagement opportunities took place from March 2017 through to September 2017 with an online project page including interactive map, surveys, public events, semi-structured interviews, targeted stakeholder workshops and site visits, consultation with Gunditjmara and Eastern Maar Traditional Owners. In total more than 230 people were engaged. The website received approximately 800 views, with 77 online surveys submitted and 54 comments added to the interactive map. Participants were dispersed across the south west region, with the majority from Port Fairy and Warrnambool.

The values and issues identified through the consultation process were used to develop the vision, objectives and management strategies in this plan. The different values highlighted by stakeholders and community included environmental, social, cultural and historic values. The top community concerns and interests for the plan to address were:

- horse activity including recreational horse riding, commercial horse trail riding and racehorse training
- environmental impacts such as erosion
- impacts to Aboriginal cultural heritage sites
- illegal off-road vehicles (four-wheel drives and motorbikes)
- dogs (on-leash/off-leash/dog exclusion)
- shorebird protection (hooded plovers and other species)
- lack of existing regulations to enable enforcement
- need for resources to implement the plan
- strong partnerships with local Traditional Owner groups, neighbouring land owners, community and volunteer groups
- monitoring and evaluation to support future management.

Groups such as the Traditional Owners, environmental groups and horse trainers agreed that the development of a plan for Belfast Coastal Reserve was a good opportunity to identify the values of the area and establish some clear measures to protect and enhance them.

1.7 Legislation, regulations, policies, agreements, plans and strategies

The Belfast Coastal Reserve Coastal Management Plan must take into account key legislation, policy agreements and various statewide, regional and local plans and strategies.

Legislation and regulations

Coastal Management Act 1995

Crown Land (Reserves) Act 1978

Crown Land (Reserves) (Belfast Coastal Reserve) Regulations 2017

Aboriginal Heritage Act 2006

Environmental Protection and Biodiversity Conservation Act 1999 (Cwlth.)

Flora and Fauna Guarantee Act 1988

Wildlife Act 1975

Policies and agreements

The Environment Conservation Council's (ECC) Marine Coastal and Estuarine Investigation 2000

The Land Conservation Council (LCC) Corangamite Area Final Recommendations 1978 (Appendix A)

Bilateral migratory bird agreements (JAMBA, CAMBA, ROKAMBA)

Plans and strategies

The Victorian Coastal Strategy 2014

The Western Regional Coastal Plan 2015–2020

The Victorian Visitor Economy Strategy 2016

Glanelg Hopkins Catchment Management Authority (CMA) strategies and plans

The Great South Coast Regional Strategic Plan 2014–2019

Warrnambool City Council's Economic Development & Investment Strategy 2015–2020

Strategic Master Plan for the Great Ocean Road Regional Visitor Economy 2015–2025

Moyne Shire Coastal Action Plan 2001

Warrnambool Coastal Management Plan 2013

The Warrnambool Open Space Strategy 2014

Moyne Shire Recreation Strategy 2014-2024



Many appreciate the 'wild feel'
Belfast Coastal Reserve offers

2 Vision

The Vision for Belfast Coastal Reserve is long-term and aspirational, expressing how it will look to a future visitor and describing the ultimate outcome of management directions and strategies in the plan. The Vision seeks to give reality to the concept of Healthy Parks – Healthy People at Belfast Coastal Reserve and embrace community aspirations. It reflects the significance of the Reserve, expresses natural, cultural and community values and the partnerships needed to help achieve the Vision. The timeframe for the Vision is the practical life of the Coastal Management Plan with a 15-year anticipated timeframe for review.

2.1 Vision

Belfast Coastal Reserve is recognised as an important cultural landscape of Victoria’s south west coastline for its scenic beauty, environmental attributes and cultural significance.

Effective, coordinated management of the Reserve has been achieved within a framework of strong partnerships across agencies, local Traditional Owner groups, neighbouring land owners, volunteers and community groups.

Eastern Maar and Gunditjmara are actively involved in management of the Reserve. They bring traditional knowledge and connections to Country to the Reserve’s management. They harvest traditional resources, and practise their culture. The future of Aboriginal cultural heritage is secured through partnerships and continues to be protected, preserved and valued by the Aboriginal, local and broader community alike. Well planned information and interpretation provide for stronger appreciation of the cultural landscape and offer opportunities for learning in nature.

Locals and visitors coming to the Reserve continue to enjoy walking, bird-watching, fishing, swimming, dog walking, picnicking and nature study. The location, timing and intensity of activities such as horse riding has been managed to avoid conflicts between uses, and to reduce the risk of damage to the environment and cultural sites. Locals and tourists appreciate the ‘wild feel’ Belfast Coastal Reserve offers visitors, easily accessed from the busier areas of Warrnambool and Port Fairy. The natural values of the coastal landscape have been maintained and enhanced. The impacts of pest plants and animals have been progressively reduced through coordinated programs with agencies and neighbouring landholders. Native plants and animals are flourishing and significant rare and threatened species are recovering. The area continues to provide important habitat and refuge for native species, particularly threatened migratory birds that breed and feed here. Sound decision making is assisting to moderate the impacts of erosion and climate change.



Double-banded Plover s (*Charadrius bicinctus*)

3 Zoning

Zoning is applied to the planning area based on different management priorities, as well as overlays where additional management direction is needed to allow for particular requirements. Zoning and overlays provide the geographic framework to manage the area, indicating which management directions have priority, the types and levels of use appropriate and the basis for assessing the suitability of future activities and development proposals.

3.1 Management zones

Parks Victoria's approach to park management zoning, has been applied across the Reserve. This approach to zoning provides for the consistent application of standard management regimes to parks and reserves across the State. Management zones provide a framework for the management strategies and guidance for their interpretation. Management zoning:

- provides a geographic framework in which to manage a reserve
- reflects sensitivity, fragility and remoteness of natural values
- indicates which management directions have priority in different parts of a reserve
- indicates the types and levels of use appropriate throughout a reserve
- assists in minimising existing and potential conflicts between uses and activities, or between activities and the protection of a reserve's values
- provides a basis for assessing the suitability of future activities and development proposals.

Management zones are distinct from local government planning scheme zoning. The planning schemes of Moyne Shire Council and Warrnambool City Council apply over the Reserve. Zoning under the relevant local government planning scheme is noted in Chapter 7 – Managing in Partnership.

It is important to note that areas of the Belfast Coastal Reserve may have additional protection through legislative means, such as species and communities listed under the Flora and Fauna Guarantee Act 1988. Such areas have not been mapped or zoned but will be managed in accordance with relevant legislation and regulations.

Management zones assists in regulating which activities are permitted to protect environmental and cultural values. Zoning is an important tool to help inform users of public land about the sensitivities of a reserve, and enable areas of high sensitivity to be protected. Zoning will be used to protect the most significant areas from impacts associated with activities including horse riding, dogs, vehicles and uses. The activities permitted in each of the proposed zones are outlined in Table 6.1 of Chapter 6 - Recreation and Use.

The Reserve has been mapped into two relevant zones where different management directions and priorities apply (Map 2 Management Zones). The zones and their management purposes are described below and summarised in Table 3.1. The zones applied to the Reserve are as follows.

Conservation Zone

The Conservation Zone covers the areas where the highest cultural and environmental values are found. The intention of this zone is to ensure a very strong management emphasis on protection of the environment and the identified values. Recreation and nature-based tourism are permitted when managed in a way that is sensitive to the identified values i.e. these activities are subject to close management to minimise impacts. This usually involves ensuring recreation is low key and dispersed with small-scale or no facilities.

Conservation and Recreation Zone

In this zone the management emphasis is on protection of cultural and environmental values while allowing for low-impact recreation. Dispersed recreation and nature-based tourism activities are encouraged. The level of activities and small scale of recreation facilities allow these to not significantly impact on natural processes, which are often integral to the cultural landscape.

Table 3.1: Purposes and locations of management zones.

Zone	Purpose/Location
Conservation and Recreation Zone	<p>Purpose: To protect environmental and cultural values while allowing for recreation.</p> <p>Location: From the far western end of the Reserve through to the Killarney boat ramp and from Big Baldy to the far eastern extent of the planning area.</p>
Conservation Zone	<p>Purpose: To protect the areas where the highest environmental and cultural values are found.</p> <p>Location: The central part of the Reserve from east of the Killarney Boat Ramp through to the west of Big Baldy.</p>



Rutledges Cutting



Aboriginal shell midden

4 Cultural landscape and living heritage

The cultural landscape of the Belfast Coastal Reserve has a rich living heritage that is a vital legacy for Aboriginal people, for the local community and for all Australians. The coastline contains evidence of thousands of years of continuous occupation and endures as an important place the Eastern Maar and Gunditjmara Traditional Owners would like to see protected, preserved and valued within the Aboriginal and broader community alike. Post-settlement heritage is also valued, with the Reserve being the reputed location of the Mahogany Ship.

4.1 Geological features

The Reserve is comprised of a variety of geographic features and landforms including Mills Reef, the Merri River and Kellys Swamp that are considered by Traditional Owners to be part a cultural landscape extending from Moyjil Point (Port Ritchie) to Port Fairy.

The planning area lies on the Western District Volcanic Plains, formed by Pliocene and Pleistocene volcanic activity. The basalt flow is mostly covered by Holocene sand dunes, except where it is exposed as coastal platforms and reefs, such as Mills Reef. From the last ice age up until 6,000 years ago, sea level rose gradually to its present height. During this period coastal dunes were formed by sediments derived from the seafloor known as Armstrong Sands (WBM 2007).

In the last 6,000 years the dunes have further accumulated sediment from nearby sandstone cliffs, which are highly erodible. These sands move along the coastline via longshore drift and are deposited on beaches during storms. From there they may be moved inland by the wind and form dunes which are typically dynamic, eroding in some weather conditions and undergoing accretion in others. Usually sand is lost from the beach in heavy winter seas and deposited in nearshore bars. Sand then tends to move back onto the beach and into the dune system during calmer summer weather.

Functional dune ecosystems are naturally dynamic and resilient, offering important advantages and protection in the face of climate change. For instance, dunes have the ability to translate or move laterally landward with rising seas when there is an area to accommodate them and as they do so, dunes can maintain a buffer of sediment to protect backshore wetlands and infrastructure (Pickert *et al.* 2015).

This section of coastline has many subtidal and intertidal rock deposits which act as a natural barrier to reduce the impacts of sand movement. Furthermore, the dune systems of the Reserve have good capacity for dune retreat and redistribution of sand given there is limited infrastructure built directly in the primary dune.

Goal			
Geological features and functioning dune systems are maintained and protected from avoidable damage.			
Strategies	Priority Level	Responsibility	Delivery partners
Work with users and community groups to reduce impacts from both authorised and illegal access on the fragile coastal dune systems.	Immediate	Land managers	Community groups
Recognise, respect and interpret the significance of the Reserve's cultural landscape and the dynamic nature of the scenic coastline and dune system.	Medium	Land managers	EMAC, GMTOAC
Ensure the impacts from large scale events such as storm surge, flood and bushfire are appropriately mitigated.	As required	DELWP	Land managers, Glenelg Hopkins CMA

4.2 Cultural landscape

The Belfast Coastal Reserve is of great cultural significance to Eastern Maar and the Gunditjmara Traditional Owners and is recognised as an important place for the local and broader community. The landscape of the Reserve offers sweeping coastal views in a predominantly modified rural setting overlooking long beaches, ocean reefs and characteristic vegetated sand dunes. The wide vista encompasses the horizon from Griffiths Island at Port Fairy to Thunder Point at Warrnambool. The beaches of the Belfast Coastal Reserve are particularly important to the communities of Port Fairy, Warrnambool and the surrounding region who have visited the area over many years for leisure and recreation, to visit Aboriginal sites, to study the natural environment or as a stop on their journey along the coast.

The Belfast Coastal Reserve is bordered to the north by farming properties, the Port Fairy Golf Course and the Killarney Caravan Park. Grazing and dairy are the predominant adjacent land uses. There are a small number of remnant cottages from the early settlement period near Killarney, including 'Ballyhurst' built in 1858. Public land across this region is concentrated mainly on the Coast. The nearest large public land reserves are Tower Hill Wildlife Reserve to the north, Thunder Point Coastal Reserve to the east, and Port Fairy Coastal Reserve to the west.

For Traditional Owners the Belfast Coastal Reserve is considered part of one 'cultural landscape' stretching from Moyjil (Point Richie) at the mouth of the Hopkins River at Warrnambool, to the mouth of the Moyne River in Port Fairy. This cultural landscape captures significant features within and beyond the Reserve including Tower Hill, the Hopkins and Merri rivers, Kellys Swamp and Moyjil. This landscape was a known travelling path of Aboriginal people. The groups that inhabited the area shared and traded natural resources, travelled through country together, followed the same law, practiced the same culture and customs, and spoke the same or similar language. For this reason, the entire cultural landscape attains a relative and interdependent significance that requires a holistic management strategy encompassing both the natural and cultural values. The waterways are linked to the artefact scatters, the burial sites, the shell middens, and patterns of resource use and habitation that have facilitated a long term relationship between Eastern Maar and Gunditjmara peoples, and the land that their ancestors have inhabited for generations.

Belfast Coastal Reserve is an area that Traditional Owners use to connect with the cultural practices of their ancestors. Whether to fish, hunt, or simply sit and feel the sand on bare skin, it is a place that Aboriginal people use to assert cultural identity, and reimagine and reinterpret a culture practiced by their ancestors, in a contemporary context.

It is a place that Aboriginal people bring their children to display how their ancestors lived by showing them the vast shell middens, the shellfish on the rocks, the bird life, or the locations where people would have fished for eels in the creeks and rivers. It is a source of pride to have maintained knowledge of the local area, in particular traditional ecological knowledge of the flora and fauna including knowledge of the natural resources, hunting and fishing methods, stone and wooden tool construction. It is also a place that people heard referred to in stories told by their grandparents and great grandparents about when European colonisers first came to this place and inflicted a deliberate and horrific genocide on local Aboriginal populations. Traditional Owners suggest that the landscape, resources and environment that their ancestors utilised and inhabited is the medium through which they are connected to their ancestors, heritage, and thus identity.

Significant changes can be read in the broader landscape to the different land management approaches over the last 200 years. Parts of the landscape have been highly modified. The volcanic crater Tower Hill is a well-known cultural site, as well as a historically and ecologically significant place. It is connected to Aboriginal creation stories and was a place of abundant natural resources which the Koroit Gunditj people managed and used for generations. European settlement was disastrous for the ecology of Tower Hill, which was nearly cleared of all vegetation and mined for sand and gravel. In recognition of its unique geological features, Tower Hill was declared Victoria's first national park in 1892. It was not until 70 years later that the destructive uses ceased and major revegetation works commenced, informed by Eugene von Guerard's 1855 painting 'Outlook' that depicted Tower Hill in pre-colonial times and featured local Aboriginal people in the foreground.

The adjacency of freshwater, estuarine and marine ecosystems made for a rich and diverse abundance of natural resources for Aboriginal people in this area of Country. There are Aboriginal sites (shell middens) located at the original mouth of the Merri River, and Traditional Owners commented that areas around the meeting of fresh and salt water are excellent hunting places for the much-favoured short fin eel. The extent and condition of Kellys and Saltwater swamps as productive freshwater and estuarine wetland habitats was dramatically impacted following the diversion of the Merri River to Warrnambool in 1859. This once interconnected natural system of wetlands is today fragmented by past land clearing, the modification of waterways and river regulation, resulting in significant change to the hydrology and ecology of the wetlands. A significant part of the original extent of Kellys Swamp is now freehold land used for grazing. The swamp now fills only when the Merri River overflows during flood and the original mouth of the Merri River at 'the Cutting' is artificially opened periodically (see Chapter 5 – Healthy Country).

The basalt outcrop at Mills Reef contains abundant sea life and many of the shellfish species identified within shell middens nearby can still be observed living on the rocks at sea level. Today, the beaches near these reefs are favoured by visitors and offer sheltered waters for swimming, boating, fishing and other beach activities near areas such as near the Killarney Caravan Park.

The vegetated dunes and hummocks are a characteristic feature along the coast and are subject to dynamic processes of erosion and deposition of sands. The hummocks and dunes contain recorded Aboriginal Ancestral Remains and Traditional Owners suggest it is likely a number of undiscovered burials remain. The dynamic coastal landscape and waters may also conceal the remnants of historic maritime heritage. The Victorian south west coast is littered with shipwrecks with almost 30 off the Port Fairy coast alone (Moyne Shire 2010). Many of these were small sailing ships travelling between Port Fairy and Tasmania. One of the more infamous shipwreck stories in this area is that of the Mahogany Ship, believed to have sunk in Armstrong Bay. This legend still attracts searches today, although to date no evidence has been found to substantiate the story.

Goal			
The cultural landscape of Belfast Coastal Reserve is recognised and landscape features and values, including Traditional Owner and local community connections, are recognised, respected, protected and celebrated.			
Strategy	Priority Level	Responsibility	Delivery partners
Encourage a collaborative approach between Land Managers, Traditional Owners, Heritage Victoria and Aboriginal Victoria (with other partners as appropriate) to research and understand the outstanding cultural landscape of the Reserve.	Medium	Community heritage or historical groups	Land managers, Heritage Victoria, Aboriginal Victoria
Seek to recognise Belfast Coastal Reserve as a cultural landscape on the Victorian Aboriginal Heritage Register and increase appreciation of the extent, diversity and richness of the tangible and intangible Aboriginal cultural heritage associated with the Reserve.	Medium	Aboriginal Victoria	Land managers, EMAC, GMTOAC
In partnership with Eastern Maar, Gunditjmara and local communities, investigate renaming Belfast Coastal Reserve, key features and locations to reflect Traditional Owners' connections in accordance with the guidelines for Geographic Names standard process.	Medium	Land managers	EMAC, GMTOAC, community groups

4.3 Aboriginal and colonial settlement history

To understand the context of historic heritage associated with the Reserve requires the integrated understanding of Aboriginal and Colonial history since the settlement period. Heritage is more than objects and buildings. It is also intangible and intrinsic values, places, associations and experiences. Heritage is often at the heart of community identity and this landscape is a place with living cultural heritage connections for a number of communities. Many people value this landscape and respect its Aboriginal and settler heritages, and the place it holds in community life today. Recognition of this shared history is a pathway to collective reconciliation.

There is substantial evidence to suggest the area around Belfast Coastal Reserve had been populated for at least 5,000 years prior to colonisation, and additional (although less conclusive) evidence indicates possible Pleistocene occupation [40,000 – 80,000 years] (Mulvaney 1964). Early estimates suggest that there were sufficient natural resources to support a population of several thousand in Western Victoria, however following a brutal period of colonisation and introduced disease, by 1877 the official census counted 774 official “full bloods” or Aboriginal persons who were not children of mixed ethnicity (Mulvaney 1964; Dawson 1881).

The first European to sight Warrnambool is understood to have been Nicholas Baudin, a French scientist and navigator, who charted the coastline between Warrnambool and Port Fairy and marked several landmarks including Warrnambool Bay, Tower Hill and Point Pickering from aboard the ship *Geographe* in 1802. He made no attempt to land at that time (Warrnambool and District Historical Society). The Port Fairy area is believed to have been named by Captain James Wishart in the late 1820s (Doyle 2006). While the Henty family were ‘unauthorised’ settlers in the region beforehand, it wasn’t until 1836, when Major Mitchell traversed the Warrnambool region by land that settlers from Tasmania, New South Wales and other parts of Victoria started to move to the area.

From the early 1800s through to the late 1840s, the Port Fairy to Warrnambool area was used extensively for sealing and whaling. These industries were seasonal so few permanent structures were erected, with camps and temporary huts instead established along the coast. A whaling station was set up in the 1820s at Port Fairy on what is now known as Griffiths Island and by the 1830s a small settlement had grown. In 1843, James Atkinson obtained the 'Belfast' Special Survey and commenced the laying out of the township from which the Belfast Coastal Reserve takes its name. In 1836, two seamen came across the wreck of an unusual vessel in the sand dunes near Tower Hill. They reported their sighting to the Port Fairy Harbour Master, Captain John Mills who, some years later, visited the site and described the vessel's timber as "*in hardness and colour not unlike mahogany*". Over the next 50 years there were approximately 40 sightings of the wreck before it is believed to have disappeared into the dunes. Adding further to the intrigue are debates over the wreck's origins with suggestions ranging from an old whaling punt, a small common sailing vessel that travelled frequently between Port Fairy and Warrnambool and a Portuguese caravel that sank in the 1500s (Moyné Shire 2010). Walking along the coastline between Port Fairy and Warrnambool provides opportunity for interpretation of this infamous story. The Mahogany Ship is listed on the Victorian Heritage Register.

As Europeans colonised the area, they "found aboriginal [sic] relics which were more substantial than those in most areas of Australia, and which indicated the environmental adaptation of their society" (Mulvaney 1964). From early evidence described by Europeans during the late 19th century and early 20th century it is evident that eel traps and fish traps were used regularly in the area, and Aboriginal people had become adept at manipulating water courses to harvest the natural resources along the coastline (ibid). According to several accounts, the Aboriginal groups in the region prior to and immediately following colonisation numbered between 20 to 50 people and were structured according to familial and kinship relationships (Coutts *et al.* 1976). There is evidence to suggest that camps were typically used for between 2 to 3 days and up to six weeks by 20 to 100 people.

The township of Port Fairy flourished during the 1840s and, for a short time, was the largest town in Victoria outside Melbourne (Doyle 2006). Warrnambool was also surveyed in 1846 and proclaimed in 1847. Whaling and sealing continued to be important industries during the 1840s and 1850s and after the decline of the whaling industry, commercial fishing saw Port Fairy continue as an important fishing port until World War II (ibid). During the mid-1850s, the port at Port Fairy was the second busiest port in the colony, second only to the Port of Melbourne (Earle 1896). Drainage works were undertaken on swamps and marshes during the 1850s to create new areas of productive farmland such that, by the early 20th century, little native vegetation remained. Sparse stands of eucalypts, ringbarked by early settlers, remain today. A lighthouse was built on Griffiths Island in 1859 followed by two bluestone cottages. Gardens established by the lighthouse keepers remain today.

In 1847, the coastal hinterland between Warrnambool and Port Fairy was proclaimed a 'settled district' in an attempt to promote small-scale farming. The land was divided and sold with settlers operating small-scale, labour-intensive farms (Doyle 2006). Coastal areas, including Tower Hill, were largely cleared to pave the way for farming and quarrying. European settlers, attracted to the water supply and fertile soils in the region, moved to the hinterland and established a number of industries including cattle and sheep farming, wheat, timber production, grain-milling, dairying, limestone extraction and quarrying. Infrastructure to support these industries was established in Warrnambool and Port Fairy including the erection of Western Victoria's first flour mill in Port Fairy in 1847 and the Port of Warrnambool which serviced regular coastal traffic for both cargo and passengers. Chief exports were wool, wheat, potatoes and dairy products.

The entire coastline from Warrnambool to Port Fairy and further east to Portland was a particularly violent place for Aboriginal people and early colonisers. Descriptions of multiple murders of Aboriginal people can be found in the diaries and written testimony of early settlers (Dawson 1881; Osburne 1980). These accounts describe several violent interactions between settlers and Aboriginal populations, frequently the result of perceived transgressions on settler land, or perceived threats to settler populations. Annie Maria Baxter's diaries indicate that there was violent resistance of colonisation by Indigenous populations, particularly during the 1840s (Critchett 1984).

Mills Reef and the surrounding dunes contain documented sites of Aboriginal ancestral remains, which were originally thought to be the result of contagious disease introduced by colonisers. The areas surrounding Mills Reef have been referred to as "chief places of mortality" as a result of introduced diseases. However, when additional skeletons were exposed the persons were found to be buried in pairs, a practice that would not have occurred had they been the victim of disease (Dawson 1881). More likely is the possibility the deaths were the result of murder by colonisers. Early eyewitness accounts provide testimony of Aboriginal persons during this time describing the practice of returning to the scene of slaughters to bury their dead.

Squatters staked out large areas of Crown land and obtained pastoral licences during the 1840s. Scottish and Irish immigrants comprised the largest groups of squatters in south west Victoria and, by the 1850s Irish Catholics dominated the farmers and agricultural labourers between Port Fairy and Warrnambool. Settlers in the area enjoyed recreational pursuits such as cricket and horse racing with one of the first sporting events in the newly created Belfast being a horse race in 1845. Other recreational pursuits including holidays by the coast, with squatters from inland areas spending their summer holidays at locations such as Port Fairy from as early as the 1840s.

With the granting of freehold title to a 640 acre homestead block to squatters in 1847 by the New South Wales government, settlement buildings became more permanent. Plentiful quantities of bluestone made this a preferred building material for the construction of new buildings during the 1850s, although they were typically modest. Most of the early cottages no longer remain, with the exception of a small number at Killarney, with "Ballyhurst" one of the best examples of a surviving farmhouse, built in 1858 by the Mahoney family. Fencing, while not common in the early days, started to appear in the form of log fences and dry-stone walls, evidence of which also remains today.

Colonisation impacted on several aspects of traditional Aboriginal life including housing construction methods and use, hunting methods, locations of habitation (short and long term), size of groups, construction of tools, and food production (Coutts *et al.* 1976). It is also reasonable from the evidence available to conclude that many cultural practices were maintained following colonisation including stone tool production, cooking methods, and hunting and foraging for food in both fresh and salt water bodies (*ibid*).

The descendants of Gunditjmara Traditional Owners are primarily associated with the Lake Condah Mission, which was established in 1867 as a Church of England Mission. While the station was closed in 1919, several Aboriginal families remained, although they were removed in the 1950s as the land was divided and allocated to soldier settlements. In 1987, a number of buildings were rebuilt and land was handed to the Kerrupjmara Elder's Association at Lake Condah and Framlingham. Today, the Gunditjmara apical ancestors are associated with the Lake Condah Mission, as are a number of ancestors of Eastern Maar Traditional Owners.

The Eastern Maar Traditional Owners primary association is with the Framlingham Aboriginal Reserve. The Framlingham Aboriginal Reserve was established in 1861 and was occupied by the Kurrae Wuurong clans from the area surrounding Mount Emu creek and the Hopkins River. Although

Gunditjmara people also initially inhabited the Framlingham Aboriginal Reserve, they later left due to tensions between clans and took up residence at the Lake Condah Mission (Clark 1995).

The region enjoyed a boom time during the 1880s when it was known for its intense activity and prosperity (Doyle 2006). The town was officially re-named Port Fairy in 1887. The arrival of the railway in Warrnambool in 1890 saw it grow into a major market town by the early 20th century (Warrnambool and District Historical Society).

Port Fairy became increasingly popular as a seaside resort through the late 1800s. The vast number of shipwrecks along the south west coast also drew large numbers of tourists who were keen to visit and fossick in the area. Shipwrecks and associated relics are now protected under the *Heritage Act 1995*. Tourism grew from the late 1880s and early 1890s due to the expansion of the railways and the subsequent ease of travel that this created. Killarney Beach was a popular beach holiday location through the 1920s and 1930s. Local Heritage groups, Traditional Owners and Heritage Victoria will be consulted in relation to post-contact heritage of the Reserve.

Goals			
Historic heritage and connections are recognised and understanding of heritage values and places is enhanced.			
Contemporary Traditional Owner and local community connections are recognised as an integral part of heritage management.			
Strategy	Priority Level	Responsibility	Delivery partners
Enhance historic heritage visitor and tourism experiences with visitor information and the interpretation of key stories and themes. Recognise the importance of documents, materials and collections held elsewhere as part of Belfast Coastal Reserve’s cultural heritage and significance, and their potential role in interpretation.	Medium	Community heritage or historical groups	Land managers
Involve the local community and Traditional Owners with interpreting the area’s historic heritage, encourage participation as tour guides, and record the community’s knowledge of heritage values, stories and connections.	Medium	Local residents, community groups, EMAC, GMTOAC	Land managers, Regional Tourism Board
Promote and protect heritage values of shipwrecks that may be buried beneath the sand and water of the Reserve and exposed by tides or rough weather.	Longer-term	Land managers	Heritage Victoria

4.4 Managing Aboriginal cultural heritage with Traditional Owners

The protection and management of Aboriginal Cultural Heritage is a legislative requirement under the *Aboriginal Heritage Act 2006*. The Belfast Coastal Reserve is of outstanding cultural heritage value for the high density of middens and other types of Aboriginal places it contains. Oral testimony, archaeological evidence, and historical testimony all mention the shell middens within the Reserve and the broader coastal region. Dawson describes the shell middens adjacent to the ‘coastal region’ as being vast with immense mounds of shells (Dawson 1881). A total of 86 Aboriginal heritage places are presently recorded within the Belfast Coastal Reserve on Aboriginal Victoria’s Aboriginal Cultural Heritage Register Information System. These sites extend across the entire Reserve (east to west).

The majority of the Aboriginal cultural heritage data (77 of the Aboriginal heritage places) were recorded between 1976 and 1980 as part of an archaeological survey of the Warrnambool coast by the State government body at the time, Victorian Aboriginal Survey. The remaining 15 sites have been identified as part of archaeological surveys for Cultural Heritage Management Plans (CHMPs) or as isolated finds, with 10 of these being recorded within the last 15 years. Survey data is in many instances outdated and it is likely that the known Aboriginal heritage places are not a true and sum reflection of the archaeological values of the area. Although archaeological investigations within the Reserve are limited, the few that have been conducted have shown that there is a high potential for subsurface cultural material to be present. Many of the shell middens were identified in areas where erosion, pedestrian activity, or even vehicle tracks have exposed the shell deposits beneath the topsoils of the dunes.

Archaeological investigations into the antiquity of Aboriginal occupation along the Warrnambool coast suggest that identified sites here are relatively recent, being less than 5,000 years old (du Cross and Associates 1983). This is likely to do with the fragile nature of sites along the coast, particularly shell middens and artefact scatters. Constant erosion and movement of the dune system, has likely destroyed remnants of sites older than the mid-Holocene. Moyjil (Point Ritchie) has been the site of recent archaeological study and it has been suggested that dates of human occupation and use of 40,000 to 80,000 years BP. It is reasonable to assume that given the cultural landscape that Aboriginal people have used the area surrounding Belfast Coastal Reserve for at least the last 40,000 years based on scientific evidence to date. Traditional Owner representatives indicated that they would like to see additional research conducted to provide insight into how long the Reserve was used by Aboriginal people prior to colonisation.

There is substantial evidence of human occupation within the Belfast Coastal Reserve and the archaeological record is closely correlated with the locations of fresh and salt water resources along the coast. The distribution of known archaeological material, and historical evidence suggests that people favoured the areas close to major drainage systems for the exploitation of natural resources and proximity to water and resource rich areas such as swamplands and oceans. This is why we see such a high number of Aboriginal heritage places along the coastline of the Reserve; these sites are in close proximity to water sources which provided a resource rich array of shellfish, fish, waterfowl, and terrestrial fauna. This pattern is also supported by historical accounts of colonists who observed Aboriginal people occupying the area, “camping, hunting, and fishing north of the hummocks and around the swamps” (Donnelley cited in Powling 1980).

Shell middens are mostly located where the sandy coastal plain meets the dunes and beaches, in places where water and wind movement has created large depressions and craters. These depressions would also have provided some shelter from the prevailing southwest wind during periods of bad weather. The artefact scatters and extensive and numerous shell middens in the area are considered to be campsites, whose location was generally determined by the proximity to water and resource rich areas such as swamps and oceans (du Cros and Associates 1993).

Shell middens provide an insight not only into the types of species that were eaten but also the technologies used to procure them, and even changes in the species exploited which can be used to answer questions about changing environmental conditions. It is not surprising then to find shell midden deposits in association with other site types such as artefact scatters, reflecting the tools that may have been used, and earth features such as hearths or soil deposits, reflecting the means by which the shellfish were cooked. Nearly all the earth features identified within the Belfast Coastal Reserve were found to be in association with shell midden deposits.

Almost all hearths are layers of hardened white sediment, presumably compacted ash, overlaying charcoal lenses and scorched sand (Dortch 1994). They also often contain burnt bone or shell remnants and given the association with hearths and meal preparation, it is expected that these two site components go hand in hand.

It is also common for stone tools to also be in association with both shell middens and earth features, such as hearths. Tools located include backed blades, thumbnail scrapers, fabricators, and hammerstones (Coutts 1977). The artefacts are largely concentrated within earth mounds, middens, and adjacent to waterways making the Belfast Coastal Reserve an area likely to contain a higher concentration of archaeological material than surrounding areas due to its proximity to Kellys Swamp, the mouth of the Hopkins River east of Moyjil point, the Merri River, and the resource rich basalt outcrops at Mills Reef at the western end of Killarney Beach. This pattern is seen in the types of Aboriginal heritage places across the Warrnambool coastline and within Reserve.

Two known burial sites containing Aboriginal ancestral remains are located within the Belfast Coastal Reserve. Sandy areas, particularly elevated dune areas, may have been favoured locations for traditional burials.

Collectively, the known Aboriginal heritage places within the Belfast Coastal Reserve provide tangible evidence for the use and modification of the landscape by past Aboriginal people. The coastal and wetland environments provided a sufficient resource base to sustain family groups over extended periods.

The Belfast Coast is a place of great cultural significance and an extraordinary cultural landscape, containing Aboriginal and historic places, landscapes and associations that represent many aspects of the rich and diverse history of this locality. These places, along with remembered stories, written documents, objects and collections, and traditional knowledge form the cultural heritage of this landscape. Traditional Owners managed this landscape as part of their Country for thousands of years. The landscape contains evidence of a remarkable range of features that illustrate aspects of the daily life of Aboriginal people, revealing practices of both cultural and scientific importance, such as cooking ovens, hunting, stone-tool making, camping, gathering, ceremony and burials, as well as demonstrating continuing connections during the colonial period up to the present.

Managing risks and impacts to Aboriginal Cultural Heritage

Aboriginal and historic places and features will be protected from damage by land management and recreation activities. Damage to Aboriginal cultural heritage is an offence under the *Aboriginal Heritage Act (2006)* with significant penalties for the knowing destruction of Aboriginal heritage sites and objects. Management activities including the formal establishment of access and facilities, weed and pest management or infrastructure established by other authorities has the potential to impact or harm Aboriginal cultural heritage. Works will be planned, designed and conducted to minimise any potential impact, and in accordance with legislation. All activities must comply with the Aboriginal Heritage Act and may include the requirements for a Cultural Heritage Management Plan (CHMP), Cultural Heritage Permit or where RAPs exist, an Aboriginal Cultural Heritage Land Management Agreement may potentially provide for a broad range of heritage management outcomes.

Climate change appears likely to increase risks from storm surge and coastal inundation which may undermine dunes with sea level rise. The potential impacts to Aboriginal cultural heritage from any coastal stabilisation works that may be proposed in the future must be considered. Risks to cultural sites may potentially also include disturbance to middens from rabbit burrowing and the illegal collection of artefacts.

There are several areas of the Belfast Coastal Reserve where Aboriginal cultural heritage is being negatively impacted by visitors, particularly related to dune access. This impact ranges from relatively low (foot traffic) through to extremely high (four-wheel drive traffic and repeated horse traffic). There is presently a lack of clear signage at many authorised access points informing park users of areas that they are prohibited from accessing with recreational vehicles, such as four-wheel drives and motorbikes, and with horses. Over many years of repeated use, a spider web of unauthorised tracks has informally established across many parts of the sensitive dune system, impacting vegetation and environmental values and posing a risk from erosion and disturbance to surface and sub-surface archaeological deposit. A key priority to protect and manage cultural and natural values will involve preventing on-going disturbance to unauthorised tracks to allow the natural regeneration of vegetation and dune stabilisation.

Formalisation of access points and trail heads from car parking and vehicle turn-around points is necessary at important locations where vehicle barriers, signage, and other controls may be required to restrict vehicles and funnel foot traffic to designated walking tracks for beach access. There are a number of locations where land managers have actively discouraged users from using informally established tracks and areas of heritage and environmental significance, which has proven successful. Following the discovery of disturbance to a shell midden in the dunes near Gorman's carpark in 2016, Parks Victoria installed bollards, signage and fencing to discourage access to the dune area and encourage the use of the designated beach access track. Following vandalism of a locked vehicle gate, additional concrete barrier was installed. After being closed for a relatively short period (approximately 3 months) vegetation within the shell midden impacted by horse and foot traffic has begun to regenerate and cover the ground that was once exposed by repeated trampling. While effective, some barriers and manufactured materials may not be sympathetic to the natural setting. In other locations in the Reserve, large basalt boulders in keeping with the natural setting and weighing up to several tonnes have been placed strategically to prevent vehicles from driving off-track into dunes or beaches and this approach appears to be resilient to tampering or vandalism. There are currently potential risks and impacts to Aboriginal cultural heritage from existing authorised activities including recreational horse riding, licensed horse riding tours and licensed commercial racehorse training which are being undertaken in the Reserve under a range of varying conditions. Each activity is currently undertaken in different ways and may pose different risks to Aboriginal cultural heritage and other values on Country. Due to this, Gundijmarra Traditional Owners are not supportive of racehorse training at this time. Strategies relating to the management of these activities are outlined in Chapter 6 – Recreation and Use.

Increasing community awareness of Aboriginal Cultural Heritage

Traditional Owners are concerned that park users have little knowledge regarding the significance and importance of the area to both Gunditjmarra and Eastern Maar Traditional Owners, and the sensitivity of the extensive archaeological record that is a cultural resource that the whole community can share. The cultural landscape and cultural sites of the Belfast Coastal Reserve will be better protected through enhancing community appreciation which can be well supported through establishing relevant and engaging visitor interpretation and information (see Chapter 6).

Increased cultural awareness among visitors, stakeholders and user groups will lead to better heritage outcomes within the Reserve and the groups that have engaged with Traditional Owners and public land managers have shown promising responses to heritage concerns raised. Signage used to educate and inform visitors about the Aboriginal cultural significance of the area is highly desired by Traditional Owners who support a collaborative approach in the planning and development of

cultural interpretation. Traditional Owners’ intellectual property and guidance regarding cultural protocols must be respected. The use of traditional language and place names is an important aspect of recognising this cultural landscape and the Traditional Owners connection to Country.

Regulatory signs warning people of penalties for the destruction of Aboriginal heritage were discussed as a management option. These were seen as potentially provocative and while Traditional Owners agreed that a high majority of people would respect these directions, there may be a small percentage of the population that would maliciously harm Aboriginal heritage that they previously did not know was there. This has happened at numerous places across Australia and something the Traditional Owners do not wish to encourage. It is important to recognise that regulatory signage to manage visitor access may be in place to protect both cultural and environmental values.

Researching Aboriginal cultural heritage

The Belfast Coastal Reserve is an area of great archaeological significance and the potential to reveal additional information regarding the nature of human occupation and use of the area is extremely high. The majority of archaeological research was conducted during the 1970s using technology and techniques that were far less advanced than technology available today. Using 3D scanning, GPS technology, Ground Penetrating Radar, advanced dating techniques, audio and video oral history and testimony recording, and advanced Geographic Information Systems and Unmanned Aerial Vehicle photography, there are significant opportunities to advance the knowledge of Aboriginal occupation within the Reserve. The Traditional Owners would like to see further research conducted and would like to work with Parks Victoria to pursue opportunities to advance research agendas by taking advantage of funding opportunities through collaborative research and heritage and land management funding. The significance of the Belfast Coast’s cultural landscape, middens and other values will be further investigated to support protection. Survey and recording of significant features will continue using best available technology and methods for fragile features, to ensure that the techniques and skills used are a source of information for future generations.

Goal			
Partnerships with Traditional Owners protects and conserves Aboriginal features, places and objects of cultural significance.			
Strategy	Priority Level	Responsibility	Delivery partners
Undertake a targeted assessment of the informal track network to identify impacts to Aboriginal sites and prioritise management interventions for protection and conservation works.	Immediate	Land managers	EMAC, GMTOAC, Aboriginal Victoria
Build capacity for the conservation of Aboriginal cultural heritage, site protection and restoration.	Medium	Land managers	EMAC, GMTOAC, Aboriginal Victoria
Progressively identify, document, map and record all known cultural features to contemporary standards and add newly identified sites to the Victorian Aboriginal Heritage Register.	Medium	Land managers	EMAC, GMTOAC, Aboriginal Victoria
Undertake additional archaeological research, such as dating site occupation, and partner with universities to support the development of cultural heritage research.	Medium	Land managers	EMAC, GMTOAC, Aboriginal Victoria

Work with adjoining property owners to support their participation in the recording and management of cultural heritage places and values. Share resources and provide advice and practical skills to landowners to help them manage significant cultural features.	Longer-term	Land managers	EMAC, GMTOAC, Aboriginal Victoria
Prepare any required CHMPs to address the relevant management and authorised activities.	As required	Land managers	EMAC, GMTOAC
Establish an Aboriginal Cultural Heritage Land Management Agreement with a future RAP for the ongoing management of Aboriginal cultural heritage at Belfast Coastal Reserve.	As required	Land managers	Future appointed RAP

4.5 Cultural traditions and activities

Knowledge and living cultural traditions associated with the heritage significance of the Belfast Coast will be respected, and their continuation or revival will be supported.

The importance to Traditional Owners of being on Country is expressed in the Eastern Maar Country Plan titled Meerreengeeye ngakeepoorryeeyt. “Ours is a cultural landscape, currently hidden to the broader community but alive and vibrant for us. Our identity is tied to the lava flows and wet forests, our sea and hill country, Gariwerd, the heathlands and dry bush. We have looked after these places for thousands of years and they have sustained us physically and spiritually” (EMAC 2015).

Being on Country offers an opportunity for the practice of traditions and cultural activities, engaging the Aboriginal community as well as the wider community. These could include:

- using and reviving traditional knowledge to guide how Country is managed
- sharing of stories, values and customs with the wider community
- actively engaging in ceremonies and teaching traditional techniques such as harvesting shellfish, constructing cooking ovens and making stone tools
- recording and protecting cultural heritage places and features.

The connection of Eastern Maar and Gunditjmara people to their Country and cultural practices will continue to be respected and supported. These activities could take place throughout the Reserve. Parks Victoria can also provide temporary exclusive use of a specific locality within the Reserve for activities such as education and cultural transmission by Eastern Marr and Gunditjmara. Parks Victoria will consult Traditional Owners about the need for a specific area for these activities.

Under the *Traditional Owner Settlement Act 2010*, natural resource agreements can authorise activities such as the hunting of wildlife and game, fishing, and the gathering of flora and forest produce. No agreement over the Belfast Coastal Reserve is currently in place but any future agreement may require variation to the zoning scheme, regulations and provisions of this plan.

Goal			
Eastern Marr and Gunditjmara cultural traditions and knowledge is practiced and shared at the Reserve.			
Strategies	Priority Level	Responsibility	Delivery partners
In partnership with Eastern Marr and Gunditjmara, define how cultural traditions and practices relevant to the cultural heritage of the Reserve will be revived or continued and facilitate cultural renewal.	Medium	Land managers	EMAC, GMTOAC



Pied Oystercatchers (*Haematopus longirostris*) and Red-capped Plover (*Charadrius ruicapillus*)



Hooded Plover (*Charadrius rubricollis*)

5 Healthy Country

The Belfast Coastal Reserve is home to a rich variety of native plants and animals in the wetlands, in the sea, on the beaches and through the dunes. Much of the Country in south west Victoria has been cleared and drained for agriculture and the Reserve now provides important habitats and refuges for animal and plant species of local, national, and international significance. This Coastal Management Plan provides opportunity to better care for and showcase Belfast Coastal Reserve's biodiversity so that it may be healthy and valued into the future.

Conservation planning aims to ensure that natural values, including flora and fauna, are protected and that partnerships underpin conservation efforts. The moderate size and linear nature of the Belfast Coastal Reserve highlights the need for complementary management across the landscape. A cooperative approach between managers of the Reserve and the managers of other Crown land, waterways, municipal land and neighbouring freehold land will be required to help maintain the Reserve's ecological character so it may provide for the long-term protection of dependent species and ecological communities.

The Reserve itself comprises terrestrial and marine areas. Coastal ecosystems cover 1,130 hectares of onshore environment, while marine ecosystems encompass 1,132 hectares of the nearshore marine environment, seabed and waters out to the boundary of the planning area.

The key management outcomes for natural values can be summarised as:

- Large areas of the Reserve will be managed for the primary objective of conservation as reflected in the zoning.
- Native vegetation and priority habitats will be protected and their condition improved by reducing disturbance, rehabilitating priority areas, managing weeds and pests, and implementing control measures to achieve appropriate and sustainable access to and use of the Reserve.
- The protection of vulnerable fauna such as Hooded Plover will require reducing threats to these species through controls on the key impacting activities of dogs, horses and people.
- Collaboration with land and agency managers for estuary opening, shoreline erosion and responding to emergency events will further assist in addressing impacts on natural values.

5.1 Managing coastal ecosystems

The Belfast Coastal Reserve features a variety of onshore ecosystems including the beach, vegetated areas of sandy beaches, coastal dune grasslands and scrub. It also includes estuary systems which form the transition zone between river environments and marine environments.

Conservation planning allows strategies to be developed that target defined elements of the natural environment (conservation assets) for which threats have been identified. The emphasis is on identifying strategies that tackle threats that pose the greatest risk to priority conservation assets and key ecological attributes and that will contribute most to meeting the expected conservation outcomes. A workshop was held with participants from Parks Victoria and other organisations, providing both local knowledge and expert opinion, to inform the conservation planning process for Belfast Coastal Reserve.

The following are key natural values considered to be an important focus of conservation efforts:

- Coastal Dune Scrub
- Wetland habitats
- Resident shorebirds (Hooded Plover an indicator species)
- Migratory shorebirds
- Waterbirds
- Orange-bellied Parrot.

A risk-to-values based approach has been applied to determine key threats. The degree, type and intensity of human use can degrade the condition of coastal ecosystems and fragment critical habitats. Other significant threats include predation from introduced species such as foxes, weed invasion, the impacts of vehicles and horses on beach nests and dune geomorphology, extreme weather events and coastal erosion. Table 5.1 summarises key threats to the ecosystems and natural values, the assessed level of risk currently to these conservation assets plus the expected level of residual risk following the implementation of management strategies. The risk matrix used to convert likelihood and consequence scores to an overall risk level is adapted from the Australian and New Zealand Standard for Environmental Risk Management (Standards Australia 2006) and has been applied in Victoria to Ramsar site management planning (East Gippsland CMA 2015). Detail on the conservation values, threat agents and management strategies follows.

Vegetation

Ecological Vegetation Classes (EVCs) represent the most detailed level in the hierarchy of the vegetation typology developed and used across Victoria. Five main EVCs have been identified across the Reserve's coastline (onshore):

EVC Name	Area (ha)	% of BCR	Bioregional conservation status
Coastal Dune Scrub	571	55%	Depleted
Swamp Scrub/Aquatic Herbland Mosaic	309	30%	Endangered
Permanent Saline Wetland	123	12%	Not applicable
Estuarine Wetland	21	2%	Depleted
Damp Sands Herb-rich Woodland	9	1%	Endangered

Coastal Dune Scrub fringes the coastline and includes plants well suited to the most exposed section of the coast. Further inland, a mosaic of Swamp Scrub and Aquatic Herbland vegetation (an endangered EVC) is associated with the wetlands of the lower Merri River (Rutledges Cutting, Saltwater Swamp and Kellys Swamps). Together these EVCs comprise 85% of the onshore component of the planning area. The remainder is principally Belfast Lough at the west end of the Reserve, which is open to the Southern Ocean and therefore permanently saline, fringed by estuarine wetland.

The wetlands are especially important feeding and refuge locations for large numbers of bird species, as well as a valuable nursery area for fish. Kellys and Saltwater Swamps are listed in the Directory of Important Wetlands in Australia as they are considered well preserved examples of interdunal wetlands (with high values for geomorphologic and ecological features).

Table 5.1 – Key threats to the conservation assets of the Reserve

Threat Agent	Coastal Dune Scrub. Morphology / % Veg cover (Note: also important to the integrity of Aboriginal Cultural Values in dune areas including middens and burials)		Wetland Habitats. Hydrology and Water quality, condition and extent of fringing vegetation: Swamp Scrub/Aquatic Herland Mosaic; Permanent Saline Wetland; Estuarine Wetland; Damp Sands Herb-rich Woodland - (threatened species- Carex tasmanica (Cully Sedge))		Orange-bellied Parrot Feeding		Waterbirds. Feeding/Breeding: Magpie Goose, Blue-Billed Duck, Australasian Bittern, Painted Snipe, Freckled Duck		Resident Shorebirds. Nesting, Fledging, Feeding: Hooded Plover, Oyster Catchers		Migratory Shorebirds. Feeding, resting: Fairy Tern, Grey-headed Albatross, Ruddy Turnstone	
	Risk Current	Risk following management action	Risk Current	Risk following management action	Risk Current	Risk following management action	Risk Current	Risk following management action	Risk Current	Risk following management action	Risk Current	Risk following management action (Conservation Zone)
Habitat fragmentation: includes access roads / tracks, fuel breaks	Extreme	Low	Extreme	Low	Medium	Low	Medium	Medium	Low	Medium	Low	Medium
Habitat degradation Recreational activities: includes walking, beach activities, swimming, surfing, fishing	Medium	Medium	Medium	Medium	Medium	Low	Medium	Medium	Medium	High	High	Medium
Habitat degradation Recreational activities: disturbance from domestic dogs	Medium	Medium	Negligible	Negligible	Low	Negligible	Medium	Medium	Medium	Extreme	High	Low
Habitat degradation Recreational activities: disturbance from horses. Includes recreational riding and training activities	Extreme	Extreme	Medium	Medium	Low	Low	High	High	Extreme	Extreme	Extreme	Extreme
Habitat degradation Recreational activities: Vehicle impacts. Includes illegal recreational vehicles as well as vehicle use with fishing activities, horse training etc.	Extreme	Medium	High	Low	Negligible	Low	Low	Low	Low	Extreme	Extreme	Low
Natural resource extraction Duck hunting. Occurring at a low level during duck season			Medium	Negligible	Low	Low	Medium	Medium			Negligible	
Weed invasion - Marram Grass invasion in dune areas	Extreme	High	Medium	Negligible	Negligible	Negligible	Extreme	Negligible	High	Extreme	Medium	Low
Weed invasion - terrestrial / aquatic. Weed species. Includes aquatic, boxthorn and woody weeds inland	High	Medium	High	Medium	Negligible	Negligible	Medium	Low	Negligible	Negligible	Negligible	Negligible
Predation by introduced predators. Includes Fox and cat predation on wildlife, particulary eggs and chicks of beach nesters	Low	Negligible	Negligible	Negligible	Low	Negligible	High	Medium	Medium	Medium	Medium	Medium
Over grazing / browsing. Introduced herbivores. Includes Rabbits and other herbivores causing damage to vegetation and habitat	High	Low	Medium	Low	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Coastal erosion. Sea level rise, increased severity +/or frequency of storm surge / wave action	Extreme	Extreme	Medium	Medium	Negligible	Negligible	Extreme	Extreme	Extreme	Medium	Medium	Medium

Figure 5.1 shows where birds listed as nationally threatened have been sighted near Rutledges Cutting, as recorded in the Victorian Biodiversity Atlas. The estuary and connected wetlands of Saltwater Swamp and Kelly Swamp provide a key habitat for significant fauna species, such as the Orange-bellied Parrot. More than 50 waterbird species have been recorded in the lower Merri wetlands, with the area especially important to Australasian Bittern as wintering habitat and drought refuge. Further information on fauna records and significance, including details on the Hooded Plover breeding sites, are included in the next sub-section.

Coastal Dune Scrub, covering the largest percentage of the planning area, is substantially degraded as a result of land-use history, rabbit grazing and trampling. Vegetation was extensively modified by post-European settlement land uses, particularly agricultural practices such as clearing, cattle grazing, cropping and draining. These uses introduced exotic plant species across the landscape, many of which persist in the Reserve today. In the past Marram Grass was introduced to stabilise dunes, however in the local ecosystem it forms dense growth that crowds out native vegetation. Indigenous Spinifex has suffered a steep decline in distribution and abundance due to Marram Grass invasion, however large and important populations of Spinifex do remain on primary dunes between Rutledges Cutting and Warrnambool. Marram Grass has transformed the dunes by creating very high, steep-sided dunes as wind-blown sand is trapped in its upward-growing tussocks (Heyligers 1985). By contrast, the low-growing Hairy Spinifex forms dunes with a much lower profile and gentle slopes. On steep faced dunes, 'blowouts' are common; any removal of vegetation, for example, tracks created by horse riding or illegal driving over the crest of a dune, can cause the wind to funnel through the gap and quickly blow away a deep cutting. Removing Marram Grass when it is the only plant binding the sand can therefore be deleterious, so gradual replacement with Spinifex is required to improve the quality and stability of the foredune. Invasive species are transforming the secondary dune systems to a closed scrub dominated by a few woody species, notably Coast Wattle and Coast Tea-tree. It is forecast that on current trends almost nothing of the indigenous flora will survive on these dunes unless invasive species are actively controlled, eliminated or contained (Ecology Australia 2012).

Both the land and aquatic environment continue to be at risk from new and emerging weeds. Wetlands and their margins - which cover more than a third of the onshore planning area - are particularly prone to weed invasion, for example by Spiny Rush, Tall Wheat-grass and Sicilian Sea-lavender (ibid). The potential impacts of invading weeds include loss of biodiversity values, visual and functional amenity, compromised ecosystem function, economic costs of weed control and increased water use. It should be noted that native animals may however feed on and use some weed species, so that removal of these could potentially degrade habitat if there weren't suitable available alternatives e.g. the Orange-bellied Parrot is known to use areas containing particular weeds.

Remnant native vegetation can be readily degraded by human, animal and vehicle disturbance. For example, research has shown that low levels of horse trampling can cause a significant reduction in vegetation height with fewer plant species found on trampled sites (Dyring 1990). The rate of soil stress is dependent on the amount of horse trampling and characteristics of soils, however structurally unstable deposits such as dunes are more readily impacted by this process (Phillips and Newsome 2002). Deluca *et al* (2001) and Wilson and Seeny (2009) determined that horses caused the greater degree of trail erosion as they loosen soils to a greater degree than hikers and motorcyclists, due to their relative weight and high exerted ground pressure. Sand dunes sensitivity to disturbance, can lead to loss of habitat, reduced seed sources and increased risk of dune erosion by storms. The reserve has had nearly 10km of unsanctioned sections of track closed to assist dune stabilisation and vegetation recovery and benefited from revegetation efforts by volunteers.

Belfast Coastal Reserve

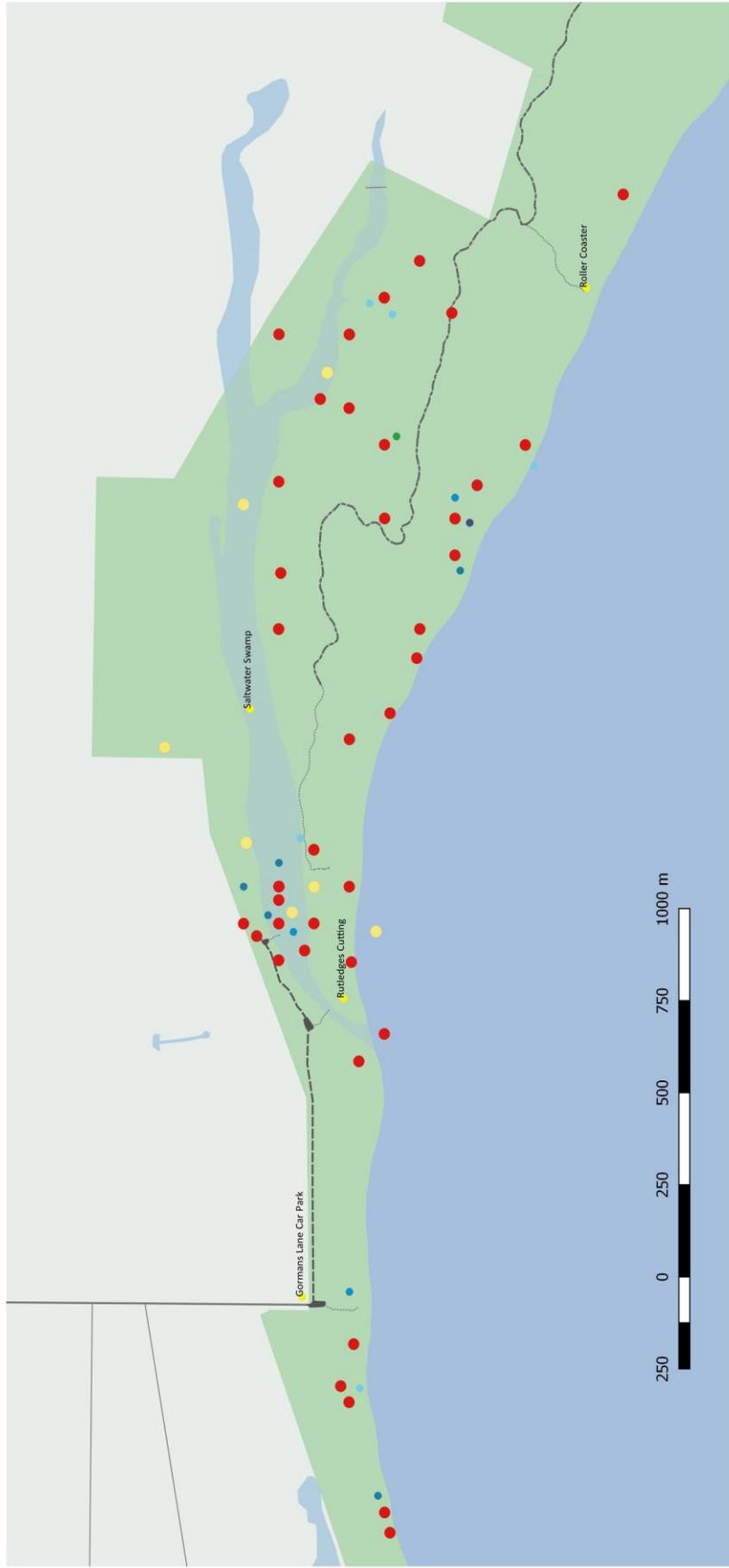


Figure 5.1
Rutledge's Cutting
EPBC Listed Fauna

- Hooded Plover records
- Orange-bellied Parrot
- Australasian Bittern
- Bar-tailed Godwit
- Black-browed Albatross
- Curlew Sandpiper
- Fairy Prion
- Fairy Tern
- Grey-headed Albatross
- Lesser Sand Plover
- Red Knot
- Shy Albatross

Estuaries and wetlands can frequently also be affected by activities occurring outside the Reserve’s boundary in the broader catchment including riparian degradation, reduced water quality, exotic flora and fauna, bank and bed instability and flow deviation. They are particularly susceptible to predicted climate change impacts, such as altered inundation and salinity regimes from changed flow regimes, increased sea levels and storm events.

The coast itself is constantly changing due to the influence of tides, wind, waves and weather systems. The western coast of Victoria is a high-energy coastline, and the sandy shores between Port Fairy and Warrnambool are particularly prone to erosion by strong winds and high seas. Human use of the beach and dunes in the Reserve, including illegal access by vehicles compacting and displacing sand, is contributing to accelerated coastal erosion and habitat loss. In addition, the effects of climate change are predicted to further accelerate coastal erosion due to sea level rise, higher storm surges and more extreme weather events.

Habitat protection

Goal			
The condition of Coastal Dune Scrub and Swamp Scrub/Aquatic Herbland Mosaic communities and wetlands is maintained and enhanced to support dependent flora and fauna species.			
Strategies	Priority Level	Responsibility	Delivery partners
Facilitate the active rehabilitation of eroded dunes and wetland fringes via supplementary planting of site-indigenous species in areas where further disturbance could affect natural or cultural values.	Immediate	Land managers	Community groups (See Chapter 7)
Undertake invasive weed management through: Prioritising treatment of new and emerging weed species infestations e.g. Sicilian Sea-lavender; Staged control of priority woody invasive weeds e.g. reduce Coast Wattle; Containing the expansion of Marram Grass.	Immediate	Land managers	DEDJTR, Glenelg Hopkins CMA, adjoining landowners, community groups
Reduce the impacts of fragmentation in dunes, foredunes and wetlands and prevent erosion by: Closing illegal vehicle access points; Closing and rehabilitating informal tracks; Ensuring the management of existing assets and planning for asset and access upgrades considers potential fragmentation and erosion impacts; Promoting and educating visitors on the benefits of using designated pathways and the impacts of forming undefined tracks, trampling vegetation.	Immediate	Land managers	Victoria Police, Glenelg Hopkins CMA, Licensees e.g. Tour Operators
Monitor and reduce the impact of browsing animals (e.g. rabbits and hares) on priority habitat areas including Orange-bellied Parrot habitat.	Medium	Land managers	DEDJTR, Glenelg Hopkins CMA, adjoining landowners
Facilitate natural regeneration by protecting remnant vegetation from access through the installation of fencing.	Medium	Land managers	Community groups
Identify opportunities to connect the Reserve to other high-quality habitat in the area, enabling native animals to move through the landscape.	Longer-term	Land managers	DEDJTR, Glenelg Hopkins CMA, NGOs, adjoining landowners

Significant fauna

The Belfast Coastal Reserve contains a variety of animal species that use the wetlands, beaches and dunes. Fauna records identify nearly 200 different native species of birds, mammals, fish, reptiles and amphibians sighted within the planning area. The Reserve is home to over 50 species listed as threatened in the advisory lists maintained by DELWP (Appendix B). Some of these species are listed as threatened under the *Flora and Fauna Guarantee Act 1988* (FFG Act) and there are also species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The Australian Government's Threatened Species Strategy identifies 20 priority EPBC-listed bird species for conservation, four of which have been recorded in the Reserve: Orange-bellied Parrot (identified for emergency intervention), Hooded Plover, Australasian Bittern and Eastern Curlew. Recovery plans for a number of species provide a framework for government agencies and key interest groups when planning and coordinating their conservation efforts.

All migratory bird species and marine mammals are covered under the EPBC Act as Matters of National Significance, regardless of their conservation status. Migratory shorebirds use wetlands and beaches in the Reserve year-round, with seasonal peaks in use for different species (September-March Northern Hemisphere migratory species, March-September New Zealand migratory species). Migratory shorebirds are protected under international agreements including the Japan-Australia and China-Australia Migratory Birds Agreements. The agreements provide for the protection and conservation of migratory birds and their important habitats. Key feeding and roosting areas exist in the Reserve for migratory species between Killarney boat ramp and The Basin, Rutledges Cutting and the wetland system that extends inland from the estuary and includes Kellys Swamp. The Reserve triggers criteria for habitat of international significance for Sanderling and Sharp-tailed Sandpiper, and national significance criteria for Double-banded Plover and Ruddy Turnstone.

The area between Port Fairy and Warrnambool has been identified as a Key Biodiversity Area by BirdLife Australia given it is known to support key or 'trigger' bird species (Orange-bellied Parrot and Hooded Plover) and habitat for these species, as defined by global scientific criteria.

Orange-bellied Parrots are one of Australia's most threatened species, with less than 20 parrots thought to exist in the wild. The Belfast Coastal Reserve is the third most significant site on the mainland for the species, behind Western Port Phillip and Bellarine Lakes/Swan Bay. These parrots breed in south west Tasmania during the summer, migrating to the south east coast of mainland Australia for the winter. Current knowledge suggests that habitat loss and degradation, particularly in the non-breeding range, has caused the decline (DELWP 2016). A 2016 assessment reported by BirdLife International found the pressure on Orange-bellied Parrot populations is also very high between Port Fairy and Warrnambool, due principally to human intrusions and disturbance from recreational activities impacting the majority of the population (50-90%) and resulting in rapid to severe deterioration (BirdLife International 2017). Many of the risks described for Hooded Plovers also threaten species such as the Orange-bellied Parrot. Dogs, vehicles and horses can displace wildlife, create disturbance and stress in animals, and cause direct and indirect wildlife mortality.

Hooded Plovers are considered a resident species of the coast. They favour wide beaches with large amounts of sea-washed seaweeds, and also creek mouths or inlet entrances with large flat areas of sand (Schulz 1988). The beach provides habitat for the Hooded Plovers entire life cycle needs; foraging, roosting and breeding. Nesting occurs from August through to March. They lay their eggs on beaches above the high-tide mark, dunes or rocky shores, where sand, shell or rock provides an ideal surface for their well-camouflaged eggs. This camouflage serves to protect the eggs from native predators, and the coloration of their chicks also closely matches the coastal environment.

The threats Hooded Plovers face are often common to other shorebirds which also use the Belfast Coastal Reserve for nesting, such as the Pied Oystercatcher and Red-capped Plover, as well as nesting tern species. Management strategies to mitigate risks to Hooded Plovers also frequently support other beach nesting birds e.g. migratory shorebird species such as Sanderlings and Ruddy Turnstones. Hooded Plovers are therefore a vital indicator species for the Belfast Coastal Reserve. There are 13 introduced fauna species recorded in the Victorian Biodiversity Atlas for the planning area. Species like foxes and rabbits have a large habitat range however, so while it may not be possible to completely eradicate these species from the Reserve, land managers undertake pest animal control in partnership with the surrounding land owners in order to minimise the impact these species have on indigenous fauna. Cats and dogs are also considered a threat to native animals while rabbits compete for the same food sources as native fauna.

Goal			
The impact of predation is reduced to maintain and increase native fauna populations.			
Strategies	Priority Level	Responsibility	Delivery partners
Maintain targeted fox control programs within the Reserve and cross-tenure programs to minimise predation on vulnerable species e.g. shorebird and waterbird breeding sites.	Immediate	Land managers	Adjoining landholders
Undertake biannual migratory shorebird, biennial beach-nesting bird counts, and regular predator population monitoring. Use monitoring results to evaluate trends in predation and fauna populations.	Immediate	Land Managers	Land managers, Birdlife Australia
Support implementation of Orange-bellied Parrot and other relevant recovery plans.	Immediate	DELWP	Land managers, community groups

Goal			
The impact of visitors at key locations is reduced to allow for an increase in the extent and richness of vulnerable fauna, and the occupation of most of their potential habitat.			
Strategies	Priority Level	Responsibility	Delivery partners
Protect Hooded Plover nests and chicks from trampling through the erection of temporary fencing and signage around individual breeding sites across the Reserve (following best practice protocols).	Immediate	Land managers	BirdLife Australia, community groups (see Chapter 7)
Reduce disturbance to vulnerable fauna including migratory birds, shorebirds and Orange-bellied Parrot, and their habitat by implementing park zoning and access regulations (see Chapter 6).	Immediate	Land managers	BirdLife Australia, community groups
Undertake targeted Hooded Plover nest monitoring to understand breeding success and the range of specific threats at sites. Use monitoring results to inform/adapt management of visitor activity.	Immediate	BirdLife Australia	Land managers
Inform beach users of the presence of beach-nesting birds through permanent signage at beach access points.	Medium	Land managers	BirdLife Australia, community groups

Key threats to Hooded Plover breeding success

The Hooded Plover is listed as threatened under the FFG Act and a FFG Action Statement for the species was first published in 1992 with the major conservation objective being to protect habitat and ensure the Hooded Plover can continue to breed successfully across its Victorian range. The Statement notes a key threat to breeding success is disturbance (including by domestic dogs, walkers, vehicles and horses) and that limiting visitor numbers in sensitive areas should be considered. Other key threats to breeding success are predation of eggs and chicks from introduced predators and storm damage. During the breeding season the protection of nesting habitat, individual nest sites and the adjacent foraging areas is considered critical to nesting and fledgling success. Management strategies in the Plan respond to these key threats:

- **People.** Individuals and groups can trample Hooded Plover eggs if they move above the high-tide mark or through dunes. When people are in close proximity birds can also leave their nest. If Hooded Plovers are off the nest for more than 30 minutes on hot days the embryo can be destroyed from heat stress (Weston 2000). Hooded Plovers often nest near informal dune tracks, presumably due to the openness of the area, and thus are vulnerable to crushing (Dowling & Weston 1999). Disturbance can also be lethal to chicks, where lengthy periods in hiding can lead to dehydration and starvation (Weston & Elgar 2005).
- **Dogs.** Dogs can have direct impacts on Hooded Plovers by chasing and harassing them, standing on eggs, eating the eggs or killing the chicks. Disturbance may also indirectly result in loss of feeding opportunities for chicks and exposure to predation while their parents are away from the nest or chicks distracting a dog. Monitoring conducted by Birdlife Australia indicates that Hooded Plovers respond to unleashed dogs much more than leashed dogs or humans alone. A threat profile developed for 28 parks and reserves managed by Parks Victoria found the locations of the highest frequency of off-leash dog use correspond with the locations where Hooded Plovers pairs experienced the poorest breeding success - a spatial correlation between high off-leash dog use and the location of breeding sinks overlapped more closely than any other threat type (Birdlife Australia 2014).
- **Horses.** Horses can trample eggs or run over a chick or adult bird, particularly when riding above the high-tide mark or in dunes. Horses also leave craters in the sand that make chick navigation across the beach difficult. Chicks can become trapped in hoof craters if they are deep enough, leading to death from predation, trampling, dehydration or starvation (Barwon Coast 2009).
- **Vehicles.** Driving on beaches in Victoria is illegal, except at designated boat launching areas or by emergency vehicles. Illegal four-wheel drive or motor bike activity can crush Hooded Plover nests or injure and disturb birds. Deep or numerous wheel ruts on beaches are likely to impede chick movement between the foraging zone and the dune (Barwon Coast 2009). Vehicles may also impact invertebrates in the intertidal zone, a key part of the bird's diet.
- **Predators.** Foxes will prey directly on adults, chicks and eggs. Other abundant native predators such as ravens, magpies and gulls also pose a predatory threat to the eggs and chicks of Hooded Plovers (Birdlife Australia 2014).
- **Weeds.** Sea Spurge, an introduced invasive plant, is densely established in the Rutledges Cutting area and other stretches of the Reserve, reducing available habitat for species such as the Hooded Plover that prefer open sand areas for nesting (Glenelg Hopkins CMA 2008).
- **Changes to the structure of the beach and dune habitats.** Weeds such as Marram Grass and Sea Spurge can alter the shape and ecology of foredunes and make habitat less suitable for Hooded Plovers. This can impact the resources available to them for feeding and nesting. Sea level rise and increased storm surge due to climate change will also likely reduce effective breeding habitat in the future, hence the pressing need to reduce all manageable threats from human behaviours and predators.

Birdlife Australian Hooded Plover Monitoring of Breeding Sites

Hooded Plovers are actively monitored by volunteers and consequently there is considerable data on this species, with the planning area being one of the longest running Victorian monitoring sites. Based on Birdlife Australia recorded data, the Reserve was the second most densely populated Parks Victoria managed site for Hooded Plovers in 2013 after the Mornington Peninsula National Park (BirdLife Australia 2014), with the area between Warrnambool and Yambuk (20km west of Port Fairy) recording the highest density of Hooded Plovers in Victoria in the 2014 Biennial Hooded Plover Count (Driessen & Maguire 2014). This makes it the highest priority for conservation and recovery of the declining Eastern Mainland population.

BirdLife Australia analysed Hooded Plover monitoring data from the 2006/07 to 2010/11 breeding seasons across 28 parks and reserves managed by Parks Victoria (Birdlife Australia 2014). Hooded Plover monitoring sites in the Belfast Coastal Reserve were found to be the most threatened in the State, particularly around Rutledges Cutting, The Basin and Levys Beach. BirdLife Australia's research further showed 'productive' stretches of the Belfast Coastal Reserve, where chicks successfully fledged, and 'non-productive' stretches of coast, where chicks did not survive. This was not explained by differences in physical habitat across the area. The data suggests that despite the rocky outcrops in this part of the coast providing protection to shorebirds and depositing seaweed onto the beach for shelter and food (rotting seaweed provides invertebrates which Hooded Plovers eat), their breeding success is being impacted by other factors.

BirdLife Australia's analysis also reported observations gathered at monitoring sites from 667 individual threat assessments across 21 breeding pairs of Hooded Plovers in the Reserve between the 2006/07 and 2010/11 breeding seasons. The threat from horses at those monitoring sites was observed to occur in 66% of all assessments, with vehicle use (illegal access) in 20%. The threat from dog off-leash was reported to occur in 32% of observations while dog on-leash was 11%. Evidence of threat from foxes was 11.5%, raven 8%, and magpie 3% (BirdLife Australia 2014).

Figure 5.2 shows BirdLife Australia's data of known Hooded Plover breeding sites from the most current seasons (2014/15, 15/16 and 16/17). While a centralised point is given for each territory, the boundaries of the territory will extend to encompass hundreds of metres (up to 1km) of beach (Weston *et al.* 2009). Usually in this region they are bounded on both sides by another breeding territory, although a small number of pairs may use multiple sites. There can also be multiple locations within these sites where nests of that pair occur. Hooded Plovers will nest up to seven times in a given breeding season, with most pairs typically nesting at least two to three times a season.

Belfast Coastal Reserve

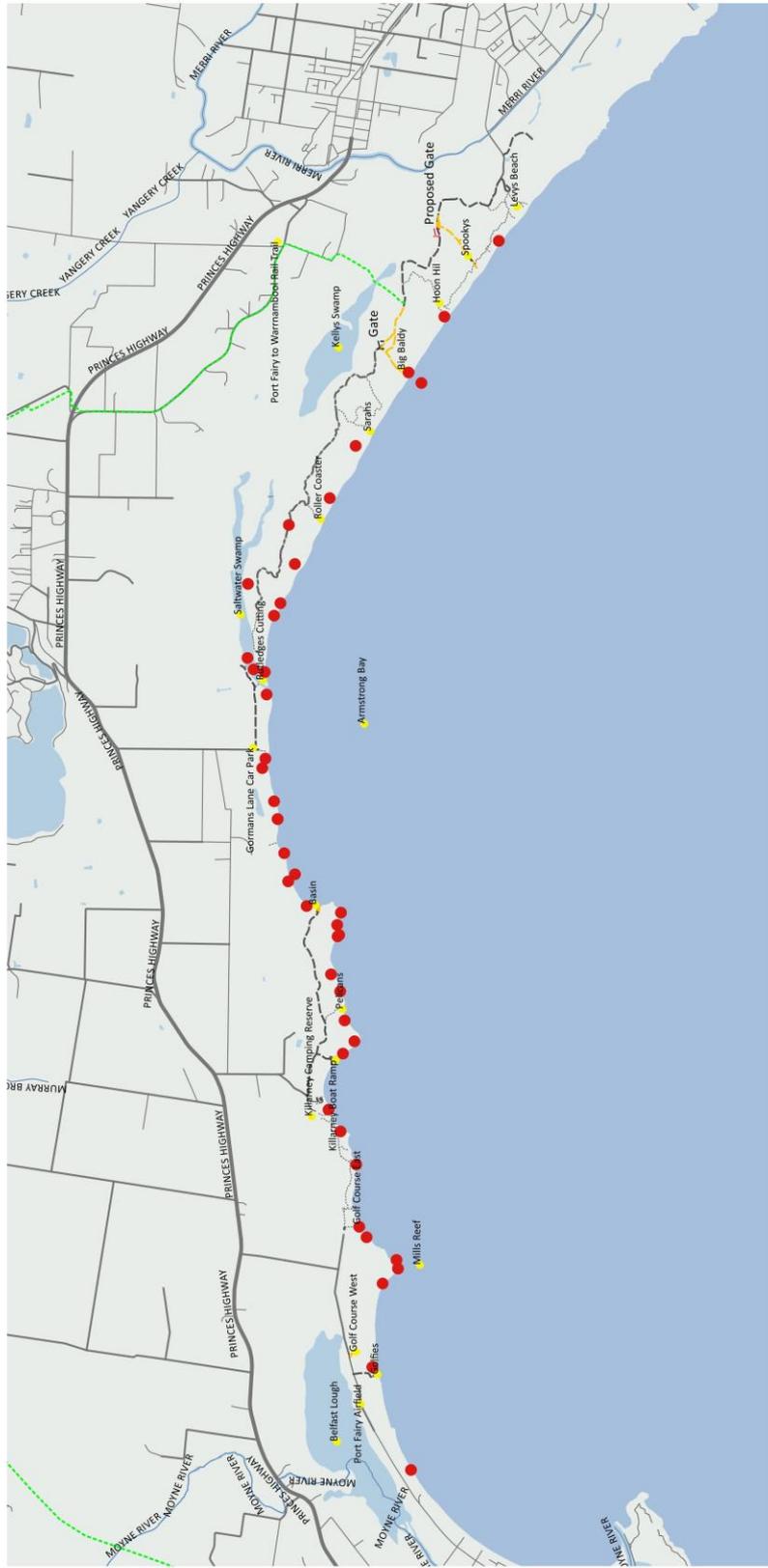
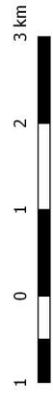


Figure 5.2

Hooded Plover Breeding sites (2014 - 17)



● Hooded Plover Breeding Sites



5.2 Managing marine ecosystems

Onshore environments are interlinked, and interact with, the marine environment. The Victorian Coastal Strategy recognises that ecologically healthy, rich and diverse coastal ecosystems are dependent on how we manage marine ecosystems. Over 12,000 species of plants and animals are supported by marine environments in Victoria, with eighty percent occurring nowhere else on earth (Victorian National Parks Association 2010). In addition to their intrinsic value, marine environments provide ecosystem goods and services that benefit the Victorian community e.g. fisheries, aquaculture, tourism, recreation, and carbon storage. These benefits depend on ecologically healthy and resilient marine ecosystems (Victorian Coastal Council 2014).

Marine habitat mapping has not been conducted for the planning area, with such mapping largely restricted to Victorian Marine National Parks and Marine Sanctuaries. The main habitats protected within the Merri Marine Sanctuary, located just east of Reserve at the mouth of the Merri River, are soft sediments (intertidal and subtidal) made up predominantly of fine sand, intertidal and subtidal reef, and the water column. It is expected the waters of the Belfast Coastal Reserve also encompasses large areas of intertidal soft sediment (an important feeding habitat for shorebirds) and gradually sloping intertidal reef e.g. Mills Reef towards Rutledges Cutting, bordered by areas of subtidal soft sediment.

Parks Victoria's Marine Natural Values Study (Plummer *et al.* 2003) suggests Red coralline algae is a common intertidal macrophyte in the area, with Neptune's necklace and seagrass sometimes present. Common intertidal marine invertebrates include gastropods, limpets, sea stars, crabs and anemones, while the subtidal reef is dominated by brown kelps. Several marine species have been sighted in the Reserve planning area, including the Humpback Whale, Sub Antarctic Fur Seal and Southern Elephant Seal (see Appendix B). All marine mammals are covered under the EPBC Act as Matters of National Significance, regardless of their conservation status.

Over 100 exotic marine species are known to have become established in Victorian marine waters, some of which have become marine pests as they can have a devastating impact on the marine ecosystem. A survey of marine pests has not been undertaken in or near the planning area. However, there are no prominent pest species known to be present. Pests can arrive in new areas in a variety of ways and preventing their spread is a priority. Intertidal reefs, meanwhile, can be subject to physical damage by trampling resulting in a reduction to the algal and invertebrate community. Other threats to the marine ecosystem include marine diseases, oil spills, litter and debris, and terrestrial inputs of poor quality water.

The Victorian Coastal Strategy recognises that many of the impacts on the marine ecosystem are difficult to anticipate as thresholds and tipping points for species and systems are poorly understood. Threats can originate far from the location at which an impact is observed and where the condition of catchments, rivers or estuaries is poor, there are likely to be impacts on the marine values (Glenelg Hopkins CMA 2013). The Glenelg Hopkins Regional Catchment Strategy addresses catchment-based threats to marine assets.

Goal			
The diversity and productivity of the marine habitats is maintained and impacts from new pests and other threats are reduced.			
Strategies	Priority Level	Responsibility	Delivery partners
Apply protocols for preventing, detecting, reporting and responding to marine emergencies in state coastal waters, including marine pest incursions, pollution, diseases, and marine entanglement.	Immediate	DELWP	EPA, land managers, Glenelg Hopkins CMA
Encourage users of the Reserve to integrate the identification of marine pests into their activities and to report any sightings e.g. anglers, contractors.	Medium	Land managers	Community groups, Licensed Tour Operators
Support an integrated, catchment based approach to improve water quality and reduce both aquatic and marine pest plants and animals, including marine and aquatic mapping, monitoring and research activities to inform management decisions e.g. EstuaryWatch	Medium	Glenelg Hopkins CMA	Land managers, community groups, DEDJTR, landholders
Establish a volunteer intertidal reef habitat monitoring program.	Longer-term	DELWP	Community groups

5.3 Water management

The adjacency of freshwater, estuary and marine ecosystems provided a rich and diverse abundance of natural resources for Aboriginal people in this area of Country. There are Aboriginal sites (shell middens) located at the estuary entrance, and Traditional Owners commented that areas around the meeting of fresh and salt water are excellent hunting places for the much-favoured short fin eel. Kelly Swamp and Saltwater Swamp are an interconnected natural system of estuarine wetlands. These wetland habitats and their productive capacity were dramatically impacted following land clearing, drainage, and the diversion of the Merri River to Warrnambool in 1859.

With the Merri River now draining to the sea at Warrnambool, Kellys Swamp fills when flood waters of the river follow a broad floodplain to the former river mouth via what is known as the Lower Merri River wetlands. An artificially-enlarged channel now connects Kellys Swamp to Saltwater Swamp, with the latter also receiving washovers from the sea at Rutledges Cutting. Waters from Kellys Swamp periodically discharge into the ocean at Rutledges Cutting, a tidally-dominated (bar) estuary. This estuary forms a transition zone between freshwater and marine environments.

A key objective of the Merri Estuary Management Plan is to maintain as close to natural as possible the opening and closing process for Rutledges Cutting (Glenelg Hopkins CMA 2008). Glenelg Hopkins CMA uses the Estuary Entrance Management Support System (EEMSS) to consider the risks of artificially opening estuary mouths at different water levels and times of the year, and possible impacts on infrastructure and natural assets. The potential environmental consequences of artificially opening estuaries at inappropriate times includes fish kills and the flushing of fish eggs and larvae out to sea.

Belfast Lough forms the estuarine lagoon section of the Moyne River, with this estuary kept open to the sea for boating. Therefore, the Lough is permanently saline due to incursions of sea water. The lagoon is shallow and smaller than it was in the late 1800s, in part due to the water level being lowered as a result of dredging of the mouth of the Moyne River (Ecos 2006).

Goal			
Water levels in the Lower Merri are managed to maintain resilience and aquatic values in the wetlands and estuary.			
Strategies	Priority Level	Responsibility	Delivery partners
Maintain as close to natural as possible the opening and closing process for Rutledges Cutting, ensuring risks to natural, cultural, social and economic values are appropriately mitigated.	Immediate	Glenelg Hopkins CMA	Land managers
Maintain the aquatic values within the Belfast Lough.	Longer-term	Parks Victoria	Glenelg Hopkins CMA

5.4 Fire management

The risk of fire within the Reserve is considered to be low. The Belfast Coastal Reserve is identified in the Strategic Bushfire Management Plan South Western (DELWP 2015) as a Land Management Zone, defined as an area where fuel is managed to reduce residual risk, improve ecosystem resilience, and for other purposes (such as to regenerate forests and protect water catchments). Planned burning may be used for risk reduction purposes within the Reserve but is most likely to be considered for specific ecological objectives. The vegetation of most of the Reserve is relatively resilient to fire frequencies between 5-20 years and does not need fire for regeneration.

Goal			
The risk of bushfire into and from the Reserve is minimised and ecologically appropriate fire regimes are maintained to enhance Reserve ecosystems.			
Strategies	Priority Level	Responsibility	Delivery partners
Maintain appropriate emergency management plans and access to the Reserve.	Immediate	Land managers	DELWP, CFA, Victoria Police
Use fire management techniques that prioritise the protection of environmental and cultural values (such as slashing and minimising wetland exposure to fire retardants), and tolerable fire intervals of fire sensitive vegetation to inform the frequency of planned burns.	Medium	DELWP	Land managers
Work with Gunditj Mirring and Eastern Maar Traditional Owners to investigate integrating traditional burning with planned burning for ecological objectives.	Medium	DELWP	Land managers EMAC, GMTOAC

5.5 Climate change

A changing climate could have a range of impacts on the coastal environment. The Western Regional Coastal Plan (Western Coastal Board 2015) identifies the following implications of climate change:

- Rising sea levels are predicted to cause increased flooding of low lying coastal areas, greater coastal erosion, higher storm surges and higher costs of managing coastal land.
- Higher ocean temperatures are likely to change ocean currents.
- Dissolving of additional carbon dioxide from the atmosphere, leading to ocean acidification, may disrupt marine and coastal ecosystems.

-
- Higher temperatures will bring longer, hotter and drier periods and greater threats from bushfires.
 - More intense rain events will cause increased riverine and estuarine flooding and higher inflows of catchment pollutants.
 - Inundation and erosion will squeeze some coastal habitats against immobile barriers such as cliffs and infrastructure, change the distribution of some species and increase pressure from pest plants and animals.

While the coastline is already subject to many of these threats, a changing climate will exacerbate the impacts. The Glenelg Hopkins Climate Change Strategy 2016-2023 suggests the vulnerability of estuaries and coastal areas to climate change is much higher and will manifest earlier than for other environmental assets in the region. For example, estuaries within the Glenelg Hopkins region are reported to be experiencing sea surface temperatures increasing at a rate of approximately four times the global average (CSIRO 2015).

Wetland systems are recognised to play an important role in climate change mitigation through the capture of organic carbon. The restoration of wetlands and natural hydrology can therefore result in significant carbon sequestration as well as having additional social, ecological and economic benefits (Carnell *et al.* 2015). Glenelg Hopkins CMA has prioritised the protection and enhancement of wetlands in the region and will further investigate wetland carbon sequestration potential.

The Port Fairy Local Coastal Hazard Assessment (Flocard *et al.* 2013) considered the likely future effects of coastal hazards in the western section of the planning area (to Killarney Beach). Commissioned by Moyne Shire Council, the study found the long-term recession at East Beach to be 0.1 to 0.3 m/year over the past 150 years. The public infrastructure considered at risk from coastal erosion and inundation consisted of multiple beach accesses, a section of unsealed road from Skenes Road, two carparks and road accesses from Mahoneys Road, the Belfast Lough Reserve and part of the Port Fairy golf course. Reef point (just to the east of Mills Reef) was also found to be at risk from increased coastal erosion. There is a current application for coastal protection works at the golf course boundary within the Reserve where a section of beach has been subject to continual erosion, impacting on long term stability of the foreshore and the fairway of one of the golf course's holes. To protect the beach from any further erosion, design of a protective seawall was requested by the Golf Club, which is supported by Moyne Shire Council.

The Warrnambool Coastal Management Plan also acknowledges the impacts associated with climate change and states that without direct and indirect action, environmental, cultural and recreational values on the coastline may be at risk. Warrnambool City Council has secured coastal assessment services to prepare a Barwon South West Local Hazard Assessment. This assessment will provide data and information to help guide the development of integrated emergency and hazard management responses, planning and infrastructure. It will also be used to inform the development of future climate adaptation plans (Hamden 2017).

Adaptive measures accept the reality of sea-level rise and coastline retreat and seek to increase coastal resilience. Measures to promote resilience include the protection of vegetation and stabilisation of dunes, the maintenance of sediment supply and the provision of buffer zones, rolling easements or setbacks that allow the landward migration of the coastline (Defeo *et al.* 2009).

Long-term data sets describing either the natural dynamics of beach systems or the magnitude of climate change impacts on beaches are scarce. Research will be required to understand these impacts and inform adaptive management. Erosion monitoring is currently being undertaken along East Beach by Port Fairy Coastal Group and local primary schools.

Goal			
Management activities build resilience of coastal systems, ecosystems, species and dependent species to climate change risks and minimise impacts on Reserve facilities.			
Strategies	Priority Level	Responsibility	Delivery partners
Use climate science and modelling to inform adaptive management, ensuring effective responses to emerging threats such as erosion risk to dunes, access and facilities; the movement of weed species; and sea water incursion of freshwater wetlands.	Immediate	Land managers	Research institutions, Glenelg Hopkins CMA
Collaborate on coastal erosion monitoring activities and share results to inform management decisions e.g. Port Fairy beach erosion monitoring	Medium	Glenelg Hopkins CMA	Land managers, community groups
Monitor climate change impacts on habitat e.g. inland migration of vegetation communities with increased sea levels and storm surge, informing adaptive management to improve shorebird nesting.	Medium	BirdLife Australia	Land managers



Sea spurge (*Euphorbia paralias*)



Fishing is a popular activity in the Reserve

6 Recreation and use

The Belfast Coastal Reserve attracts many locals, visitors and tourists throughout the year. It offers a ‘wild feel’ experience, readily accessed from Warrnambool and Port Fairy. The Reserve is used for a variety of low-intensity recreational activities such as walking, swimming, fishing, surfing, hiking, cycling, picnicking, birdwatching, photography and beachcombing. The Reserve is also frequently visited by dog owners with their dogs and recreational horse riders. Authorised uses currently include horse riding tours and beach training of racehorses at specific locations and times. Four-wheel drives and trail bikes also utilise the beach and dunes, an activity which is illegal except in the case of launching or retrieving boats at designated facilities.

Use of the Reserve by people, dogs, horses and vehicles has been a key focus of consultation. Passive recreation activities are generally supported given their limited impact on environmental and cultural values. There are however mixed opinions in the community about the ongoing impact of dogs and horses on the Reserve. Dogs were considered to be one of the biggest threats to shorebird breeding sites, particularly when off-leash, as well as a safety issue following instances of people being bitten by dogs. Riding of horses for recreational or commercial purposes was viewed as a threat to dune health, cultural heritage, shorebirds and public safety, especially if riders did not comply with regulations, codes of conduct or licence conditions.

6.1 Visitor experience

This plan seeks to address a number of visitor management challenges and opportunities by establishing a clear direction that enables the Reserve to be sustainably managed, whilst also meeting future visitor needs. To assist this visitor experiences must be identified, prioritised and planned. Key visitor sites have been mapped across the planning area to capture the places people are currently using the Reserve. Information about the sites has been collated, including estimates of visitor numbers, the types of users, the local setting and attractions, activities and several other attributes.

The collection of sites across the Reserve combine to create the visitor experience for the area. This planning approach takes the visitor point of view and importantly captures all of the features regardless of tenure. In applying this approach, the ‘Belfast Coast’ was identified as the key overarching destination. The ‘Port Fairy to Warrnambool Rail Trail’ is another visitor experience that intersects with the planning area and extends beyond the Reserve. Self-reliant walkers can also walk the beach walk connecting Port Fairy and Warrnambool.

This concept that a visitor experience may extend beyond the immediate planning area boundary to include other public and private land surrounding the Reserve has no legal implication for that land, it simply acknowledges that from a visitor point of view, that land forms part of the experience or backdrop. This is an important aspect as it recognises the Belfast Coastal Reserve is not an isolated experience, with all land managers and neighbours important stakeholders.

The Belfast Coast

The Belfast Coastal Reserve is an 18km long stretch of coastline located between Port Fairy and Warrnambool. The narrow reserve is backed by flat open farmland creating a sense of remoteness from the built-up city of Warrnambool and the town of Port Fairy.

The Reserve is used for a variety of recreational activities such as running, walking and dog walking along the beach or across tracks connecting beaches, generally of short duration. Camping is available at Killarney Camping Reserve, with boats able to be launched at the Killarney boat ramp and across the sand using four-wheel drives at The Basin. Swimming, snorkelling and fishing from the beach also take place at multiple locations. Birdwatching is enjoyed across the Reserve, especially at the estuary (Rutledges Cutting) and connected wetlands Saltwater and Kellys Swamps. Spookys, Golfies and Gormans Lane are popular surfing locations.

The facilities and services across the Reserve are basic, reflecting the area's undeveloped character which sees generally lower use than the foreshore areas of nearby towns. Some people are using parts of the Reserve for illegal four-wheel driving and trail-bike riding.

Horse riding tour groups currently provide guided services from Levys Point and Spookys via designated tracks such as the Kellys Swamp track and onto beaches including Roller Coaster, Sarahs and Big Baldy. Commercial thoroughbred racehorse training is also currently permitted under licence at Golfies and Gormans Lane.

Of the range of activities undertaken in the Reserve, it is the competition between people, vehicles, dogs and horses that presents the most significant challenges. This conflict in demand can impact public safety, cultural heritage, environmental values and threatened species, dune stability, visitor enjoyment and amenity. General information is provided below for visitor experience, visitor activities and management issues. Site specific visitor activity strategies are presented in the Site Strategies section and in the Authorised Uses section for commercial horse training.

Belfast Coast visitor experience

Key directions for managing the visitor experience are to:

- Minimise the impact of visitor activities e.g. dog walking and recreational horse riding, on environmental and cultural values through the implementation of park zones identifying where activities can occur (see 6.2 Recreational Activities).
- Create a more inviting visitor experience by providing sustainable, rationalised access and facilities (see 6.3 Access and Visitor Facilities).
- Identify site specific visitor activities and uses (see 6.4 Site Strategies).
- Review conditions on authorised uses e.g. commercial horse training and tour operators, to ensure such uses have minimal effect on both values and visitors (see 6.5 Authorised Uses).
- Implement measures for visitor safety, emergency management and compliance and enforcement (see 6.6 Risks and Safety).
- Develop on site interpretation for the Reserve on values and risks to enhance visitor experience (see 6.7 Information, Interpretation and Education).
- Improve promotion of the values of the Belfast Coastal Reserve to visitors and the recreational opportunities it offers (see 6.8 Tourism Partnerships, Marketing and Promotion).

6.2 Recreational activities

Belfast Coastal Reserve's scenic coastline is a key asset to the region and provides an accessible natural coastal environment. The Reserve provides for beach, wetland track and ocean water use. Visitor numbers have not been documented, however when people were observed during shorebird monitoring at the Reserve the recreational activity they were undertaking was recorded and more recently community feedback gathered to inform this plan included activity information.

Walking / Using the beach

Visitors to the Reserve are primarily locals from surrounding properties and the neighbouring towns with some tourists coming from further afield. The most frequent activity noted during recent community consultation is walking or just using the beach. Visitors commonly value the ability to escape to nature, enjoy the scenery, rest and relax, socialise or exercise in a setting removed from the busier developed areas to the immediate east and west. This accords with the vision for the Reserve as providing a 'wild feel', a place to appreciate and connect to nature.

Swimming and surfing

Swimming is not patrolled on beaches in the Belfast Coastal Reserve, with patrolled beaches available in both Port Fairy and Warrnambool over summer. At the Port Fairy end of the Reserve conditions are considered to be moderately safe for swimming over summer, when waves tend to be lower and rips less frequent and intense. There are numerous beach breaks in the wide, shallow surf zone. Killarney is a popular swimming location where the beach is protected by offshore reef, with waves usually low to calm at the beach. The western end of Killarney is one of the more consistent surfing spots. Near Rutledges Cutting the beach receives high waves where there is a wide, rip dominated, double bar surf zone. The beach to the east through to Levys Point receives waves averaging over 1.5 m, which combine with the finer sand to break over a 400 m wide surf zone. Topographic rips, strong currents and sharks are considered hazards across the marine environment. Further information can be found on Surf Life Saving Australia's Beachsafe website.

Boating

A beach boat launching area is available at the second Killarney carpark, east of the Killarney Camping Reserve. It is one of 23 boat ramps designated as a Local Boating Facility in the Western Victoria Boating Coastal Action Plan (Western Coastal Board 2010). According to this plan, Local Boating Facilities should provide a good standard of service that caters for local access to boating, while not accommodating a wide range of boating services. Rocks and reef in the area provide a number of moderately protected spots to reach deep water. A vehicle track runs through the dunes from Killarney Beach to a carpark at The Basin with a beach boat launching area. This facility is not identified in the Western Victoria Boating Coastal Action Plan and would likely be considered an informal boating facility.

Fishing

Fishing from the shore is popular near Golfies and Killarney, where the beaches tend to be shallow, while the rocks and reef provide a number of good, moderately protected spots to reach deep water. At low tide, deep water can be fished off the moderately protected basalt points around The Basin. Spear fishing and collection of Abalone and Southern Rock Lobster may be undertaken around many of the reefs. Recreational fishing from boats is also undertaken.

Camping

Overnight camping is only provided at the Killarney Camping Reserve. Elsewhere across the Belfast Coastal Reserve only day visitor areas are provided, with picnic facilities at the Killarney boat ramp beach access.

Motor vehicle and motorbike use

Multiple access roads and tracks exist across the Reserve (see Map 1). Interaction between vehicles and other users of the Reserve can affect public safety and visitor enjoyment, principally as vehicles access carparks or travel between sites. Internal roads are commonly single lane, unpaved and may have hills or curves which can make visibility difficult. Some roads are popular with walkers, cyclists and horses. Appropriate and vigilant driving behaviour is therefore required. Speeding vehicles pose a safety risk. Poorly designed or maintained roads and carparks can exacerbate hazards.

Illegal vehicle activity in the Reserve is evident, with off road activity (four-wheel drives and trail bikes) having an impact on both cultural heritage sites and environmental values. It is a major cause of damage to the dune systems, generating erosion, denuding areas of vegetation, and threatening shorebirds and their nests. Physical barriers have been erected in some locations to control unauthorised vehicle access including fences, gates, bollards, boulders and logs. Except in rare circumstances, it is illegal to drive on the beach or public sand dunes in Victoria. These rules are set out in Sections 13 and 14 of the *Land Conservation (Vehicle Control) Regulations 2013* and apply to cars, four-wheel drives and trail bikes or motorbikes. Penalties can be issued for offences in relation to vehicles on public land. Moyne Shire Council's local laws also address the use of vehicles, providing for use of the designated boat launch at Killarney. Warrnambool City Council's local laws prohibit, regulate and control activities and circumstances associated with recreational vehicles which are used on inappropriate land or reserves.

Dog walking/exercising

The beaches between Port Fairy and Warrnambool are frequently used by visitors with dogs. Many people bring their dogs to the beach not just for exercising, but as companions to enjoy a range of leisure activities in nature such as fishing, relaxing on the beach and swimming, particularly in the heat of the summer months or across the holiday periods. The Killarney Camping Reserve offers dog friendly camping near the beach and many visitors bring their dogs here while on holiday with family or friends.

Walking is good for the wellbeing of both the pet and its owner, however the interests of dog owners must be balanced with the potential risks posed by dogs. Dogs can impact the Reserve in several ways including impacts to wildlife and the experience of other visitors.

It is an offence under the *Wildlife Act 1975* for a dog to chase or attack, molest or injure wildlife. Dogs can displace wildlife, reducing the amount of available habitat they have to feed, breed and rest; create disturbance and stress in animals (with repeated stress causing long-term impacts on wildlife such as reduced reproduction and growth plus increased vulnerability to disease); and bring about direct and indirect wildlife mortality (Hennings 2016).

One of the most significant impacts of dogs on beaches in the Reserve is the disturbance of beach-nesting shorebirds, their eggs and chicks during the breeding season. The Hooded Plover and several other shorebirds breed on the beaches from August to March which coincides with the peak visitor period. It is therefore critical that the most significant areas for shorebird breeding are protected from disturbances including those from dogs.

Dogs can impact the experience of other visitors and cause nuisance from noise, excrement and uncontrolled roaming, and through perceived risks to safety from aggressive behaviour towards people and other dogs. It is an offence under the *Domestic Animals Act 1994* for a dog to be at large, to rush at, chase or bite a person. The potential for negative interactions in the Reserve between visitors and dogs is highest on beach areas during the peak visitor periods during the summer and holiday periods. Warrnambool City Council and Moyne Shire Council's Local Laws specify dates and times that dogs are allowed on the beach. Dogs are currently only allowed on Killarney Beach between 6pm and 9am from 1 December to Easter Monday. Outside of this, there are currently no regulations regarding dog walking in the Belfast Coastal Reserve and dogs can presently be walked off-leash in all other areas at any time. Alternative areas for off-leash dog walking are available at Southcombe Park in Port Fairy and Harris Street in Warrnambool, however, many visitors specifically seek a beach based experience. Dogs are also allowed on Lady Bay beach in Warrnambool from April 1 to November 30 and on East Beach in Port Fairy between 6pm and 9am from December 1 to Easter Monday.

The areas of the Reserve with the widest, most remote or uncrowded beaches are around Armstrong Bay and Rutledges Cutting - which are key areas for shorebirds during both breeding and wintering. These areas are within the Conservation Zone where it is considered critical to minimise disturbance by dogs, horses, vehicles and high visitor use. Fox baiting also takes place across the Reserve and this must continue (see Chapter 5). Permitting dogs on-leash within the Conservation Zone at particular times of year and/or times of day could be possible, however as the Mornington Peninsula case study demonstrates (see next page), visitors can be more compliant where dogs have restricted access at all times rather than where some interpretation of the regulations can occur.

Compliance with dog rules and restrictions, particularly on beaches, is likely to be most successful where the rules are uncomplicated and clearly communicated, and where visitors are directed to alternate locations nearby, such as designated dog beaches. Visitors with dogs frequently seek beaches where they can take their dog off-leash at all hours of the day. If opportunities do not exist nearby, compliance with on-leash rules or time-of-day restrictions is likely to be poor. It will be difficult to accommodate wide-spread off-leash areas in the Reserve, however within the Conservation and Recreation Zone the identification of a designated off-leash dog beach is likely to funnel visitors with dogs to this location (away from more critical areas for beach-nesting birds), and provide positive compliance outcomes in other areas where dogs are restricted. Designated dog beaches with clear messaging are therefore ideal places to promote responsible dog ownership. Where dogs are permitted off-leash, dogs are still required to be under effective control. Locations for designated off-leash dog beaches should be defined by locations of least value to shore-bird breeding and where, in any event there will be higher levels of shorebird disturbance from visitors during the peak visitor period. It is also important to ensure that beach areas of very high visitor use are free from dogs to avoid negative interactions.

People with dogs also need to access walking tracks and carparks to gain access to beach areas where dogs are permitted. Providing dog on-leash access would allow dog owners to still enjoy the Reserve with their pets, while giving due consideration to the safety of the public and native fauna.

Mornington Peninsula – Dogs Access Case Study

In 1996, a draft management plan for the Mornington Peninsula National Park recommended dogs be prohibited from the park to reduce conflicts between dogs and conservation objectives as well as other park users. At the time, there was community opposition to dog walking due to increasing dog attacks, interference with wildlife (in particular the Hooded Plover and other shore birds), and excrement on tracks and beaches. Conversely there was also community interest in retaining dog access to the park.

The final approved management plan (1998) sought a compromise and provided for restricted dog access between sunrise and 9am. The plan recommended this arrangement be trialled for one year, following which consideration be given to further restrictions or a total prohibition if non-compliance continued to be a major problem and if on-going impacts of dogs on park values and other visitors was demonstrated. Despite on-going impacts and poor levels of compliance with the regulations, no changes to the dog walking regulations were subsequently made until 2009 when a seasonal Shorebird Protection Zone was established on Portsea Surf Beach with dogs prohibited from this zone.

In 2012, Parks Victoria commenced a review of dog walking within the Mornington Peninsula National Park, triggered by community pressure to improve breeding outcomes for the Hooded Plover after years of poor breeding success influenced by the presence of domestic dogs. The review involved extensive consultation, with the majority of submissions supporting prohibition or further restrictions on dog access in the park. An amendment to the management plan was subsequently made to restrict dog walking to 14.5km of the park's 42km coastline, from sunrise to 9am, on-leash only.

The amendment was subject to continued monitoring of the impact of dogs, with a provision that should this monitoring demonstrate further impacts on natural, cultural and social values or continued non-compliance with dog regulations, the government would implement additional restrictions or a complete ban on dog walking within the national park. Monitoring data from the subsequent two years (2013-15) found 82% of non-compliance occurrences were detected in areas where dogs were permitted, compared with 18% of non-compliance events in the areas where dogs were prohibited. This result showed park visitors to be more compliant where dogs were prohibited year round than where some interpretation of the regulations could occur.

Monitoring results from BirdLife Australia for the Hooded Plover breeding seasons between 2013-15 found that dog use corresponded exactly with the locations where Hooded Plovers pairs experienced the poorest breeding success. This is despite volunteers erecting temporary fencing and signage alerting beach users when they were approaching a nest site. In March 2016, the Minister for Environment and Climate Change announced that dogs would be banned across the entire Mornington Peninsula National Park to provide greater protection for more than 30 fauna species of significance, including the Hooded Plover. An amnesty period and an extensive communications campaign helped raise awareness of the change to dog regulation. The subsequent season was the most successful Hooded Plover breeding period in at least 10 years, however it is too early to attribute this to the change in regulations. It may take approximately 10 years for new data to reflect accurate trends in fledgling results.

The case study shows that persistent non-compliance with dog regulations can lead to more restrictive controls being put in place. Changes to dog rules and restrictions will likely require a period of education and enforcement for the community acceptance and adjustment. Where dog owners are required to clean up dog faeces, compliance is greatest where 'poo-bags' and bins are provided. It is important that fox baiting operations minimise the risks of poison baits being taken by pets and baiting should not occur adjacent to any walking tracks where dogs may be walked on-leash or near any designated off-leash areas.

Dog restrictions in appropriate locations will provide a high degree of protection for beach nesting birds and other wildlife, and will minimise negative interactions with other visitors while providing a spectrum of opportunities for visitors with dogs. This may include:

- Areas where dogs are entirely prohibited at all times e.g. within the Conservation Zone.
- Areas where dogs are permitted on-leash only e.g. on walking tracks and beach within the Conservation and Recreation Zone.
- Designated dog beach where dogs are permitted off-leash at all times e.g. defined beach area within the Conservation and Recreation Zone.
- Beach areas where dogs are prohibited during busy visitor times e.g. Killarney Beach from 9am to 6pm between 1st December and Easter Monday inclusive.

Recreational horse riding

Recreational horse riders are principally individuals or small groups. Many recreational horse riders are local residents who have for many years exercised their horses on nearby beaches. Recreational horse riding differs from the horse riding groups led by commercial tour operators or horse trainers (who both require a licence for use of the Reserve – see Authorised Uses). This difference may be in riding practices and patterns of use including the total volume of horses, the size of groups, the areas of the Reserve they use or prefer, the speeds they may ride, the times of day they ride, and seasonal factors.

There are limited areas where horse floats can be parked and horses unloaded, saddled and loaded. Other beach goers have complained about available parking being taken up by horse floats and the offensive nature of horse manure and urine. Riding in the dunes can also generate erosion, damage cultural heritage sites and impact biodiversity – particularly where horses do not keep to designated tracks. Recreational riding poses potential risks and conflicts with other visitors, especially when there is limited space for separation such as on walking tracks or where walkers are unaware of horses approaching, as can be the case on dune tracks. Horses can also be spooked by illegal vehicle activity, such as motorbikes or uncontrolled dogs.

One of the most significant impacts of horses on beaches in the Reserve is the disturbance of beach-nesting shorebirds, their eggs and chicks during the breeding season. The Hooded Plover and several other shorebirds breed on the beaches from August to March. The total number and frequency of all horses on the beach contributes to the overall level of shorebird disturbance from a range of sources. While horse riders may be required to ride below the high-tide line on beaches to avoid nesting habitat, or stay a distance away from marked nest sites, compliance with this guideline may be poor during a high tide (particularly spring-tides) when the area of available space on the beach can be limited and riders may advance higher on the beach into nesting habitat. It is therefore critical that the most significant areas for shorebird breeding are protected from disturbances including those from horses.

A permit system can assist in regulating numbers of horses and possible conflicts. Such a system aims to reduce environmental impacts by identifying where riding is and is not permitted, and where parking is provided. Other potential conditions include: no horse riding above the high tide mark except on designated horse access tracks; no horses between sunset and the following sunrise; and that right of way must be given to all other users including walkers.

Recreational hunting

Within the Reserve, duck hunting has likely occurred in low numbers at Kellys Swamp during previous duck seasons from mid-March to early June. Duck hunting is also likely to be occurring at this wetland on adjacent private land. Duck hunting is permitted nearby at Tower Hill State Game Reserve where the wetland is a specified hunting area. There are no official figures on the number of hunters who shoot at specific wetlands during the duck season. It is not known if pest hunting has been undertaken to any significant degree in the Reserve.

Hunting is permitted on all Crown land unless prohibited by specific regulations. Regulations for the Belfast Coastal Reserve were introduced in August 2017 which prohibit hunting. It is an offence to kill, disturb, harass, hunt, capture or take any animal. These regulations can be amended to reflect the outcomes of the final coastal management plan once approved. This draft plan proposes all forms of recreational hunting will remain prohibited throughout the Reserve on the basis of potential risk and disturbance to resident and migratory birds. This is not however intended to restrict Traditional Owners in undertaking traditional activities in exercising their Native Title rights and interests.

Control programs to manage introduced pest, such as foxes, may be undertaken by contractors and authorised volunteer shooters from hunting organisations such as Field and Game Australia or Sporting Shooters Association of Australia. The Sustainable Hunting Action Plan 2016-2020 (DEDJTR 2016) includes a number of ways to improve the opportunity for hunting across Victoria. Hunting laws are contained in the *Wildlife (Game) Regulations 2012*, *Wildlife Act 1975* and *Firearms Act 1996*. Additional laws on land management and animal welfare are contained in other legislation, as outlined in the Victorian Hunting Manual (GMA 2017).

Summary of activities

Proposed conditions for a range of recreational activities and uses are summarised in Table 6.1. As per the management zoning identified in Chapter 3, more active uses are enabled in the Conservation and Recreation Zone (at the east, central Killarney and west ends of the Reserve), with more passive use at areas in the Conservation Zone (the remainder of the Reserve, including the lower Merri estuary).

Goal

Opportunities for a range of recreational visitor activities are provided with minimal impacts on natural values, cultural values and other users.

Strategies	Priority Level	Responsibility	Delivery partners
<p>Motor vehicle and motorbike use</p> <p>Provide vehicle and walking access to visitor sites and beaches as shown on Map 3 and close and revegetate unauthorised tracks.</p> <p>Provide signage and speed limits on shared-use roads to encourage appropriate driving behaviour.</p> <p>Control illegal vehicle access to dunes and wetlands using bollards, gates and barrier fencing with clear signage at illegal vehicle access points.</p>	Immediate	Land managers	Community groups, Victoria Police
<p>Dog walking / exercising</p> <p>Provide on-leash dog access only in the Conservation and Recreation Zone. Trial for one year and monitor compliance. If non-compliance is a major problem or if on-going impacts of dogs on park values and other visitors is demonstrated, consider further restrictions.</p> <p>Provide off-leash dog access at Killarney beach all year except for 9am to 6pm from December 1 to Easter Monday when dogs are not allowed on the beach.</p> <p>Identify dog friendly zones on walk trail maps to specify suitable on-leash and nearby off-leash areas for exercising of dogs.</p>	Immediate	Land managers	Community groups
<p>Recreational horse riding</p> <p>Provide recreational horse riding access only in the Conservation and Recreation Zone on defined tracks and restricted to the water's edge when riding on the beach.</p> <p>Implement a permit system for group recreational horse riders, providing detailed conditions of use.</p>	Immediate	Land managers	Community groups
<p>Manage visitor activities in accordance with table 6.1 below.</p>	Immediate	Land managers	Community groups

Table 6.1: Summary of activities.

Activity	Conservation and Recreation Zone (Visitor sites include: Golfies, Golf Course East, Killarney, Killarney Boat Ramp, Big Baldy, Hoon Hill, Spookys and Levys beach)	Conservation Zone (Visitor sites include: The Basin, Rutledges Cutting, Rollercoaster and Sarahs Beach).
Boating: non-motorised	Y	Y
Boating: motorised (includes Jet skis)	Y Launching from designated areas shown on Map 3. Not permitted in estuaries and wetlands other than Belfast Lough. 5 knot speed limit applies within 200m of shore.	Y
Birdwatching	Y	Y
Bush walking	Y - On designated walking tracks only	Y
Campfires	N	N
Camping	Y - Permitted at Killarney Camping Reserve	N
Cycling /mountain biking	Y On all public access roads and designated tracks, including the rail-trail, as shown on Map 3	Y
Dog walking on-leash	Y - Permitted on designated walking tracks, carparks and beaches at all times, as shown on Map 4. Dogs not permitted at Killarney Beach between 9am and 6pm from December 1 st to Easter Tuesday.	N
Dog walking off-leash	Y - Permitted at Killarney beach, as shown on Map 4, at all times excepted between 9am and 6pm from December 1 st to Easter Tuesday.	N
Diving and water sports	Y	Y
Dune boarding	N	N
Fishing: recreational	Y	Y
Fossicking and prospecting	N	N
Hang gliding	N	N
Horse riding: recreational	Y - Permitted on designated tracks, carparks and beaches as shown on Map 5.	N
Horse riding: commercial tours	Y Tour operators require a licence.	N
Horse riding: commercial training	Y - Permitted under licence at Golfies beach, Levys beach, Hoon Hill and Killarney beach as shown on Map 6.	Y - Permitted under licence at Rutledges Cutting as shown on Map 6.
Hunting	N	N
Kite surfing, wind surfing, surfing	Y Permitted in ocean. Not permitted in estuaries and wetlands.	Y
Orienteering	Y	Y
Picnicking	Y	Y
Swimming	Y	Y
Vehicle access: four-wheel drives, motorcycles, trailbikes and other recreational vehicles	Y Registered vehicles are permitted on public vehicle tracks only (see Map 3). Vehicles are not permitted off-road, on walking tracks, dunes or beaches unless launching vessels at the designated boat launching areas as shown on Map 3.	Y
Walking/running	Y	Y

6.3 Access and visitor facilities

The popularity of the Reserve and the many ways people use it has led to multiple access points and tracks through the area and to the beach. In total there are almost 11km of roads in and around the Reserve, with an additional 17.5 km of authorised tracks which aren't for vehicle use, other than management vehicles. The beach itself stretches over 18 km. Map 1 shows the existing road and track network, including informal track that has been surveyed.

Roads and tracks are maintained for public and management access, including emergency response to incidents such as fire and other emergencies, visitor illness or injury. Roads vary from bitumen, to gravel and sand. Track condition is fairly uniform across the Reserve, with all walking/riding tracks being sand apart from boardwalk on the Pelican Beach access (to protect cultural heritage) and gravel tracks on the Golf Course East Beach access and near Levys Beach carpark. Tracks are maintained to minimise their impact on natural and cultural values and may be closed to protect park values or for visitor safety, either temporarily or permanently. The cost to maintain roads and tracks to a standard which mitigates these impacts is also factored into decisions on their sustainability. Consolidation and ongoing review of the track network is critical to sustainable management of the Reserve. The extensive network of unsanctioned tracks is proposed to be closed and rehabilitated. Approximately 9.5 km of unsanctioned sections of track have to date been closed by Parks Victoria to assist dune stabilisation and vegetation recovery.

Several small carparks provide access to the Belfast Coastal Reserve. Some of these will require upgrading if they are to sustain increasing use. Beach access from carparks requires ongoing maintenance to minimise erosion of the primary dune system, particularly where horses or vehicles access the beach e.g. at boat ramps. The main access points where horse trucks/floats can be parked and horses unloaded and ridden on the beach for recreational purposes are currently Levys Point, Rutledges Cutting, Killarney Beach, The Basin and west of the golf course at Port Fairy (Eastern beach). Small trailer boats can be launched at Killarney and The Basin beaches. Ageing infrastructure and storm surges are affecting the visitor experience and reliability of access. The Victorian Governments Future Coasts data suggests that most of the current beach and beach access areas are subject to impacts from increased sea level rise and storm surge events, which may make existing access points unsafe. Built infrastructure considered most at risk are the Golfies Beach carpark and Gormans Lane carpark number 3.

Killarney Camping Reserve includes a sports oval and the Killarney Cricket Club pavilion, powered and un-powered camping sites, a playground and amenities blocks. This site, carparks and access roads are managed by Moyne Shire Council. All other visitor sites are day visit areas, with low levels of service and few facilities offered as most visitors are seeking a self-reliant experience. Ultimately the land manager is responsible for delivering strategies at visitor sites they manage.

Site specific strategies for track and road closures and improvements, as well as upgrades to carparks and other visitor facilities are provided in the next section of this chapter.

Goal			
A range of access and infrastructure is provided and maintained to support passive recreation, emergency response and management of the Reserve while minimising the environmental and cultural impacts of visitation. Tracks are closed or access modified where they do not support this goal. Generally, the undeveloped character of the Reserve is maintained.			
Strategies	Priority Level	Responsibility	Delivery partners
Provide vehicle and walking access to visitor sites and beaches as shown on Map 3. Monitor the condition of the access network and where possible mitigate damage to values or to the asset. Close and rehabilitate informal tracks that are not required for management, have limited recreational value or are having an adverse impact on cultural or natural values.	Immediate	Land managers	
Prioritise maintenance and renewal of facilities through detailed site planning which considers coastal hazard information, visitor use patterns, and the management of environmental and cultural impacts.	Immediate	Land managers	
Maintain walking tracks to be distinct but without major modification to the ground, unless required for visitor safety or to protect values e.g. boardwalk.	Medium	Land managers	
Collaborate with partner agencies to collect traffic count data and prepare a traffic management plan for the Reserve.	Medium	VicRoads	Moyne Shire Council, Warrnambool City Council
Consult with community and Traditional Owners to assign names to unnamed roads and tracks in the Reserve and update maps accordingly.	Longer-term	Land managers	Community groups, EMAC, GMTOAC

6.4 Site strategies

There are 30 sites mapped for this area including the more recognised and developed sites and the many informal site and trails that wind through the dunes. This plan focuses on the following popular visitor sites and presents recommended strategies to manage them into the future. Maps 3 shows these sites moving from west to east across the Belfast Coastal Reserve.

Golfies beach access

Golfies is the most western beach access in the planning area, featuring a carpark approached by gravel road approximately 250m from Skenes Road. Walking and beach fishing are popular here, with the site also providing a popular surfing location given consistent shore break and relatively safe surf conditions, compared with the reef breaks elsewhere in the Reserve. To the west, freehold title to high water mark exists on part of Port Fairy's East Beach, however walkers can make their way to and from town. Recently the site has been used by racehorse trainers to access beach from the carpark towards Mills Reef (for a distance of 800m) under specific conditions e.g. weekdays between dawn and 10am. There has been a consequential increase in use of the carpark by horse floats and trucks, coupled with exacerbated erosion of the beach access by horses and trampling of the protective dune vegetation by people. The carpark and beach access are also at risk from beach recession.

Goal			
Golfies will continue to be a key site for active recreation providing for a variety of uses including walking, horse and dog exercise, beach fishing and surfing.			
Strategies	Priority Level	Responsibility	Delivery partners
Dogs to be walked on-leash to reduce risk to other users and shorebirds.	Immediate	Parks Victoria	Moyne Shire Council
Licence horse training with restricted numbers, times and distance (see Authorised Use), conditional upon compliance. Monitor compliance and periodically review conditions of use.	Immediate	DELWP	Parks Victoria
Reposition the carpark further inland to protect this visitor infrastructure from erosion, inundation and minimise further damage to the dunes. Separate parking areas for horse floats/trucks and general public, provide appropriate signage and separate access for horses and pedestrians.	Medium	Parks Victoria	Parks Victoria, Racing Victoria

Golf Course East beach access

Golf Course East is on Skenes Road, which becomes unpaved at the intersection with Woodbine Road. This beach access features a gravel carpark bounded by fencing and rocks with a gravel, flat access path to the beach on the east side of the Golf Course. The site is popular for walking and fishing, providing good parking capacity for use by those seeking a more secluded experience. Parks Victoria and Moyne Shire Council have closed off a network of tracks through the dunes for rehabilitation, however several formal walking tracks still link the site to Killarney Camping Reserve. Golf Course West has not been maintained and has no formal carpark or facilities. Golfies provides more direct beach access only 100m further along Skenes Road.

Goal			
Golf Course East will continue to provide for more passive recreation, including walking and fishing.			
Strategies	Priority Level	Responsibility	Delivery partners
Close and rehabilitate Golf Course West beach access.	Immediate	Parks Victoria	Moyne Shire Council
Dogs to be walked on-leash to facilitate a restful, secluded visitor experience, while reducing risk to other users and shorebirds.	Immediate	Parks Victoria	Moyne Shire Council
Maintain gravel access to the beach at Golf Course East.	Medium	Parks Victoria	Moyne Shire Council

Killarney Beach access and Camping Reserve

Accessed via Mahoney's Road, the camping reserve has a sports oval and Killarney Cricket Club pavilion, powered (20) and un-powered (50) camping sites, a children's playground and amenities blocks. The caravan park is close to capacity for the entire summer school holiday period when a caretaker is in residence. Pets are promoted as welcome at the camping reserve. A boat ramp, carparks and access roads are also managed by Moyne Shire Council. The boat ramp is a designated Local Boating Facility in the Western Victoria Boating Coastal Action Plan (Western Coastal Board

2010), which identifies the ramp as is in poor condition and only suitable for four-wheel drives, however suggests a change in the level of service is not warranted. The level of service identified for this type of boating facility requires that it provide public access, car parking and signage. It need not provide safe harbour or berthing. One amenity block (with internal and external showers) services day visitors to the beach and this is the only public toilet in the planning area. It is newer than the dedicated amenity block for those camping at the reserve and therefore gets shared use. Planning for improved amenities will be undertaken by Moyne Shire Council as part of a business case to be developed for the caravan park.

Goal			
Killarney beach access and recreation reserve will continue to support high visitor numbers as a popular site for camping, fishing and swimming.			
Strategies	Priority Level	Responsibility	Delivery partners
Develop a business plan for the Killarney caravan park which considers day use facilities e.g. upgrading public toilet facilities to accommodate visitors to the beach	Immediate	Moyne Shire Council	
Maintain the Killarney boat ramp and car parking facilities to meet the required level of service. Close access during storm surge or if safety be compromised.	Immediate	Moyne Shire Council	Parks Victoria
Dogs allowed off-leash year round except for between 9am and after 6pm from December 1 through to Easter Monday, when dogs are not allowed.	Immediate	Moyne Shire Council	Parks Victoria
Formalise and rationalise access points from the camping reserve to the beach, maintaining fencing to close off areas for revegetation.	Medium	Moyne Shire Council	Parks Victoria
Permit small numbers of horse training under license at Killarney Beach to provide for local trainers that have historically used the reserve.	Immediate	DELWP	Parks Victoria

Basin beach access plus Pelicans and Towilla Way

These beach accesses are located off Basin Track, east of Killarney Camping Reserve. Beach here is sheltered from wave action by offshore reefs with fishing from boats undertaken inshore of these reefs. The site is also moderately popular for walking, dog walking, beach combing and snorkelling. Rocky outcrops in this part of the Belfast Coast protect and deposit seaweed onto the beach, providing habitat and food for Hooded Plovers and other shorebirds. The beaches are also relatively narrow. Vehicles can currently access The Basin to launch boats over the sand, occasionally becoming bogged. As the unsurfaced carpark is not large enough to accommodate boat trailers, these are commonly parked on the beach. While there is a boat ramp 2km west at Killarney, access to Armstrong Bay from the Killarney boat ramp is difficult due to the reef.

Uncontrolled dogs, recreational horse riding and occasional illegal four-wheel driving present a threat to beach-resident birds. An installed bluestone rock barrier reduces illegal vehicle access along the beach.

Goal			
The Basin, Pelicans and Towilla Way beaches will support recreational activities which are managed to reduce their impact on natural and cultural values.			
Strategies	Priority Level	Responsibility	Delivery partners
Prohibit dogs and horses from The Basin, Pelicans and Towilla Way beaches to protect Hooded Plover and other shorebird habitat.	Immediate	Parks Victoria	Moyne Shire Council
Maintain signage (e.g. permissible uses and warnings) and increase compliance patrolling.	Immediate	Parks Victoria	Moyne Shire Council
Rationalise beach access e.g. close secondary beach access tracks, revegetate and treat weeds.	Medium	Parks Victoria	Moyne Shire Council
Upgrade boat access to Armstrong Bay, using low impact design.	Medium	Parks Victoria	Moyne Shire Council
Reinstate bluestone rock barrier to limit illegal beach access by vehicles.	As required	Parks Victoria	Moyne Shire Council

Rutledges Cutting, Gormans Road carparks number 1, 2 and 3

The area around Rutledges Cutting is accessed via several carparks located off Gormans Road in the middle of the Reserve. This site is one of the most accessible from the highway, offering a wide beach at the mouth of the lower Merri River. The estuary (including Saltwater Swamp) provides an important feeding and refuge location for large numbers of bird species, including Orange-bellied Parrot, as well as a valuable nursery area for fish. The site is also a significant landscape marker for Traditional Owners given the basalt outcrops located on the beach to the west, with a correlation between the density of cultural material, the size of the sites, the density of the sites, and the basalt outcrops. Traditional Owners believe this stems from the fact that more sea life grows and feeds where there are basalt outcrops.

The site supports a range of activities including fishing, bird watching and dog walking. Racehorse training was previously permitted eastwards from this site, for a distance of 1200m, but this is not permitted during the Hooded Plover breeding season (1 September to 30 April). The current training licence expires 14 June 2018. When permitted, horses must access the site via carpark number 2, which provides a more open and visible access to the beach, hence a safer shared path. The road and carpark 2 can also accommodate horse floats (as opposed to carparks 1 and 3), however when several horse floats are present the carpark is crowded.

Denuding of vegetation and erosion of nearby high dune has occurred near carpark 2 by surfers using it as a surf viewing point. Some denuding of dunes, erosion and track formation has also occurred from visitors climbing dunes to the east of Rutledges Cutting. Works in recent years at carpark 3 have included bounding the carpark with rocks and gates to prevent damaging vehicle access to the beach and estuary. This carpark also frequently floods over winter and spring when water levels in the estuary are high. During times of peak use at Rutledges Cutting, visitor conflict can occur between unleashed dogs and recreational horses on the beach, or with other beach goers.

Goal			
Rutledges Cutting will provide a key site for nature appreciation, including birdwatching and citizen science.			
Strategies	Priority Level	Responsibility	Delivery partners
Close carpark 3 by installing a gate to allow for management vehicle only, subject to private property access provisions.	Immediate	Moyne Shire Council	Parks Victoria
Prohibit dogs from Rutledges Cutting to protect Orange-bellied Parrot, waterbirds and shorebirds.	Immediate	Parks Victoria	Moyne Shire Council
Rationalise beach access e.g. close secondary beach access tracks, revegetate and treat weeds.	Medium	Parks Victoria	Moyne Shire Council
Establish a low viewing platform for surfers and other beach users to check beach conditions to reduce off-track impacts.	Longer-term	Parks Victoria	Moyne Shire Council
Permit small numbers of horse training under license at Rutledges Cutting to provide for local trainers that have historically used the reserve.	Immediate	DELWP	Parks Victoria

Kellys Swamp Track west of Big Baldy (including Sarahs and Roller Coaster beach access)

The wetland system that extends inland from Rutledges Cutting and includes Kellys Swamp, provides key feeding and roosting habitat for migratory species. The swamp is listed on the National Directory of Important Wetlands in Australia (DIWA) and is habitat for the Orange-bellied Parrot. It is the point where freshwater meets salt water and the location of eel breeding according to historic documents, Traditional Owner oral testimony and present day harvest.

Unauthorised tracks have been created through riparian habitat and dunes. Horse riders currently access Sarahs and Rollercoaster beach from Kellys Swamp Track. Horse riding has both created new tracks and caused deep incising of existing tracks in several places. Illegal off-road trail bikes also frequent the area, however four-wheel driving activity has decreased following installation of barriers to close Kellys Swamp Track at Big Baldy. Big Baldy was named due to the hill being ‘bald’ of vegetation however it has now regenerated to an extent. Traditional Owner representatives remembered when this area had a great deal less vegetation and recalled using the area to fish and for recreation when they were younger.

Goal			
Kellys Swamp Track west of Big Baldy (including Sarahs and Roller Coaster beach access), will provide a dedicated trail for walkers and cyclists to enjoy the scenic wetland system and connect to remote beaches.			
Strategies	Priority Level	Responsibility	Delivery partners
Prohibit dogs and horses west of Big Baldy (including Sarahs and Roller Coaster beach access) to protect Orange-bellied Parrot, waterbirds and shorebirds.	Immediate	Parks Victoria	DELWP
Formalise key trails and the loop network for walkers.	Medium	Parks Victoria	Community groups
Implement a program of track closure, rationalisation and revegetation.	Medium	Parks Victoria	Community groups

Kellys Swamp Track between Big Baldy and Spookys beach access

The track east of Big Baldy, is currently shared by vehicles, walkers, runners, horse riders and cyclists, with the section to the causeway forming part of the Port Fairy to Warrnambool Rail Trail. The Rail Trail is for the most part through open farming country, however from the Princess Highway it crosses Kellys Swamp (the causeway) and connects with the Kellys Swamp track through to Levys Point carpark. The causeway provides a unique experience to explore the wetland from the boardwalk. This trail was included in the Barwon South West Regional Trails Master Plan (2009).

The track itself is single lane with several blind corners, hills and the risk of incident from interaction between vehicles and horses, cyclists or pedestrians. Horse riders frequently access Hoon Hill and Big Baldy from Kellys Swamp Track and Levys beach, creating circuit loops of varying lengths. Illegal dumping and vandalism also occurs in the area. Extending the road closure further east of Big Baldy would improve user safety, reducing illicit behaviour and damage to natural and cultural values.

The area is used for a range of beach uses, principally fishing and surfing. Spookys beach can be very busy with surfers in the right weather conditions. It is a moderately remote location with an ungraded access track off Kellys Swamp Track that can only be accessed by four-wheel drive and leads to an unbounded, sand carpark. The site is used to access off-road areas for illegal trailbike riding and four-wheel driving. This activity has increased in recent years, generating extensive damage to the dunes, denuding the vegetation, creating erosion and scarring. Traditional Owner representatives have also expressed disappointed to see the damage at Spookys and believe that this damage could be prevented by bollards, signage, and clear indication to visitors that they were in violation of laws/guidelines when transgressing boundaries. Illegal rubbish dumping also occurs frequently. A track from Levys to Hoon Hill, frequented by horses, crosses the beach entrance track and presents the risk of interaction between horses, vehicles and pedestrians.

Goal			
Kellys Swamp Track east of Big Baldy will continue to provide access for surfers, anglers, dog walkers, recreational riders and other beach users, as well as connection to dedicated trail for cyclists and walkers.			
Strategies	Priority Level	Responsibility	Delivery partners
Increase law enforcement patrolling of off-road activity and rubbish dumping.	Immediate	Warrnambool City Council	Victoria Police
Dogs to be walked on-leash to reduce risk to other users and shorebirds.	Immediate	Parks Victoria	Warrnambool City Council
Upgrade Spookys carpark and access with improved surfacing, bounding, potential relocation further inland and enabling two-wheel drive access.	Medium	Warrnambool City Council	Parks Victoria
Rationalise dune access tracks, close off unauthorised or surplus tracks and undertake revegetation works, particularly around Spookys car park.	Medium	Warrnambool City Council	Parks Victoria
Extend the track closure to vehicles from Big Baldys to Spookys beach access. Retain emergency access. On track that remains open to vehicles, separate vehicle and cycling/pedestrians.	Medium	Warrnambool City Council	Parks Victoria, DELWP
Re-name Hoon Hill to improve expectations on visitor behaviour.	Medium	Parks Victoria	Parks Victoria

Licence horse training at Hoon Hill - conditional upon adequate risk management and compliance. Monitor compliance and periodically review conditions of use.	Immediate	DELWP	Parks Victoria
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Levys beach access

The carpark to Levys beach access is located off Swinton Street, less than a 10 minute drive from the centre of Warrnambool. The carpark is of good capacity and on graded road. There are however multiple tracks leading from the carpark and a main trail is not signed. A track which runs from here to Spookys and Hoon Hill is commonly used by horse riders. Both horse and trail bike riders are riding off tracks, damaging dunes and impacting cultural heritage. The site is also used by surfers, walkers and anglers.

Goal			
Levys beach access will be a key site for active recreation providing for a variety of uses.			
Strategies	Priority Level	Responsibility	Delivery partners
Dogs to be walked on-leash to reduce risk to other users and shorebirds.	Immediate	Warrnambool City Council	Parks Victoria
Rationalise beach access tracks over dunes, closing off surplus or unsustainable tracks and undertaking revegetation.	Medium	Warrnambool City Council	Parks Victoria
Undertake amenity improvements to carpark to improve visitor behaviour e.g. reduce rubbish dumping.	Medium	Warrnambool City Council	Parks Victoria
Licence horse training at Levys Beach ensuring equity of access and appropriate risk management under licence. Monitor compliance and periodically review conditions of use.	Immediate	DELWP	Parks Victoria

6.5 Authorised uses

The Killarney Camping Reserve is managed by Moyne Shire Council as Committee of Management under delegation of the Minister for Energy, Environment and Climate Change. Moyne Shire Council also owns and operates the Port Fairy airstrip, adjacent to the Belfast Lough. The airstrip is located on Skenes Road (Golf Links Road) and is a dry weather strip only as it is unsealed and can become waterlogged after heavy rain and if the Lough is high. Port Fairy Golf Club hold a lease over the golf course at the western end of the Reserve. This is not part of the planning area however the club is an important adjoining land manager and has been consulted on the draft plan. Meanwhile, there is a privately-run quarry on Crown land managed by Warrnambool City Council inside the eastern end of the Belfast Coastal Reserve which has been strip mined for sand. This activity has caused erosion problems and exposed significant Aboriginal cultural sites (Moyne Shire 2001).

Authorised fishing takes place both onshore and offshore. The lower Merri estuary and Kellys Swamp supports a commercial eel fishery, with one licence allocated to fish the area. Commercial fishing also takes place offshore, principally for abalone and rock lobster, with a netting exclusion zone off Killarney boat ramp to protect recreational fishing opportunities.

All use and development of Coastal Crown Land requires consent under the *Coastal Management Act 1995* from DELWP, as well as the consent of the land manager e.g. Parks Victoria, Moyne Shire Council or Warrnambool City Council. The Reserve is subject to commercial tour use for horse trail

riding, requiring a permit from the land manager. Commercial tours are licensed to not exceed set group sizes and have additional activity conditions, such as keeping to formed tracks. Event permits are required for groups of more than 6 recreational trail riders (non-commercial). Before any new authorised use may occur in the Reserve, a comprehensive evaluation must be undertaken to determine any potential impacts the use would have on visitors, cultural heritage and natural values.

Beach training of racehorses

Local racehorse trainers have been using beaches in the Reserve for many years for resistance training and rehabilitation. Racehorses are also worked at Warrnambool Racecourse, with a \$1.2 million synthetic sand fibre track opened in 2017 available to trainers. The only other area of beach currently accessible in Warrnambool to horse trainers is the southern end of Lady Bay Beach where permit-holders are allowed (March 1 to November 30, before 10am) to exercise or swim horses subject to conditions issued by Warrnambool City Council. Warrnambool Racing Club proposed to Warrnambool City Council to develop a temporary sand track for racehorse training at Worm Bay, however this proposal was not supported by the council. The use of local beaches by the horse racing industry attracted increased attention after it was revealed the 2015 Melbourne Cup winner, Prince of Penzance, used the Lady Bay Beach as part of its training program.

According to Racing Victoria, there are 250 thoroughbreds in training in and around Warrnambool, including 140 training on a daily basis and there is a preference for training on the beach. This is a significant increase on previous years where numbers were estimated at a maximum of 50-60 (Warrnambool City Council 2017). A maximum of 16 horses are currently allowed to access the designated beach area at Lady Bay for exercising at any one time (working in groups no larger than 2), subject to a maximum of 96 horses per day. Horses swimming must be confined to the designated swimming area subject to a maximum of 20 horses per day.

The racing industry contributes to the local economy through employment and support to local businesses. Thoroughbred racing in the south west region brings benefit to the local economy. A size and scope study from 2014 revealed that the racing industry generates more than \$97 million in the area, employs more than 950 people full time with almost 4,500 involved as employees, volunteers or participants (Warrnambool Racing Club 2016). The 2017 Warrnambool May Carnival injected over \$10 million into the local economy, attracting over 30,000 people, of which 68% were attendees from outside the Warrnambool region (Warrnambool Racing Club 2017).

Under an interim licence valid until 14 June 2018 (i.e. until the management plan is approved) training is permitted in the Reserve at the northern end of East Beach, Port Fairy, from the carpark on Skene's Road eastwards towards Mills Reef for a distance of 800m. Outside of the Hooded Plover breeding season (1 September to 30 April), this licence also provides for training at Gormans Lane/ Rutledges Cutting, from the Rutledges Cutting middle carpark eastwards towards Levys Beach for a distance of 1200m. As such, horses will be able to train here under licence from 1 May to 14 June 2018. Under the existing interim licence and associated regulations the number of horses permitted to train on beaches within the Reserve has been significantly reduced from the number using the beach prior to its introduction (from up to 130 horses per day across the Reserve to a maximum of 20-50 depending on the time of year). The interim licence not only regulates the areas and numbers, it also limits the times and speed of horses on the beach, among other conditions. Training at Rutledges Cutting also provided for a smaller number of horses and a shorter period of operation (outside the Hooded Plover breeding season). In both locations horses must use designated access points and train away from dunes. If Hooded Plover nest sites are identified, horses are required to work away from these areas. Horse manure must be removed.

The interim licence directly authorises use of the Reserve by Warrnambool Racing Club. Warrnambool Racing Club holds permits with individual trainers who use the beach, monitoring compliance with staff present throughout training. As the land manager, Parks Victoria is delegated by DELWP to monitor and ensure Licensee compliance with licence conditions. Commercial horse training without a licence is illegal under the Regulations gazetted on 10 August 2017. As of November 2017 DELWP were currently auditing the existing licence conditions in order to recommend any improvements required. Among the issues to address is the concern raised in regards to equity of licence between the smaller and larger trainers.

Due to community interest, the draft plan proposes that commercial horse training be permitted at Golfies beach, Levys beach and Hoon Hill into the future (see Map 6) and horse training be permitted at Rutledges Cutting and Killarney Beach to provide access for local trainers that have historically used the reserve. Future considerations will have regard to comprehensive evaluation of community feedback, equity of access, protection of natural and cultural values, visitor services and infrastructure requirements.

In 2017 Warrnambool Racing Club sponsored a Cultural Heritage Management Plan approved by OAV in accordance with the Aboriginal Heritage Act 2006. The club proposed to facilitate recreational and commercial horse training between the car park for Levys Beach and Hoon Hill the access of up to 280 horses per week in the dunes area and 120 horses per day in the foreshore beach utilising existing trails, the beach and steep dune areas of Hoon Hill. The approved CHMP has determined that the proposed activity cannot be conducted in a way that minimises harm to Aboriginal Cultural Heritage and proposed the salvage and storage of artefacts from the area before the activity commences. Gunditj Mirring Traditional Owners Aboriginal Corporation have expressed that that do not support commercial racehorse training occurring within the reserve at this time.

Horse access from the carparks to the defined sections of the beaches or from the beaches to the activity area at Hoon Hill will be limited to defined routes. The boundaries of the activity area at Hoon Hill will be demarcated on ground and made visible to riders to ensure the activity is contained. The CHMP also calculated soil disturbance and incising of trails within the proposed activity area would result in a decrease of surface levels and that erosional activity may result in further reduction of ground surface. It is therefore a requirement to rationalise the network of tracks within the activity area at Hoon Hill, monitor cumulative impacts to the dune system and if required licensing conditions or defined routes may be changed.

Goal			
Authorised uses of the Reserve are managed to minimise the effect on values and visitors.			
Strategies	Priority Level	Responsibility	Delivery partners
Permit horse training under license at Golfies beach (as shown on Map 6) from dawn to 10am Monday to Friday, with a maximum of 50 horses per day December 1st to March 1st and a maximum of 20 horses per day March 2nd to November 30th.	Immediate	Land managers	Licence holders
Permit small numbers of horse training under license at Rutledge’s Cutting and Killarney Beach to provide local trainers that have historically used the reserve.	Immediate	Land managers	Licence holders
Permit horse training under license at Levys beach and Hoon Hill as shown on Map 6	Immediate	Land managers	Licence holders
Licence conditions for racehorse trainers and tour operators to include comprehensive protections for	Immediate	Land managers	Licence holders

cultural values, natural values and other beach users. Revoke licence for continual levels of non-compliance.			
Review the access tracks used by licensees to improve and maintain visitor experience (see Site Strategies) while providing a sustainable access network.	Medium	Land managers	Licence holders
Review beach nesting bird monitoring results to inform licence conditions e.g. Hooded Plover density and fledgling success as an indicator species.	Medium	Land managers	BirdLife Australia
Investigate opportunities, in consultation with the operator, to phase out use of the sand quarry and close off vehicle tracks.	Medium	Warrnambool City Council	Quarry operator
Close the beach to horse training and riding groups when Hooded Plover nests extend onto narrow sections of beach used for training, or when climatic conditions or tidal conditions make access unsuitable.	As required	Land managers	Community groups, Licence holders

6.6 Risks and safety

Like any public land, visitors are exposed to natural hazards when they visit the area. Many risks are inherent to activities undertaken in the natural environment but when combined with conflicting uses and/or inappropriate activities or behaviours these can threaten visitor safety.

Concerns currently exist relating to people, vehicles, dogs and horses within the Reserve, including risks to public safety. Illegal vehicle activity can significantly affect other visitors' experiences as well as public safety and park values. Enforcement of laws by land managers requires proof of the illegal activity, with Victoria Police and authorised/local laws officers from DELWP, Parks Victoria, Moyne Shire Council or Warrnambool City Council called on from time to time to augment compliance.

Dogs, particularly off-leash, can impact the experience and safety of other visitors, with dog bite and threatening dog behaviour incidents reported in the Reserve. Warrnambool City Council and Moyne Shire Council's Local Laws are a response to safety concerns. The *Domestic Animals Act 1994*, under which a person is liable if they are in control of a dog that chases or attacks wildlife, or another person, is difficult and costly to prosecute.

Licensed riding tours and horse trainers are required to use specified areas and access points to reduce the likelihood of collision with other beach users, plus reduce damage to the natural and cultural values. Some visitors may come to watch the horses swimming and working on the beach. Local residents and visitors also walk or jog on the beach during the early morning when horses are being worked. For this reason a condition of the current licence requires horses training on the beach be slowed to walk within 20 metres of other beach users, with right of way given to the public. Having horse trucks and floats travelling to and from carparks at the Reserve alongside other visitor vehicles also presents a safety risk.

Goal			
Promote visitor safety and awareness of safety issues and risks associated with access and use of the Reserve.			
Strategies	Priority Level	Responsibility	Delivery partners
Ensure the general public is informed when and where racehorse training could be taking place at the Reserve	Immediate	Land managers	Licensed operators

e.g. clear signage at locations designated as beaches to permit training.

Implement increased compliance programs and run targeted enforcement to address illegal activities impacting on values and/or visitor safety.	Immediate	Land managers	Victoria Police
Work with user groups to encourage and promote safe practices relating to visitor safety e.g. compliance with adventure activity standards and/or codes of practice.	Medium	Land managers	Community groups
Ensure a strategic and integrated approach to safety signage to provide visitors clear and consistent messages on safety risks so they may enjoy a safe visit. Provide both pre-visit and on-site information to increase visitors' awareness of potential risks and promote safe behaviour.	Medium	Land managers	Community groups, adjacent land owners
Develop an emergency management plan for the Reserve integrated with municipal emergency management plans, providing procedures for responding to a range of emergency situations, such as search and rescue, fire, flood and visitor behaviour problems. Include protocols for marine emergencies in state coastal waters.	Medium	Land managers	Emergency agencies
Ensure unique emergency location codes are displayed at major access areas to the Reserve or alternatively that site/location naming is formalised and site names are incorporated in VicMap data.	As required	Land managers	Emergency agencies
Ensure facilities are maintained and 'fit for use' and that any new assets comply with Australian standards, Industry standards and building codes and regulations. Upgrade, replace or withdraw from public use those that do not.	As required	Land managers	

6.7 Information, interpretation and education

Information and education are important management tools for connecting people with public land. Fostering an appreciation for, and understanding of, nature and culture can enhance the visitor experience. Effective communication can promote appropriate behaviours to protect inherent values and to ensure all visitors enjoy their time in the Reserve.

Parks Victoria, Moyne Shire Council and Warrnambool City Council aim to ensure that authentic and enjoyable learning experiences are available to a wide range of park visitors and local community members. Learning in Nature is a recent initiative developed by Parks Victoria to help deliver on its commitment to connect people with parks and reserves. Formal learning opportunities activating these spaces as outdoor classrooms can inspire a new generation to care and act for our natural and cultural heritage. Programs targeting new Australians, regional and disadvantaged urban communities will promote an increased appreciation and understanding of our natural and cultural heritage, contributing to conservation goals and empowering Victorians to tell their own stories about the importance of Victoria's parks and reserves. It is anticipated that Victoria's nature-based visitor economy will also benefit from these new visitor experiences, by helping to connect visitors to natural and cultural wonders with the parks estate.

Signage is currently used in the Reserve for a variety of purposes including to identify risks and interpret natural values. Signs, if not carefully considered, can impact on the visual amenity and inappropriate location, number or design can reduce their effectiveness. Many of the signs in the Reserve are currently in a poor state of repair and currency. There are locations with multiple signs and a lack of consistent messaging. The network of trails is not well promoted.

Cultural heritage interpretation and tourism

Traditional Owners and the whole community can be beneficiaries of sustainably managed cultural tourism that recognises and conserves cultural heritage and Country. The Country of Gunditjmarra and Eastern Maar includes significant tourism landscapes and sites that are important for regional tourism including the Budj Bim National Heritage Landscape, the Great Ocean Road, Cape Otway, and Ship Wreck Coast including sites such as the Twelve Apostles. This area of the coast between Warrnambool and Port Fairy does not receive the same volume of visitors as many of these other tourism landscapes however, along with nearby Tower Hill, it is an important place for local communities and tourists from further afield to visit. There are significant opportunities to begin recognising the Aboriginal cultural significance of these landscapes and to enhance the experiences of visitors and leverage the potential for cultural tourism.

The Belfast Coastal Reserve and adjacent coastal area was once promoted as the 'Mahogany Coast' in honour of the wreck of the Mahogany Ship believed to be lost beneath the sands in the vicinity, however recently this has not been actively promoted as part of the major regional tourism experiences on the west coast of Victoria. The Mahogany Walk, between Warrnambool and Port Fairy, officially opened in 1992 however by 2000 it was reported the inland track route was in many places not accessible or suitable for walkers (Fary 2000).

Visitor information and interpretation, will play an important role at Belfast Coastal Reserve in supporting the recognition of Gunditjmarra and Eastern Maar Country. Approaches should be consistent with the strategic approach for visitor information and interpretation for the Shipwreck Coast.

Goal			
Visitors appreciate, understand and care for the values of the Belfast Coastal Reserve.			
Strategies	Priority Level	Responsibility	Delivery partners
Review existing signage at key visitor sites and access points to improve visitor orientation and interpretation. Remove old, duplicated and damaged signs. Replace with durable signs that are well-researched and location specific. Ensure public information helps promote safety to visitors and values.	Immediate	Land managers	EMAC, GMTOAC, GHCMA
Develop a consistent approach between Parks Victoria and local government to interpretation programs and activities which: increase appreciation and understanding of the Reserve's natural and cultural heritage; encourage others to assist in their delivery; and increase awareness of the roles of agencies and volunteer groups in managing the Reserve.	Medium	Land managers	EMAC, GMTOAC, Glenelg Hopkins CMA, licensed tour operators, community and volunteer groups
In consultation with Traditional Owners, develop an Interpretation and Sign Plan that includes Belfast Coastal Reserve and encourages the appreciation of Aboriginal Cultural Heritage and Country; educates users of the Reserve on regulations and their obligations to cultural heritage; encourages reconciliation; and educates local Aboriginal children on their history.	Medium	Land managers	EMAC, GMTOAC
Support citizen science programs and increased active use of the Reserve by educational institutions to develop	Medium	Land managers	Community and volunteer groups

knowledge on the area and inform the education and interpretation program.

Develop and implement a Learning in Nature program that provides community members with meaningful ways to connect with the Belfast Coastal Reserve, including contributing to its protection. (See additional strategy in Chapter 7)	Medium	Parks Victoria
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6.8 Tourism partnerships, marketing and promotion

The City of Warrnambool is Victoria's largest coastal city outside Port Phillip Bay and is a major destination for regional, intrastate, interstate and international visitors travelling along tourist routes including the Great Ocean Road, Princes Highway, the Great Southern Touring Route and the Melbourne to Warrnambool railway. Over 700,000 tourists visit the city each year to enjoy the beach environment and surrounding recreational precincts. Whale watching, festivals and events such as the Warrnambool Cup Carnival also draw visitors to the area, benefiting local hospitality and tourism. Nature-based tourism, is a rapidly growing tourism sector. For the Great Ocean Road region, which includes Moyne and Warrnambool Local Government Areas, the tourism industry contributed an estimated \$1.9 billion to the local economy in 2013-14 and employed approximately 20,700 people or 12.0% of regional employment (Tourism Victoria 2015). The majority of overnight visitors to the region are domestic, however there is an increasing number of international visitors. Almost half of all international overnight visitors to regional Victoria visited the region in 2013-14. There is therefore a strong need to conserve the area's natural assets while enhancing the visitor experience so as to maintain and increase yield for the local and state economy.

The Great South Coast Regional Strategic Plan sets an aspiration that the region will develop its significant nature based tourism assets and experiences to become Victoria's number one tourist destination. The region boasts a diverse range of nature based tourist attractions, including iconic destinations and experiences such as the Great Ocean Walk, Great Ocean Road, Port Campbell National Park (featuring the Twelve Apostles and Loch Ard Gorge) and the Great South West Walk. Warrnambool's Flagstaff Hill Maritime Village on the Shipwreck Coast broadens the region's heritage tourism portfolio and Port Fairy was judged the top tourist destination in Victoria by Australian Traveller Magazine in 2009. The development of Indigenous products associated with the Nationally Heritage listed Budj Bim National Heritage Landscape (Lake Condah wetlands) and Tower Hill are a high regional priority as there will be management and employment opportunities for Aboriginal communities (Great South Coast Group 2014).

The opportunity exists to develop additional regional products in areas such as cultural tourism, accessible tourism, nature-based tourism and adventure tourism (DEDJTR 2016). Belfast Coastal Reserve could realise some of this additional tourism opportunity. Improved visitor facilities will encourage tourists to stay longer and contribute more to the regional economy, with nearby towns offering a wide range of accommodation options and services that support visits to the Reserve. The Western Regional Coastal Plan 2015-2020 confirms that visitor numbers to the region are expected to increase, and the economic opportunities associated with these trends need to be taken in ways that protect significant coastal features and landscapes from the environmental impacts that accompany high visitor numbers.

Licensed tour operators play a key role in offering guided tours of public land, supporting recreation activities, and providing information that promotes environmental and cultural values and appropriate use. Licences for tour operators that are issued by Parks Victoria include conditions that

detail access, permitted activities and site specific restrictions. Licensed tour operators must also adhere to relevant activity and industry standards for safety. Currently only one licensed tour operator uses the Reserve for horse trail rides.

Goal			
Tourism experiences focusing on nature and cultural heritage are supported to generate opportunities for economic and social benefits to communities, including Traditional Owners.			
Strategies	Priority Level	Responsibility	Delivery partners
Support the development of tourism planning strategy with Traditional Owners.	Immediate	EMAC, GMTOAC	Land managers
Continue to work with tourist information providers and regional tourism stakeholders to promote the values of the Belfast Coastal Reserve to visitors.	Medium	Local government	Parks Victoria, regional tourism industry
Provide for tour operator licences in the Reserve that utilise the range of available activities, subject to the protection of native flora, native fauna, built assets, natural features and cultural heritage places.	As required	Land managers	Tour operators



Kelly's Swamp

7 Managing in partnership

The community plays an integral role in helping to plan and deliver positive outcomes for the Belfast Coastal Reserve. The plan commits to maintaining the community's important role and strengthens how the community and partner agencies will work together in the future to care for the Reserve. The plan promotes collaboration and improved alignment across government, communities, Aboriginal Victorians, business, licensees and private land managers to assist in maintaining the Reserve so that integrated and practical management of the Reserve can be delivered. Such partnerships will help to foster long-term support for, and understanding of, the Reserve and help to ensure that the many public benefits it provides can continue to be enjoyed.

7.1 Coordinated management

Coordinated management is a key objective of the plan, which forms a strategic guide for management across the planning area. Parks Victoria, DELWP, Moyne Shire Council and Warrnambool City Council have worked closely to develop this draft plan and will continue this relationship to deliver on the strategies of the final plan. Many private properties also border the parks and the extensive interface with private property highlights the need for close cooperation between Parks Victoria, DELWP, local governments and neighbouring land managers.

Traditional Owners commented that their view of the Belfast Coastal Reserve as a 'cultural landscape' was somewhat difficult to reconcile with the current fractured approach to land management that has been unable to reconcile management activities across all stakeholder groups to date. Responsibility for access, signage, monitoring, enforcement of regulations, and general heritage management has been split across Parks Victoria, Warrnambool Shire Council, Moyne Shire Council, and various user groups. A cohesive approach to the management of cultural heritage within the Reserve has according to Traditional Owners, yet to be achieved, and they have expressed the desirability of coordinated engagement that would otherwise be achieved if a single land manager was in place over the entire Reserve.

In keeping with the *Victorian State-Local Government Agreement 2014*, commitment has been made to progressing social, economic and environmental outcomes for Victoria's communities by:

- improving coordination and strategic planning of government services and functions at the local level;
- strengthening the capacity of local government to provide services and functions;
- promoting greater transparency and accountability between state and local government; and
- fostering a culture of continuous improvement to enhance the performance of both levels of government.

All activities and programs in the Reserve will need to relate to the delivery of a plan goal or strategy. Hence the Coastal Management Plan will direct annual priority setting and work programming for the Belfast Coastal Reserve. This will inform operational plans for the land managers i.e. specific works or projects, budgets, accountabilities and timelines for completion each year. Delivery will then be reviewed and reported so progress can be measured against the implementation priorities. Many strategies in the plan will be implemented as part of day to day management of the Reserve. These will be reported and recorded through an annual review of operations activity e.g. the area treated for weeds. Where possible, the outcomes of completed activities will also be identified e.g. the success of reducing weed infestation and improvement in the extent of native vegetation communities or the condition of the habitat. These outcomes will advance delivery of the plan's goals. The goals for key values and the strategies to achieve these goals, including strategies that address threats, are identified in chapters 4 to 7. Reporting on the implementation and success of the strategies will demonstrate if the goals for the planning area are being achieved.

Goal			
Coordinated management of the Reserve enables efficiencies in program delivery and is supported by consistent land status and regulations.			
Strategies	Priority Level	Responsibility	Delivery partners
Reserve all lands within the planning area under the <i>Crown Land Reserves Act 1978</i> for the protection of the coastline or public purposes. Formalise and update the management arrangements and Planning Zones (under the local government planning scheme) as appropriate.	Immediate	DELWP	Moyne Shire Council, Warrnambool City Council
Establish regulations under the <i>Crown Land Reserves Act 1978</i> in accordance with the Coastal Management Plan for Belfast Coastal Reserve.	Immediate	DELWP	
Pursue a collaborative working relationship between Parks Victoria, DELWP, Moyne Shire Council and Warrnambool City Council through improved and sustained communication, consultation and cooperation.	Immediate	Land managers	
Develop a business case to resource the implementation of the Coastal Management Plan for Belfast Coastal Reserve.	Immediate	Land managers	DELWP
Collaborate with local government and landholders to coordinate programs, such as fox control, find realistic solutions on shared issues, such as litter management, and improve cross-tenure management and habitat connectivity.	Medium	Land managers	DEDJTR
Undertake a 5-year review of implementation of the plan – with reporting against high priority strategies provided by responsible agencies.	Medium	Land managers	
Undertake a 10-year review of implementation of the plan – with reporting against all strategies provided by responsible and partner agencies.	Longer-term	Land managers	
Explore opportunities for consolidation of land management arrangements as they arise.	As required	Land managers	

7.2 Managing with Traditional Owners

The Traditional Owners of the area, represented by Eastern Maar Aboriginal Corporation and Gunditj Mirring Traditional Owners Aboriginal Corporation, have a significant interest in the protection of cultural heritage in the Reserve owing to their connection to this land over thousands of years.

This plan provides an important opportunity for Traditional Owners to express their connection to Country, and the significance and meaning of particular sites, places and events. The plan also enables Traditional Owners to work in partnership with government to protect important cultural and natural assets. This includes gathering and sharing their experience and knowledge of the area to create a richer visitor experience. It's also important to note that the planning scheme of Moyne Shire and Warrnambool City council apply over the whole Belfast reserve. Under the local government planning scheme, the majority of the reserve is currently zoned as Farming zone, a historical anomaly which is required to be updated to reflect the current use of the land. Generally coastal public land is zoned as Public Park and Recreation Zone (PPRZ) or Public conservation and Resource zone (PCRZ) under the planning scheme, providing for a range of appropriate uses. Environmental overlays also exist over parts of the reserve which provide further controls.

Ongoing consultation will help to ensure that Traditional Owners' aspirations for their Country are understood and delivered through partnerships. Parks Victoria recognises the mutual benefits of working with Traditional Owners to recognise and integrate their knowledge and advice into managing the Belfast Coastal Reserve. Sharing knowledge and developing approaches to building capacity and resources is a key part of the working relationships Traditional Owners and Parks Victoria have established across the state, and continue to strengthen.

Goal			
Traditional Owners caring for their Country is an integral part of the Reserve's management.			
Strategies	Priority Level	Responsibility	Delivery partners
Facilitate knowledge sharing and cooperation between Traditional Owner communities.	Immediate	Land managers	EMAC, GMTOAC
Provide opportunities for Traditional Owners and land managers to share knowledge and work collaboratively.	Immediate	Land managers	EMAC, GMTOAC
Identify and apply traditional ecological and cultural knowledge to support sustainable management practices e.g. to enhance environmental management, education about natural values and associated cultural benefits.	Medium	Land managers	EMAC, GMTOAC
Partner with Traditional Owners to enrich the cultural experience and support the growth of local businesses, such as NRM contract services, tourism operations and community enterprises.	Medium	Land managers	EMAC, GMTOAC

7.3 Working with community

Land managers are committed to working with communities to improve the health of the Reserve as well as the health of communities. The *Healthy Parks Healthy People* approach is based on growing scientific evidence and generations of traditional knowledge which show that spending time in nature is good for our mind, body and soul. Contact with nature has positive effects on our ability to concentrate, learn, solve problems and be creative. It boosts our immune system and helps us relax.

Parks that are valued and maintained are also fundamental to economic growth and vibrant and healthy communities.

Many people currently have strong connections to places in the Reserve. Some have detailed knowledge on the area's ecology and history, and how the Reserve is used. By increasing opportunities for people to strengthen their connections, share knowledge and participate in operational park management, community members can become active park stewards.

Belfast Coastal Reserve is fortunate to be supported by several volunteer groups that produce positive outcomes for the Reserve. This includes individuals and groups undertaking significant revegetation and education, as well as assisting with research and care of birds such as the Hooded Plovers. Far West Friends of the Hooded Plover, supported by BirdLife Australia, have helped protect Hooded Plover chicks on the beach by erecting temporary fencing and signage to alert beach users when they are approaching a nest site, and to advise that dogs should be walked on-leash in these areas. Volunteers in the Reserve also assist with monitoring and maintenance of the shoreline, wetlands and habitat. Extensive planting has been undertaken by Killarney Coastcare to restore native vegetation in the dunes.

Coastcare Victoria and Landcare Victoria programs proudly support community volunteer groups working to protect and enhance Victoria's coastline which includes the Belfast Coastal Reserve. These community volunteer groups help to maintain marine and coastal environments through activities such as revegetating coastal areas, building boardwalks, fencing, building tracks, monitoring native shorebirds and animals, educating and raising awareness, planting native vegetation, landscaping coastal areas and protecting cultural sites. Community groups (such as Coastcare, Landcare, 'friends of' groups, Coastal Committees of Management, non-government community organisations, indigenous organisations and schools) deliver projects that protect the ecological character of the Reserve's coastal ecosystems. For example, Killarney Coastcare received a grant in 2017 to undertake planting at the Belfast Coastal Reserve and several groups have been supported to protect and monitor Hooded Plovers.

Summer by the Sea, an initiative run by Coastcare Victoria aims to increase community awareness, understanding, and active stewardship for the rich and diverse natural and cultural values of Victoria's marine and coastal environment. These activities also help to connect participants with volunteer groups and organisations that protect marine and coastal environments.

The Tarerer Gunditj Project Association (TGPA) is a not-for-profit body established in 1996 to encourage and facilitate cultural and environmental restoration in the region through arts and cultural practice. The TGPA established a contemporary revival of the annual traditional gathering, the Tarerer Festival, helping to ensure the continuation of cultural practices and connection to country. It was held over two days at Killarney, close to the traditional site of the annual meeting of coastal clans, with events in the Reserve and support for revegetation and other environmental exchange. Peek Whurrong Coastcare have also previously undertaken on-ground restoration works to stabilise dunes and protect surface material from wind erosion.

At the Port Fairy end of the Reserve the Port Fairy Coastal Group lead a citizen science project in collaboration with DELWP and Deakin University to undertake scientific beach erosion monitoring, collating years of data. At the eastern end the Merri Wetlands Protection Group work to protect the Merri wetlands through research, awareness raising and submissions to planning controls. Schools including Port Fairy Consolidated School and Gilson College (Taylors Hill) have been involved in monitoring and revegetation within the Reserve. Killarney Coastcare, for example, have supported Gilson College to plant 5,000 native plants over the last 5 years. They have also supported the innovative use of seed balls made and distributed with the additional assistance of volunteers from

Karingal, an organisation supporting adults with disabilities. Many community members have also been involved in National Tree Day planting events in the Reserve over the years, coordinated by Moyne Shire Council and/or Killarney Coastcare.

Goal			
Community skills, knowledge and assistance provide stewardship and help in managing the Reserve.			
Strategies	Priority Level	Responsibility	Delivery partners
Work with volunteer groups to promote their work, encourage safe work practices and share ecosystem restoration skills.	Immediate	Land managers	Community groups
Work with BirdLife Australia to: source volunteers and coordinate volunteer training within the Reserve for monitoring and protection of Hooded Plover habitat/breeding sites; collect and analyse data to assess management effectiveness; and generate training information for user groups on how to ensure minimal impact on shorebirds.	Immediate	BirdLife Australia	Land managers, community groups
Support opportunities to extend and diversify volunteering to increase community connections, and promote health and wellbeing of people and Country, including programs on neighbouring private land which help to augment and buffer the park e.g. Basalt to Bay Landcare Network and Warrnambool Coastcare Landcare Network.	Medium	Land managers	Community groups, DEDJTR
Promote use of the Reserve in community engagement days, cross-cultural training days, and volunteer events such as National Tree Day and Clean Up Australia Day.	As required	Land managers	Glenelg Hopkins CMA



Learning in nature

8 Research and monitoring

Insights gained from monitoring programs will be used to evaluate, adapt and improve management of the Reserve. Research partners, volunteers and user groups will be involved in the co-design of projects and the collection and interpretation of data. This will promote a shared understanding of important management issues, engaging people in the science that underpins decision making.

Monitoring and evaluation is vital to future management of the Reserve. The plan seeks to undertake and promote research which informs on-ground management and enhances users' knowledge, ensuring beneficial outcomes for the Reserve.

8.1 Research and monitoring

Research and long-term monitoring will be required to determine the effectiveness of management actions. It can take many forms, including ecological, cultural heritage, outdoor recreation and social sciences. The ongoing collection of information and evidence will not only assist reporting, it will help to test assumptions and fill gaps in knowledge. This adaptive management approach will enable continuous improvement by providing timely information to support management decisions e.g. whether additional intervention or a change in approach is required to improve outcomes. It also helps build understanding about the connection between on ground actions and long-term objectives for the Reserve. There are currently few long-term monitoring programs operating in the Reserve, however they will become increasingly important as coastal areas tackle substantial environmental change over coming decades.

Long-term monitoring of values can be costly and labour-intensive. Therefore wherever possible priority ecological assets (values) or threats should be selected for monitoring. These can potentially provide an indication of trends across a suite of similar elements, for example monitoring of Hooded Plover populations and breeding success can help to demonstrate whether management actions are likely to be achieving improved outcomes for other shorebirds visiting the Reserve. Community-based volunteer science programs frequently play an important role in helping to deliver such monitoring. As outlined in the previous chapter, community volunteers and Traditional Owners can gain scientific skills and share knowledge while contributing valuable information on the Reserve to help inform its management.

The following measures relate to the desired outcomes for Reserve as a whole, rather than for specific strategies listed throughout this plan. They will generally be reported through Parks Victoria's State of the Parks program and in land manager annual reports. These measures are expected to be refined and, subject to available funding, further measures may be identified as more information becomes available and techniques improve.

Protecting the natural environment

The goals for the natural environment are to maintain and improve the diversity and condition of ecosystems, habitats, populations of communities and species.

Ecological measures include:

- Extent and condition of coastal dune vegetation
- Extent and condition of swamp scrub and aquatic herbland vegetation
- Populations of resident and migratory shorebirds
- Populations of waterbirds
- Sightings of Orange-bellied Parrot
- Distribution and status of key threats to terrestrial, aquatic and marine ecosystems, including fox activity, weed invasion, human use and coastal erosion

Cultural heritage

The goals relating to cultural heritage aim to recognise and respect peoples' heritage connections and protect heritage places. Measures potentially include:

- Involvement of Traditional Owners
- Involvement of community groups
- Condition of significant heritage places

Visitors and tourism

The goals for visitors and tourism include maintaining a range of inspiring visitor experiences while protecting the environment. Measures include:

- Condition of visitor facilities
- The extent and condition of the road and track network
- Level of participation in education and interpretation programs
- Level of participation in licensed tour operator tours

Community partnerships

The goals for community partnerships aim to strengthen people's connections and increase community stewardship. Measures include:

- Level of Traditional Owners involvement in management of the Reserve
- Level of volunteers and community group participation

Several monitoring strategies have been identified in earlier chapters of this plan, including:

- Undertake additional archaeological research, such as dating site occupation, and partner with universities to support the development of cultural heritage research (Chapter 4).
- Undertake biannual migratory shorebird, biennial beach-nesting bird counts, and regular predator population monitoring (Chapter 5).
- Support on marine and aquatic mapping, monitoring and research activities to inform management decisions e.g. EstuaryWatch (Chapter 5).
- Collaborate on coastal erosion monitoring activities and share results to inform management decisions e.g. Port Fairy beach erosion monitoring (Chapter 5).
- Support active citizen science and monitoring programs to collect information for planning, management and decision making in the Reserve e.g. Far West Friends of the Hooded Plover biennial population counts (Chapter 7).

Goal

Monitoring and evaluation improves management decisions and techniques through enhanced ecological, cultural and visitor use knowledge.

Strategies	Priority Level	Responsibility	Delivery partners
Work with Traditional Owners to research and document Aboriginal cultural values and apply traditional ecological knowledge and land management practices.	Immediate	EMAC, GMTOAC	Land managers
Develop monitoring criteria for key ecological measures, informed by conservation planning and State of the Parks.	Immediate	Parks Victoria	DELWP, Glenelg Hopkins CMA, BirdLife Australia, research partners
Support and encourage citizen science research and monitoring to fill key knowledge gaps and inform management decisions.	Medium	Community groups and volunteers	Land managers
Facilitate research to increase knowledge and understanding of visitor use, satisfaction and impact.	Medium	Land managers	Community groups and volunteers, research partners
Collaborate on monitoring of priority ecological assets (dune vegetation, wetlands, shorebirds and water birds) and threats to these.	Medium	Research partners, Glenelg Hopkins CMA	Land managers
Use knowledge gained from research to refine management practices e.g. investigations into the effectiveness of invasive species control programs and techniques.	Medium	Land managers	Community groups and volunteers, research partners, DEDJTR
Support research into the impacts of climate change on coastal areas and mitigation measures that could be applied in the Reserve.	Medium	Western Coastal Board, Glenelg Hopkins CMA	Land managers

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Appendix A – LCC recommendations

The Land Conservation Council (LCC) Corangamite Area Final Recommendations 1978 provided recommendations to Government with respect to the use of public land including Belfast Reserve and surrounding land. These provide an ongoing framework for public use of land in the Corangamite Study Area, with the recommendations in the final report edited to incorporate Government decisions on the recommendations made by Orders in Council dated 4 December 1979 and 22 January 1980 and formal amendments.

The LCC recognised that across the Corangamite area, the coastal zone contains some of the most spectacular coastline scenery in Australia, of great value for nature conservation. They acknowledged this resource would undoubtedly come under increased recreation pressures. The LCC defined Coastal Reserves as areas of public land on the coast set aside primarily for public recreation, education, and inspiration in coastal environments. Recommendation J2 for the coastal frontage from Lady Bay, City of Warrnambool to Griffiths Island, [the then] Borough of Port Fairy, was that it be permanently reserved as coastal reserve (the seaward boundaries being low-water mark) and be zoned in order to provide for a range of uses, as below.

J2—Zone I The coastal frontage land, swamps, and dunes, except those areas specifically referred to under other zones. The land within this zone be used to:

- conserve the flora and fauna
- maintain the stability of the coastal dune formations
- provide for low-intensity recreation activities such as walking and picnicking
- provide for access through the dunes to the Zone II beach frontage at points defined by the managing authority in consultation with the Soil Conservation Authority
- protect areas of archaeological significance, especially the Aboriginal shell midden and camp deposit sites from Belfast Lough to Killarney Beach 41 and that
- no further roads parallel to the coast be built in this zone from Levys Point to Belfast Lough except between the existing Port Fairy Golf Club road and allotment 12, Parish of Koroit.

J2—Zone II The beach frontage and rock outcrop areas on the coastline, except the area from Mills Reef to Killarney Beach and Killarney Beach to Rutledges cutting. The land within this zone be used to:

- provide for recreation activities such as swimming, fishing, boating, walking, and picnicking
- conserve fauna, particularly migratory beach wading birds
- maintain the stability and scenic beauty of the coastline.

J2—Zone III The beach frontage and rock outcrop areas on the coastline from Mills Reef to Killarney Beach and Killarney Beach to Rutledges cutting. The land within this zone be used to:

- conserve the habitat and resting places for migratory beach wading birds
- provide for nature study activities, walking, and fishing
- maintain the stability and scenic beauty of coastline and the area be managed in cooperation with the Fisheries and Wildlife Division.

J2—Zone IV The areas of lake and swamp land contained in Belfast Lough and Salt Water Swamp. The land within this zone be used to:

- conserve wildlife
- provide for low-intensity recreation and public education.

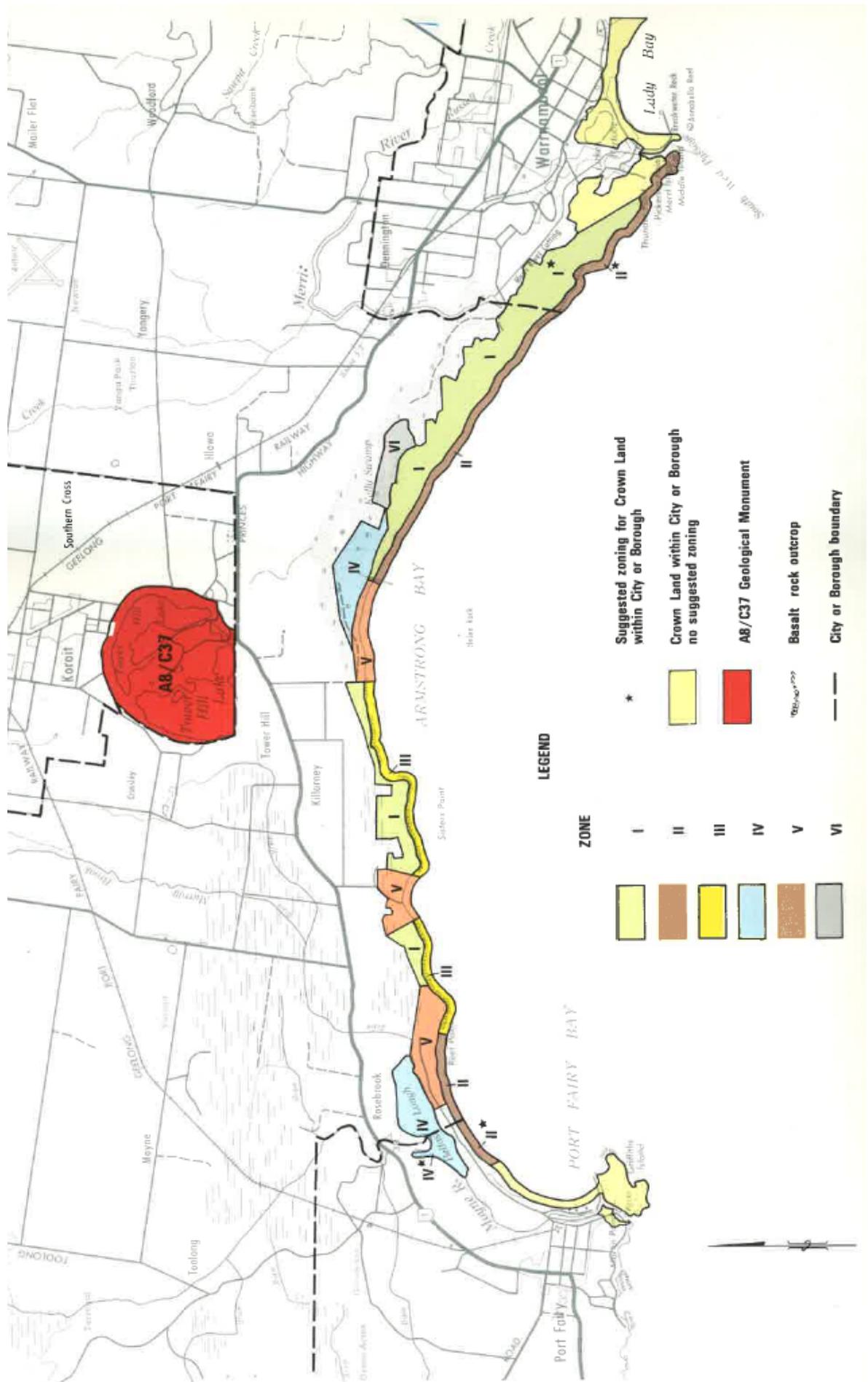
J2—Zone V The existing public park reserve (Golf Course) and Killarney Beach in the Shire of Belfast, and the Rutledges Cutting area in the Shire of Warrnambool. The land within this zone be used to:

- provide for recreation activities
- maintain the scenic beauty and stability of the area and the area be managed in cooperation with the Shires of Belfast and Warrnambool.

J2—Zone VI The area of swamp land known as Kellys Swamp. The land in this zone be used to:

- provide for existing drainage and flood mitigation
- provide for stock grazing
- provide wildlife habitat consistent with (i) and (ii) above and the area be managed in cooperation with the State Rivers and Water Supply Commission.

The LCC recognised that portions of the reserve extended within the City of Warrnambool and the Borough of Port Fairy and considered it desirable to treat the land in this coastal reserve as a whole, and therefore suggested that land within the City and Borough be managed in a similar manner to adjacent areas.



Appendix B – Fauna species of conservation significance

Victorian Biodiversity Atlas records for fauna species of conservation significance in the planning area

Scientific Name	Common Name	Conservation Status in Australia (EPBC Act)	Conservation Status in Victoria (Advisory List)	FFG Act Listed
<i>Neophema chrysogaster</i>	Orange-bellied Parrot	Critically Endangered	Critically endangered	Listed
<i>Calidris ferruginea</i>	Curlew Sandpiper	Critically Endangered	Endangered	Listed
<i>Numenius madagascariensis</i>	Eastern Curlew	Critically Endangered	Vulnerable	Listed
<i>Eubalaena australis</i>	Southern Right Whale	Endangered	Critically endangered	Listed
<i>Balaenoptera musculus</i>	Blue Whale	Endangered	Critically endangered	Listed
<i>Dermochelys coriacea</i>	Leathery Turtle	Endangered	Critically endangered	Listed
<i>Charadrius mongolus</i>	Lesser Sand Plover	Endangered	Critically endangered	
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Endangered	Endangered	Listed
<i>Calidris canutus</i>	Red Knot	Endangered	Endangered	
<i>Thalassarche chrysostoma</i>	Grey-headed Albatross	Endangered	Vulnerable	Listed
<i>Sternula nereis nereis</i>	Fairy Tern	Vulnerable	Endangered	Listed
<i>Thinornis rubricollis rubricollis</i>	Hooded Plover	Vulnerable	Vulnerable	Listed
<i>Thalassarche cauta</i>	Shy Albatross	Vulnerable	Vulnerable	Listed
<i>Megaptera novaeangliae</i>	Humpback Whale	Vulnerable	Vulnerable	Listed
<i>Thalassarche melanophris melanophris</i>	Black-browed Albatross	Vulnerable	Vulnerable	
<i>Pachyptila turtur</i>	Fairy Prion	Vulnerable	Vulnerable	
<i>Limosa lapponica</i>	Bar-tailed Godwit	Vulnerable		
<i>Arctocephalus tropicalis</i>	Subantarctic Fur Seal	Vulnerable		
<i>Mirounga leonina</i>	Southern Elephant Seal	Vulnerable		
<i>Gelochelidon nilotica macrotarsa</i>	Gull-billed Tern		Endangered	Listed
<i>Oxyura australis</i>	Blue-billed Duck		Endangered	Listed
<i>Egretta garzetta nigripes</i>	Little Egret		Endangered	Listed
<i>Stictonetta naevosa</i>	Freckled Duck		Endangered	Listed
<i>Ardea intermedia</i>	Intermediate Egret		Endangered	Listed

<i>Pluvialis squatarola</i>	Grey Plover	Endangered	
<i>Hirundapus caudacutus</i>	White-throated Needletail	Vulnerable	Listed
<i>Lewinia pectoralis pectoralis</i>	Lewin's Rail	Vulnerable	Listed
<i>Tringa nebularia</i>	Common Greenshank	Vulnerable	
<i>Arenaria interpres</i>	Ruddy Turnstone	Vulnerable	
<i>Actitis hypoleucos</i>	Common Sandpiper	Vulnerable	
<i>Pluvialis fulva</i>	Pacific Golden Plover	Vulnerable	
<i>Tringa stagnatilis</i>	Marsh Sandpiper	Vulnerable	
<i>Anas rhynchotis</i>	Australasian Shoveler	Vulnerable	
<i>Biziura lobata</i>	Musk Duck	Vulnerable	
<i>Aythya australis</i>	Hardhead	Vulnerable	
<i>Ardea modesta</i>	Eastern Great Egret	Vulnerable	
<i>Falco subniger</i>	Black Falcon	Vulnerable	
<i>Engaeus sericatus</i>	Hairy Burrowing Crayfish	Vulnerable	
<i>Anseranas semipalmata</i>	Magpie Goose	Near threatened	Listed
<i>Larus pacificus pacificus</i>	Pacific Gull	Near threatened	
<i>Hydroprogne caspia</i>	Caspian Tern	Near threatened	
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	Near threatened	
<i>Chlidonias hybridus javanicus</i>	Whiskered Tern	Near threatened	
<i>Calidris alba</i>	Sanderling	Near threatened	
<i>Calidris melanotos</i>	Pectoral Sandpiper	Near threatened	
<i>Chlidonias leucopterus</i>	White-winged Black Tern	Near threatened	
<i>Nycticorax caledonicus hillii</i>	Nankeen Night Heron	Near threatened	
<i>Platalea regia</i>	Royal Spoonbill	Near threatened	
<i>Phalacrocorax varius</i>	Pied Cormorant	Near threatened	
<i>Phalacrocorax fuscescens</i>	Black-faced Cormorant	Near threatened	
<i>Plegadis falcinellus</i>	Glossy Ibis	Near threatened	
<i>Circus assimilis</i>	Spotted Harrier	Near threatened	
<i>Dromaius novaehollandiae</i>	Emu	Near threatened	
<i>Pelecanoides urinatrix</i>	Common Diving- Petrel	Near threatened	

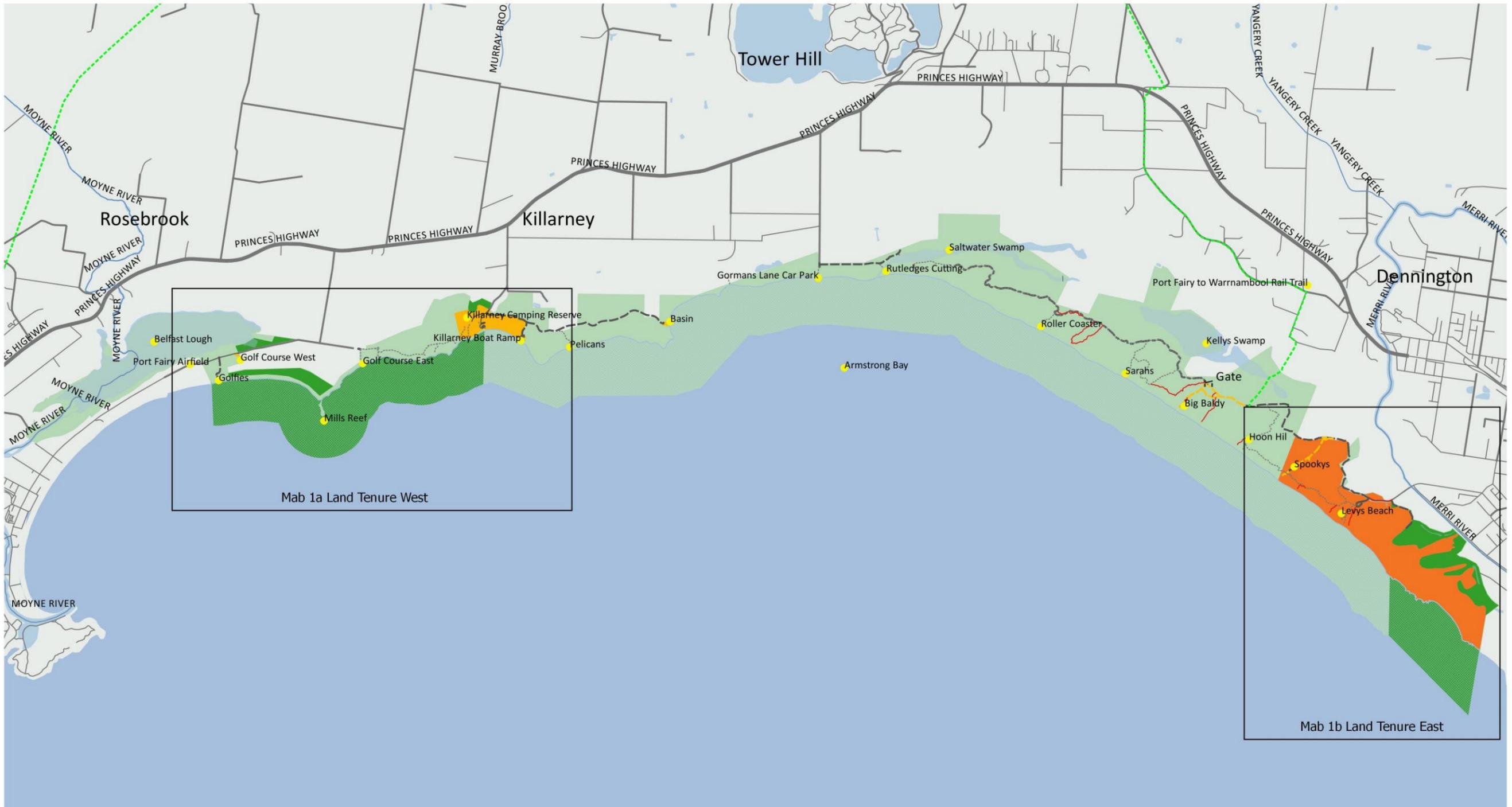
Appendix C – Acronyms

CAMBA	China-Australia Migratory Bird Agreement
CAP	Coastal Action Plan
CHMP	Cultural Heritage Management Plan
CMA	Catchment Management Authority
DEDJTR	Department of Economic Development, Jobs, Transport and Resources
DELWP	Department of Environment, Land, Water and Planning
ECC	Environment Conservation Council
EMAC	Eastern Maar Aboriginal Corporation
EPBC	Environment Protection and Biodiversity Conservation Act 1999
EPA	Environment Protection Authority
EVC	Ecological Vegetation Community
FFG	Flora and Fauna Guarantee Act 1988
GMTOAC	Gunditj Mirring Traditional Owners Aboriginal Corporation
JAMBA	Japan-Australia Migratory Bird Agreement
LCC	Land Conservation Council
MERI	Monitoring, Evaluation, Reporting and Improvement
ROKAMBA	Republic of Korea-Australia Migratory Bird Agreement
TGPA	Tarerer Gunditj Project Association
VEAC	Victorian Environmental Assessment Council

Belfast Coastal Reserve

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Map 1 Planning Area and Land Tenure



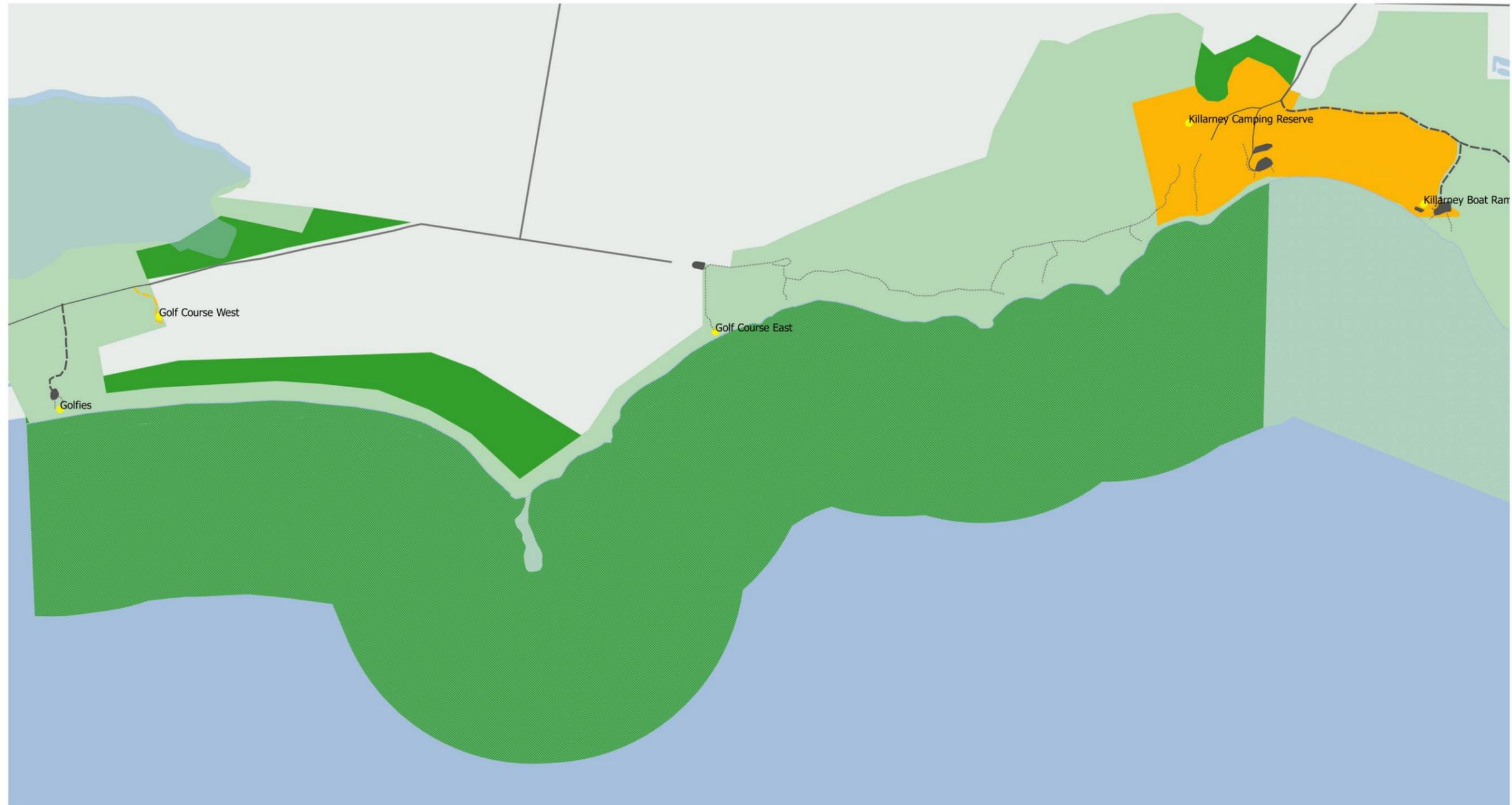
Land Manager

- DELWP
 - Parks Victoria
 - Warrnambool City Council
 - Moyne Shire Council
 - Marine Area
- Marine area extends to High Tide mark

- HIGHWAY
- Road - Sealed
- Road - Unsealed
- 4WD track
- Management Vehicle Only
- Walking Tracks
- Walking Track - Informal
- Rail Trail
- Water Body
- Gate
- Locations

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Land Manager

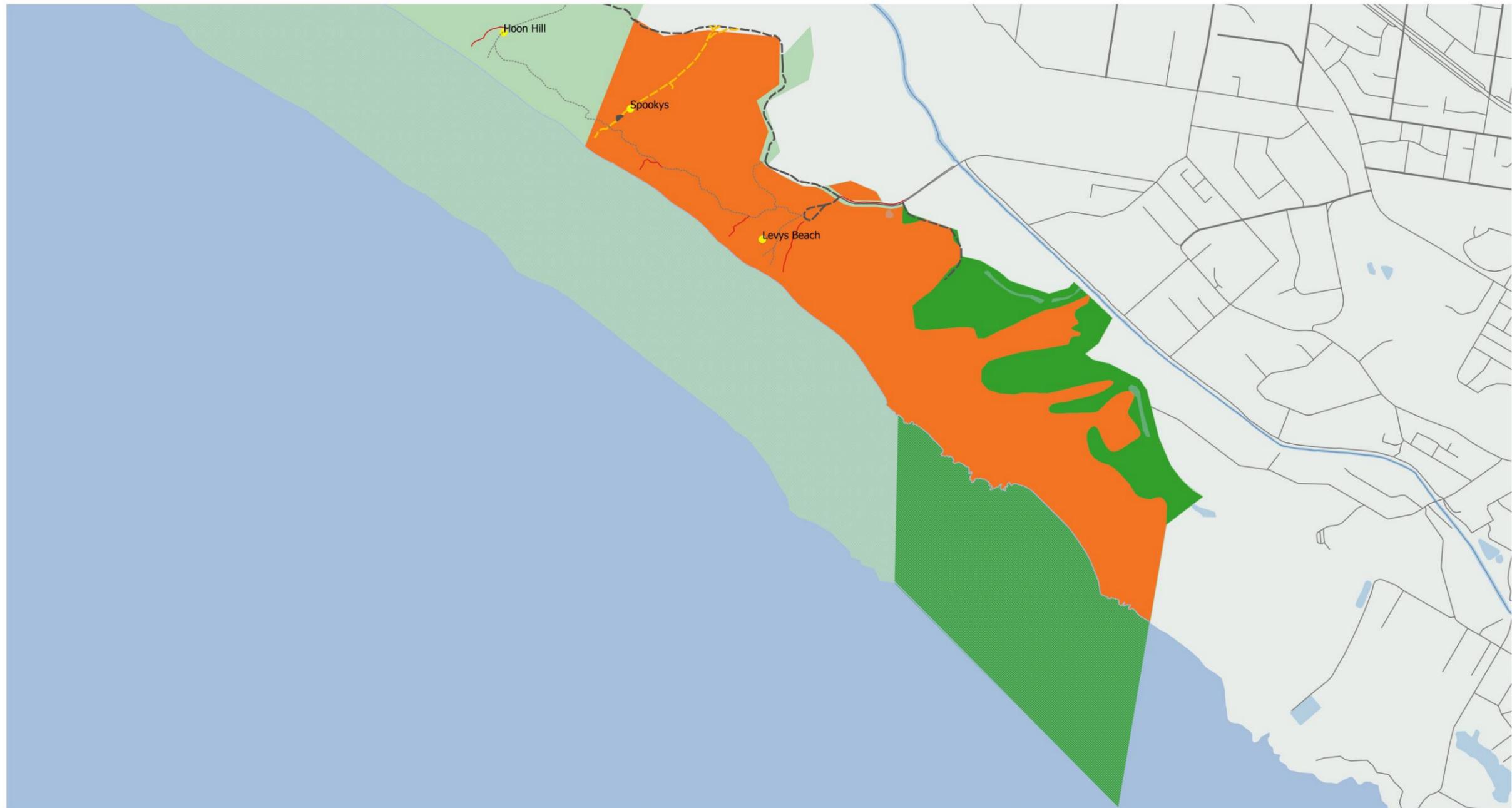
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- Locations

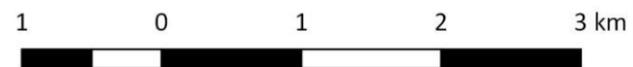
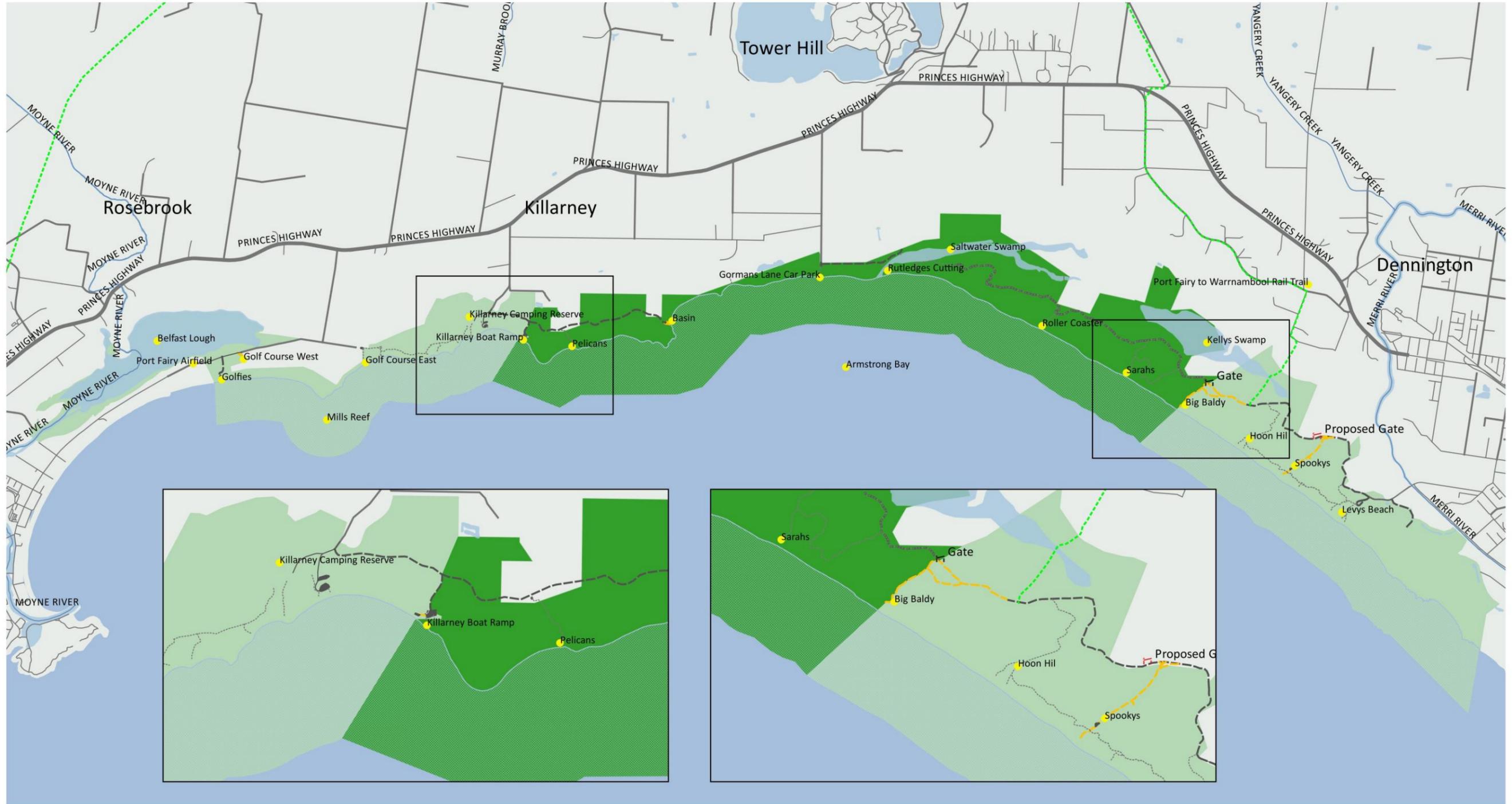
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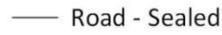
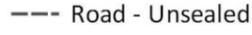
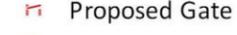
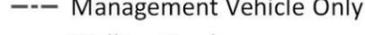
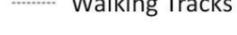
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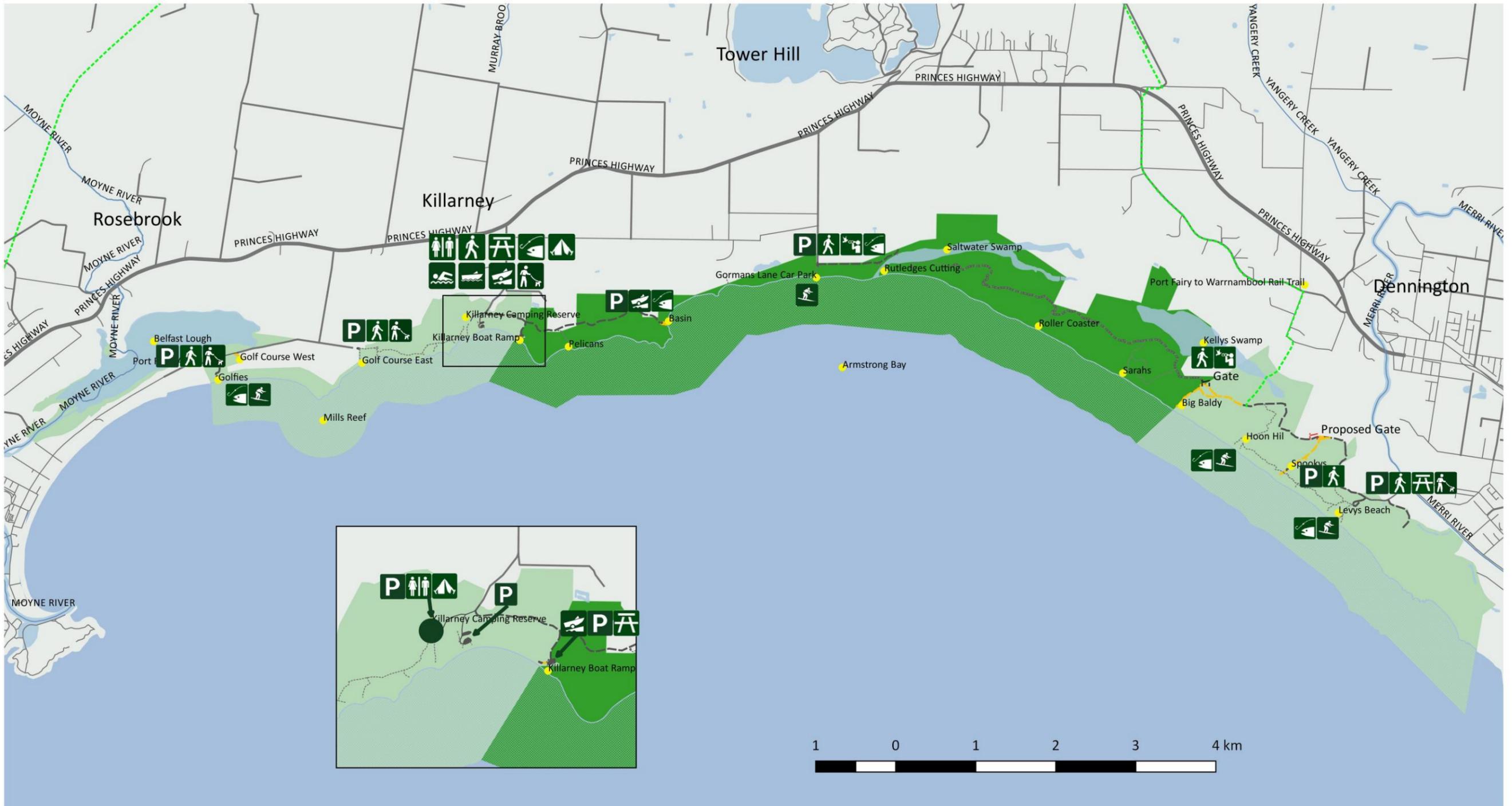
Map 2 Management Zones



- | | | |
|--|---|---|
|  Conservation Zone |  HIGHWAY |  Rail Trail |
|  Conservation and Recreation Zone |  Road - Sealed |  Water Body |
|  Marine Area |  Road - Unsealed |  Gate |
| Marine area extends to High Tide mark |  4WD track |  Proposed Gate |
| |  Management Vehicle Only |  Locations |
| |  Walking Tracks | |

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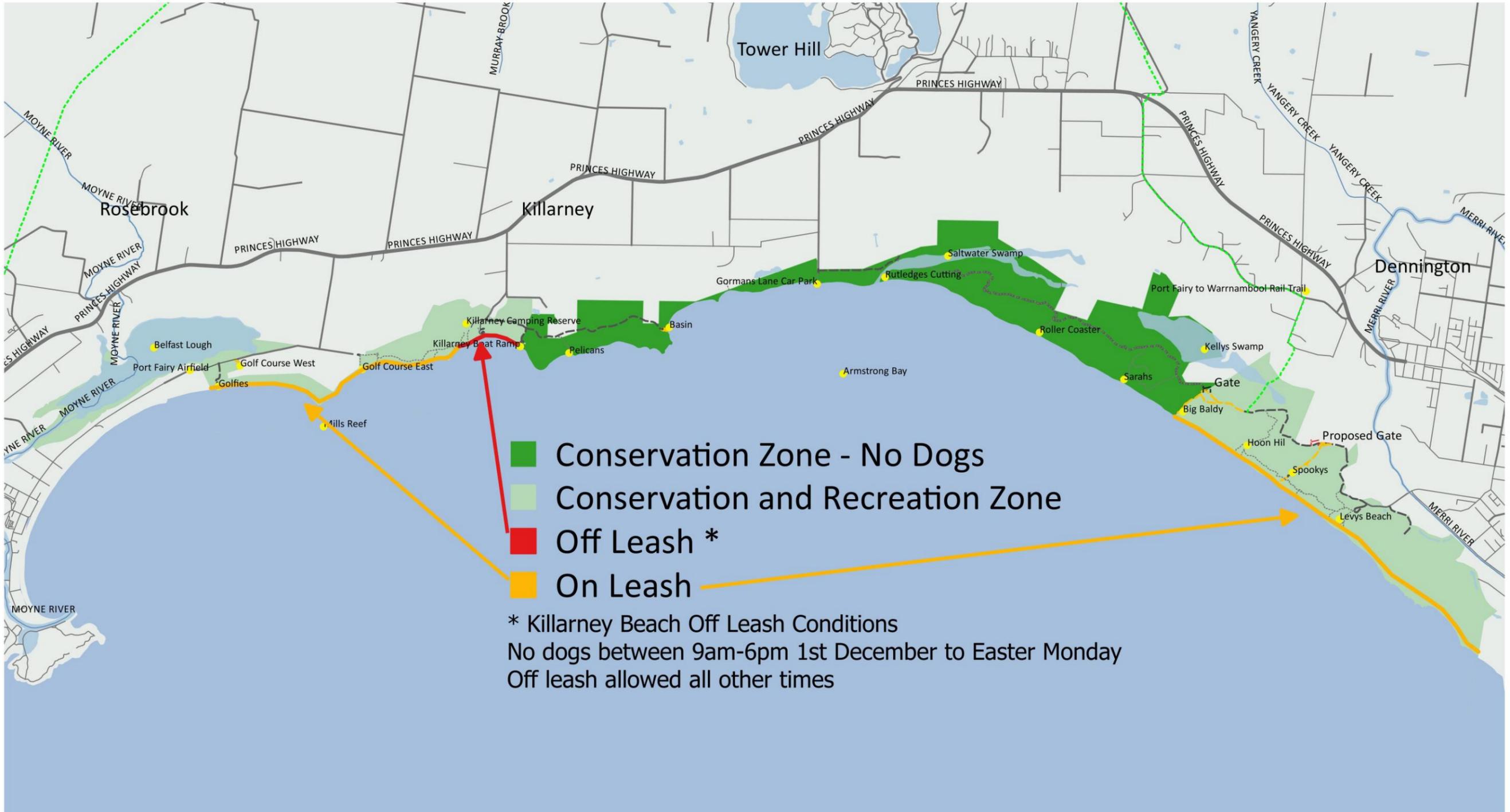
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|---------|-----------|---------------|
| Toilet | Swimming | Camping |
| Walking | Boating | Bird Watching |
| Picnic | Boat Ramp | Dog Walking |
| Fishing | Parking | Surfing |

- | | | |
|-------------------------|---------------|----------------------------------|
| HIGHWAY | Rail Trail | Conservation Zone |
| Road - Sealed | Water Body | Conservation and Recreation Zone |
| Road - Unsealed | River | Marine Area |
| 4WD Track | Gate | |
| Management Vehicle Only | Proposed Gate | |
| Walking Tracks | Locations | |

Belfast Coastal Reserve

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Map 4 Dog Access



- Conservation Zone
- Conservation and Recreation Zone

- HIGHWAY
- Road - Sealed
- Road - Unsealed
- 4WD track
- Management Vehicle Only
- Walking Tracks

- Rail Trail
- Water Body
- Gate
- Proposed Gate
- Locations

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Conservation Zone - No Horses
Conservation and Recreation Zone

- LTO controlled through licence and groups (more than 6 riders) through event permits
- Eastern Conservation & Recreation Zone:
Recreational riders to be allowed east of Big Baldy, on defined tracks, and restricted to water's edge when riding on the beach
- Western Conservation & Recreation Zone:
Recreational riders to be allowed on defined tracks and restricted to water's edge when riding on beach. After 10am on weekdays at Golfies.

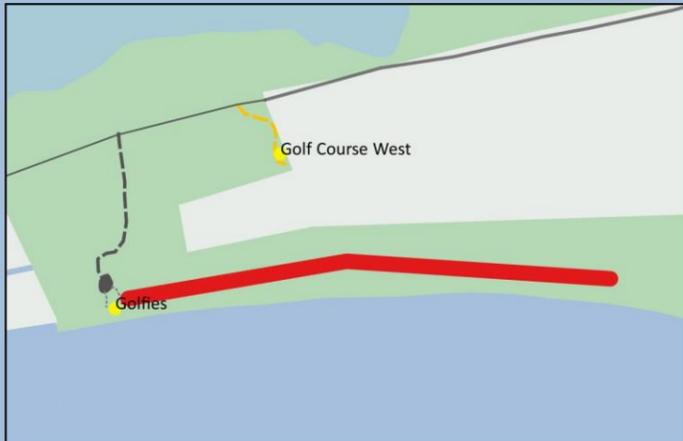
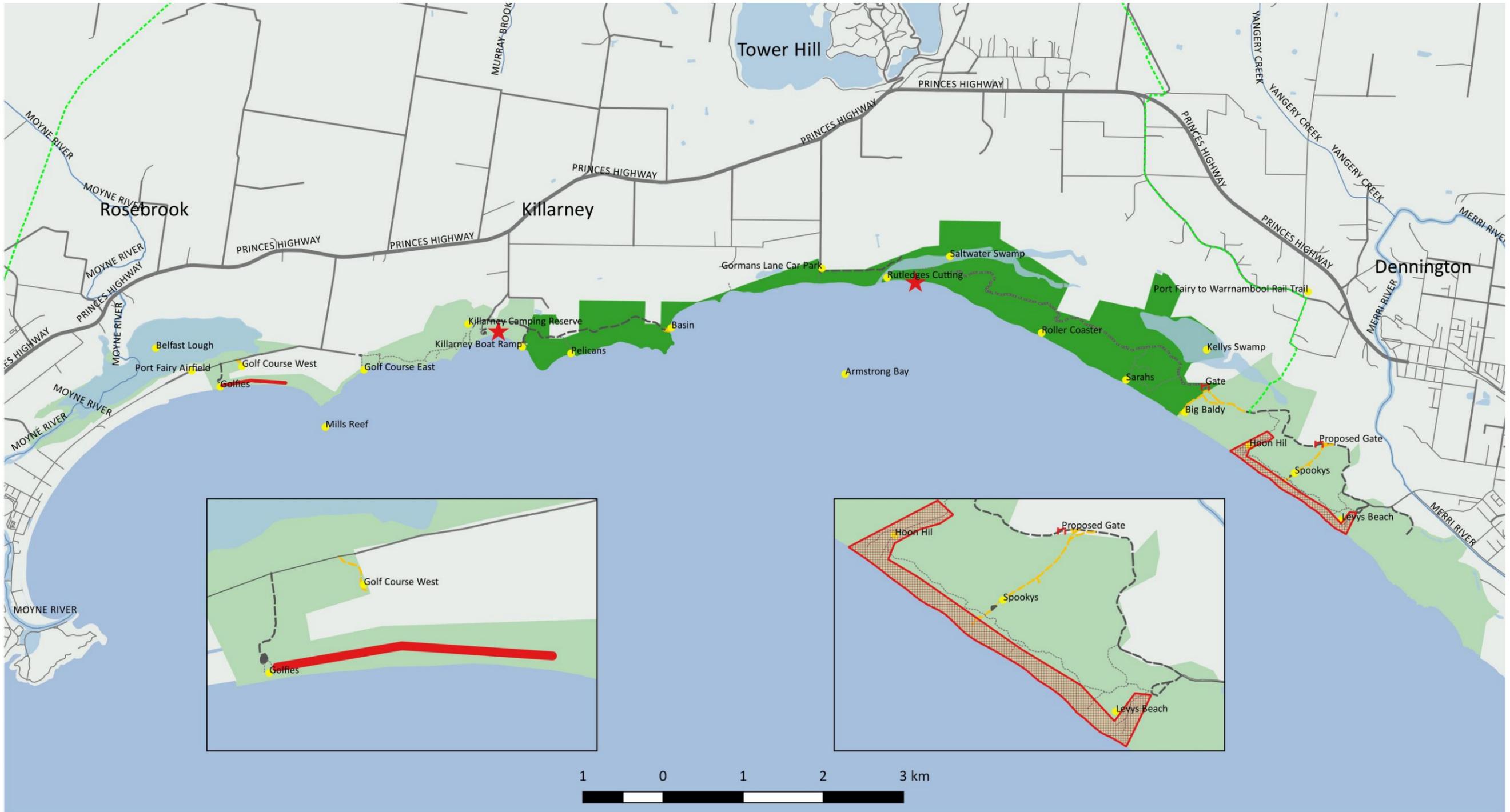


Conservation Zone	HIGHWAY	Rail Trail
Conservation and Recreation Zone	Road - Sealed	Water Body
	Road - Unsealed	Gate
	4WD track	Proposed Gate
	Management Vehicle Only	Locations
	Walking Tracks	

Belfast Coastal Reserve

Draft Coastal Management Plan 2017

Map 6 Licensed Racehorse Access



- | | | | |
|------------------------------|------------------------------------|-------------------------|-----------------------|
| Zoning | Licensed Racehorse Training | ROADS | Other Features |
| Conservation Zone | Licensed | HIGHWAY | Walking Tracks |
| Conservation Recreation Zone | Proposed | Road - Sealed | Rail Trail |
| | Historical | Road - Unsealed | Water Body |
| | | 4WD track | Gate |
| | | Management Vehicle Only | Locations |

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Green Chitons (*Ischnochiton australis*)



Environment,
Land, Water
and Planning



*Healthy Parks
Healthy People®*