
Marine protected areas



3. Marine protected areas

The ECC's terms of reference require it to investigate and make recommendations on a preferred approach and priorities for the progressive establishment of a representative system of marine parks in Victoria.

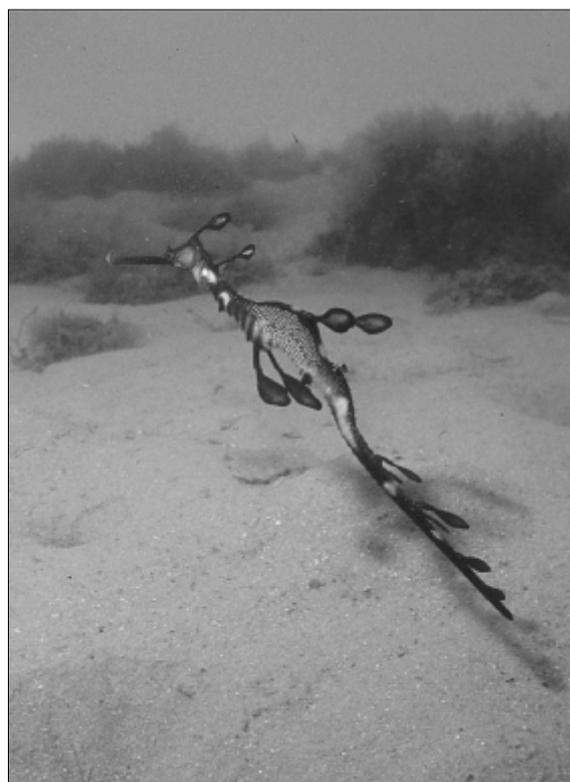
Protected areas on land, such as national parks, have long been accepted by the community as a key component in the overall good management of the environment. In Victoria, approximately 15% of land is in highly protected parks or conservation reserves. By contrast, at present less than 0.05% of Victoria's marine environment is highly protected.

3.1 Victoria's marine biodiversity

Victoria's underwater environments are special, often containing spectacular landscapes, a rich flora and fauna, and many species which are found only in south-eastern and southern Australia. In recent years many Victorians have increased their awareness of the special values of their marine environment. In terms of spectacle, our waters are magnificent, if less easily observed than tropical waters. Features such as kelp forests towering 30 metres from the sea floor are unique to temperate waters, and there are many reef environments where the colour and variety of flora and fauna and the numbers of fish create an underwater landscape that is comparable to tropical coral reefs.

The southern coast of Australia is the only major south-facing coastline in the southern hemisphere. It has been relatively isolated for some 65 million years, and as a result Australia's southern waters are unique. They support the world's highest diversity of red and brown seaweeds, sea mosses, crabs and shrimps, and sea squirts. A remarkable feature is that 90–95% of species in most groups occur only in southern waters and nowhere else on earth. Our southern marine communities are as distinctively Australian as our terrestrial marsupials and other flora and fauna.

Highly protected areas are established especially for the conservation of biodiversity. These areas are a critical component of integrated ecosystem management of the whole marine environment.



Weedy seadragons are close relatives of seahorses and are found only in southern Australia. Photo: Peter Kinchington.

Biodiversity refers to the natural variety of life on earth, the sum of all our native species of plants and animals, the genetic variation within them, their habitats, and the ecosystems of which they are a part. Animals and plants are closely associated with their habitat. Survival of individual species and communities depends directly on habitat protection, and is best achieved in the natural environment, rather than in zoos or aquariums.

Despite considerable research interest in Victoria's marine environment and a relatively high level of knowledge by world standards, there are areas in which information is lacking or even completely unavailable. Several reports summarise the state of knowledge of the natural values of the State's marine and estuarine environments. Appendix 6 provides more details of available data for marine ecosystems in Victoria.

Scientists have concluded that a complete inventory of biodiversity is not a realistic goal for terrestrial and much less, for marine environments. In the first place, many species have not been described and named. Secondly, even if they were known it would be an impossibly demanding task



to determine patterns of distribution. As a result, many scientific forums have concluded that habitats and ecosystems can appropriately serve as the basic units of biodiversity for most purposes.

In the long term, information about species and genetic varieties will undoubtedly be improved. In the short term, it is important for the protection of biodiversity that decisions are based on the best possible information available. One widely adopted approach is to generalise the available information on species into categories, such as communities, habitats or ecosystems. NRE's Environmental Inventory Program and related initiatives have provided a comprehensive statewide coverage of Victoria's major marine habitats at a scale of 1:100 000 for the open coast and at scales of 1:25 000 for all major bays and inlets (see Appendix 6 for a summary of ecosystem mapping).

The recommendations in this report take into account a nationally agreed regional ecosystem-based classification for the Australian marine environment that recognises five biophysical regions in Victoria:

- Western region: South Australian border to Cape Otway
- Central region: Cape Otway to west of Wilsons Promontory
- Wilsons Promontory region: the Promontory itself to the western extent of the Ninety Mile Beach
- Eastern region: Ninety Mile Beach to the NSW border
- Embayments region: all bays, inlets and estuaries.

This framework, the Interim Marine and Coastal Regionalisation for Australia (IMCRA), was developed using both a qualitative expert approach and quantitative analytical methods, reflecting the range of available methodologies and the highly variable quality and quantity of data available.

How does fishing affect biodiversity?

Fishing causes changes at the three levels of organisation of biodiversity. At the genetic level, fishing increases mortality and acts as an agent of directional selection, affecting age distribution, age and length at maturity, growth rates and other life history characteristics.

At the species level, fishing affects species composition in fished ecosystems and consequently interactions among fished species and their prey.

Long-term fishing can lead to systems dominance by species with certain life history characteristics such as early maturation or high fecundity. Decreased populations of large predators which are the subject of major fisheries may lead to increased abundance of prey species.

Finally through effects on by-catch or habitat alteration (particularly damage caused by fishing techniques such as bottom trawling and dredging), fishing affects the diversity of marine habitats and the function of ecosystems.

Scientists have identified recreational fishing and commercial fishing as the probable cause of major declines in populations of popularly targeted fish species, especially in waters close to major population centres.

3.2 Recommended approach to marine conservation

The ECC is recommending improving marine environmental conservation through the progressive development of a system of protected areas supported by good environmental management practices over the whole of Victoria's marine area.

Systems of protected areas have been established in most countries to preserve in perpetuity representative samples of ecological, geological and scenic values of many regions. While well established as a land management practice, the concept of parks is yet to be applied in any significant way to the marine environment.



However considerable attention is now being given worldwide to marine conservation. Initially the conservation approach that was urged for the marine environment was similar to that for terrestrial areas, with areas of special value being established and defended against impacts from outside, as far as they could be identified and ameliorated. This approach for the land was born out of a desire to protect structural fragments of ecosystems that were being rapidly (and visibly) depleted. It gave way in the 1980s and 1990s to the multiple-use approach to marine conservation, exemplified by the Great Barrier Reef Marine Park.

The multiple-use approach was partly an acknowledgment of the different scale of marine processes, the indistinct and shifting character of ecological boundaries, and the highly connected nature of the sea. In the vast area of the Great Barrier Reef Marine Park, highly protected areas are established within a context of conservation management of the whole Great Barrier Reef.

Similarly, the ECC's current recommendations for a system of highly protected areas within a framework of sustainable management are an expression of multiple-use management of the marine environment.

Because almost all the coastline and seafloor is publicly owned, there is an opportunity to develop a coordinated planning approach for the area. Many recent studies and reports have emphasised the need to adopt an integrated approach to marine management, employing a range of mechanisms for the best possible protection of Australia's marine environment. One of these mechanisms, firmly established in international and national strategies such as the Convention on Biological Diversity (UNEP 1994) and the National Strategy for Ecologically Sustainable Development (1992), is the establishment of a representative system of protected areas. This approach is strongly advocated by the ECC.

Several strategies such as Victoria's Biodiversity Strategy and the Victorian Coastal Strategy have specific objectives relating to the establishment of a representative system of marine protected areas.

One of the lessons learned from what we now regard as poor land management practices over the last century, is that we need to be cautious in the

management of our marine resources and ensure that some areas are maintained in as natural a state as possible, as a benchmark against which to measure impacts of use.

3.3 A comprehensive, adequate and representative system of marine protected areas

If Victoria is to adequately protect its valuable marine environments, the system of parks and conservation reserves we put in place must be comprehensive, adequate and representative.

Goals and principles for systems of protected areas have been established in other areas; for example the goal of a comprehensive, adequate and representative system of reserves for Australia is recognised by all Commonwealth and State/Territory signatories to the National Strategy for Conservation of Australia's Biodiversity (1992) and the National Forest Policy Statement (Commonwealth of Australia 1992).

The description below of the recommended system of marine protected areas is consistent with the principles for developing the National Representative System of Marine Protected Areas as recently endorsed by the relevant Ministerial Council, the Australian and New Zealand Environment and Conservation Council.

Establishing a comprehensive, adequate and representative system

Comprehensive means a system which protects examples of the full range of habitats and biological communities within each of Victoria's marine biophysical regions.

Adequate means parks and other conservation reserves that have practical boundaries, are of a sufficient size to ensure that physical and biological values can be protected and the impact of adjacent activities minimised, and that more than one example of each environment is protected.

Representative means that parks and other conservation reserves reflect the diversity of the flora and fauna within each of the protected habitats and biological communities.



3.4 Community views

Most public submissions throughout the investigation supported the goal of protecting the marine environment. However opinion was polarised on the creation of highly protected areas as one of the strategies to achieve protection.

Conservation groups, scientists, and some community and recreational organisations were strongly supportive of the recommendations for marine protected areas.

Although recreational and commercial fishers did not generally oppose in principle the establishment of marine national parks, most areas recommended in the various reports of the LCC and the ECC were not supported by these sectors.

Fishers were focused on the fisheries implications of the recommendations, and it is a significant challenge to communicate the broader function of marine protected areas in the protection of marine biodiversity.

The main issues from the fishing sectors are:

- opposition to any restrictions on current patterns of use and access;
- a belief that recreational line fishing and some commercial fishing activities have no ecological impacts, and that there should be no restrictions on access unless it is demonstrated that damage is occurring or has occurred; and
- concern about socio-economic implications of restricting access for fishing.

Experience from other parts of the world, and in Victoria in relation to the Bunurong Marine Park, suggests that acceptance increases within a few years of establishment of the area. Prior to the establishment of the Bunurong Marine Park, local opinion appeared to be polarised regarding the park, and large attendances at public meetings opposed the creation of the park. It is apparent from recent public consultation that the park is now well accepted by the local community.

Concerns were expressed by some groups and individuals about the adequacy of the recommendations for highly protected areas, with some submissions highlighting habitats and communities they believe to be unrepresented or

under-represented, for example estuaries, and others commenting that 6% of Victoria's marine area in marine national parks and sanctuaries is insufficient.

Several submissions commented that the category of Marine Conservation Parks, picking up existing multiple-use parks, was inappropriate, as coastal land was included in several parks, and the level of protection of marine environments was low.

Many other issues and views were raised following the release of the Draft Report and they are discussed in Parts Three and Four and Appendix 2.

3.5 Principles for the selection and management of marine protected areas

As previously stated, the terms of reference for this investigation required the ECC to make recommendations on a preferred approach and priorities for the progressive establishment of a representative system of marine parks in the State of Victoria.

In the Interim Report (1998) and Draft Report (1999) the ECC sought input on draft principles for the selection and management of marine parks. The Council has adopted the following revised principles for the selection and management of marine protected areas.

- ❑ There will be a system of protected areas within the marine, coastal and estuarine areas of Victoria which will be comprehensive, adequate and representative.
- ❑ Marine national parks are established to provide the highest level of protection for biodiversity and to maintain representative examples of natural ecosystems in perpetuity.
- ❑ Marine national parks must be sufficiently large to achieve their objectives.
- ❑ Marine sanctuaries and marine special management areas will be identified to protect sites of special conservation, recreation or education value and to complement marine national parks.



- ❑ Marine national parks and marine sanctuaries should provide for a range of non-extractive and non-damaging activities, compatible with the primary aim of conserving biodiversity and ecological processes, and protection of special values.
- ❑ Marine protected areas should generally be located to minimise threats, such as pollution and introduced pests, from surrounding areas.
- ❑ A system of marine protected areas should include some spectacular areas, and should provide opportunities for recreation, tourism, education and enjoyment of the natural environment.
- ❑ Planning for Victoria's marine protected areas will take a long-term view and will provide ongoing protection of the resource.
- ❑ Community education and involvement are vital factors in the successful management of marine protected areas.
- ❑ Management of marine protected areas must be effective, efficient and accountable.

The following arguments were taken into account in recommending a system of highly protected marine national parks as the cornerstone of the system of marine protected areas.

- Highly protected areas are part of an overall framework for sustainable multiple-use management of Victoria's marine waters.
- The objectives of highly protected areas are clear and easily communicated.
- Highly protected areas will provide a scientific reference area against which to assess the impacts of human activities.
- Highly protected areas, although they will occupy only a small percentage of Victoria's marine area, will contribute to improving the balance of uses in the marine environment. Currently 99.95% of the Victorian marine environment is available for commercial or recreational fish and shellfish harvesting; only 0.05% is highly protected.
- Highly protected areas may act as a source of replenishment for certain species for adjacent fished areas.
- Highly protected areas act as an insurance measure in the event of there being a fisheries collapse due to natural or human causes in fished areas.
- Monitoring programs to demonstrate the biological effects of establishing highly protected areas are more effective in performance assessment than monitoring programs for general use areas where fishing is permitted.
- There is no discrimination between the commercial and recreational fishing sectors.
- Highly protected areas are valuable as education areas.
- Ensuring compliance with regulations is simpler in highly protected areas.

3.6 Identification and selection of candidate areas for marine national parks

Aside from the principles for selection and management of marine protected areas, the following factors were considered in identifying and selecting areas for inclusion in the marine national parks system.

Biophysical regions. The range of habitats within each of the five biophysical regions in Victoria (detailed in section 3.1) is represented in a system of marine national parks.

Biogeographic classification of selected fauna correspond well with the biophysical regions. A recent study (O'Hara 2000) of the distribution of Victorian decapod crustaceans (includes crabs) and echinoderms (includes seastars) on rocky reefs resulted in the description of the following groups:

- a 'common' group that occurs throughout Victoria;
- a 'western' group that has an eastern distribution limit within Victoria;
- an 'eastern' group that has a western distribution limit within Victoria; and
- a 'central' group that occurs in central Victoria but not at the eastern or western limits of the State.



However, there are also considerable spatial variations within a region. For example another recent study documented several distinct assemblages in the Bunurong area, Port Phillip Heads and Phillip Island, all within the Central biophysical region (Edmunds 2000).

Marine habitats. The level of available biological data for the whole Victorian marine environment allowed a general description of eight broad marine habitats, defined primarily by tidal level, substrate type, exposure to wave energy, and dominant flora. They are:

- intertidal rocky shores
- subtidal rocky reefs
- seagrass beds
- sheltered intertidal flats
- mangroves
- intertidal sandy beaches
- subtidal soft substrates
- pelagic (open water) environments.

Recently a more detailed framework for a systematic classification of intertidal and subtidal habitats along the open coast has been developed (Ferns & Hough 1999, 2000). A large number of Marine Habitat Classes (MHCs), based on dominant habitat attributes (see Appendix 6), have been identified for intertidal and subtidal areas in Victoria. In general the attributes describe the dominant physical and biological structure of marine habitats. These MHCs will be used initially for completing a consistent habitat description for marine national parks, and eventually for the entire Victorian marine environment.

At yet a further level of detail MHCs can be defined by their constituent species (Ferns & Hough 2000). A quantitative assessment of species within MHCs yields an additional level in the hierarchical marine classification – marine ecological communities (MECs). Currently MECs for macrophytes, invertebrates and fish have been delineated for the Central and Wilsons Promontory biophysical regions and for Port Phillip Heads (see Edmunds *et al.* 2000, and Appendix 6).



The Victorian coastline contains a wide variety of habitats, including shallow rocky reef covered in bull kelp.
Photo: Peter Kinchington

Data were generally unavailable to apply all of the Marine Habitat Classes attributes consistently for the whole Victorian coast, although whenever known they are included in descriptions of recommended areas in the following sections. It is clear that there is a great deal of variety within each broad habitat type. For example, *Posidonia* seagrass communities are different from *Amphibolus* seagrass communities; soft sediment communities are known to vary depending on sediment composition, distance offshore and depth (Coleman *et al.* 2000); and intertidal reef fauna varies with rock type.

It has also been demonstrated that a suite of physical factors have a major influence on the composition of subtidal biological communities on Victorian rocky reefs. Physical factors such as exposure, depth, substratum structure (ie topography/complexity as determined by seafloor geology) and longitude (ie biogeographic region) appear to be the most useful surrogates for selecting areas to maximise the representation of reef biodiversity.

Replication. More than one example of major habitats in each biophysical region is included to:

- incorporate the variability within each habitat type, and
- to guard against loss due to unforeseen or catastrophic events.



Significant biological and ecological values.

In addition to representative values, special values have been taken into account such as:

- high diversity of habitats;
- high diversity of species;
- habitats for rare, endangered, uncommon or depleted species (see Appendix 6);
- nursery, feeding, breeding or rest areas; and
- rare or unique habitats.

Where there is a choice between candidate areas which both equally represent habitats within a region, and other factors being equal, the ECC has generally recommended an area which also includes additional special values as above.

Variation in orientation and wave energy. It is known that variation in shoreline orientation and wave energy climate (exposure) can have a major influence on biological communities. Where possible this variation in each habitat type is represented.

Size and position. Parks must be of a sufficient area to ensure that ecological, physical and biological processes are maintained in a natural state, and activities adjacent to the park do not have a significant impact. Scientists agree that larger areas will function more effectively than small areas in protecting marine biodiversity, but there is only limited information available on optimum sizes for marine parks.

Recent scientific monitoring of four highly protected reserves in temperate waters in Tasmania confirmed that effectiveness of marine reserves corresponded with reserve size, and found that only the largest reserve, with 7 km of coastline, proved to be effective at achieving species conservation and resource enhancement (Edgar & Barrett 1999). The ECC's approach has therefore been to recommend a range of sizes for marine national parks, with a minimum of 5–7 km of coastline. Research and monitoring in these different areas will contribute to information on effective sizes and designs of parks.



A representative park system should include habitats with a range of wave energies such as this high energy intertidal rock platform. Photo: Peter Kinchington.

There is currently sufficient information to demonstrate that communities of plants and animals change with depth and distance offshore (eg Coleman *et al.* 1997, 2000). This is true for both rocky reef and soft sediment habitats. Therefore, where possible parks extend from the shoreline to the limit of State waters at three nautical miles (approximately 5.5 km) to include the variability associated with water depth and distance offshore.

Condition. Where there is a choice between candidate areas, and other things being equal, the ECC has generally recommended areas where the environment and catchment is relatively undisturbed. For example, recommended marine national parks are often adjacent to national parks on land and, where possible, away from discharges and areas of marine pest infestation.

Buffers. Buffers are often used to separate areas zoned for incompatible activities, as a means of reducing the impact of an activity on the adjacent area. In previous LCC recommendations the general use areas of large multiple-use parks acted as buffers around the highly protected sanctuary areas. The ECC has decided against recommending buffers external to the proposed marine national parks, on the basis that the parks are intended to be sufficiently large so as to be viable in maintaining populations, species, communities and ecological processes. Proper management of the whole marine environment, underpinned by the principles of ecologically sustainable use, should ensure appropriate buffers are maintained for different activities adjacent to the parks.



Social and economic factors. Where there is a choice between candidate areas, the ECC has recommended areas where the impact on industry, users and local communities is minimised.

3.7 The proposed system

The ECC is recommending the following system.

Marine National Parks are highly protected areas which contribute to a system representing the range of marine environments in Victoria, and in which no fishing, extractive or damaging activities are allowed. There are no restrictions on access, and activities such as recreation, tourism, education and research are encouraged. Recommendation A on page 43 gives details of activities that are allowed, restricted or prohibited.

Marine Sanctuaries are smaller highly protected areas designated for protection of their special natural values, in which no fishing, extractive or damaging activities are allowed. These areas also complement the larger marine national parks. See Recommendation B on page 45 for details on activities that are allowed, restricted or prohibited.

Special Management Areas are areas designated (formally through legislation or through other management arrangements) for protection of their special natural values, in which fishing and other uses are generally allowed. See Recommendation C on page 47 for details on activities that are allowed, restricted or prohibited.

These areas are consistent with IUCN categories for marine protected areas adopted by the IUCN in 1994. Marine national parks and marine sanctuaries correspond to IUCN categories I or II, and special management areas generally to IUCN category IV.



Recommended Marine National Parks

The basis for recommending marine national parks has been outlined in detail in the preceding sections.

Recommendation

- A** The recommended areas shown on Map A (numbered A1 to A13), to a depth of 200 metres below the seabed, be used to:
- (i) conserve and protect biodiversity and natural processes;
 - (ii) maintain natural ecosystems as a reference against which other areas may be compared;
 - (iii) provide opportunities for recreation and education associated with the enjoyment and understanding of natural environments, where consistent with (i) and (ii);

that the following activities be permitted:

- (iv) nature observation, scuba-diving, snorkelling, surfing, swimming, boating, and wind-surfing;
(Note- boating using motorised craft subject to conditions to be determined by the manager; restrictions on motorised boating would only be appropriate if the activity is in conflict with (i), (ii) or (iii) above.)
- (v) research, subject to permit;
- (vi) oil and gas exploration from an aircraft or vessel that does not cause disturbance to the seabed or biota;
- (vii) maintenance and replacement of existing structures;

that the following activities not be permitted:

- (viii) the removal or disturbance of marine biota;
- (ix) marine aquaculture;
- (x) exploratory drilling for oil and gas;
- (xi) oil and gas extraction;
- (xii) exploration and extraction of minerals and stone;
- (xiii) other activities that cause disturbance to the seabed or biota (such as blasting, dredging and spoil disposal, seaweed harvesting);
- (xiv) point source waste discharges;

that:

- (xv) new seafloor cables and pipelines be permitted, subject to:
 - (a) an Environment Effects Statement, and
 - (b) the consent of the Minister responsible for management of the park, and only after the Minister is satisfied that no reasonable alternative outside the park is available;

and that:

- (xvi) the parks be permanently reserved under new or amended legislation and be managed by the Department of Natural Resources and Environment;
- (xvii) a management plan be prepared for each park by the manager, after public consultation, outlining the strategies to be taken to achieve the objectives of the park, and be in place within three years of the Government's acceptance of these recommendations;
- (xviii) that boundaries of the areas, if they have not been precisely surveyed, be subject to minor modifications and other adjustments that may be deemed necessary.



Full descriptions and maps of the recommended marine national parks below can be found on the following pages.

- | | | | |
|-----------|--|------------|---|
| A1 | Discovery Bay Marine National Park
(see pages 52–54) | A7 | Churchill Island Marine National Park
(see pages 110–111) |
| A2 | Twelve Apostles Marine National Park
(see pages 55–57) | A8 | Bunurong Marine National Park
(see pages 69–70) |
| A3 | Point Addis Marine National Park
(see pages 66–68) | A9 | Wilson's Promontory Marine National Park
(see pages 71–73) |
| A4 | Port Phillip Heads Marine National Park
(see pages 96–99) | A10 | Corner Inlet Marine National Park
(see pages 117–118) |
| A5 | Yaringa Marine National Park
(see pages 106–107) | A11 | Ninety Mile Beach Marine National Park
(see pages 82–83) |
| A6 | French Island Marine National Park
(see pages 108–109) | A12 | Point Hicks Marine National Park
(see pages 84–86) |
| | | A13 | Cape Howe Marine National Park
(see pages 87–89) |



Recommended Marine Sanctuaries

Marine sanctuaries complement the recommended marine national parks, and contribute to providing a comprehensive, adequate and representative system of marine protected areas. The recommended areas have a range of values, including:

- typical or outstanding examples of habitats not otherwise represented in the recommended system of marine protected areas;

- areas of special scientific significance; and
- areas that provide important opportunities for recreation and education associated with the enjoyment and understanding of the natural environment, such as easy access, interesting or spectacular underwater scenery, clear water or varied and colourful marine life.

These sites, as for marine national parks, are given the highest level of protection.

Recommendation

B The recommended areas shown on Map A (numbered B1 to B11) be used to:

- (i) conserve and protect the biodiversity and natural processes within the sanctuary;
- (ii) provide opportunities for recreation and education associated with the enjoyment and understanding of natural environments, where consistent with (i);

that the following activities be permitted:

- (iii) nature observation, scuba diving, snorkelling, swimming, boating and wind-surfing;
(Note- boating using motorised craft subject to conditions to be determined by the manager; restrictions on motorised boating would only be appropriate if the activity is in conflict with (i) or (ii) above.)
- (iv) research, subject to permit;
- (v) oil and gas exploration from an aircraft or vessel that does not cause disturbance to the seabed or biota;
- (vi) maintenance and replacement of existing structures;

that the following activities not be permitted:

- (vii) the removal or disturbance of marine biota;
- (viii) marine aquaculture;
- (ix) exploratory drilling for oil and gas;
- (x) oil and gas extraction;
- (xi) exploration and extraction of minerals and stone;
- (xii) other activities that cause disturbance to the seabed or biota (such as blasting, dredging and spoil disposal, seaweed harvesting);
- (xiii) point source waste discharges;

and that:

- (xiv) the marine sanctuaries be permanently reserved under new or amended legislation and be managed by the Department of Natural Resources and Environment;
- (xv) a management plan be prepared for each marine sanctuary by the manager, after public consultation, outlining the strategies to be taken to achieve the objectives of the park, and be in place within three years of the Government's acceptance of these recommendations;
- (xvi) that boundaries of the areas, if they have not been precisely surveyed, be subject to minor modifications and other adjustments that may be deemed necessary.



Full descriptions and maps of the recommended marine sanctuaries can be found on the following pages.

- | | | | |
|-----------|---|------------|---|
| B1 | Merri Marine Sanctuary
(see page 58) | B6 | Barwon Bluff Marine Sanctuary
(see page 77) |
| B3 | The Arches Marine Sanctuary
(see page 59) | B7 | Point Cook Marine Sanctuary
(see page 100) |
| B3 | Marengo Reefs Marine Sanctuary
(see page 74) | B8 | Jawbone Marine Sanctuary
(see page 101) |
| B4 | Eagle Rock Marine Sanctuary
(see page 75) | B9 | Ricketts Point Marine Sanctuary
(see page 102) |
| B5 | Point Danger Marine Sanctuary
(see page 76) | B10 | Mushroom Reef Marine Sanctuary
(see page 78) |
| | | B11 | Beware Reef Marine Sanctuary
(see page 90) |



Recommended Special Management Areas

Special management areas are recommended in order to ensure that areas of special value are identified and that they are managed appropriately.

The areas recommended as special management areas have a range of special values, including:

- breeding, nursery and haul-out areas for marine mammals such as seals and whales;
- breeding and roosting areas for seabirds and shorebirds;
- areas of special value for recreational or commercial fisheries, such as nursery areas;

- intertidal and shallow subtidal areas with a high diversity of marine invertebrates; and
- areas of special biological, geomorphological or palaeontological value.

In certain instances the boundary of an area has been left undefined due to the spatially dynamic nature of the special value, eg seagrass beds or whale calving areas.

Each site has different management requirements, and many areas have management regimes already in place that address potential threats and incorporate specific measures to protect the identified values.

Recommendation

C The recommended areas shown on Map A (numbered C1 to C18) be used to:

- (i) protect the identified special values for the site;
- (ii) unless otherwise specified, provide for recreational and commercial fishing activities, passive recreation, education and scientific study, to be carried out in ways that minimally affect the area and the particular values requiring protection;

and that:

- (iii) each special management area be subject to a management plan which identifies specific measures for protection of the special value or values. Such management plans may be prepared as part of another planning process, such as coastal action plans, park or reserve management plans or fisheries management plans;
- (iv) mineral, stone, oil and gas exploration or extraction be permitted subject to an environmental assessment being undertaken and considered by the Minister responsible for the area.

Full descriptions and maps of the recommended Special Management Areas can be found on the following pages.

C1 Cape Bridgewater (see page 60)	C10 Honeysuckle Reef (see page 112)
C2 Lawrence Rocks (see page 60)	C11 Crawfish Rock (see page 112)
C3 Portland Bay (see page 61)	C12 Bass River delta (see page 113)
C4 Deen Maar (Lady Julia Percy Island) (see page 62)	C13 San Remo (see page 113)
C5 Logans Beach (see page 63)	C14 Rhyll (see page 114)
C6 Dinosaur Cove (see page 63)	C15 Summerland Peninsula (Phillip Island) (see page 79)
C7 Clifton Springs (see page 103)	C16 The Skerries (see page 91)
C8 Werribee River estuary (see page 104)	C17 Mallacoota Inlet (parts) (see page 119)
C9 Capel Sound (see page 104)	C18 Gabo Island harbour (see page 91)



3.8 Existing parks and other areas

There are several pre-existing marine parks with high environmental values currently managed for a variety of uses including recreational and commercial fishing. The ECC is not recommending any new multiple-use parks. The existing multiple-use parks have a variety of names, including Marine Park, Marine and Coastal Park and Marine Reserve. In the Draft Report, a change in terminology was proposed to Marine Conservation Park to distinguish these areas from the highly protected Marine National Parks. However there was little support for this change, and there are some advantages in maintaining the existing names which are well established in the community, and in some cases better reflect the character of the park. For example there are three Marine and Coastal Parks in South Gippsland which include coastal land as well as marine waters.

Victoria has 12 existing marine parks and reserves, established between 1979 and 1991. Without exception the existing marine parks have very significant environmental values, and make a substantial contribution to the representative and comprehensive nature of the marine protected areas system. The ECC recommended in its Interim Report (1998) that the existing five Harold Holt Marine Reserves in southern Port Phillip Bay be incorporated into the Port Phillip Heads Marine Park, and has since reviewed its recommendation to the Port Phillip Heads Marine National Park (see Recommendation A4).

Other than the highly protected Popes Eye Marine Reserve, just two other areas within existing marine parks currently have the highest level of protection where extractive activities and disturbance are not allowed: part of the Point Cook Marine Reserve, and part of the Bunurong Marine Park. Both of these areas are recommended to be incorporated in expanded highly protected areas (see Recommendations B7 and A8).

Most of the existing Wilsons Promontory Marine Reserve and part of the Corner Inlet Marine and Coastal Park are also recommended to be incorporated in highly protected Marine National Parks (see Recommendations A9 and A10).

Community understanding and acceptance of many of the existing parks is high. Other than the recommendations outlined above, the existing parks and reserves are recommended to be retained to be managed for a variety of uses which do not impact on the values and objectives of the park.

Draft management plans have been prepared for each of these parks over the last ten years. For some parks, a considerable amount of additional data has been collected since the parks were declared, or baseline ecological studies are currently being planned or implemented; for example, for Nooramunga Marine and Coastal Park. Several submissions commented on the absence of highly protected reference areas within some of the existing large multiple-use parks. It is important that future reviews of management utilise new information as it becomes available, and the ECC believes it would be appropriate to identify some representative areas as long-term monitoring sites.

The ECC has made no recommendations with respect to changing the current management practices in these parks, except where all or part has been recommended as a marine national park or marine sanctuary or as noted in Recommendation D below. The current practices should however be subject to reviews resulting from new information and the usual reviews of management which take place from time to time.

Coastal national parks usually include in the park the intertidal area between high and low water mark. Several estuaries are also reserved within national parks. A number of submissions drew attention to the fact that few estuaries or intertidal areas in national parks enjoy the highest level of protection. Although there is some capacity within the park management framework to increase protection for zones or areas within parks, the ECC believes that there is a strong argument for highlighting some areas in this report because of their high conservation significance.



Other areas

In making recommendations for marine protected areas, the ECC is conscious that it has highlighted only a small sample of Victoria's diverse and significant marine ecosystems. Many specific areas were drawn to the attention of the ECC throughout the investigation, and their omission from the recommended system of marine protected areas should not be construed as reflecting a lack of importance.

Other areas which should be mentioned because of their special significance or vulnerability (or both) include the following:

- **Intertidal areas.** The intertidal zone is the most accessible marine environment to humans, and is the most likely to experience the direct physical disturbances of trampling and removal of biota. Changes to invertebrate and seaweed communities on intertidal rocky shores through such activity has been well documented in scientific studies. These pressures are particularly great close to the major population centres of Melbourne and Geelong.
- **Coastal wetlands listed under the Ramsar Convention.** See section 1.3 for more information on Ramsar wetlands occurring within Victoria's marine, coastal and estuarine area.
- **Estuaries.** Most of Victoria's inlets, lagoons and larger estuaries have been heavily modified. Very few of their catchments are essentially natural. See pages 115 for more information.
- **Areas of particular value for marine education.** Awareness of the marine environment is growing in Victoria through programs offered by groups such as Coast Care, the Gould League, the Marine Discovery Centre at Queenscliff, and the Marine Education Society of Australasia. Establishment of highly protected marine parks will facilitate education and interpretation. However the opportunities for marine education and interpretation are not restricted to marine protected areas. Victoria's marine waters offer other locations for viewing its unique and diverse habitats; for example, the waters around and beneath Portsea Pier abound with fauna and flora.
- **Areas of particular significance for wildlife.** Many coastal locations and offshore islands and their surrounding waters have high values for wildlife such as seabirds and marine mammals. Several of these sites have been highlighted as special management areas. For example, all Victorian breeding colonies of the Australian fur seal are recommended as special management areas or are in existing marine reserves. However other sites may also be important for wildlife, and may require special management measures from time to time. For example, Seal Islands east of Wilsons Promontory is not a breeding colony, but is an important haul-out site for juvenile Australian fur seals.

There is a range of existing tools available to plan for and manage special values such as those outlined above.



Recommendations relating to existing parks

The basis for the recommendations relating to existing parks and other reserves has been outlined in detail above.

Recommendation

- D** The recommended areas shown on Map A (numbered D1 to D4) be used as follows:
- D1** That existing regulations be amended to allow recreational harvesting in those areas of the existing Wilsons Promontory marine parks where commercial harvesting is recommended to be allowed.
- D2** That the harvesting of flora and fauna be excluded from the intertidal area of the Wilsons Promontory National Park adjacent to the proposed Corner Inlet Marine National Park and west to Millers Landing.
- D3** That following the completion of ecological baseline studies of the Nooramunga Marine and Coastal Park representative sites be set aside as highly protected reference areas for mangroves, saltmarsh and shallow subtidal habitats.
- D4** That the harvesting of flora and fauna be excluded from the Easby, Red and Benedore estuaries in the Croajingolong National Park.

3.9 Biosphere Reserves

Biosphere Reserves are an initiative of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and are internationally recognised within the statutory framework of UNESCO's Program on Man and the Biosphere. The aim of the program is to help reconcile conservation of biodiversity with sustainable use. Their effectiveness is dependent on management authorities and local communities working closely together to achieve this outcome. Since the launch of the program in the 1960s, 324 reserves have been designated in 82 countries, 12 of them in Australia (two in Victoria at Wilsons Promontory and Croajingolong).

Western Port is an area of great environmental significance and its marine ecosystems are widely recognised as having regional, national and international significance. Because of the unique tidal characteristics that exist in Western Port, and the vulnerability of its habitats and associated biota, damage at one site may have widespread impacts in other parts of the bay. The biological sensitivity of Western Port requires integrated management of its catchments, water quality and natural resources.

A Biosphere Reserve may facilitate such an integration of effort. Western Port has been identified as a potential area for inclusion in the Biosphere Program, in the French Island National Park Management Plan. There is also significant community support for the proposal. The values of Western Port have also been recognised in its listing as an internationally significant wetland under the Ramsar convention.

Recommendation

- R39** The Government investigate the establishment of a Biosphere Reserve incorporating French Island, Phillip Island and the surrounding waters of Western Port, and also including portions of the catchment if appropriate.



Recommendations

Part Three

Recommendations for the Western biophysical region

This part sets out the recommendations for marine protected areas for the area from the South Australian border to Cape Otway.

Victoria's Western biophysical region is incorporated into the IMCRA Otway Region which includes King Island environs and extends to Cape Jaffa in South Australia. The marine environment along this coastline encompasses the deep colder waters of the Southern Ocean to the west and shallower Bass Strait closer to Cape Otway. The coastline includes the remote dune systems of the Discovery Bay area near Portland, and the spectacular limestone formations of the Port Campbell area. The marine flora and fauna are typically cold temperate species.

Main regional centres include Portland, Warrnambool, and the smaller townships such as Port Fairy and Port Campbell. Agriculture, tourism and fishing, manufacturing and consumer services are major economic activities. Portland, as the only deepwater port between Port Phillip Bay and Adelaide, is important for shipping.

This part of the report gives descriptions of the recommended marine national parks, marine sanctuaries and special management areas in Victoria's

Western biophysical region. See the Executive Summary for a table of changes to the recommendations since the Draft Report.

See section 3.7 of this report for an overview of the recommendations for marine protected areas including recommendations for permitted uses and activities.

Recommended areas

Marine National Parks

- A1** Discovery Bay Marine National Park
- A2** Twelve Apostles Marine National Park

Marine Sanctuaries

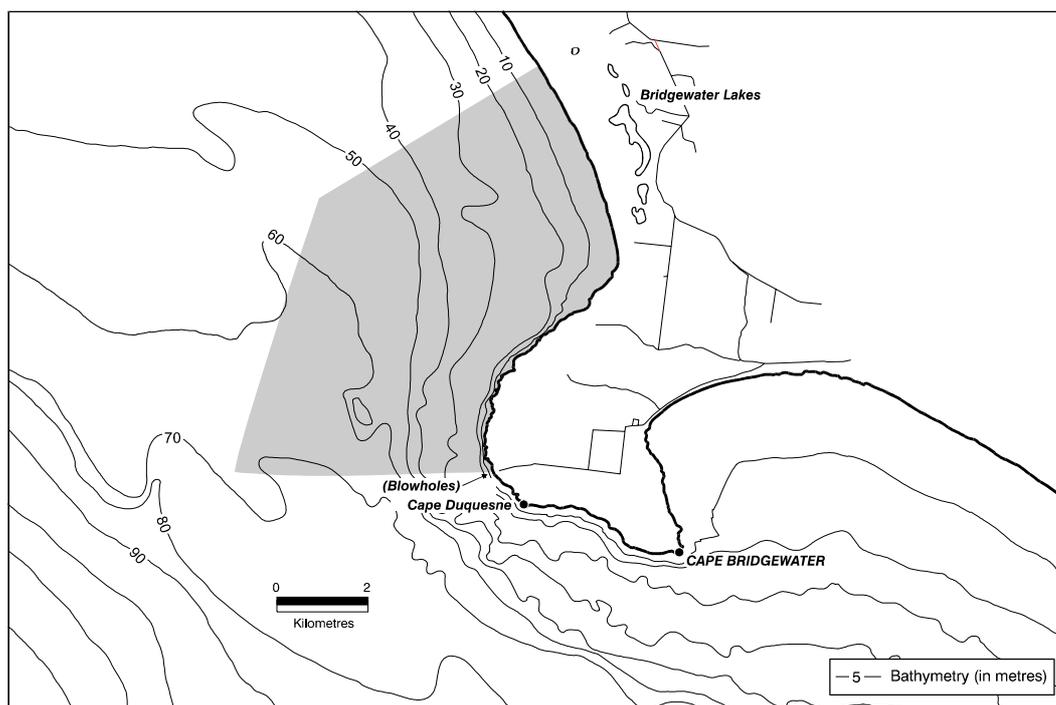
- B1** Merri Marine Sanctuary
- B2** The Arches Marine Sanctuary

Special Management Areas

- C1** Cape Bridgewater
- C2** Lawrence Rocks
- C3** Portland Bay
- C4** Deen Maar (Lady Julia Percy Island)
- C5** Logans Beach
- C6** Dinosaur Cove



A1 Discovery Bay Marine National Park



This recommended park in the far west of the State adjoins some of Victoria’s most wild and remote coastline, fully exposed to the prevailing westerly seas and weather.

Description of the park

- One of two marine national parks, with Twelve Apostles, proposed for Victoria’s Western biophysical region.
- Located about 20 km west of Portland, and adjacent to Discovery Bay Coastal Park.
- Extends along approximately 11 km of coastline north of the Blowholes at Cape Duquesne to 1.5 km north-west of Bridgewater Lakes, and offshore approximately for three nautical miles to the limit of Victorian waters.
- Approximately 4 600 hectares.

Environmental values

- The proposed park is part of the largest coastal basalt formation in Western Victoria and is amongst the highest wave energy environments in the State.
- The following habitats are represented in the park: sandy beaches, intertidal and subtidal rocky reefs, subtidal soft sediments.
- The rocky habitats of this area have complex forms, including low profile calcarenite platforms with gutters and sunken pits, isolated flat low

calcarenite reefs, extending one metre above the sand surface, shell grit, calcarenite rubble, gravel, and heavy, sloping, 2-3 m high basalt walls with small round boulders embedded at their base.

- Subtidal soft sediments consist of predominantly fine sand with some coarse to very coarse sand, with a carbonate content of around 80%.
- Calcarenite reefs with thick growths of sessile invertebrates between 33 and 55 metres depth. These encrusting communities contain many species of sponges, ascidians, bryozoa and gorgonians.
- Basaltic reefs at 18 metres depth covered by kelps including the large brown kelp *Ecklonia radiata*.
- High diversity of intertidal and shallow subtidal invertebrates, including rock lobster and abalone.
- Blue whales and great white sharks are regular visitors to the area.
- Adjoining coastline with geomorphologically significant basaltic sea caves, and significant sites for a number of flora and fauna species, including a largely unvegetated extensive dune system with dune lakes that support wetland vegetation.



Aboriginal interests

- Sites on Cape Bridgewater provide the earliest date for shell midden sites on the eastern Australian coastline. Together with the Bridgewater Bay dunes these sites are rated as highly significant on the basis of their scientific and archaeological value.
- Local Aboriginal community groups are actively involved in some aspects of coastal park management.
- An application for a native title determination has been lodged including the recommended marine national park area.

Community views

Input from the local community centred on loss of shore-based recreational fishing at Whites Beach. Commercial fishers generally did not support the proposal, although some sectors indicated that they would support a much smaller park in this locality. Other submissions called for the addition of Cape Bridgewater to improve the representation of habitats in the park.

The ECC has not made substantial changes to this recommended park, other than straightening part of the seaward boundary for easier identification at sea. Changes to the recommended park would not be possible without significantly reducing the ecological viability of the park.

Other nearby areas that were reconsidered during public consultation on this proposal include Cape Nelson and Lady Julia Percy Island, but input from earlier consultation indicated that they were less acceptable on balance than this location due to the impacts on users.

Social and economic implications

Impacts on coastal communities

The nearest coastal town to this park is Portland with an estimated population of 9 300 residents.

Compared to many regional towns, Portland has significant economic diversity. Portland's economy relies mainly on manufacturing and retail trade with 24% and 14% of employed residents respectively. The main manufacturing activities include the aluminium smelter and fish processing. The agriculture, forestry and fishing industry sector employs only 3% of residents. The recently privatised Port of Portland is Victoria's only deep ocean port. The Discovery Bay

Marine National Park will have some flow-on effects for some of the five seafood processing plants.

The economy of Portland is relatively independent of the tourism industry, and consequently from potential impacts of the Discovery Bay Marine National Park on recreational activities. The employment in the accommodation, cafes and restaurant; and the culture and recreation sectors is respectively 4.6% and 1.8% only.

Portland is likely to benefit from aquaculture development, through additional direct and indirect employment. A level of commercial interest in the site is already evident.

In summary, the impact on Portland's economy from the establishment of the Discovery Bay Marine National Park is likely to be minor, offset by the potential benefits of aquaculture industry. (See Appendix 4 for more details.)

Recreation and tourism

Whites Beach in Descartes Bay and Blacks Beach further north are the only locations within the proposed park that are readily accessible. Blacks Beach is on the boundary of the park. They are currently used for shore-based fishing and Whites Beach is also used for shore-based diving.

The management plan for the Discovery Bay parks confirms that local access to the coast for fishing is prized by residents, although access has sometimes been gained illegally, and inappropriate vehicle tracks developed through local use are a significant management issue in the coastal park. The ECC recommends that park managers review access to the coast, to ensure that reasonable access is available to alternative fishing locations.

There will be no restrictions on boating, diving, and other non-harvesting activities. In the longer term, these forms of recreation may be enhanced and developed to complement promotion of the Discovery Bay Coastal Park as a major tourist resource. Visitors to the adjacent Great South West Walk and other attractions such as the Blowholes provide potential for combined marine and land based interpretation programs.

Commercial fishing

Major commercial fishing activities are fishing for rock lobster, abalone and wrasse. The following estimates of fisheries catch and value were provided by MAFRI and are based on the 1996/97 year to allow consistent comparisons between areas. However average catches



over a number of years are also a useful measure in some situations and, where appropriate, additional comments are made about average catches. Values are based on 1999 prices for abalone, and 1998/99 for rock lobster. See Appendix 5 for a fuller discussion of fisheries estimates.

Abalone harvested within the area of the proposed park was estimated to be 14.2 tonnes in 1996/97 or a little over 5% of the Western Zone catch quota, valued at approximately \$481 000. This compares with catch averages since 1988 of 18 tonnes.

Rock lobster catches were estimated to be approximately 14.5 tonnes in 1996/97, or 3.4% of the Western Zone rock lobster catch, valued at \$453 000. This estimate had a high random standard error associated with it, and the ECC believes that the actual catch may be higher (see Appendix 5 for details).

Fishing for wrasse is the other significant commercial fishing activity within this area, estimated to be worth approximately \$10 000 for 1996/97. The wrasse fishery is relatively new and catches have been rising steadily since the early 90s, from 28 tonnes across the State in 1992/93 to 81 tonnes in 1997/98 (Fisheries Victoria data). The current catches in the area of the proposed park are likely to be greater than that estimated for 1996/97.

Implementation and management

- The proposed park is not readily accessible and is remote from vehicle access.
- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing take place. Areas which could be included in a monitoring program are Discovery Bay north of the park, Cape Duquesne to Cape Bridgewater, and Cape Nelson.

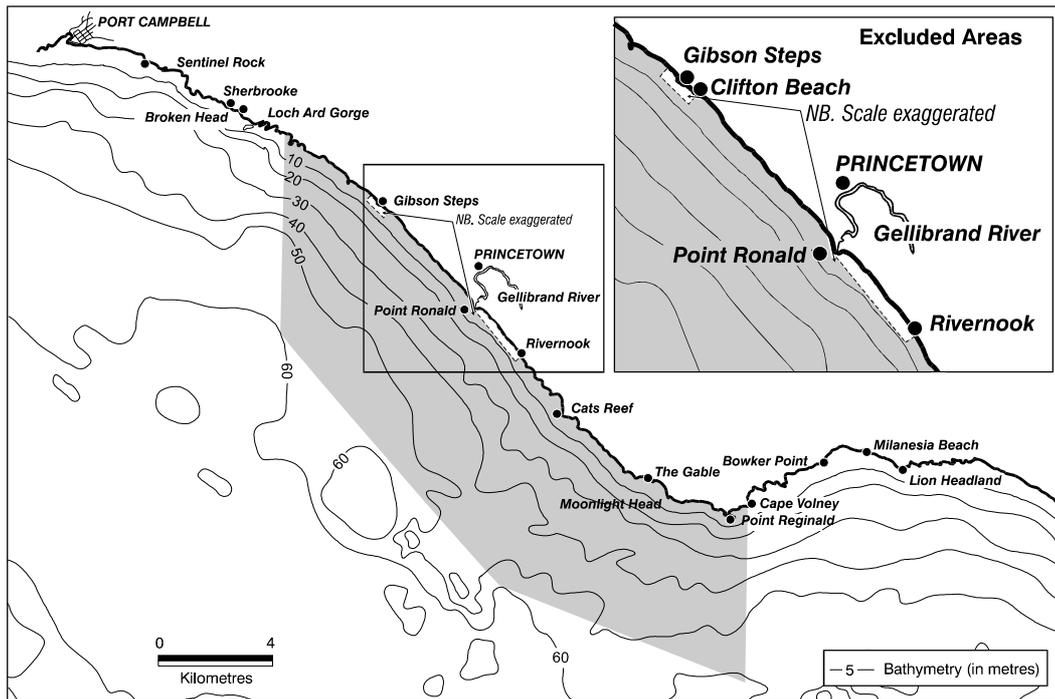
Recommendation

- A1** (i) That the Discovery Bay Marine National Park of 4 600 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43; and
- (ii) that park managers review access to the coast, and ensure reasonable access is available to alternative fishing locations.

References: 40, 242, 258, 297, 332, 334.



A2 Twelve Apostles Marine National Park



Twelve Apostles, along with Wilsons Promontory, is one of two major new marine national parks recommended for Victorian waters. The park includes spectacular underwater scenery that is a continuation of the famous coastal limestone cliffs and stacks of the Port Campbell area.

Description of the park

- One of two marine national parks, with Discovery Bay, proposed for Victoria's Western biophysical region.
- Located about 7 km east of Port Campbell, and adjacent to Port Campbell and Otway National Parks.
- Extends along approximately 23 km of coastline from east of Broken Head to Cape Volney, and offshore approximately for three nautical miles to the limit of Victorian waters.
- Approximately 11 700 hectares.

Environmental values

- The underwater extension of the well-known and spectacular terrestrial limestone cliffs, including dramatic underwater arches and canyons with marine life that is striking in colour and shape.
- Imposing, deep (16 to 55 metres) sloping reefs occur 4 to 5 kilometres offshore from Moonlight Head.
- The proposed park contains various geological rock types, including limestone, calcarenite,

mudstone and sandstone, adding to the total substrate complexity of the area.

- The following habitat types are represented in the park: intertidal and subtidal rocky reefs, sandy beaches and subtidal soft sediments.
- The rocky habitats of this area are complex in form and include platforms with shallow (< 1m) fissures and gutters; small rounded boulders; and heavy reef with sharp, steeply sloping ridges > 2 metres in height, some with narrow crevasses, others with wide sand filled gutters.
- Subtidal soft sediments consist of predominantly fine sand with some medium and coarse sand, and coarse shell rubble, with a carbonate content from 45 to 90%.
- Characteristic of a larger area from Childers Cove (east of Warrnambool) to Gibson Steps which has the highest diversity of intertidal and shallow subtidal invertebrates on limestone in Victoria.
- The sandstone intertidal rocky platforms around Moonlight Head are extensive and contain a range of coastal orientations and microhabitats. These platforms are characterised by rich intertidal and shallow subtidal invertebrate communities (eg Cats Reef).



- Shoreline, rock stacks and islands provide breeding colonies for seabirds.
- Adjacent coastline has sites of significance for flora and fauna, and sites of geological and geomorphological significance including karst (ie cave) topography.

Aboriginal interests

- Aboriginal groups are concerned about the increase in tourism in the area, especially along the shoreline, and the increased risk of impact on cultural and environmental values.
- The Aboriginal community seeks a role in the process of authorising tourism, scientific and commercial activities.

Community views

There is strong support for two large marine national parks. Input from the local community centred on concern about the flow-on impacts on Port Campbell of the restrictions on commercial fishing, particularly on rock lobster fishers based in the town; and loss of shore-based recreational fishing at a number of sites between Clifton Beach and Gibsons Steps, and Princetown and Rivernook.

Local government indicated that they would support a smaller park in this locality. Commercial abalone and rock lobster fishers based at Apollo Bay also opposed the proposal, because of the impact on their fishing activities particularly in the eastern section of the park.

Two changes have been made to this recommended park: excluding additional areas to reduce the impact on recreational fishing, and straightening the seaward boundary for easier identification at sea. Both shoreline areas previously excluded from the park have been extended, at Gellibrand River mouth at Princetown to Rivernook, and Gibsons Steps to Clifton Beach. Other changes to the recommended park would significantly reduce the range of habitats represented in the park, and reduce its ecological viability.

Other nearby areas that were reconsidered during public consultation on this proposal include areas around or near Lake Gilliar, Glenaire, and areas closer to Port Campbell.

Social and economic implications

Impacts on coastal communities

The nearest coastal towns to this park are Port Campbell with an estimated population of 325 and Apollo Bay with an estimated 1 050 residents.

Tourism and leisure services, predominantly linked to Port Campbell National Park, are key business activities in Port Campbell with 30% of employed residents. The area's diverse coastline and the nature-based experiences it provides are key strengths for the future development of the town. The establishment of the marine national park would enhance this trend. The Port Campbell jetty was recently rebuilt with Government funds to provide for a range of uses into the future. Agriculture, forestry and fishing represents about 9% of employed residents.

The majority of employed residents in Apollo Bay (74%) are engaged in tertiary industry, including consumer services (34%), and only 7% are employed in the agriculture, forestry and fishing industry. It is not clear how many of these are actually working in Apollo Bay – although it is known that 32 (out of 126) Apollo Bay based businesses provide accommodation and there is a seafood processing plant employing about 5 full time employees. Apollo Bay is promoted as beachside resort, offering a range of water-based activities. Tourism is a key industry for the town, with most visitors to the Great Ocean Road region undertaking a range of passive recreational activities such as going to the beach, driving for pleasure, sightseeing and eating out at restaurants.

However, the Twelve Apostles Marine National Park will have an impact on commercial fishers (see below) based in Port Campbell and Apollo Bay. Although unlikely to affect noticeably Port Campbell or Apollo Bay economies, there may be social impacts on the Port Campbell community. Port Campbell is a small coastal community, and impacts on even a small number of individual fishers, especially where new employment is difficult to find, is an important social issue. (See Appendix 4 for more details.)

Recreation and tourism

The area is growing in popularity for diving, cliff top sightseeing, nature study, and limited shore and boat-based fishing. Although recreational fishing is limited by the generally difficult boat and land access, a few locations are accessible and popular for recreational fishing.



The impact of the recommended park on recreational fishing will be small, as most of the park is relatively inaccessible. Two areas at Gellibrand River mouth at Princetown and Gibson Steps, that are readily accessible and particularly popular with local residents for recreational beach fishing are not included in the park. Similar alternative areas are not available nearby.

There will be no restrictions on boating, diving, and other non-harvesting activities. The recommended park is adjacent to the Otway and Port Campbell National Parks, providing opportunities to develop complementary visitor information and education materials.

Commercial fishing

Major commercial fishing activities are fishing for rock lobster and abalone. The following estimates of fisheries catch and value were provided by MAFRI and are based on the 1996/97 year to allow consistent comparisons between areas. However average catches over a number of years are also a useful measure in some situations and, where appropriate, additional comments are made about average catches. Values are based on 1999 prices for abalone, and 1998/99 for rock lobster. See Appendix 5 for a fuller discussion of fisheries estimates.

Abalone harvested within the area of the proposed park was estimated to be 22.8 tonnes or a little over 3.3% of the Central Zone catch quota, valued at approximately \$773 000.

Rock lobster catches were estimated to be approximately 12.9 tonnes, or 3.0% of the Western Zone rock lobster catch valued at \$403 000. This estimate had a high random standard error associated with it, and the ECC believes that the actual catch may be higher (see Appendix 5 for details).

Other fishing was estimated to amount to about \$39 000 for 1996/97.

To reduce the impact on commercial fishing, the park no longer includes fishing grounds close to the township of Port Campbell. The ECC recommends that where individuals or local communities are disproportionately affected as a result of implementation of this park, appropriate adjustment measures should be considered (see Recommendation R1 on page 15).

Petroleum exploration and extraction

Oil and gas exploration that does not disturb the seabed and biota will be allowed, but exploratory drilling and extraction will not be permitted in marine national parks.

Oil and gas pipelines will be allowed subject to an Environment Effects Statement process, as for terrestrial national parks.

Implementation and management

- Parts of the proposed park are readily accessible from the shore through the extensive road network associated with Port Campbell National Park. Other areas are more remote and difficult to access. Boat access to most of the proposed park is difficult.
- The increased number of visitors to Port Campbell National Park, is likely to increase visitor numbers to some shoreline sections of the park.
- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing take place. Areas which could be included in a monitoring program are between the Bay of Islands and Port Campbell, and between Cape Volney and Cape Otway.

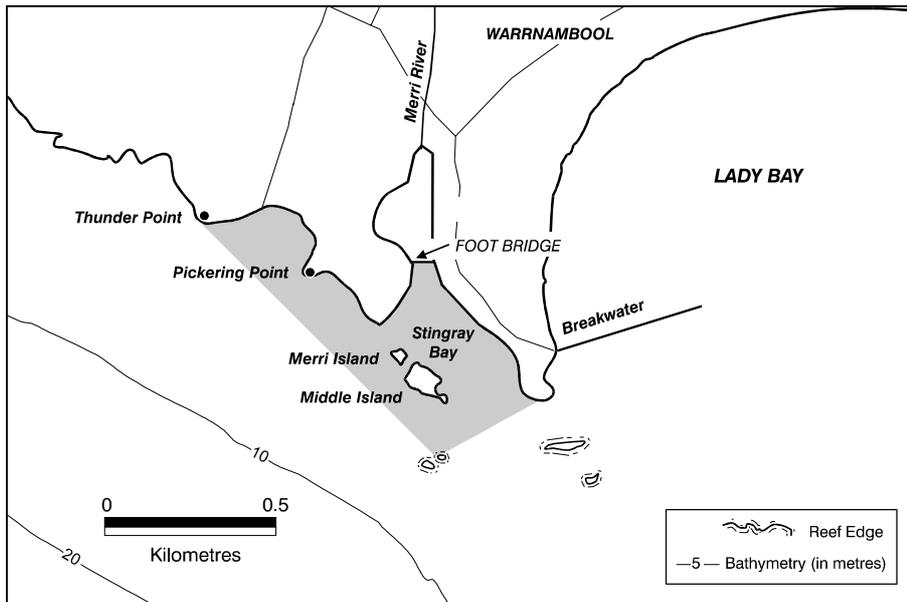
Recommendation

A2 That the Twelve Apostles Marine National Park of 11 700 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43.

References: 40, 176, 242, 258, 289, 298, 332, 333.



B1 Merri Marine Sanctuary



The Merri Marine Sanctuary is located at Warrnambool offshore from the mouth of the Merri River.

It is approximately 25 ha and is recommended for its ecological significance and value for public appreciation and education.

Environmental values

- The seabed at the river mouth is a mixture of reef and sand, with different seaweeds, providing a range of habitats and diverse marine life.
- Between Merri and Middle Islands rocky overhangs and 8 to 10 metre deep canyons support a variety of fish, including parrotfish, blue-throated wrasse, bastard trumpeters, magpie perch, and dusky and banded morwong.
- There are penguin colonies on Merri and Middle Islands.
- Dolphins are frequent visitors to the sheltered site.

Aboriginal interests

- ‘Merri’ is an Aboriginal word meaning ‘stony water’.
- Aboriginal groups have concerns regarding the increasing pressure to commercially exploit resources for tourism.
- The Aboriginal community seeks a role in the process of authorising tourism, scientific and commercial activities.
- Local Aboriginal groups are concerned that the sanctuary may prevent traditional access to flora and fauna.

Implications for users

- There are currently a variety of restrictions on commercial fishing, but parts of the area are used for limited abalone and rock lobster harvesting.
- Some shore-based recreational fishing currently occurs, but the popular breakwater is excluded from the proposed sanctuary.
- Following public consultation on the proposal, the area has been reduced in size, to exclude some reefs used for commercial abalone harvesting.

Implementation and management

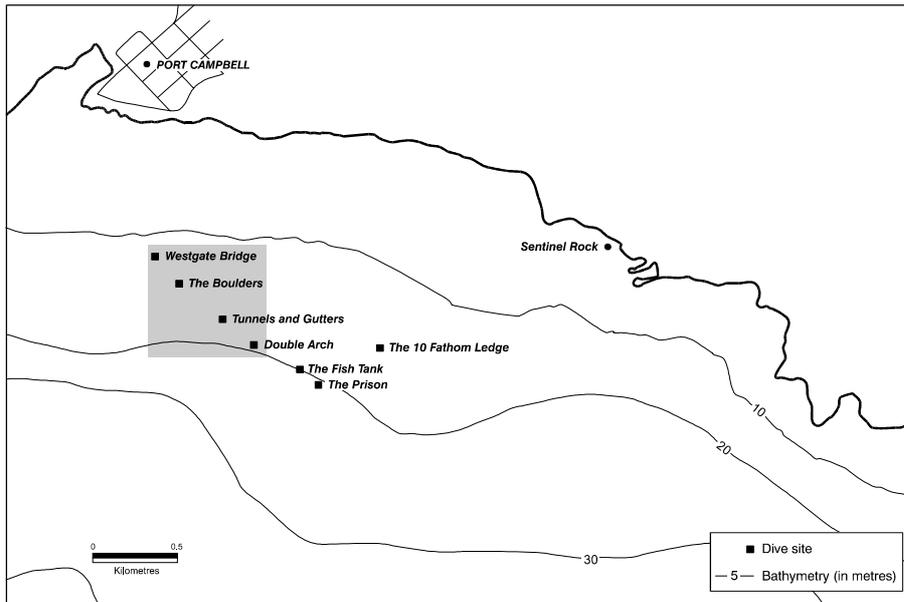
- Management of this sanctuary should involve the Aboriginal community and local government.

Recommendation

- B1** That the Merri Marine Sanctuary of approximately 25 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.



B2 The Arches Marine Sanctuary



The Arches Marine Sanctuary is located off Port Campbell.

It is approximately 45 ha and is recommended for its ecological, scenic and tourism values.

Environmental values

- The site contains some of Victoria’s most spectacular limestone formations with rocky arches and canyons in 19 to 25 metres of water.
- The upper surfaces of the arches are covered in kelp, and an understory of red seaweeds. The shaded undersides of the arches and canyon walls are carpeted with invertebrates characteristic of deeper Bass Strait waters, including sponges, bryozoans, gorgonians, hydroids and an abundance of colourful seastars.
- Giant kelp forests provide important habitat for a suite of marine animals.

Aboriginal interests

- An application for a native title determination has been lodged including the recommended marine sanctuary area.
- Aboriginal groups are concerned about the increasing popularity of the area for dive tourism, and the increased risk to cultural and environmental values.
- The Aboriginal community seeks a role in the process of authorising tourism, scientific and commercial activities.

Implications for users

- Some rock lobster fishing currently occurs within this area.
- Popular destination for dive charters, because of the spectacular underwater scenery.

Recommendation

B2 That The Arches Marine Sanctuary of approximately 45 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.



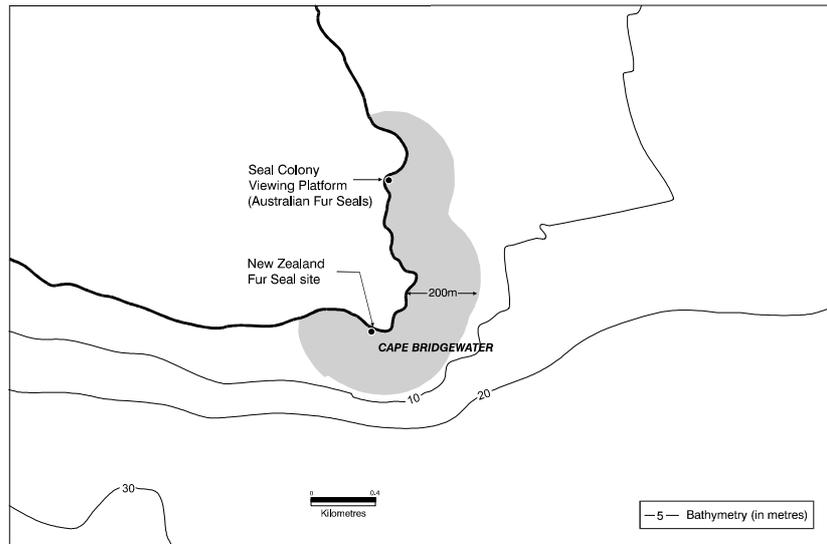
Special Management Areas

C1 Cape Bridgewater

Values

This 23 ha area west of Portland includes the waters around one of only two mainland Australian fur seal colonies. There are reports of breeding seals that would make it the only mainland breeding colony in Australia.

A viewing platform constructed above this site in the adjoining Discovery Bay Coastal Park attracts many visitors. A small number of New Zealand fur seals are also reported to come ashore at Cape Bridgewater. Local dive operators offer diving and snorkelling excursions where, in addition to observing seals in their environment, divers can admire diverse and abundant marine flora and fauna. The seals can also be viewed from the sea with a charter-boat operating throughout the year.



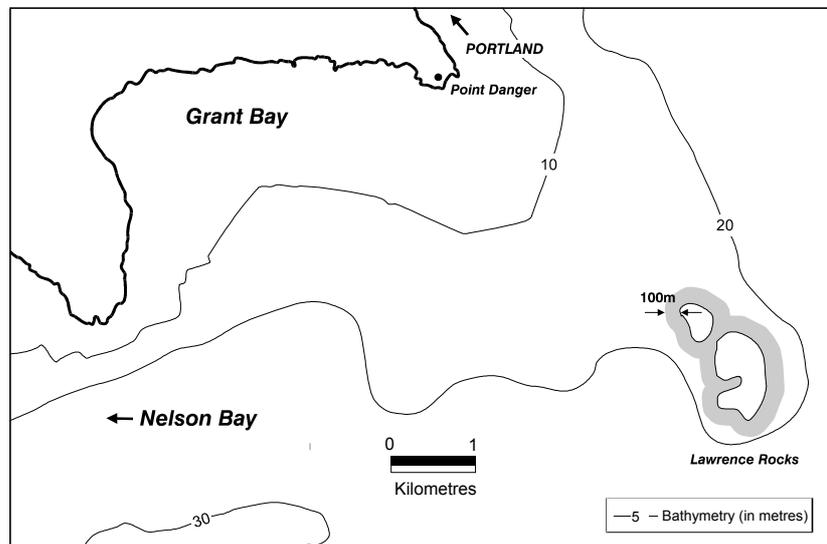
Management issues

Managers should ensure that an appropriate distance is kept between boats and the rock platforms used by seals, to avoid unnecessary disturbance. Though mortality of seals in nets is generally low, netting is a potentially threatening activity, and restrictions should be placed on netting near the colony to minimise seal injury and mortality through entanglement in mesh and gill nets.

C2 Lawrence Rocks

Values

This 24 ha area near Portland consists of waters around the islands of volcanic rock which make up Lawrence Rocks. A kelp forest up to 12 metres high is intermittently found in waters on the northern side of Lawrence Rocks. The western side offers diving and snorkelling opportunities within a natural harbour noted for its calm conditions and abundant marine life. The rocks themselves are of State geological and geomorphological significance. They are the highest offshore point of a largely submerged volcanic caldera beneath Nelson Bay.



Management issues

The waters for 100 metres offshore from the boundary of the wildlife reserve should be managed to complement management of the seabird colonies, and to ensure protection of the linked terrestrial and marine values.



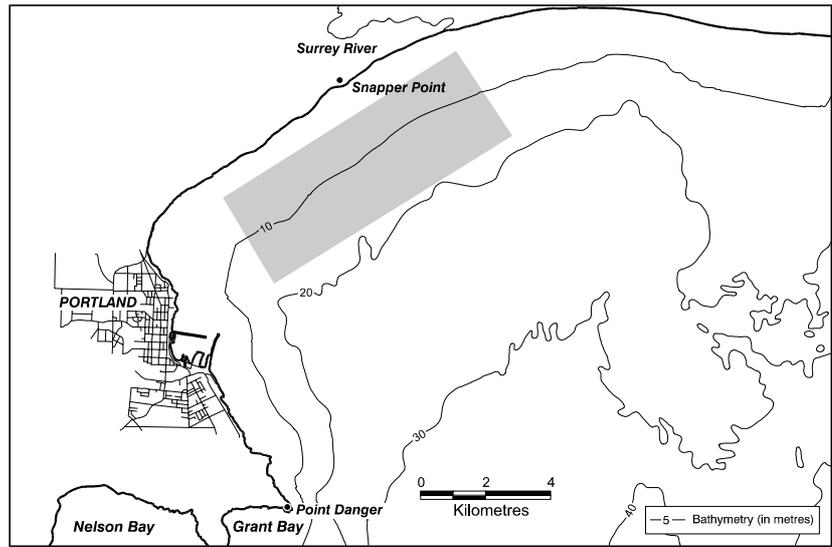
Special Management Areas

C3 Portland Bay

Values

This 2 675 ha area situated about 1 km offshore near Portland, contains the most extensive known beds of *Amphibolis antarctica* seagrass on the open coast in Victoria. The highly productive seagrass ecosystem supports a diverse invertebrate community and is a nursery ground for juvenile fish such as King George whiting, and occasionally snapper and shark. The site is also one of very few locations where the rare brown alga *Cystophora cymodocea* occurs, growing attached to the seagrass.

Low and high profile rocky reefs at this site also provide habitats for a range of reef species. This site is visually attractive for diving and snorkelling and is popular with recreational fishers who target a number of fish species.



Management issues

Under the provisions of the *Fisberies Act* 1995, seining operations are prohibited from the area from Point Danger to the mouth of the Surrey River, and the port managers in cooperation with the aluminium smelter have put in place a dredge spoil disposal program that avoids impact on the seagrass. These existing management arrangements should be maintained, and reviewed periodically, to ensure protection of the seagrass ecosystem.



Special Management Areas

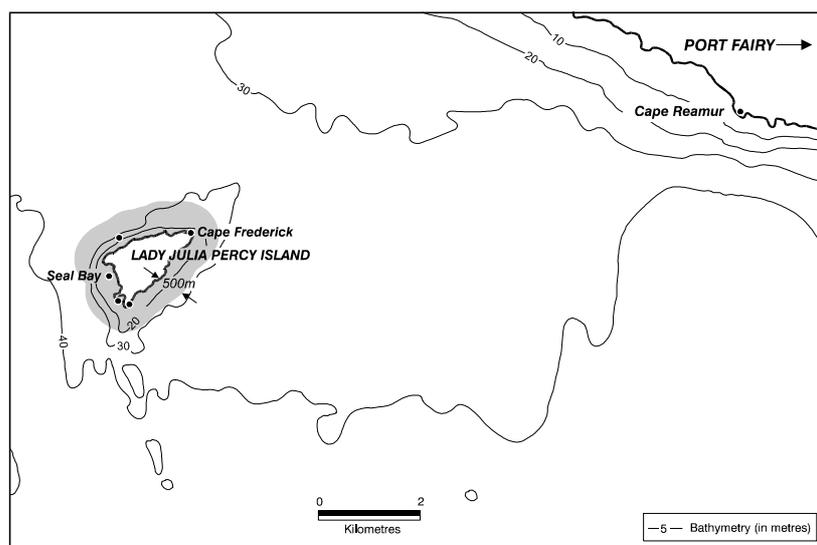
C4 Deen Maar (Lady Julia Percy Island)

Values

The local Gunditjmara people have a spiritual, traditional physical and contemporary connection to Deen Maar. Deen Maar means Bunjil – ‘The Creator’ or ‘The Man’. Deen Maar is the resting place of Bunjil, and it is where he departed this world. The adjoining mainland and wetlands are of great spiritual significance to the Gunditjmara people and, in late 1999, about 400 ha of land between the Eumarella River estuary, the Yambuk Lakes system and the Southern Ocean, was declared Victoria’s first Indigenous Protected Area.

The island is home to one of Victoria’s two largest Australian fur seal breeding colonies, and is also a breeding ground for numerous species of birds some of which are threatened (fairy prion, common diving petrel, white-bellied sea eagle). It is of national geological and geomorphological importance. The island is a wildlife reserve.

The sharply sloping reefs of the southern and eastern sides of the island are covered by a dense kelp canopy, which provides habitat for other marine life, while at the northern end the island drops into a sandy seabed. The subtidal area around Deen Maar is considered to be some of the most spectacular underwater environments in Victoria. The endangered great white shark frequents this area.



Management issues

Management of the waters for 500 metres around the island (430 ha) should complement management of the cultural and biological values of the island. Future management should involve the local Aboriginal communities, and addition of the area to the Deen Maar Indigenous Protected Area should be explored in consultation with the Gunditjmara people.

Commercial harvesting of abalone and rock lobster takes place within the site with occasional mesh netting and long lining. As with Cape Bridgewater (C1 above) netting is a potentially threatening activity, and restrictions should be placed on netting near the colony to minimise seal injury and mortality through entanglement in mesh and gill nets.

Rock lobster pots placed near seal breeding grounds can cause death of juvenile seals. Monitoring of juvenile seal mortality should be carried out and the use of seal-resistant pots explored. Disturbance to the colony during the breeding season should be avoided, and managers should ensure that vessel access is appropriately regulated during this time.



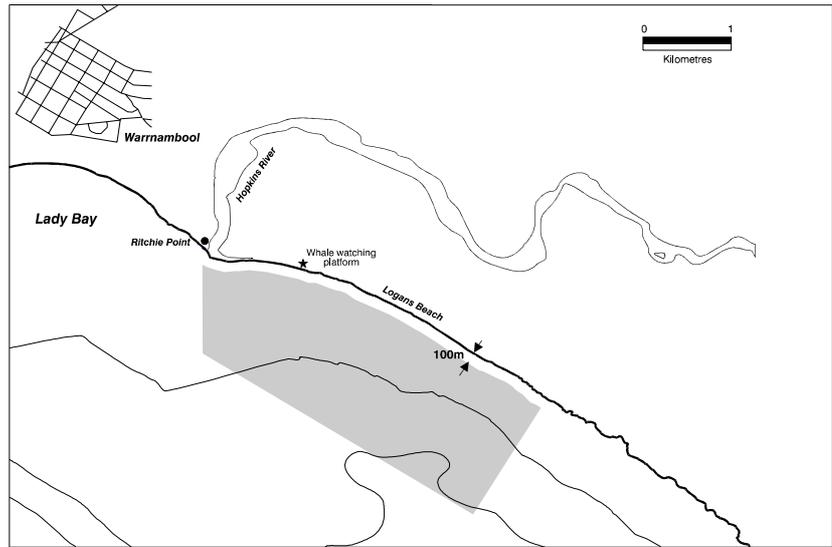
Special Management Areas

C5 Logans Beach

Values

This 550 ha area near Warrnambool is a calving and nursery ground for the southern right whale. This whale is listed as an endangered species both at a national and a State level. It was listed under Victoria's *Flora and Fauna Guarantee Act* 1988 in 1990. The whales congregate in the general area every year from about May to October and breed approximately every three years. The exact boundaries of the breeding ground are not known, but whales with their young are often seen at Logans Beach. The whales move along the shore between a point 2 km east of Warrnambool (south of Lake Gilliar) and Port Fairy, up to 1.5 km offshore.

The Whale Dreaming is significant for the local Aboriginal people.



Management issues

Management of commercial fishing, recreational boating and tourism while the whales are present is currently undertaken through a combination of voluntary agreements and regulations. All vessels are excluded from Logans Beach in the shaded area from June to October each year to prevent disturbance of the whales and to enhance the remote scenic aspect for thousands of cliff top whale watchers.

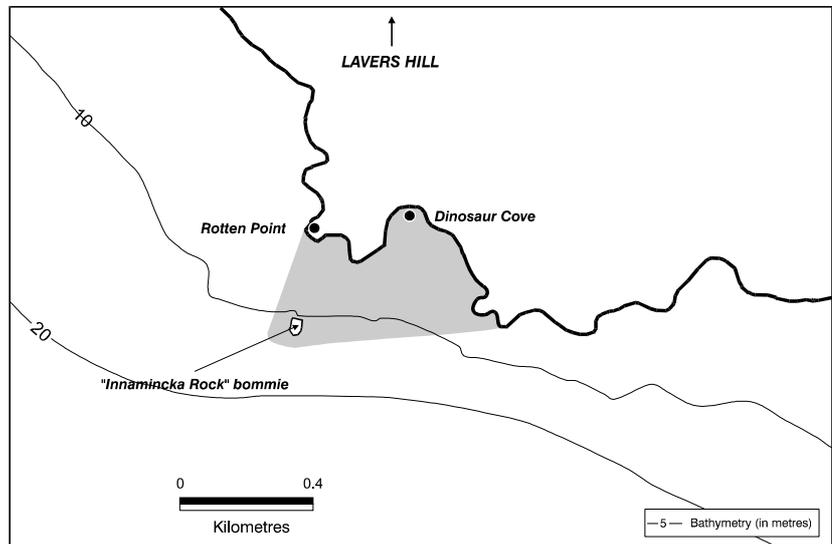
C6 Dinosaur Cove

Values

This 20 ha area contains spectacular underwater scenery with sheer underwater cliffs, massive boulders and a unique feature for this part of the coast, a large bommie, 'Innamincka Rock'.

The complexity of the seabed is enriched with rock ledges, gutters and shallow sand/reef. Surveys have shown that areas as small as two square metres include 15 species of sponges, 10 ascidians, 27 bryozoans, and four hydroids (O'Hara 2000).

The coastline offers spectacular views of the ocean, steep cliffs, sea caves and magnificent rock platforms. The site has major palaeontological significance with the renowned dig site, Dinosaur Cove. Although access is difficult, the site is popular with a small number of keen shore-based anglers.



Management issues

Management of the area should ensure protection of the diverse natural values of the area, while retaining access for recreational fishing.

The local Aboriginal people are concerned about possible disturbance to archaeological sites, and areas of cultural significance. Involvement of the local Aboriginal community in management of this area is encouraged.





Recommendations

Part Three

Recommendations for the Central and Wilsons Promontory biophysical regions

This part sets out the recommendations for marine protected areas for the open coast from Cape Otway to Wilsons Promontory.

Victoria's Central and Wilsons Promontory biophysical regions are incorporated into IMCRA's Central Victoria and Flinders regions respectively. The Flinders Region extends into Bass Strait and includes Tasmania's Flinders Island and other islands.

The marine environment along this part of the Victorian coastline varies from the heavily visited rocky shore and surf coast environments close to the major population centres of Melbourne and Geelong, to the more remote but much loved granite landscapes of Wilsons Promontory.

The marine flora and fauna are typically cool temperate, with warm temperate species commonly found in New South Wales also present in low numbers. Many western species have their eastern distributional limit between Bunurong and Wilsons Promontory. A recent study (Edmunds *et al.* 2000) described this part of the Victorian coast at the most detailed level of hierarchical marine classification – marine ecological communities (see section 3.6 for more details). Distinct macrophyte, invertebrate and fish marine ecological communities were found within Wilsons Promontory and Bunurong Marine National Parks.

This is the most accessible section of open coastline for the majority of Victoria's population. Outside the metropolitan areas of Melbourne and Geelong, there are few large regional centres. West of Melbourne the townships of Apollo Bay, Lorne, Anglesea, Torquay and Ocean Grove along the Great Ocean Road are important for tourism, and some also act as dormitory suburbs for people working in the nearby city of Geelong. East of Melbourne along the west and south Gippsland coast, there are few major towns situated on the coast. However there are a number of small towns such as Inverloch and other smaller coastal settlements where tourism is a

significant economic activity. The largest existing highly protected area in Victoria – the sanctuary zone of the Bunurong Marine Park – was established near Inverloch in 1991.

Wilsons Promontory is Victoria's oldest national park, first established more than 100 years ago. The waters surrounding Wilsons Promontory were declared as marine protected areas in 1986. The predominantly granite coastline plunges steeply onto sandy seafloor, a marine environment unique in Victoria.

This part of the report gives descriptions of the recommended marine national parks, marine sanctuaries and special management areas in Victoria's Central and Wilsons Promontory biophysical regions. Recommendations regarding existing marine parks can also be found in this section on page 50. See the Executive Summary for a table of changes to the recommendations since the Draft Report.

See section 3.7 of this report for an overview of the recommendations for marine protected areas including recommendations for permitted uses and activities.

Recommended Areas

Marine National Parks

- A3** Point Addis Marine National Park
- A8** Bunurong Marine National Park
- A9** Wilsons Promontory Marine National Park

Marine Sanctuaries

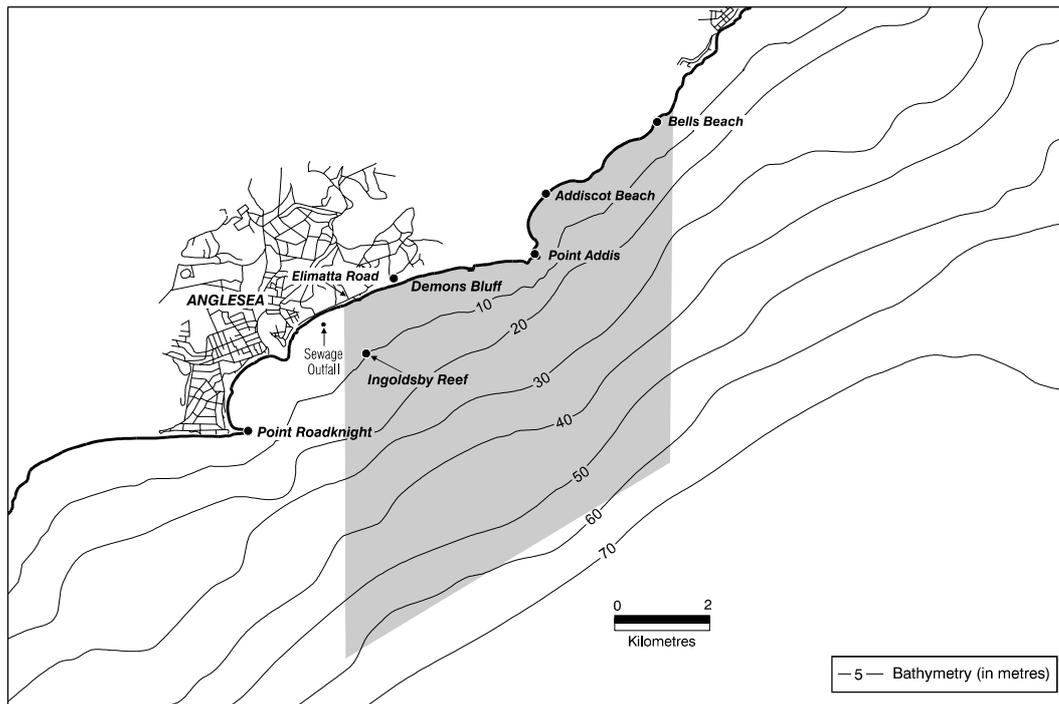
- B3** Marengo Reefs Marine Sanctuary
- B4** Eagle Rock Marine Sanctuary
- B5** Point Danger Marine Sanctuary
- B6** Barwon Bluff Marine Sanctuary
- B10** Mushroom Reef Marine Sanctuary

Special Management Area

- C15** Summerland Peninsula (Phillip Island)



A3 Point Addis Marine National Park



This recommended park adjoins rugged cliffs for much of its length, but also includes the world famous Bells Beach.

Description of the park

- One of two marine national parks, with Bunurong, proposed for Victoria's Central biophysical region.
- Extends along approximately 10 km of coastline east of Anglesea to (and including) Bells Beach, and offshore approximately for three nautical miles to the limit of Victorian waters.
- Approximately 4 750 hectares in size.

Environmental values

- The following habitat types are represented in the park: sandy beaches, intertidal and subtidal rocky reefs, and subtidal soft sediments.
- The rocky habitats of this area have varied forms, including low profile reef about half to one metre high, low profile broken reef, and rounded cobbles.
- Subtidal soft sediments consist of a mixture of fine and medium sand with some coarse sand, and silt, shell and coral rubble, with a carbonate content of 75 to 90%.

- Ingoldsby Reef with a range of marine life, including the leafy sea-dragon.
- *Amphibolis* seagrass off Point Addis.
- Adjoining coastline with rugged cliffs and bluffs with species-rich heathlands and coastal scrub, wide sandy beach systems to the east and west of the Point Addis headland, and an extensive area of remnant vegetation known as the Iron Bark Basin, a municipal reserve.
- The Point Addis Limestone is of State geological significance.

Aboriginal interests

- This area is used for traditional practices of fishing and food collection by the local Aboriginal people.
- Middens are located along the shoreline. There has been no archaeological survey of this area, and further development should not be carried out without a cultural assessment and survey. Point Addis is likely to be a burial area.
- Aboriginal people are concerned about threats to flora and fauna, from the high numbers of visitors to this part of the coast.



Community views

There is strong local support for establishing a park in this area, but loss of shore-based and boat-based recreational fishing was a major issue in many submissions. The proximity of the Anglesea sewage outfall to the western boundary of the park was raised as a concern during public consultation (see below in *Implementation and management*).

The ECC has not made changes to this recommended park, other than straightening part of the seaward boundary for easier identification at sea. Changes to the recommended park would significantly reduce the ecological viability of the park, and would reduce the broad level of community support for the proposal.

Other nearby areas that were reconsidered during public consultation on this proposal include the area from Anglesea to Eastern View, an area west of the recommended area to Point Impossible, and Point Nepean.

Social and economic implications

Impacts on coastal communities

The nearest major coastal towns to this park are Torquay and Anglesea with an estimated combined population of 9 000 permanent residents.

The Torquay/Anglesea area is a very popular holiday destination, promoted for its beaches and access to surfing and swimming, with a high level of holiday home ownership and provision of visitor accommodation. Around 35% of employed residents are engaged in services such as retailing, education and visitor accommodation, while around 22% are employed in the manufacturing and construction industries, and only 0.9% in the agriculture, forestry and fishing industry sector. Many residents commute to employment in nearby Geelong. The establishment of the Point Addis Marine National Park is likely to have a long-term positive, although difficult to quantify, impact on the tourism economy of Torquay and Anglesea. (See Appendix 4 for more details.)

Recreation and tourism

Bells Beach is one of the world's best known surfing beaches and home to a number of major surfing competitions. There will be no restrictions on the major surf tournaments held at Bells Beach. Establishment of the recommended park could further enhance the status of Bells Beach, and assist in communicating environmental messages to the surfing community and general public.

The proposed park is currently used for surf fishing, particularly between Black Rock and Point Addis, and boat-based fishing. In addition to Bells Beach, Addiscot Beach is also popular for surfing, and diving and nature study are popular at Ingoldsby Reef. On balance, the ECC considers that the impact of the restriction on recreational fishing is likely to be fairly low, as much of the park is not readily accessible and alternative areas are available within a reasonable distance.

There will be no restrictions on boating, diving, and other non-harvesting activities.

Commercial fishing

Major commercial fishing activities are fishing for rock lobster and abalone, and mesh netting. The following estimates of fisheries catch and value were provided by MAFRI and are based on the 1996/97 year to allow consistent comparisons between areas. However average catches over a number of years are also a useful measure in some situations and, where appropriate, additional comments are made about average catches. Values are based on 1999 prices for abalone, and 1998/99 for rock lobster. See Appendix 5 for a fuller discussion of fisheries estimates.

Abalone harvested within the area of the proposed park was estimated to be 1.6 tonnes or a little over 0.2% of the Central Zone catch, valued at approximately \$56 000. Catch and effort records suggest that the importance of this area is diminishing.

Rock lobster catches were estimated to be approximately 1.8 tonnes, or 2.6% of the Eastern Zone rock lobster catch valued at \$55 000. The ECC believes that the average catch is likely to be higher as the catch in 1996/97 was one of the lowest in the past seven years.

Other fishing activities include mesh netting, with small quantities from other fishing methods, amounting to about \$52 000.

Implementation and management

- The outlet from the Anglesea sewage treatment plant is located 600 metres from the western boundary of the park. The outflows have undergone high quality secondary treatment. Dye dispersion studies have shown that the dilution factor 600 metres from the outlet ranges from 190 to 1000. The outflows would therefore have negligible impact on the proposed park.
- The proposed park is not readily accessible, except at Bells Beach - the area with the highest visitor numbers.



- Community support for the proposal is likely to facilitate compliance.
- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing take place. Areas which could be included in a monitoring program are from Anglesea to Eastern View, west of the proposed area to Point Impossible, and Point Nepean.

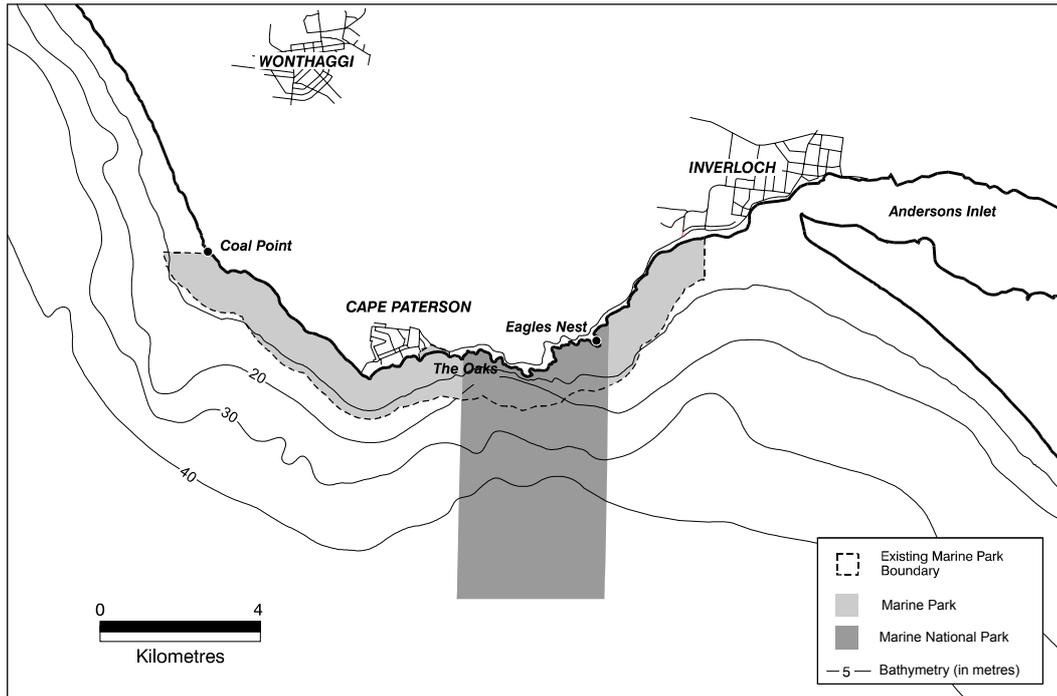
Recommendation

A3 That the Point Addis Marine National Park of 4 750 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43.

References: 40, 176, 242, 258, 289, 312, 332.



A8 Bunurong Marine National Park



This recommended park is an extension of the existing well-known and popular Bunurong sanctuary zone. It is one of the most accessible parks, its striking rock formations admired and its beaches used by high numbers of visitors. A favourite activity is exploring the diverse marine life on the intertidal platforms and rockpools.

Description of the park

- One of two marine national parks, with Point Addis, proposed for Victoria's Central biophysical region.
- Located about 6 km south-west of Inverloch, includes the sanctuary zone of the existing Bunurong Marine Park.
- Extends along approximately 5 km of coastline from 2.5 km east of Cape Paterson to the eastern end of Eagles Nest Beach, and offshore approximately for three nautical miles to the limit of Victorian waters.
- Approximately 2 150 hectares.

Environmental values

- The following habitats are represented in the park: sandy beaches, intertidal and subtidal rocky reefs, subtidal soft sediments.
- Extensive intertidal rock platforms, and subtidal rocky reefs, uncommon along the Victorian coast, which extend several kilometres from shore but which are in relatively shallow water. These platforms and reefs include numerous microhabitats.

- Marine flora and fauna, including subtidal flora, characterised by a mixed assemblage of brown algae consisting predominantly of *Acrocarpia paniculata*, *Seirococcus axillaris*, *Cystophora retorta*, *Cystophora platylobium* and *Cystophora moniliformis*. The seagrass *Amphibolis antarctica* is also an important component.
- The species richness of the Bunurong flora is among the highest for communities that have been examined so far, and diversity is also reasonably high.
- A number of marine ecological communities have been identified recently for the proposed Bunurong Marine National Park. The marine ecological communities at Bunurong were quite different from those at Wilsons Promontory, but had similarities with communities at Phillip Island and Port Phillip Heads further west (see Appendix 6 for details).
- Highest diversity of intertidal and shallow subtidal invertebrate fauna recorded in Victoria on sandstone. A high proportion of the common invertebrates occurring along Victorian coast: for example, seven of eight species of brittle stars, nine of 11 sea-cucumbers, 8 of 11 barnacles, all 5 sea anemones, and 15 of 20 chitons.



- Eagles Nest provides habitat for breeding peregrine falcons and hooded plovers, and is a fossil dinosaur locality.
- The park adjoins a foreshore area consisting of dunes (in the west) and high cliffs (to the east) which support important remnant coastal and dune vegetation.

Aboriginal interests

Gippsland and East Gippsland Aboriginal coastal communities strongly expressed the need for Government to consult their communities prior to decision-making and implementation.

Community views

Input from the local community was supportive of the park, but critical of perceived lack of monitoring of the existing area.

The ECC has not made any changes to this recommended park. Other nearby areas that were reconsidered during public consultation on this proposal include Point Nepean, The Nobbies and Cape Liptrap. The recommended Bunurong Marine National Park has a lower impact on the fishing industry and other users than do the alternatives.

Social and economic implications

Recreation and tourism

This area is popular for diving, cliff top sightseeing, and beach activities. One of the most popular recreational activities is exploring rockpools. Shore access is excellent with roads and car parks at many sites.

All fishing is currently prohibited, from the shore to 1 km offshore, in the sanctuary zone of the Bunurong Marine Park. Offshore boat-based recreational fishing is limited. The effect on recreational fishing of the recommended extension to the sanctuary zone will be minimal.

There will be no restrictions on boating, diving, and other non-harvesting activities.

Commercial fishing

This park will have a relatively minor impact on commercial fishing as fishing has been excluded from part of the area, to 1 km offshore, since 1991. The main commercial fishing activity is for rock lobster outside the boundary of the existing Sanctuary Zone.

The following estimates of fisheries catch and value were provided by MAFRI and are based on the 1996/97 year to allow consistent comparisons between areas. Values are based on 1999 prices. See Appendix 5 for a fuller discussion of fisheries estimates.

Rock lobster catches were estimated to be approximately 0.9 tonnes, or 1.3% of the Eastern Zone rock lobster catch, valued at about \$28 000.

Other fishing activities are minor with an estimated value of \$6 000.

Implementation and management

- Shore access to the park is excellent and a number of platforms have been constructed to allow viewing of the picturesque beaches, cliffs and extensive rock platforms. The high visitor numbers require continuous management effort.
- There have been repeated claims that the existing sanctuary zone has been stripped of abalone by illegal poaching. A recent review of biological information enabled quantitative assessments of spatial and temporal changes between 1991 and 1999. Fished populations were compared inside and outside the existing sanctuary zone. Analyses indicated the sanctuary was acting as a reserve for male blue throated wrasse, which are targeted for the live-fish market. No differences were detected in abalone population structure inside and outside the sanctuary. However, the Bunurong populations are not subject to strong commercial harvesting pressure.
- The existing marine park is well accepted and supported by the community, thereby facilitating compliance.
- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing take place. Areas of the existing marine park adjacent to the sanctuary zone are already included in a monitoring program.

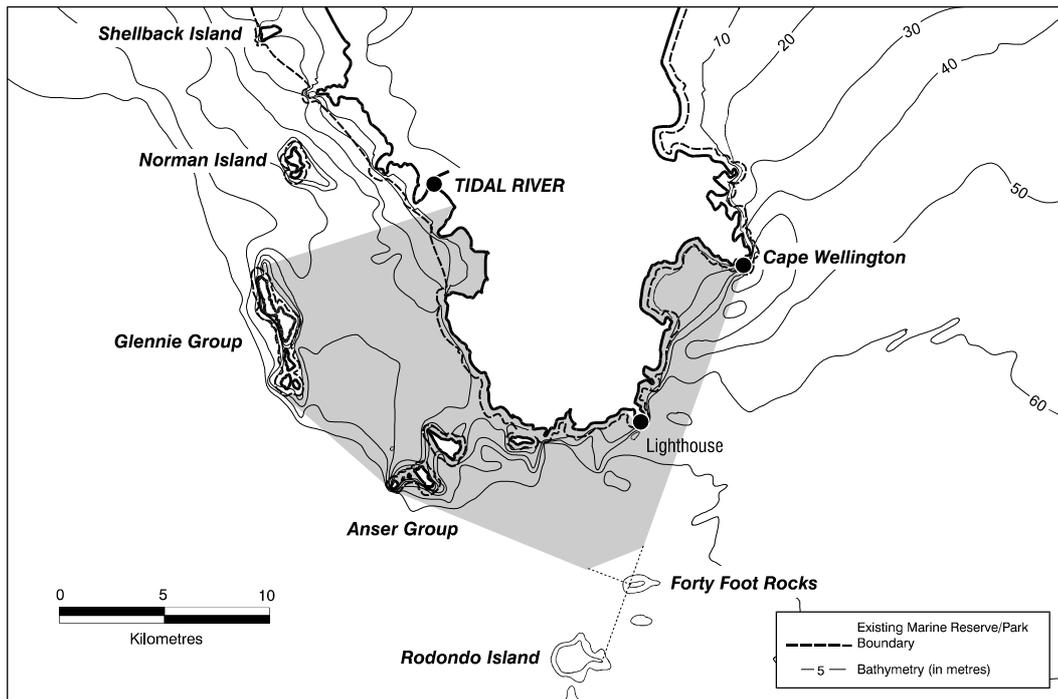
Recommendation

A8 That the Bunurong Marine National Park of 2 150 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43.

References: 40, 126, 144, 147, 176, 242, 258, 289, 312, 393.



A9 Wilsons Promontory Marine National Park



This park, along with the Twelve Apostles, is one of two major new marine national parks recommended for Victorian waters, and is an extension of the existing marine reserve. It adjoins Wilsons Promontory National Park, including a number of the rugged and remote offshore granite islands.

Description of the park

- The only marine national park proposed for Victoria's Wilsons Promontory biophysical region.
- Located around the southern tip of Wilsons Promontory adjoining Wilsons Promontory National Park, and including the existing Wilsons Promontory Marine Reserve.
- Extends along the coastline from Norman Point in the west to Cape Wellington in the east, and offshore, encompassing several islands.
- Approximately 16 600 hectares.

Environmental values

- The following open coast habitat types are represented in the park: sandy beaches, intertidal and subtidal rocky reefs, and subtidal soft sediments.
- The granite habitats of this area are unusual in Victorian marine waters, including extensive heavy reefs with smooth surfaces, boulders and rubble and low profile reefs.

- Smooth walled granite cliffs plunging abruptly to the sea-floor, and sandy beaches sloping gradually to depths of 30 to 50 metres within 3 km offshore.
- Significant seagrass beds in some sheltered bays. Three species of seagrass: *Amphibolis antarctica* (eg Waterloo Bay), *Heterozostera tasmanica* (eg Oberon Bay), and *Halophila ovalis* (eg Waterloo Bay).
- Subtidal soft sediments consists of predominantly fine sand with some medium and coarse sand, silt and flat shell rubble, with a carbonate content of 2 to 60%.
- Deep heavy reefs have a dense cover of epifauna, especially sponges, stalked ascidians and sea wips, and are abundant in fish, including butterfly and magpie perches, leatherjackets and morid cods.
- Soft sediment areas among offshore reefs with diverse biotic assemblages, eg at 80 metres depth, off South East Point, extensive sponge gardens on flat shell rubble.
- A number of marine ecological communities have been identified recently for the proposed Wilsons Promontory Marine National Park. They were distinct from marine ecological communities at Bunurong (see Appendix 6 for details).



- The Wilsons Promontory area forms the distribution limit for a number of species. It is possible that these distributional patterns are due to dramatic sea-level fluctuations in the Pleistocene era that, at times of low sea level, kept Bass Strait above sea level. For example,
 - seagrass *Amphibolis antarctica* has its eastern distribution limit on the east side of the Promontory;
 - intertidal molluscs *Notoacmea mayi* and *Austrocochlea odontis* are common in western and central Victoria, but absent east of the Promontory;
 - a brittle star *Ophionthrix spongicola* is absent west of the Promontory;
 - there is a floristic discontinuity of some green algae such as *Caulerpa* spp, and brown algae including *Cystophera*; and
 - a number of fish species have their limits here.
- A number of islands are used for breeding by Australian fur seals and many oceanic birds, including little penguins, short-tailed shearwaters, fairy prions, silver gulls and Pacific gulls. Kanowna Island is one of the four breeding colonies of Australian fur seal in Victoria.
- Some of Victoria's most spectacular underwater scenery is documented in the descriptions of 29 diving sites, due largely to the near vertical granite 'dropoffs', and the frequent high clarity of water, particularly on the western coastline.

Aboriginal interests

- An application for a native title determination has been lodged including the recommended marine national park area.
- Gippsland and East Gippsland Aboriginal coastal communities strongly expressed the need for Government to consult their communities prior to decision-making and implementation.

Community views

There is strong support for a large marine national park off Wilsons Promontory. An issue that arose during public consultation was the impact on commercial fishing, especially abalone, but also rock lobster and finfish. Commercial fishers generally did not support the proposal, although some sectors indicated that they would support a much smaller park in this locality.

The ECC has made a major change to this recommended park by excluding the Glennies group of islands to reduce impact on commercial abalone harvesting.

Nearby areas that have been reconsidered during public consultation on this proposal include Shellback Island, Cape Liptrap and two small areas submitted to Council by a Working Group made up of commercial and recreational fishers, business and tourism interests. These areas were Leonard Point at Wilsons Promontory, and an area near the Hogan Group about 40 km ESE of the southern tip of the Promontory. These areas were not considered to adequately represent the habitats and biological communities of the region.

Social and economic implications

Recreation and tourism

The area is popular for diving. Part of the coastline adjacent to the proposed park is used for sightseeing, general beach activities and coastal bushwalking. There will be no restrictions on boating, diving, and other non-harvesting activities.

All forms of recreational fishing are currently prohibited to 300 metres offshore. Limited boat-based recreational fishing occurs outside this area. The effect of the recommended park on recreational fishing is likely to be limited due to the current restrictions, the remoteness of the area, and the availability of alternative areas.

Commercial fishing

Current commercial fishing activities include fishing for rock lobster, abalone and mesh netting. The following estimates of fisheries catch and value were provided by MAFRI and are based on the 1996/97 year to allow consistent comparisons between areas. However average catches over a number of years are also a useful measure in some situations and, where appropriate, additional comments are made about average catches. Values are based on 1999 prices for abalone, and 1998/99 for rock lobster. See Appendix 5 for a fuller discussion of fisheries estimates.

Abalone harvested within the area of the proposed park was estimated by MAFRI to be 23.3 tonnes or 3.3% of the Central Zone catch quota, valued at approximately \$791 000. The ECC in consultation with industry, has reviewed the figures for a number of years



and believes that the area's contribution to the Central Zone catch may be up to an additional 1.5%.

Rock lobster catches were estimated to be approximately 1.0 tonne, or 1.6% of the Eastern Zone rock lobster catch, valued at \$31 700. The ECC believes that the catch, although disputed by commercial rock lobster fishers, is a reasonable estimate.

Finfish taken using Danish seines, board trawls and mesh nets had an estimated value of \$138 000.

Implementation and management

- The proposed park is not readily accessible, although relative to its location has a large number of visitors. Abalone theft is a serious issue.
- The existing marine reserve and marine park at Wilsons Promontory are managed together with the terrestrial national park. Education and visitor materials about the existing parks are available through the interpretation centre at Tidal River.

- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing take place. Areas which could be included in a monitoring program are the Glennies Group of islands and any sections of the Wilsons Promontory coast north of the proposed area.

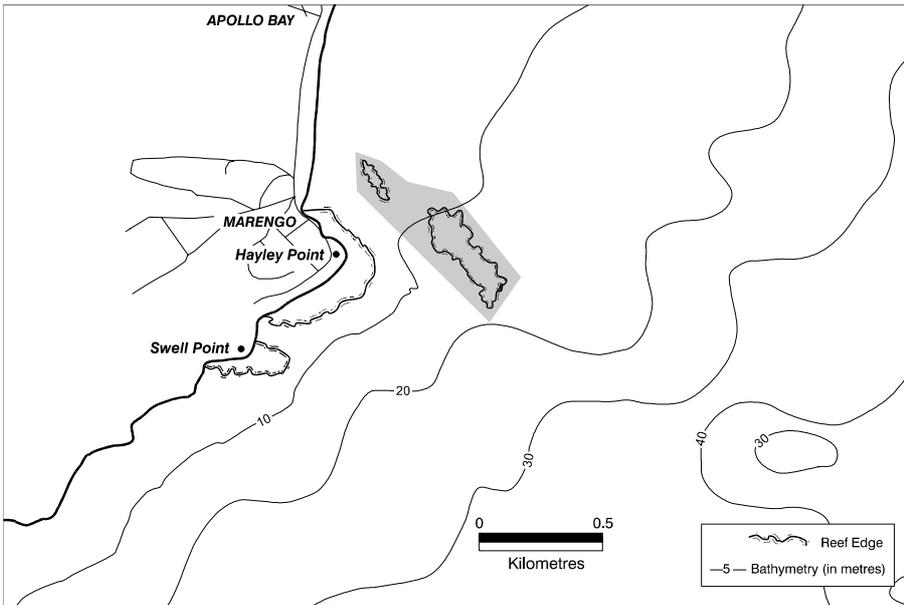
Recommendation

A9 That the Wilsons Promontory Marine National Park of 16 600 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43.

References: 40, 125, 147, 176, 242, 289, 292, 334, 372, 393.



B3 Marengo Reefs Marine Sanctuary



Marengo Reefs Marine Sanctuary is located close to shore at Marengo, near Apollo Bay.

It is approximately 18 ha and is recommended for its value for public education and underwater recreation.

Environmental values

- Due to their location and configuration, these two small reefs provide a wide variety of microhabitats in a very small area.
- The leeward side of the reefs has protected conditions unusual for reefs on this high wave-energy coastline.
- Bull kelps and other seaweeds grow densely on the reefs, with an abundance of soft corals, sponges and other marine invertebrates.

Aboriginal interests

- The Aboriginal community seeks a role in the process of authorising tourism, scientific and commercial activities.
- Local Aboriginal groups are concerned that the sanctuary may prevent traditional access to flora and fauna.

Implications for users

- In suitable weather the reefs are readily accessible by boat from the harbour at Apollo Bay, or by swimming from shore.
- There are excellent snorkelling opportunities close to shore.
- Recreational boat-based fishing is popular over the sandy bottom in the shelter of the reefs. The recommended boundary will allow this to continue.

- The fringes of the reef are currently used sporadically for commercial rock lobster and abalone fishing. Estimates are difficult to establish with certainty, but industry indicates that the total reef complex of which the recommended sanctuary is a part has significant abalone catches of up to 15 tonnes per annum.

Implementation and management

- The proposed boundary follows the outer perimeter of the reefs plus a 20 metre buffer.

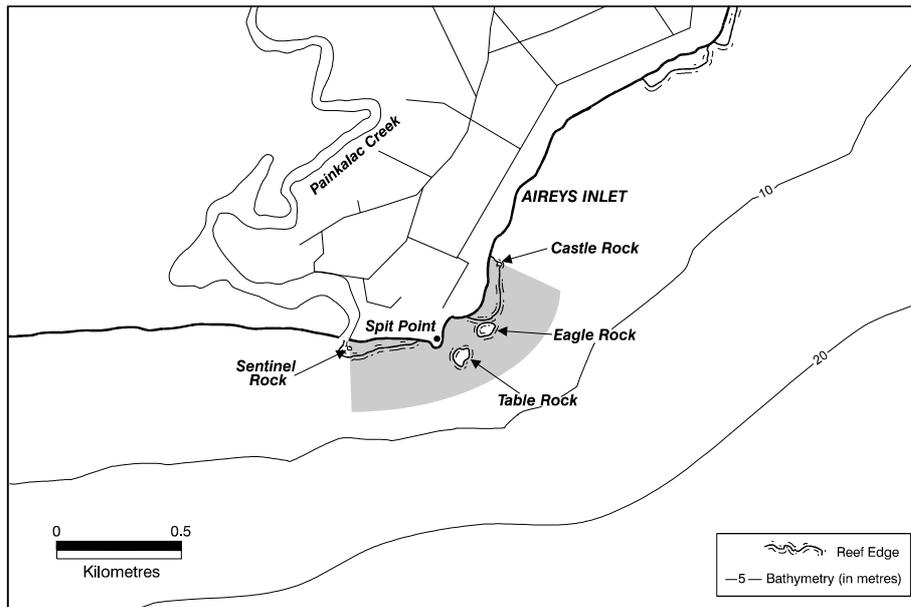
Note that the recommended area includes only the two major reefs as indicated on the above map.

Recommendation

B3 That the Marengo Reefs Marine Sanctuary of approximately 18 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.



B4 Eagle Rock Marine Sanctuary



Eagle Rock Marine Sanctuary is located at Airey's Inlet.

The area is approximately 25 ha between the Painkalac Creek mouth and Cattle Rock extending about 300 metres offshore, and is recommended for the opportunities it provides to observe marine life.

Environmental values

- The varied geology of Eagle Rock (sandstone and basalt), with its associated range of shore platforms, pools, subtidal fissures and boulder fields, provides a variety of habitats.
- Diversity of invertebrates on the rock platforms remains high, despite some evidence of subtidal depletions due to harvesting.
- Sponges, subtidal kelp forests and invertebrate assemblages, including seastars, crabs and sea anemones are found in this area.

Aboriginal interests

- Aboriginal groups suggest that a survey needs to be conducted relating to access to the area, and query whether cultural heritage requirements have been met relating to the location of paths.
- This area is inter-related with Painkalac Creek, which is a highly significant cultural place.
- Eastwards of Painkalac Creek is soft sand, which Aboriginal groups indicate means an extremely high possibility of burial sites.

Implications for users

- The reefs are good locations for snorkelling and diving when conditions are calm.
- The area is currently used for recreational rock lobster and abalone harvesting.
- The reefs within the recommended sanctuary are a part of a larger reef complex used for commercial abalone harvesting.

Implementation and management

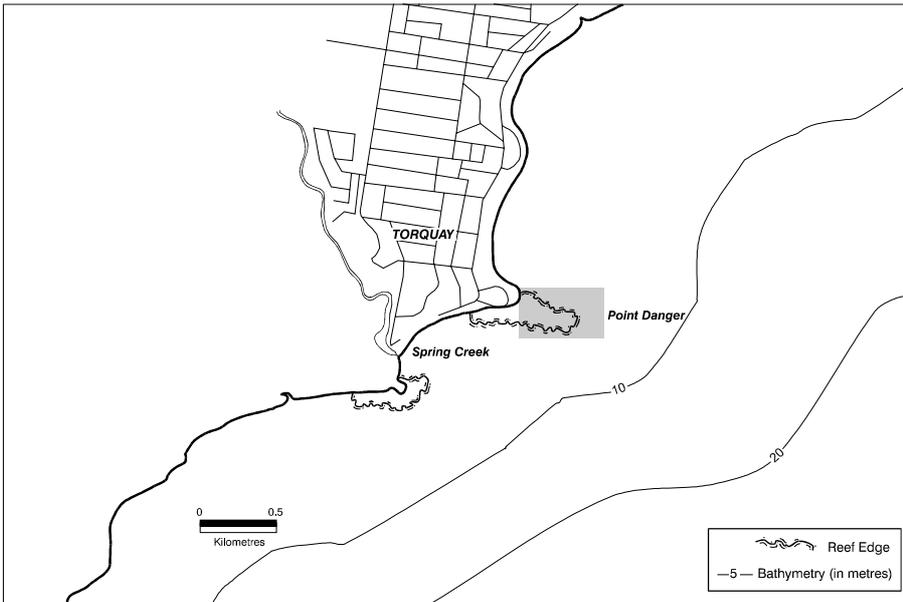
- Following public consultation on the proposal, the area has been altered to provide for clear identification of onshore boundaries, and to ensure that adequate subtidal reef habitats are included in the sanctuary.

Recommendation

B4 That the Eagle Rock Marine Sanctuary of approximately 25 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.



B5 Point Danger Marine Sanctuary



Point Danger Marine Sanctuary is located at Torquay.

It is approximately 20 ha, extending to the east for about 600 metres and to the south for 300 metres. It is recommended for the ecological values of the intertidal area, particularly the diversity of seaslugs (opisthobranchs).

Environmental values

- As well as the typically high invertebrate diversity associated with limestone substrates in Victoria, about 20% of the 96 species of opisthobranchs recorded from this site have yet to be scientifically described.

Aboriginal interests

- Aboriginal groups suggest that a survey needs to be conducted relating to access to the area, and query whether cultural heritage requirements have been met relating to the location of paths.
- Aboriginal groups indicate that there is a high possibility of middens, archaeological sites and burials.
- Concern has been expressed about the threat to cultural heritage sites and the environment resulting from high numbers of visitors.

Implications for users

- Point Danger is very popular for sightseeing and shore walks, and is visited by large numbers of people.
- There is currently some recreational fishing for King George whiting and snapper; and a small amount of commercial fishing, mainly for abalone.

Recommendation

- B5** That the Point Danger Marine Sanctuary of approximately 20 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.



B6 Barwon Bluff Marine Sanctuary



Barwon Bluff Marine Sanctuary is located at Barwon Heads.

It is approximately 18 ha and is recommended for its values for marine education.

Environmental values

- Sandstone and basalt reefs with thick patches of giant and bull kelp.
- The wrecks of two ships are located on the outer edges of the reef.

Aboriginal interests

- The area is listed under the *Archaeological and Aboriginal Relics Preservation Act 1972 (Vic)*.
- Middens are located along the shore. Sites located in this area require further investigation.
- The local Aboriginal community is concerned about increased visitor pressure on cultural values.

Implications for users

- The shore platforms and shallow reefs of Barwon Bluff are used extensively for marine education and interpretation by schools, universities and the Marine Discovery Centre at Queenscliff.
- Popular area for activities including swimming, rock pool rambling and snorkelling.
- Commercial abalone harvesting and recreational fishing currently take place in parts of the recommended sanctuary. The abalone industry indicates catches from this area of about 4 tonnes per annum.

Implementation and management

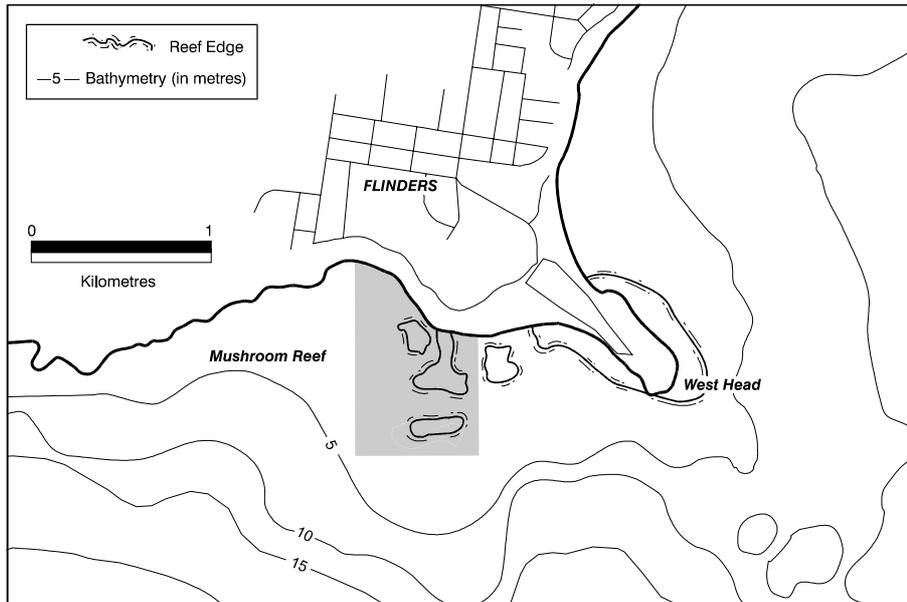
- Visitor pressure is a potential threat to this site, and must be managed to maintain the natural, cultural and educational values.

Recommendation

B6 That the Barwon Bluff Marine Sanctuary of approximately 18 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.



B10 Mushroom Reef Marine Sanctuary



Mushroom Reef Marine Sanctuary is located on the open coast at Flinders on the Mornington Peninsula.

The area of approximately 80 ha and is recommended for its ecological values, and for its values for underwater recreation and potentially for marine education.

Environmental values

- Together with Honeysuckle Reef at Shoreham, this site supports the most diverse intertidal rocky reef communities in Victoria (Handreck & O'Hara 1994).
- Mushroom Reef is an exposed ocean area containing numerous subtidal pools and boulders in the intertidal area. The high complexity of the intertidal basalt substrates provides a rich variety of microhabitats.

Implications for users

- The subtidal reefs are popular for diving, snorkelling and novice spearfishing.
- There is some commercial diving for abalone on the reef immediately south of Mushroom Reef, known as Bismarck Reef, but this is often difficult to access due to high wave action. Bismarck Reef is not included in the proposed sanctuary.
- Recreational anglers often fish the 'lagoon' between the Mushroom and Bismarck reefs.
- This area is a popular area for recreational collection of abalone, though anecdotal reports indicate that stocks have suffered greatly as a result of over-harvesting.

Implementation and management

- Following public consultation on this proposal, the boundary of the sanctuary has been modified, to better capture the values associated with Mushroom Reef and avoid some of the commercial abalone reef to the south east of the reef. The boundaries run due south of the hang glider launch ramp to a point immediately south of the Bismarck Reef then due east along the southern edge of the Bismarck Reef then between the Mushroom Reef and an unnamed reef to shore.
- A decline in intertidal invertebrates has been noted in recent years, despite some protection through shellfish protection regulations.

Recommendation

B10 That the Mushroom Reef Marine Sanctuary of approximately 80 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.



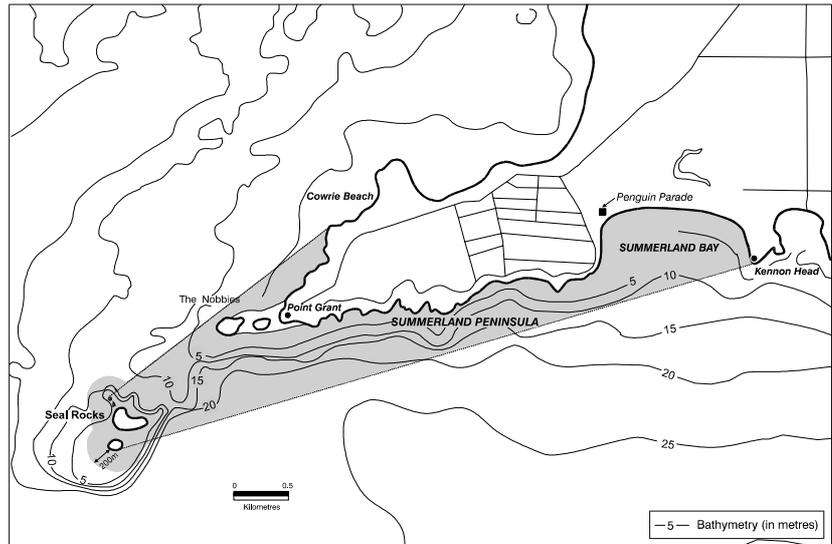
Special Management Areas

C15 Summerland Peninsula (Phillip Island)

Values

This 400 ha area is recommended to complement management of the wildlife values of both Seal Rocks and the penguin colonies at Phillip Island.

The Summerland Peninsula is home to the famous colony of little penguins and significant numbers of short-tailed shearwaters. Seal Rocks is one of Victoria's two largest breeding colonies of Australian fur seals. It is also the only Victorian breeding site of the kelp gull, and is a breeding site for the sooty oyster catcher. Seal Rocks are exposed basalt rocks, and the surrounding waters are rich in marine life, including the endangered great white shark.



Management issues

Phillip Island Penguin Parade is a major tourist attraction and generates a substantial income, a large part of which is spent on conservation programs. Although the Penguin Parade occupies only a small area at the west end of Summerland Bay, the penguins utilise a much larger area for feeding and nesting. The penguins collect in 'rafts' on the water surface off the southern coast of the Summerland Peninsula, prior to making their way to their nests, and can be easily disturbed by inappropriate boating.

Seal Rocks, the Nobbies and the penguin habitat on Summerland Peninsula form part of the Phillip Island Nature Park.

Consistent with management recommendations for waters adjacent to other seal breeding colonies, restrictions on the use of rock lobster pots, nets and line fishing should be put in place within 200 metres of Seal Rocks. Disturbance to the colony during the breeding season (typically between mid October and late December) should be avoided, and managers should ensure that vessel access is appropriately regulated during this time.

Vessel access and speed within the above area should be managed throughout the year to minimise disturbance to penguins.





Recommendations

Part Three

Recommendations for the Eastern biophysical region

This section sets out the recommendations for marine protected areas for the open coast east of Wilsons Promontory to the New South Wales border.

Victoria's Eastern biophysical region is incorporated into the IMCRA Twofold Shelf region which extends to Tathra in southern New South Wales and includes Tasmania's Kent Group of islands in Bass Strait. The coastline is dominated by dunes and associated sandy shorelines including the long sweep of the Ninety Mile Beach and the coastal wilderness of Croajingolong National Park. The marine environment along this coastline incorporates the warmer water environments close to the NSW border. Warmer water habitats off east Gippsland are often very diverse, including flora and fauna from both cool and warm water.

Other than Lakes Entrance, there are few large regional centres situated on the coast in eastern Victoria. There are however a number of smaller towns such as Mallacoota, Seaspray, and Marlo, where agriculture, tourism, fishing, and consumer services are important economic activities. Oil and gas from the offshore Gippsland Basin platforms are brought onshore in the Ninety Mile Beach area, and piped for processing in plants at Longford near Sale.

This part of the report gives descriptions of the following recommended marine national parks, marine sanctuaries, and special management areas. See the Executive Summary for a table of changes to the recommendations since the Draft Report.

Section 3.7 of this report provides an overview of the recommendations for marine protected areas, including recommendations for permitted uses and activities.

Recommended Areas

Marine National Parks

- A11** Ninety Mile Beach Marine National Park
- A12** Point Hicks Marine National Park
- A13** Cape Howe Marine National Park

Marine Sanctuary

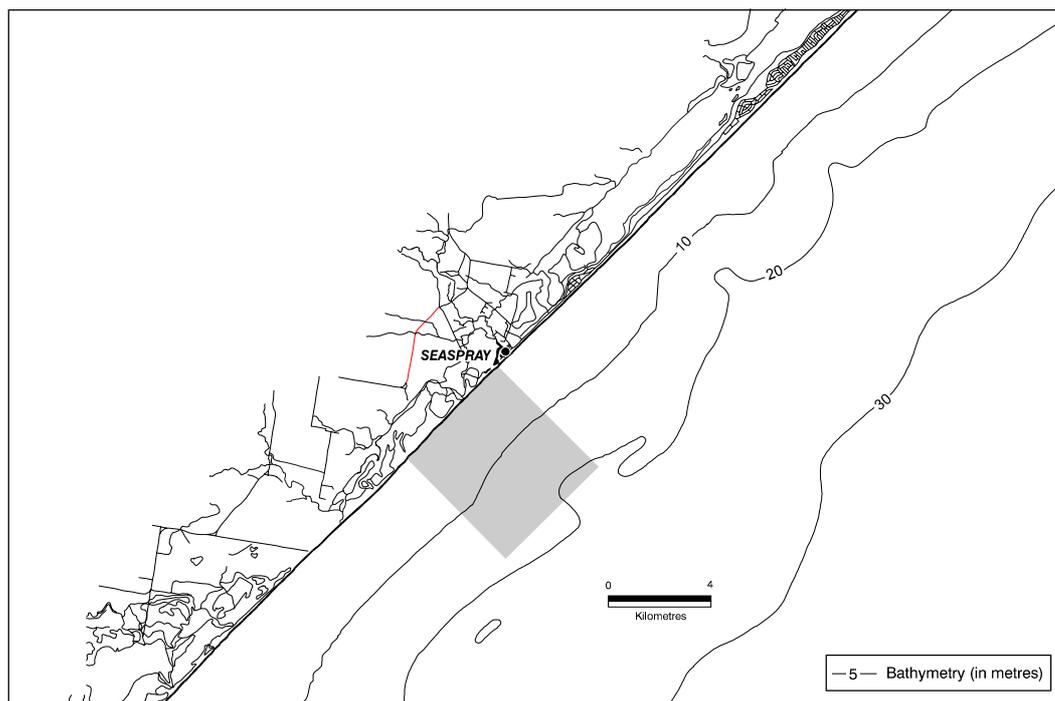
- B11** Beware Reef Marine Sanctuary

Special Management Areas

- C16** The Skerries
- C18** Gabo Island harbour



A11 Ninety Mile Beach Marine National Park



The recommended park captures typical marine habitats in Victoria’s well-known Ninety Mile Beach area, including scientifically significant low profile offshore reefs. The park has been located to minimise impacts on fishing along this popular coastline.

Description of the park

- One of three marine national parks, with Point Hicks and Cape Howe, proposed for Victoria’s Eastern biophysical region.
- Located about 40 km south of Sale, south west of Seaspray.
- Extends along approximately 5 km of coastline southwest of Seaspray, and offshore approximately for three nautical miles to the limit of Victorian waters.
- Approximately 2 750 hectares.

Environmental values

- The following open coast habitat types are represented in the park: sandy beaches, subtidal rocky reefs and subtidal soft sediments.
- The rocky habitats of this area include patchy low profile, calcarenite reefs (from a few centimetres to a metre high). The lowest lying reefs can be covered and uncovered periodically by sand, driven by very strong, tidal currents (2 to 2.5 knots) characteristic of this area. Reefs cover about 20% of the area, are flat topped with occasional small ledges and crevices. The reef area extends from 1 to 4 km (and possibly further) offshore, at depths of 5 to 20 metres.

- Subtidal soft sediments consist of a mixture of fine and medium sand with some silt, gravelly sand and shell, with a carbonate content of 14 to 19%.
- Reefs are dominated by invertebrates (70% coverage) and have sparse floral communities. Large kelps are absent and only small red algae are visible.
- Invertebrates include sponges and ascidians, and smaller bryozoans and hydroids. Clumps of ascidians (mainly *Pyura australis*) also occur on sand between reefs.
- *Coscinasterias muricata*, a large endemic southern Australian seastar, occurs here in large numbers, although its usual prey of mussels, abalone and scallops is absent.
- *Pseudogorgia godeffroyi*, an unusual soft coral is only found in Victoria between McGuarans and Delray beaches.
- The low relief reefs may be remnants of dune systems that formed when sea-levels were lower. This is supported by the presence, between some reefs, of mud containing fossils.
- There is good evidence of aggregations of young white sharks indicating this area to be their feeding grounds; snapper (likely food of sharks) are also known to feed here.



Aboriginal interests

- An application for a native title determination has been lodged including the recommended marine national park area.
- Gippsland and East Gippsland Aboriginal coastal communities strongly expressed the need for Government to consult their communities prior to decision-making and implementation.

Community views

Input from the local community centred on impacts on shore-based recreational fishing. Commercial fishers generally did not oppose the proposal.

In response to suggestions from the local communities, the park has been relocated to broadly similar habitats to the south-west, near Seaspray, to further reduce the impact on shore-based recreational fishing.

Social and economic implications

Impacts on coastal communities

The nearest township to this park is Seaspray with an estimated population of 200 residents.

Seaspray is a small coastal community, with a high level of holiday home ownership and is a 'retiree haven'. Consumer services (including retail trade and accommodation, cafes and restaurants) with 45% of employed residents, is the key industry in the town. The town does not rely on the fishing industry, although recreational fishing is an attraction for residents and visitors. The establishment of Ninety Mile Beach Marine National Park is unlikely to have any adverse effects on Seaspray's economy. (See Appendix 4 for more details.)

Recreation and tourism

The whole of this coastline is popular for recreational surf-fishing and beach activities.

Charter boat operators offering boat-based recreational fishing for shark, pike and snapper are increasing in popularity, as is other boat-based recreational fishing.

On balance, the recommended park should have a minor overall effect on recreational fishing in the region, given the ready accessibility of much of this coastline. This site has been recommended to minimise the overall impact on local communities.

There will be no restrictions on boating, diving, and other non-harvesting activities.

Commercial fishing

The major commercial activity – trawling – occurs along the entire length of the Ninety Mile Beach. The proposed park includes only a very small part of these fishing grounds.

Although estimates are not available, the value of commercial fishing in the proposed park is probably relatively low. The overall impact of the proposed park is likely to be minor, given the large alternative areas available. The presence of low reef reduces the netting effort in the area.

Petroleum exploration and extraction

The recommended park is near the oil and gas fields of the Gippsland Basin. All the current production comes from offshore platforms outside Victorian waters. All the existing pipelines are outside the recommended parks. Oil and gas pipelines will be allowed subject to an Environment Effects Statement process, as for terrestrial national parks. However any future pipelines are likely to be along or adjacent to the existing easements.

Oil and gas exploration that does not disturb the seabed and biota will be allowed, but exploratory drilling and extraction will not be permitted in marine national parks.

Implementation and management

- The park is relatively inaccessible from the land, except through private property. It is readily accessible by boat from Seaspray.
- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing take place. Any areas off the Ninety Mile Beach between Woodside Beach and Golden Beach could be included in a monitoring program.

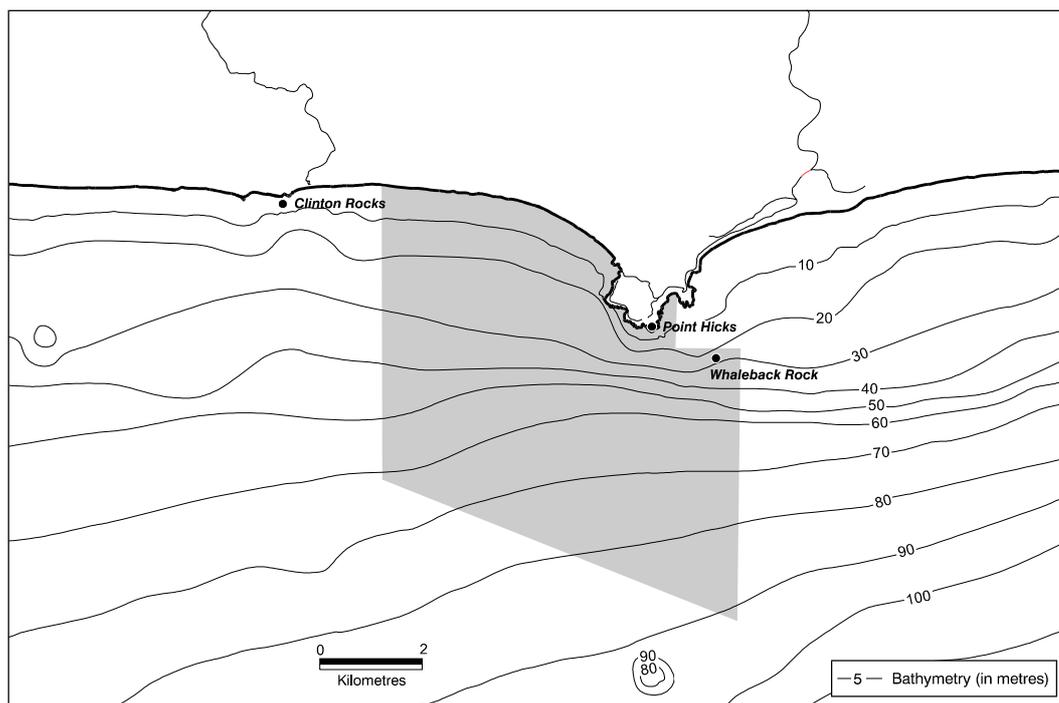
Recommendation

A11 That the Ninety Mile Beach Marine National Park of 2 750 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43.

References: 40, 177.



A12 Point Hicks Marine National Park



Point Hicks was the first point on the coast seen in 1770 from Captain Cook's ship Endeavour. This recommended park adjoins the major granite outcrop and spectacular lighthouse of Point Hicks, part of Croajingolong National Park. The rich marine life of the area, with its colourful algae and diverse reef fish, provide excellent opportunities for diving and snorkelling.

Description of the park

- One of three marine national parks, with Cape Howe and Ninety Mile Beach, proposed for Victoria's Eastern biophysical region.
- Located about 25 km south-east of Cann River, and adjacent to Croajingolong National Park.
- Extends along approximately 8 km of coastline west of Point Hicks, and offshore to the east of Point Hicks to include Whaleback Rock approximately for three nautical miles to the limit of Victorian waters.
- Approximately 4 050 hectares.

Environmental values

- The following open coast habitat types are represented in the park: sandy beaches, intertidal and subtidal rocky reefs, and subtidal soft sediments.
- The rocky habitats of this area have varied forms from large boulders rising to 6 metres to clusters of smaller rocks and stones.

- Subtidal soft sediments consist of a mixture of fine, medium and coarse sand with some silt, pebbles and shell, with a carbonate content of 8 to 13%.
- Very high total species richness of fauna, including intertidal and shallow subtidal invertebrates. A survey of the reef just outside the park boundary had more species than from anywhere else on the Victorian coast. It is likely that similar species richness occurs within the reefs in the proposed park.
- Plentiful and beautiful marine flora and fauna, including spectacular subtidal reefs with colourful and diverse sessile invertebrates.
- Kelps including *Ecklonia* and *Phyllospora* and small algae.

Aboriginal interests

- An application for a native title determination has been lodged including part of the recommended marine national park area.



- Gippsland and East Gippsland Aboriginal coastal communities strongly expressed the need for Government to consult their communities prior to decision-making and implementation.

Community views

Input from the local community centred on the impact on shore-based recreational fishing and collecting at Clinton Rocks. Commercial fishers generally did not support the proposal, although some sectors indicated that they would support a much smaller park in this locality.

The ECC has made a substantial change to this recommended park by excluding Clinton Rocks to reduce impact on the recreational activities of Cann River and Tamboon Inlet residents, and by including Whaleback Rock to improve habitat representation. The offshore boundary was straightened for easier identification at sea. The major reefs for commercial abalone harvesting were already excluded from the earlier draft recommendation. Other changes to the recommended park would not be possible without significantly reducing the ecological viability of the park.

Other nearby areas that were reconsidered during public consultation on this proposal were around or near Cape Conran, Petrel Point, Rame Head, The Skerries, Little Rame Head, and Sandpatch Point. Input from earlier consultation indicated that they were less acceptable on balance than the recommended location due to the impacts on users, particularly commercial fishers.

Social and economic implications

Impacts on coastal communities

The nearest townships to this park are Cann River with an estimated population of about 190 residents and Mallacoota with about 1 000 residents.

Manufacturing, mainly timber production, is the key industry base of Cann River, employing 27% of residents. Also 27% are employed in consumer services such as accommodation, cafe and restaurants, and retail trade. The town is promoted as a small community with access to scenic drives, bushwalking and fishing, particularly to the popular Tamboon Inlet and Clinton Rocks. The economy of Cann River – not a base for commercial fishing – is unlikely to be affected by the establishment of Point Hicks Marine National Park (see Appendix 4 for more details). However, Cann River is a small rural town that has experienced the decline of its key industry – timber

harvesting – and in these circumstances any additional change can be perceived as a threat to the community.

Mallacoota relies to a large extent on leisure services (see A13 Cape Howe Marine National Park). Point Hicks, together with Cape Howe Marine National Park, will enhance the overall nature-based tourism assets of the region.

The agriculture, forestry and fishing sector, and manufacturing sector (mainly fishing related) are equally important for Mallacoota (see discussion in A13 Cape Howe Marine National Park). The impact of the Point Hicks Marine National Park on commercial fishing (see below) may have some flow-on effects on Mallacoota's economy. Although it is not possible to determine exactly the level of this impact, it can be said that the level of commercial fishing-related activities, including fish processing, may be affected but the viability of the operations will not. (See Appendix 4 for more details.)

Recreation and tourism

The general area is popular for recreational fishing, snorkelling and diving due to the rich and colourful marine life and the variety of reef fishes. There will be no restrictions on boating, diving, and other non-harvesting activities.

The Point Hicks Lighthouse Reserve and two camping areas, at the mouths of the Thurra and Mueller Rivers east of the proposed park, provide a focus for walking and sightseeing. Accommodation is provided at the lighthouse. The potential increase of visitors to Point Hicks Lighthouse Reserve and the two camping areas at the mouths of the Thurra and Mueller Rivers may provide considerable potential for marine and land based interpretation programs.

For recreational fishing, the effect of the proposed park should be limited. The most popular recreational fishing areas on the beach east of Point Hicks, the accessible rock fishing areas on the east side of the point, and Clinton Rocks are not included in the proposed park.

Commercial fishing

Current commercial fishing activities include fishing for abalone, rock lobster and mesh netting. The following estimates of fisheries catch and value were provided by MAFRI and are based on the 1996/97 year to allow consistent comparisons between areas. However average catches over a number of years are also a useful measure in some situations and, where appropriate, additional comments are made about average catches. Values are based on 1999 prices for



abalone and 1998/99 for rock lobster. See Appendix 5 for a fuller discussion of fisheries estimates.

Abalone harvested within the area of the proposed park was estimated to be 16.7 tonnes or 3.6% of the Eastern Zone catch quota, valued at approximately \$567 000.

Rock lobster catches were estimated to be approximately 0.9 tonnes, or 1.3% of the Eastern Zone rock lobster catch, valued at \$28 000. This estimate had a high random standard error associated with it, and the ECC believes that the actual catch may be higher (see Appendix 5 for details).

Other significant commercial fishing activity within this area, mainly mesh netting, is estimated to be worth approximately \$42 000 for 1996/97. The current catches in the area of the proposed park are likely to be greater than that estimated for 1996/97.

Implementation and management

- The proposed park is readily accessible from the shore, with good road access to the park available from Cann River, a one-hour drive away. Two camping areas, at the mouths of the Thurra and Mueller Rivers, east of the park provide a focus for day visitor use.
- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing take place. Areas which could be included in a monitoring program are Petrel Point, Rame Head, Skerries, Little Rame Head, Sandpatch Point, Cape Conran and areas to the east of Point Hicks excluded from the park.

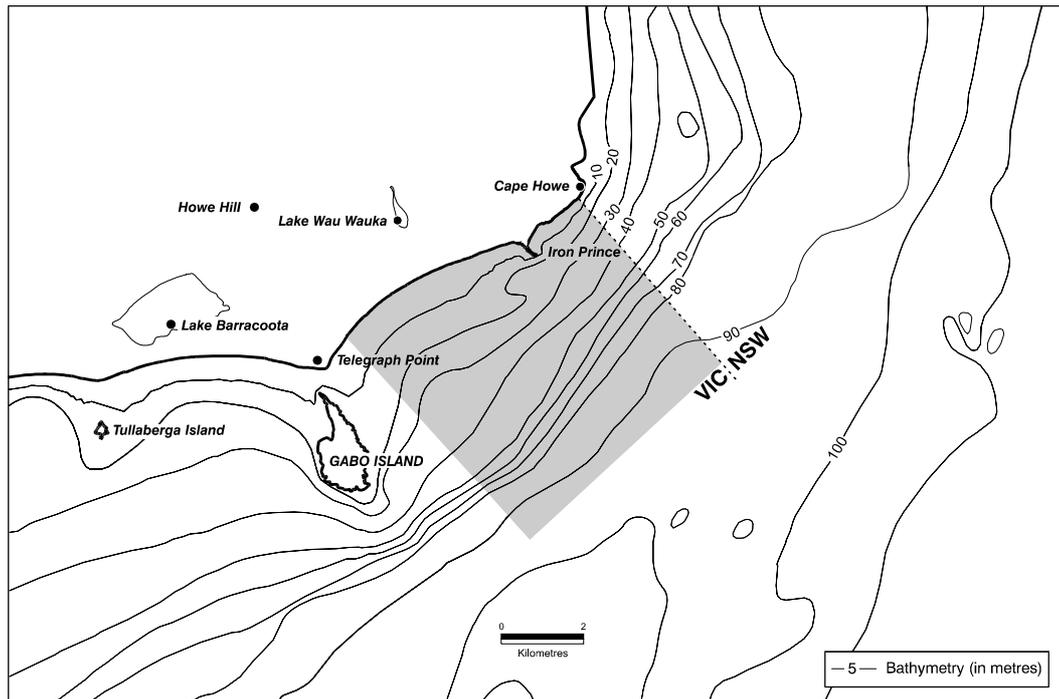
Recommendation

A12 That the Point Hicks Marine National Park of 4 050 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43.

References: 40, 176, 242, 258, 289, 332.



A13 Cape Howe Marine National Park



This recommended park is the most remote in the State, and adjoins one of only two wilderness areas on Victoria's coast.

Description of the park

- One of three marine national parks, with Point Hicks and Ninety Mile Beach, proposed for Victoria's Eastern biophysical region.
- Located about 15 km east of Mallacoota, and adjacent to Croajingolong National Park.
- Extends along approximately 7 km of coastline from 2 km east of Gabo Island to the New South Wales border, and offshore approximately for three nautical miles to the limit of Victorian waters.
- Approximately 3 850 hectares.

Environmental values

- Croajingolong National Park, together with NSW's Nadgee Nature Reserve, is part of the largest coastal conservation reserve on the south-eastern Australian mainland. The proposed marine national park is adjacent to the Cape Howe Wilderness Area.
- The following open coast habitat types are represented in the park: sandy beaches, intertidal and subtidal rocky reefs, and subtidal soft sediments.

- The rocky habitats of this area have complex forms/structure, including low profile reef eroded into pits and gutters, and heavy boulder reef with gutters and ridges up to 3 metres high.
- Subtidal soft sediments consist of a mixture of fine and medium sand with some silt, shell and worm tubes, with a carbonate content of 6 to 10%.
- High diversity of intertidal and shallow subtidal invertebrates.
- Many species from warmer northern waters reach their southern limits in far east Gippsland.
- Variety of reefs including granite and sandstone reefs adding to the total substrate complexity of the area. Sandstone reefs observed in the park to about 50 metres depth heavily covered by a diverse array of sponges, hydroids, ascidians and gorgonians.

Aboriginal interests

Gippsland and East Gippsland Aboriginal coastal communities strongly expressed the need for Government to consult their communities prior to decision-making and implementation.



Community views

Input from the local community centred on the implications for commercial fishing, and the potential difficulties of management and enforcement.

The ECC has not made substantial changes to this recommended park, other than straightening part of the seaward boundary for easier identification at sea. Reducing the area of the recommended park would not be possible without significantly reducing the ecological viability of the park.

Other nearby areas that were reconsidered during the public consultation on this proposal were around or near Petrel Point, Rame Head, The Skerries, Little Rame Head and Sandpatch Point.

Social and economic implications

Impacts on coastal communities

The nearest township to this park is Mallacoota with an estimated population of 1 000 residents.

Leisure services such as accommodation, café and restaurants and retail trade, with 26% of employed residents, are key industries of the town. Mallacoota is actively promoted as a holiday destination offering a range of nature-based experiences including fishing, walking and adventure tours. Some 20 fishing areas in and surrounding Mallacoota are promoted for recreational fishing, with Mallacoota Inlet identified as one of the most popular sites. The Cape Howe Marine National Park together with the Point Hicks Marine National Park would enhance the overall nature-based tourism assets of the region.

The agriculture, forestry and fishing sector, and manufacturing (mainly fishing-related) industries engage 12.1% and around 11% employed residents respectively. Abalone fishing and processing is particularly important to the town. The impact of the Cape Howe Marine National Park on commercial fishing (see below) may have flow-on effects on Mallacoota's economy if abalone catches fall. Although it is not possible to determine exactly the level of this impact, it can be said that the level of commercial fishing-related activities, including fish processing, may be affected but the viability of the operations will not. (See Appendix 4 for more details.)

Recreation and tourism

The area is used for boat-based recreational fishing, although boating access from Mallacoota Inlet to offshore waters is sometimes difficult. Most boat-

based fishing takes place west of Gabo Island but waters east of Gabo Island are also used depending on weather conditions. Effects on recreational fishing have been minimised by excluding the sheltered waters around Gabo Island from the park.

There will be no restrictions on boating, diving, and other non-harvesting activities.

Development of a new boat launching facility at Mallacoota, providing access to offshore waters, has been under discussion for some time.

The adjacent mainland is a spectacular coastline for remote bushwalking.

Commercial fishing

Current commercial fishing activities include fishing for rock lobster, abalone, and mesh netting, haul, purse and Danish Seining. The following estimates of fisheries catch and value were provided by MAFRI and are based on the 1996/97 year to allow consistent comparisons between areas. However average catches over a number of years are also a useful measure in some situations and, where appropriate, additional comments are made about average catches. Values are based on 1999 prices for abalone, and 1998/99 for rock lobster. See Appendix 5 for a fuller discussion of fisheries estimates.

Abalone harvested within the area of the proposed park was estimated to be 19.7 tonnes or 4.3% of the Eastern Zone catch, valued at approximately \$667 000.

Rock lobster catches were estimated to be less than 100 kg in 1996/97, valued at approximately \$2 000.

Other fishing activities include mesh netting, haul, purse and Danish seining. A developmental fishery for sea urchins utilises reefs in these waters. Estimated total value of these commercial fishing activities in the area of the proposed park was \$97 000.

The impact of the park on commercial fishing has been minimised by not including the waters around Gabo Island in the proposal.

Implementation and management

- The proposed park is not readily accessible, is remote from vehicle access, and borders NSW waters. Abalone theft is a serious issue, which must be addressed cooperatively with NSW authorities.



- Monitoring and assessment on the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing take place. Areas which could be included in a monitoring program are Petrel Point, Rame Head, Skerries, Little Rame Head and Sandpatch Point.
- A contiguous NSW park would facilitate management. Discussions have been initiated with the relevant NSW agencies.

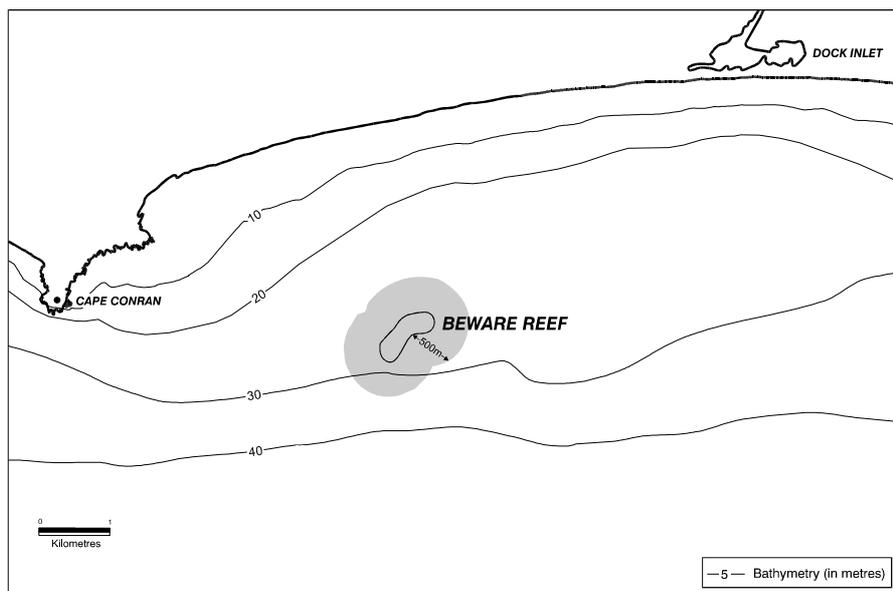
Recommendation

- A13**
- (i) That the Cape Howe Marine National Park of 3 850 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43; and
 - (ii) that the Victorian Government initiate discussions with the New South Wales Government to develop a joint proposal for a Victorian/New South Wales marine protected area.

References: 176, 242, 258, 289, 332.



B11 Beware Reef Marine Sanctuary



Beware Reef Marine Sanctuary is located south-east of Cape Conran in East Gippsland.

It is approximately 220 ha, extending for a distance of 500 metres from the reef edge and is recommended for its contribution to representation of reef environments in the Eastern biophysical region, and for its values for underwater recreation.

Environmental values

- The granite reef has forests of bull kelp and shipwreck remains.
- A diversity of corals, sponges, sea anemones, gorgonians, zooanthids, crinoids and other invertebrates have been recorded, with more than 20 species of reef fish present.

Aboriginal interests

- An application for a native title determination has been lodged including the recommended marine sanctuary area.
- Gippsland and East Gippsland Aboriginal coastal communities strongly expressed the need for Government to consult their communities prior to decision-making and implementation.

Implications for users

- This reef is currently used for commercial abalone and rock lobster fishing. The value of abalone catch from this area is determined from catch and effort data. The entire reef is included in one reef code. Between 1988/89 and 1996/97 the average weight of abalone attributed to Beware Reef is 4.3 tonnes, or 0.9% of the Eastern Zone catch, valued at \$146 000 using average 1999 prices.
- Beware Reef is also a significant area for rock lobster fishers. Catch data indicate that for this area the annual catch is less than one tonne.
- The area is used by boat-based recreational anglers and divers, launching from Cape Conran.

Recommendation

B11 That the Beware Reef Marine Sanctuary of approximately 220 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.



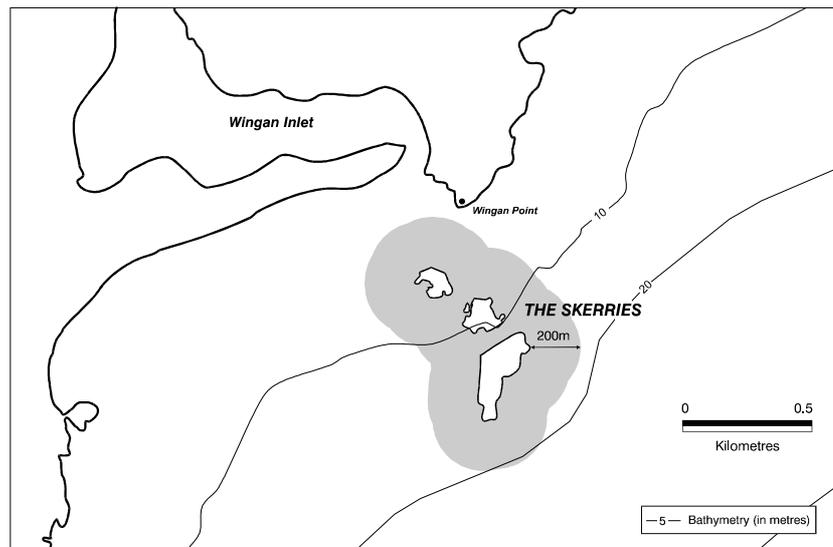
Special Management Areas

C16 The Skerries

Values

This 50 ha area includes waters for 200 metres offshore from the Skerries, one of four breeding sites in Victoria of the Australian fur seal. The Skerries are a granite outcrop located opposite Wingan Inlet in East Gippsland, and are part of the Crojngolong National Park.

The Skerries are also known as a significant breeding site for the crested tern and as a roosting site for the black-faced shag.



Management issues

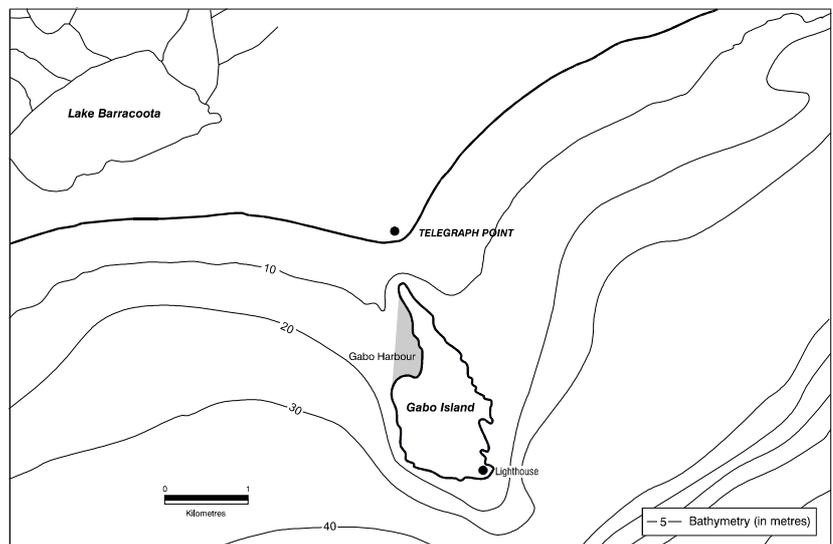
Management of the area should complement management of the Skerries for its wildlife values. Consistent with management recommendations for other seal breeding areas (eg C4 and C15), restrictions on the use of rock lobster pots, nets and line fishing should be implemented within this area.

Disturbance to the colony should be avoided during the breeding season (typically between mid October and late December), and managers should ensure that vessel access is appropriately regulated during this time.

C18 Gabo Island harbour

Values

This 23 ha area in far East Gippsland recognises the important nature-based tourism values of Gabo Island. These values include the largest colony of little penguins in Victoria, and temperate reef communities surrounding both natural reef and a shipwreck within the Gabo Island harbour. These reef communities include reef fish such as morwong, wrasse and leatherjacket species.



Management issues

Intact reef communities in the harbour would provide quality snorkelling and diving opportunities, enhancing the total visitor experience. Spearfishing and commercial fishing activities that impact on reef fish species should be excluded.

A management regime to minimise impacts of recreational fishing on these reef species should also be explored. Other fishing and collecting activities (eg line fishing for species moving through the area, commercial abalone harvesting) that do not have major impacts on reef fish should continue.





Recommendations

Part Three

Recommendations for the Bays, Inlets and Estuaries biophysical region

Port Phillip Bay

Western Port

Other bays, inlets and estuaries





Port Phillip Bay

This section sets out the recommendations for marine protected areas for Port Phillip Bay.

Port Phillip is a large major embayment, almost 2000 km² in area, in Victoria's Bays, Inlets and Estuaries biophysical region, equivalent to IMCRA's Victorian Embayments region. Commonly known as Port Phillip Bay, it comprises 16 named bays, the best known being Swan Bay, Corio Bay and Hobsons Bay. It is extremely shallow for its size being only 24 metres at its deepest part (except for the entrance which plunges to over 90 metres), with much of its waters shallower than 8 metres. The bay is a unique ecosystem, supporting diverse communities of birds, fish, bottom dwelling (benthic) invertebrates, seaweeds and microscopic algae. The benthic communities are exceptionally rich in species compared to similar ecosystems in other parts of the world. The species assemblages in the muddy central region are distinct from those in the sand to the west and east.

Although most of the bay is surprisingly healthy in terms of water quality, the ecosystems of the bay are under continued pressure from urban and agricultural runoff, previous physical disruption (eg dredging), and recently from the spread of introduced marine species.

About three million people live close to Port Phillip Bay, making it Australia's most densely populated catchment, and one of the most urbanised coastlines in the world. Port Phillip Bay is enormously important to Victoria, and to Melbourne in particular. It is Australia's busiest port, and is also a huge recreational resource for residents and visitors. Recreational pursuits include swimming and beach activities, sightseeing, diving, recreational fishing, sailing and boating. Port Phillip Bay supports a commercial fishery and a growing aquaculture industry.

This part of the report gives descriptions of the recommended marine national parks, marine sanctuaries and special management areas. See the Executive Summary for a table of changes to the recommendations since the Draft Report.

Section 3.7 of this report provides an overview of the recommendations for marine protected areas, including recommendations for permitted uses and activities.

Note that in February 1998, the ECC provided the then Minister with a final recommendation for a marine park at Port Phillip Heads. In December 1998 the Minister asked the Council to review the recommendation having regard to the incompatibility of incorporating major shipping channels in a marine park. The revised recommendation is included in this section.

Recommended areas

Marine National Park

A4 Port Phillip Heads Marine National Park

Marine Sanctuaries

B7 Point Cook Marine Sanctuary

B8 Jawbone Marine Sanctuary

B9 Ricketts Point Marine Sanctuary

Special Management Areas

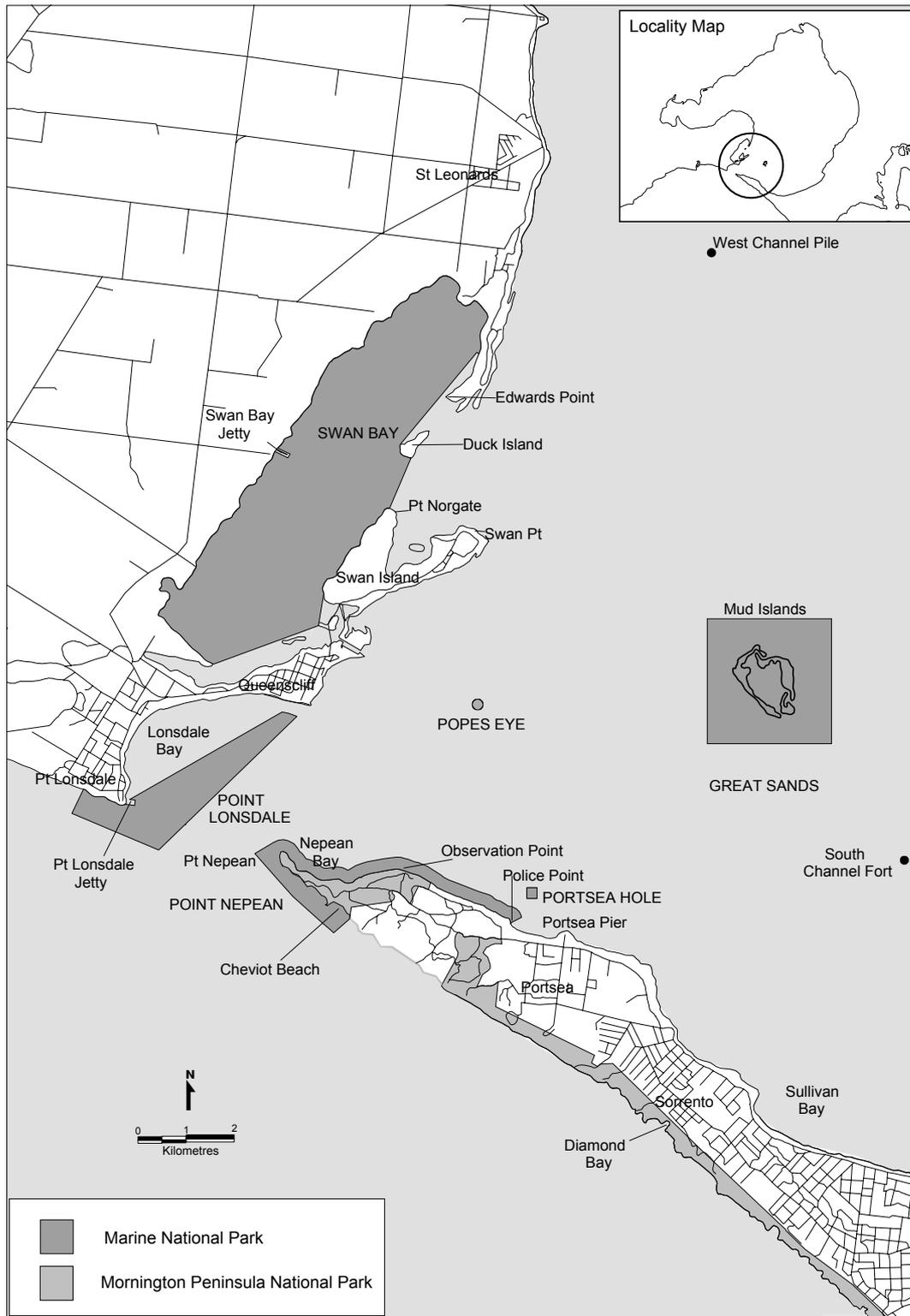
C7 Clifton Springs

C8 Werribee River estuary

C9 Capel Sound



A4 Port Phillip Heads Marine National Park



Southern Port Phillip Bay and the Port Phillip Heads area contain some of Victoria's most treasured marine and coastal environments, within easy access of Melbourne and Geelong. The six areas making up the recommended park have outstanding environmental, cultural and recreational values.



Description of the park

- One of five marine national parks (with Yaringa, French Island, Churchill Island and Corner Inlet) proposed for Victoria's Embayments biophysical region. The small part of the park on the open coast falls within Victoria's Central biophysical region.
- Located at the southern end of Port Phillip Bay, including the entrance to the bay at Port Phillip Heads.
- Made up of six separate areas:
 - Swan Bay;
 - Great Sands (Mud Islands);
 - Point Lonsdale;
 - Point Nepean;
 - Popes Eye; and
 - Portsea Hole.
- Approximately 3 340 hectares.

Background

In February 1998 the Environment Conservation Council provided an Interim Report to the then Minister for Conservation and Land Management prepared in accordance with its terms of reference.

In the Interim Report, the ECC recommended establishment of a major multiple-use marine park of 17 453 hectares in southern Port Phillip Bay – the Port Phillip Heads Marine Park. The proposed marine park was made up of two highly protected sanctuary zones and five highly protected special nature sites totalling 3 525 ha or about 20% of the park. The remainder of the area was recommended to be available for recreational fishing and some forms of commercial fishing. Shipping areas, including the shipping routes to the Ports of Melbourne and Geelong, and associated channels, were recommended to be included in the park as a shipping zone.

The Port Phillip Heads area was considered a priority for the establishment of a marine park because of its wide range of natural and recreational values and its ready accessibility to large numbers of people. Port Phillip Bay is Melbourne's most important recreational area.

In December 1998 the then Minister, under section 17(3) of the Act, requested that the Council review the recommendation for Port Phillip Heads Marine Park, having regard to the incompatibility of incorporating major shipping channels in a marine park.

Matters considered in the review

In undertaking the review, the ECC took into account two factors in addition to the issues relating to shipping channels: the ECC's reconsidered approach to marine protected areas (outlined above in section 3.2 of this report); and changes in fisheries management arrangements for bays and inlets, abalone, rock lobster and crabs.

Although the Port Phillip Heads proposal in the Interim Report was a final recommendation to Government as required under the terms of reference, and formal submissions could therefore not be received, there was a considerable amount of community input on the recommended marine park (see *Community views* below).

Shipping channels

Declared port waters for the Port of Melbourne are gazetted under the provisions of the *Port Services Act* 1995. The Victorian Channels Authority exercises certain functions in relation to declared port waters. Parts of the channels must be routinely modified in order to maintain safe navigable water. South Channel, for example, requires regular maintenance dredging, and the associated dredge spoil sites are necessary for channel maintenance. In addition to regular maintenance, enhancement of shipping channels may be required in the future, including deepening or blasting in some areas.

There are three small areas within the previously recommended special nature sites that fall within declared port waters: Popes Eye, Portsea Hole and the Lonsdale Wall area. Of these, Popes Eye is currently set aside as a marine reserve. None of these areas are within major shipping channels.

ECC's approach to marine protected areas

Since the Interim Report was released in 1998 the ECC has reviewed its approach to marine parks, and is proposing a system of highly protected areas outlined in section 3.7 of this report. No multiple-use marine parks are recommended in the Final Report.

Fisheries management arrangements

The previous recommendation for the Port Phillip Heads Marine Park included disallowing commercial harvesting of scalefish by netting, long lining and trapping within the park. Since the Interim Report was released, the process of voluntary buy-back of commercial scale fishery access licences in Victoria's bays and inlets has been completed. The buy-back



has reduced the number of Port Phillip Bay/Western Port Bay commercial scale fish licences from 116 to 54, reducing the likelihood of any substantial increase in commercial fishing effort in Port Phillip Bay in the future.

To increase protection levels in the park, the previous recommendations for the Port Phillip Heads Marine Park also included a proposed reduction in the daily recreational bag limit for abalone to five, rock lobster to one, and the introduction of a bag limit for crabs of 15. Since then, changes in fisheries management arrangements for recreational abalone harvesting, recreational rock lobster harvesting and the introduction of a recreational bag limit for crabs have been implemented for all Victorian waters.

Environmental values

A full description of the natural values and uses of the proposed Port Phillip Heads area can be found in the ECC's Interim Report (1998).

Southern Port Phillip Bay and the Port Phillip Heads area contain some of Victoria's most treasured marine and coastal environments. Foremost amongst these are:

- the incised entrance to the Bay (the Rip) and the "Heads" at Point Nepean and Point Lonsdale;
- spectacular dive sites such as the Lonsdale and Nepean Walls;
- intertidal rock platforms at Cheviot and Point Lonsdale;
- the coastal landscape of Point Nepean in the Mornington Peninsula National Park;
- bottlenose dolphin populations;
- sites listed under the Ramsar Convention for their importance for migratory wading birds (Swan Bay, Mud Islands);
- distinctive bird-dominated (nutrient-rich, guano-based) island ecosystem of Mud Islands;
- popular recreational dive locations (eg Popes Eye, Portsea Hole); and
- sheltered environments such as the seagrass meadows of Swan Bay.

Recent reef monitoring programs found substantial differences in reef marine ecological communities along the central Victorian coast. At the regional scale, the Wilsons Promontory region was well differentiated from the more western Port Phillip Heads to Bunurong region in terms of macrophyte, invertebrate and fish community composition. The proposed Port Phillip Heads and Bunurong Marine National Parks were

found to share a number of marine ecological communities, but a number of others were distinct within the Port Phillip Heads area (see Appendix 6 for details).

The reef biota changed considerably across the central Victorian region, supporting the findings of O'Hara (1999) that this region is an area of rapid change in species composition.

Community views

Informal community input to the ECC on the Port Phillip Heads Marine Park proposal since the Interim Report was released has focused on the impacts on recreational fishers in the Geelong region. Fishers were particularly concerned about impacts on boat-based fishing activities in Swan Bay, although most also expressed support for marine habitat protection. Other concerns related to restrictions on shore-based fishing on the open coast at Point Lonsdale.

Charter fishing operators using the Nepean Bay and Lonsdale Bight areas were strongly opposed to restrictions on fishing in these areas, while dive charter operators were largely supportive of the recommended park.

There was also strong community support for highly protected areas in the Point Phillip Heads area. However, conservation groups and scientists were concerned about the adequacy of the highly protected areas, seeking additional protection for eastern Swan Bay, Nepean Bay and Cheviot in particular.

Changes since the Interim Report

The major changes to the recommendations for Port Phillip Heads are as follows:

- a highly protected marine national park is recommended, replacing the previous recommendation for a larger multiple-use marine park;
- two small areas in Swan Bay have been excluded from the park to provide for the continuation of recreational fishing in these areas;
- the western boundary of the Point Lonsdale section has been moved a small distance to the east to reduce the impact on recreational shore-based fishing; and
- an offshore extension to the highly protected area has been recommended for the Point Nepean section at Cheviot.



Social and economic implications

A summary of the implications of the recommended Port Phillip Heads Marine Park is provided in Appendix 2 of the ECC's Interim Report (1998). The summary was based on the information on costs and benefits in previous LCC reports and on detailed information provided by Fisheries Victoria and other sections of NRE.

The revised recommendations for the Port Phillip Heads Marine National Park in this report modify the previously identified social and economic impacts in the following ways:

- impacts on commercial netting, long-lining and fish trapping have been reduced as a result of the exclusion of the multiple-use areas from the marine national park, and therefore allowing the continuation of current fishing activities in these areas;
- impacts on commercial abalone harvesting have increased as a result of the offshore extension to the Point Nepean section at Cheviot;
- impacts on recreational fishing have been reduced by excluding two small areas in Swan Bay from the park, and moving the western boundary of the Point Lonsdale section of the park approximately 500 metres from Fellows Rd to Buckleys Rd;
- changes in fisheries management arrangements since the Interim Report (outlined in *Matters considered in the review* above) have also contributed to a reduction in overall impact of the recommendation on both commercial and recreational fisheries.

The value of commercial fishing in the park is difficult to estimate because of the coarse resolution of the data, but in 1996/97 was about 33 tonnes of abalone or 4.7% of the Central Zone catch quota. Industry reports that the catch from this area has diminished in recent years. The rock lobster catch was estimated at less than 1.0 tonne or 1.5% of the Eastern Zone catch.

Implementation and management

- Five significant areas in the southern Port Phillip Bay region were set aside in 1979 as the Harold Holt Marine Reserves – the Point Nepean, Point Lonsdale, Mud Islands, Swan Bay and Popes Eye (The Annulus) Marine Reserves. Except for Popes Eye, various forms of fishing are permitted in the existing reserves. These reserves will be largely incorporated within the Port Phillip Heads Marine National Park.

- In 1997 NRE initiated an on-going monitoring program for Victoria's marine environment. This program has an emphasis on existing and proposed marine protected areas. By December 1999, 57 reef monitoring sites were established along the central Victorian coastline, including 15 sites in the Port Phillip Heads area, both within and outside the recommended marine national park.. At each site, the abundances of fish, invertebrate and macroalgal species are measured using the same quantitative techniques. This systematic sampling has resulted in a large data set for the description and comparison of reef assemblages at a range of spatial scales, and comprises a baseline for performance assessment of the park.

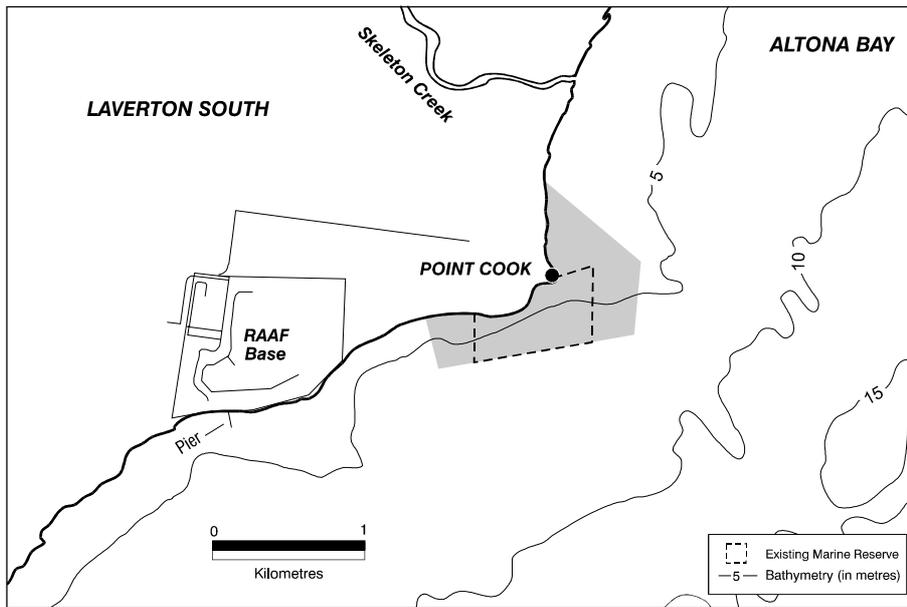
Recommendation

- A4**
- (i) That the Port Phillip Heads Marine National Park of 3 340 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43;
 - (ii) that commercial netting continue to be prohibited from that part of Swan Bay outside the recommended marine national park as at present; and
 - (iii) that collection of flora and fauna be prohibited from the intertidal area of the Mornington Peninsula National Park between the boundary of the Marine National Park and London Bridge.

References: 25, 40, 146, 147, 176, 242, 258, 264, 313, 375, 407.



B7 Point Cook Marine Sanctuary



Point Cook Marine Sanctuary is located about 10 km east of Werribee, adjoining Point Cook Coastal Park, and includes the existing Point Cook Marine Reserve.

The area of approximately 290 ha is recommended for its contribution to representation of western shoreline environments of Port Phillip Bay, and for the ready accessibility of its relatively intact habitats to the population of Melbourne.

Environmental values

- The sanctuary includes a typical example of the very shallow western shore of Port Phillip Bay with narrow beaches of mud and sand.
- Basalt reefs within the proposed sanctuary support a community of algae and associated epibenthic fauna. Sponges, bryozoans, sea-stars, sea-urchins, anemones, ascidians, shellfish, crustaceans, molluscs, sharks, skates and many other species of fish occur in this area.
- The significant wetlands of the adjoining Point Cook Coastal Park are part of the Port Phillip Bay (Western Shoreline) Ramsar area. The Ramsar area, together with an area 300 metres offshore (part of the existing marine reserve), are listed on the Register of the National Estate.

Implications for users

- The proposed sanctuary is popular for bird-watching, sightseeing, diving and snorkelling.
- Boat-based recreational fishing is popular along much of this coastline. Reef areas are popular for fishing for some species, eg snapper, and the Sheoak, a reef south of the sanctuary, provides good fishing grounds.
- The major commercial activity is abalone harvesting. The larger marine national park recommended in the Draft Report took in parts of the Sheoak reef complex as well as the Point Cook reef. Between 1988/89 and 1996/97 the average catch from the Point Cook Reef was 23.3 tonnes, or approximately 3.3% of the Central Zone catch. This is a significant reef for abalone

divers due to the relatively benign conditions of the bay, and the typically higher prices paid for smaller abalone from Port Phillip Bay, and industry reports that abalone catches have significantly increased in recent years.

- The general area is important to commercial finfish fishers, with seining operations taking place between the Sheoak and the Point Cook reefs. Some of the areas for seining shots between the reefs will remain available to commercial fishers.
- The recommendations in the Draft Report have been amended largely to reduce the impact on commercial abalone fishers, commercial net fishers, and recreational fishers.

Implementation and management

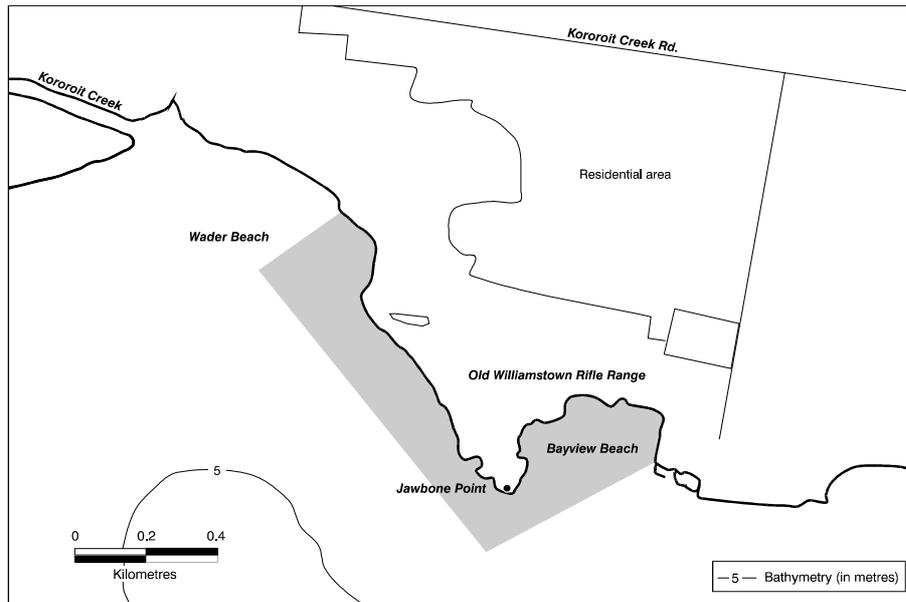
- Ecological monitoring will be facilitated by the amendment of the boundary to take in the entire Point Cook reef, and comparisons with the Sheoak reef to the south west where fishing will continue to take place.
- The recommended sanctuary is readily accessible. Parks Victoria currently run an educational and interpretative summer program in the adjacent coastal park.

Recommendation

- B7** That the Point Cook Marine Sanctuary of approximately 290 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.



B8 Jawbone Marine Sanctuary



Jawbone Marine Sanctuary is located at Williamstown less than 10 km from the centre of Melbourne, adjacent to the former Williamstown Rifle Range.

The area of approximately 30 ha is recommended for its ecological values, its contribution to representation of Port Phillip Bay environments, and for its significance as a scientific reference area.

Environmental values

- The site supports habitats including rocky basalt reef, seagrass beds, intertidal flats, saltmarsh and the largest occurrence of mangroves in Port Phillip Bay.
- The reef has a diverse algal community and associated fauna which is, for Port Phillip Bay, unusually unmodified. The softer subtidal sediments are fine clayey sands, which support high species richness.
- The basalt platform is a roosting site for migratory waders.

Implications for users

- The area of the proposed sanctuary is used for both commercial and recreational fishing, as well as the collection of shellfish.
- Port Phillip Bay net fishermen use mesh nets and beach seines in this area to target snapper, whiting and other species, with small but reliable catches.
- Recreational fishers use areas off the Jawbone for targeting large snapper, especially in some of the holes off the point.
- Commercial harvest of abalone has virtually ceased in this area, reportedly due to recreational pressure.
- The western boundary of the sanctuary has been moved away from the mouth of the Kororoit Creek, reflecting community concern about past dredging in this area.

Implementation and management

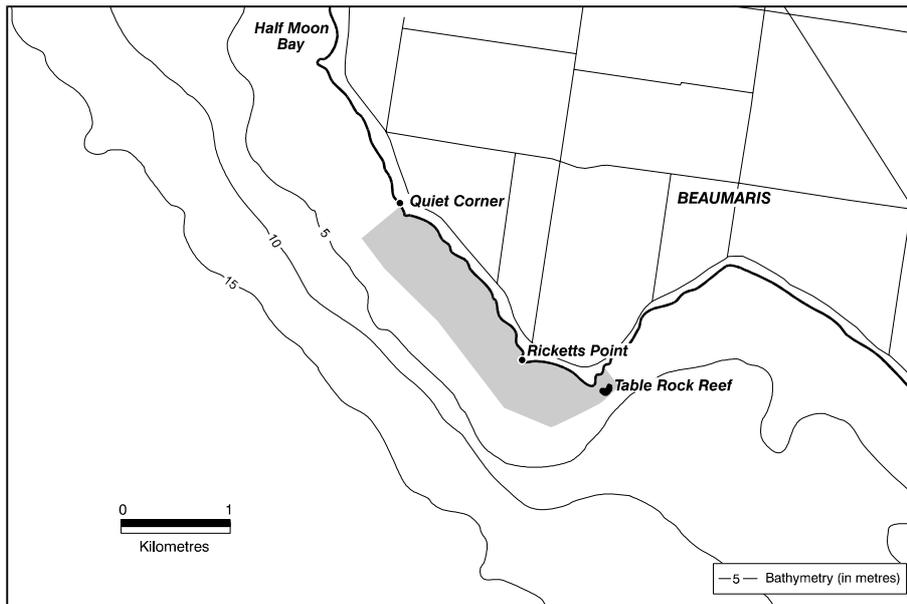
- The areas around the old Williamstown Rifle Range have been protected from human access since the turn of the century until the late 1980s when the Commonwealth sold the Rifle Range. Since then there has been significant damage to sensitive mangrove and saltmarsh areas, as people have sought access to harvest shellfish. There have also been changes in size and abundance of intertidal shellfish, in particular the gastropods *Turbo undulatus* and *Cellana tramoserica* (Keough *et al.* 1993).
- Land access to the area is restricted, and restrictions should be maintained.
- Boundaries have been located to facilitate enforcement, and will require onshore and offshore markers at appropriate points.

Recommendation

B8 That the Jawbone Marine Sanctuary of approximately 30 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.



B9 Ricketts Point Marine Sanctuary



Ricketts Point Marine Sanctuary is located at Beaumaris, in Melbourne.

The area of approximately 120 ha extends about 500 metres offshore and follows the cardinal marks. It is recommended for its contribution to representation of eastern shoreline environments of Port Phillip Bay, and its potential for public education and enjoyment of marine environments.

Environmental values

- The sanctuary includes rocky (sandstone) intertidal and subtidal habitats, sandy beaches and subtidal soft substrates.
- The offshore reefs have a high diversity of flora and fauna.

Implications for users

- In response to community input, the area of the recommended sanctuary has been significantly reduced. The boundary of the recommended area now begins in line with Fourth Street, north of Quiet Corner, seaward to the nearest cardinal mark, following the marks to Ricketts Point across Watkins Bay and to the cardinal mark at Table Rock then on shore at Sparks Street.
- The amended boundary captures the subtidal nearshore reefs, while leaving most of the important boat-based recreational fishing spots.
- Commercial fishers have used the area inside the cardinal marks in the past. This area has diminished in importance over the past few years, especially for commercial abalone harvesting.

Implementation and management

- The site is readily accessible to large numbers of people, providing a major resource for public enjoyment and education, but also creating major challenges for management.
- The area's popularity for recreational fishing, diving, snorkelling, shellfish collection and schools education, has resulted in pressure on species using the reef and overall degradation of the area.
- Current management arrangements for the foreshore should continue, but integrated arrangements should be developed with the marine sanctuary.

Recommendation

- B9** That the Ricketts Point Marine Sanctuary of approximately 120 ha shown on Map A be used in accordance with the general recommendations for marine sanctuaries outlined on page 45.

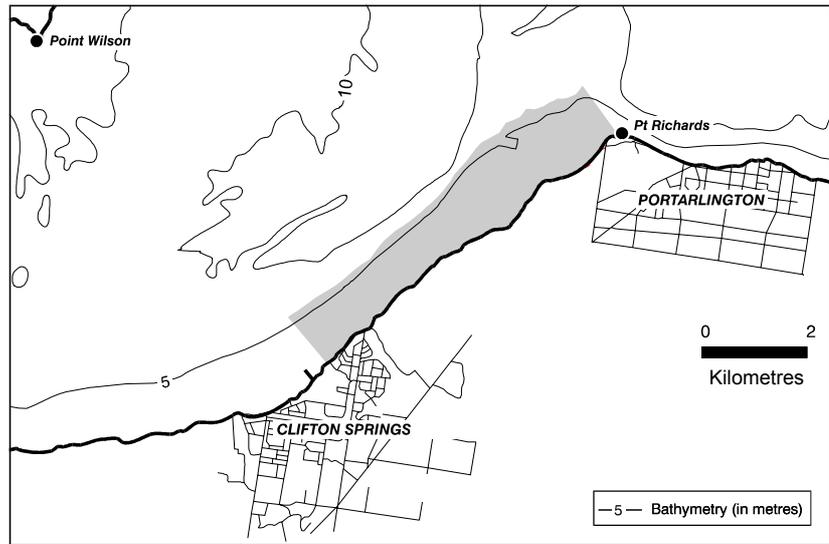


Special Management Areas

C7 Clifton Springs

Values

This 785 ha area contains some of the best examples of intertidal and subtidal seagrass (*Heterozostera tasmanica*, *Zostera muelleri*) in the Geelong Arm of Port Phillip Bay and is an important area for settlement of larval fish, including King George whiting and shark. The seagrass at Clifton Springs are part of a larger seagrass meadow extending westward from Point Richards to Point Henry.



Management issues

The seagrass meadows in the Geelong Arm have experienced substantial dieback and regrowth in past years and continue to be threatened by poor water quality, introduced pests such as the European tube worm, *Sabella*, as well as physical damage from propeller scour and anchoring. Management of the area should focus on ensuring the continued health of the seagrass beds, in the context of overall protection of seagrasses in the Geelong Arm and Port Phillip Bay. Activities that may damage seagrass and its associated marine life (eg some forms of boating and anchoring, dredging, dredge spoil disposal) should be regulated within this area.

Land access to the site is restricted, however there is good boat access from the Clifton Springs and Portarlinton boat ramps. Some boating and recreational fishing occurs within this area, whilst commercial fishing tends to be concentrated in the western areas of the site. There may be potential to develop a visitor education facilities at Portarlinton to highlight the important ecological role of seagrass communities in the bay.



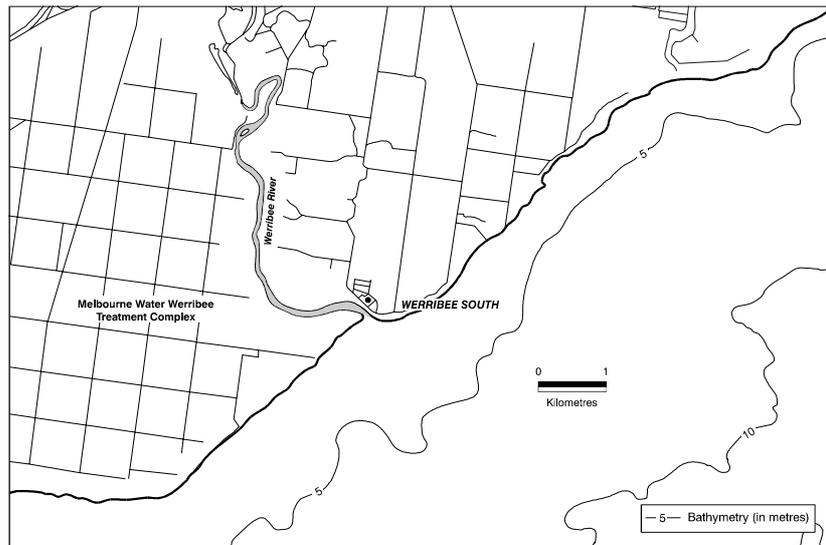
Special Management Areas

C8 Werribee River estuary

Values

This 50 ha area is situated adjacent to the suburb of Werribee South, and includes the lower estuarine waters of the Werribee River. Melbourne Water's Western Treatment Plant is located on the western side of the river.

The Werribee River estuary has a number of recognised environmental and recreational values, including important habitat for waterbirds, geological and geomorphological significance, value for recreational fishing and boating, and potential value for nature-based tourism.



Management issues

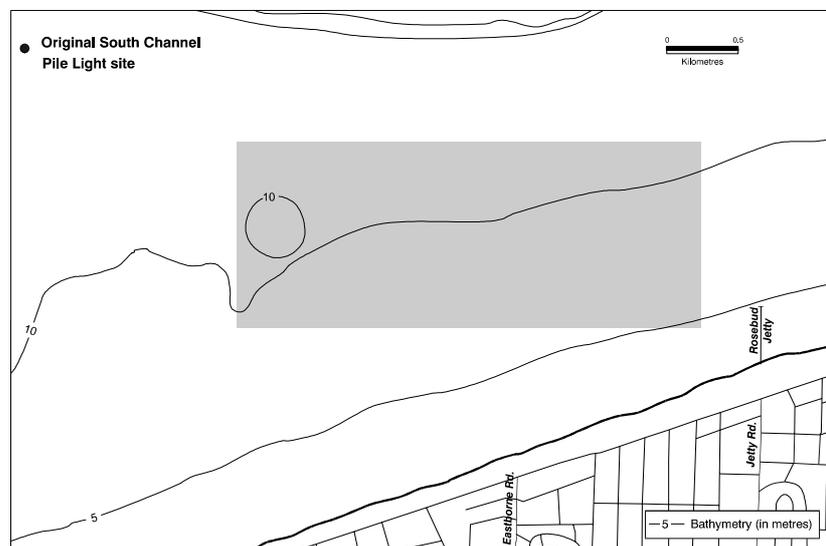
There is strong potential to enhance the environmental and recreational assets of this area, as a cooperative community project. Management planning for the area should involve NRE, the Port Phillip Catchment and Land Protection Board, Melbourne Water, local government, local Aboriginal people, adjacent landholders and the community.

C9 Capel Sound

Values

This 420 ha area lies offshore from Rosebud, and encompasses the wreck of the Hurricane and a hard coral reef. The area lies about 400 metres west of the end of the jetty, extending west for 2.3 km and north for 1–3 km.

The area surrounding the Hurricane is noted in particular for an unusually extensive bed of pink sea pens, and numerous reef fish. The reef, which emerges from the sea floor at 9 metres depth and rises to about 6 metres, has a colourful understorey, dominated by an extensive covering of hard coral. Hard corals are relatively uncommon in Victoria.



Management issues

The hard coral areas are vulnerable to disturbance by aquarium collectors, and collection should be prohibited. Recreational line fishing for pelagic fish such as snapper and whiting is popular in summer in this area. To enhance protection of reef communities in this very limited and vulnerable area, spearfishing and commercial fishing for reef fish should be prohibited.



Western Port

This section sets out the recommendations for marine protected areas for Western Port

The waters of Western Port cover nearly 700 km², more than a third of which are exposed as mud flats at low tide. Western Port is included in Victoria's Bays, Inlets and Estuaries biophysical region, equivalent to IMCRA's Victorian Embayments region. Two large islands are situated within the bay, French Island and Phillip Island. The bay has very high natural values and the whole area is listed as a wetland of international importance under the Ramsar Convention. Western Port has an unusually wide range of habitat types, including deep channels, extensive seagrass meadows, mangroves and saltmarsh. Two thirds of Victorian bird species have been recorded in the bay.

Community interest in the quality of the Western Port environment and concern about potential impacts of development has been strong for many years. The loss of intertidal seagrass habitat in Western Port was first reported in the north eastern sector of the bay during the early 1970s. Reduction in seagrass habitat continued – up to 70% of total cover and 85% of biomass by 1976 – and subsequent changes in catches of commercial fish, bird life, water quality and habitat value have been linked to the decline.

Other changes placing stress on the marine environment of Western Port included increased loads of freshwater, sediments, nutrients and contaminants. The rapidly expanding urban development in the catchment in areas such as Pakenham, Berwick and Cranbourne will further increase stress on the input streams and Western Port.

Recent investigations indicate that there has been limited recovery of seagrass (a total of 30% in area but limited increase in biomass), and many of the catchment issues are being addressed in the EPA's draft State Environment Protection Policy for Western Port (released in June 2000). It is recognised that the long-term management of the Western Port

catchment is critical if Western Port is to maintain its valuable environmental, commercial and recreational resources.

The bay supports a commercial fishing industry and a growing recreational fishery. Hastings in the north-western part of the bay is one of Victoria's four major commercial ports, with most ships carrying liquid fuel. The deep water in the Western Entrance and North Arm of Western Port is significant for deep draught shipping. No other harbour in Victoria and few in Australia provide sheltered water of such depth.

This part of the report gives descriptions of the recommended marine national parks and special management areas for Western Port. See the Executive Summary for a table of changes to the recommendations since the Draft Report.

Section 3.7 of this report provides an overview of the recommendations for marine protected areas and aquaculture areas, including recommendations for permitted uses and activities.

Note that the ECC is recommending that the Government investigate the establishment of a Biosphere Reserve for Western Port (see page 50).

Recommended areas

Marine National Parks

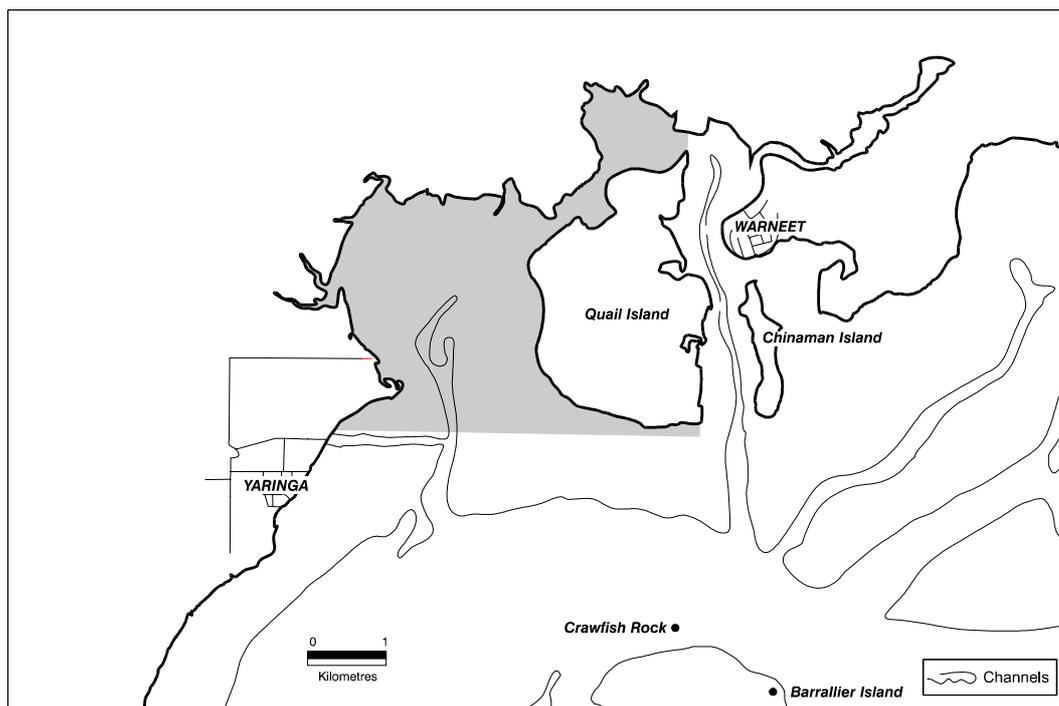
- A5** Yaringa Marine National Park
- A6** French Island Marine National Park
- A7** Churchill Island Marine National Park

Special Management Areas

- C10** Honeysuckle Reef
- C11** Crawfish Rock
- C12** Bass River delta
- C13** San Remo
- C14** Rhyll



A5 Yaringa Marine National Park



This recommended park is one of three in Western Port. It protects intertidal mudflats and extensive mangrove and saltmarsh areas in one of the least disturbed and least accessible parts of the bay.

Description of the park

- One of five marine national parks (with Port Phillip Heads, French Island, Churchill Island and Corner Inlet), proposed for the Victoria's Embayments biophysical region.
- Located in Western Port, about 9 km south-west of Tooradin, and adjacent to Quail Island Nature Conservation Reserve.
- Extends along the coastline north of Yaringa private marina to the eastern coastline of Quail Island.
- Approximately 930 hectares.

Environmental values

- The following bay habitat types are represented in the park: saltmarsh, mangroves, sheltered intertidal mudflats and subtidal soft sediments in tidal channels.
- The relatively undisturbed mangrove (*Avicennia marina*) and saltmarsh habitats of Watson Inlet and Quail Islands are of State geomorphological significance. Mangroves are a vital part of the bay ecosystem and provide important habitat for numerous invertebrates including crustaceans

(crabs, shrimps and sand hoppers), marine snails and bivalves, adult and juvenile fish.

- The intertidal mud flats are of national zoological significance, with many waterbirds and waders roosting among the mangroves and waders foraging in the surrounding muddy substrates.
- The area is part of the Western Port Ramsar wetlands.
- The adjacent coast, including the coast of Quail Island, supports good examples of sand heathland, coastal saltmarsh, and low woodland dominated by coast manna gum. Quail and Chinaman Islands are considered to be of State botanical and zoological significance. Currently they are managed as a nature conservation reserve, extending 150 metres out from the high water mark.

Community views

The local community, in general, supported the proposal although some concern was expressed about loss of recreational fishing grounds. No changes have been made to this recommended park.



Social and economic implications

Recreation and tourism

The area is not readily accessible by land or sea, and only limited recreational fishing takes place. There will be no restrictions on boating and other non-harvesting activities. The impact of the restriction on recreational fishing will be minimal as there is currently little fishing in the proposed park.

Development and dredging activities which impact upon the natural values of this park will not be allowed. The channel leading into the nearby marina should continue to be maintained by dredging. This dredging should continue to be managed so that impacts on the park are minimal.

Commercial fishing

Only a very limited amount of fishing takes place within the proposed park, specifically mesh netting for mullet.

Implementation and management

- Access to the site is limited due to the shallow nature of the channels.
- The location of the proposed park adjacent to the existing North Western Port Nature Conservation Reserve will facilitate management.
- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing, dredging etc, take place. Areas near Rutherford Inlet and Chinaman Island could be included in a monitoring program.

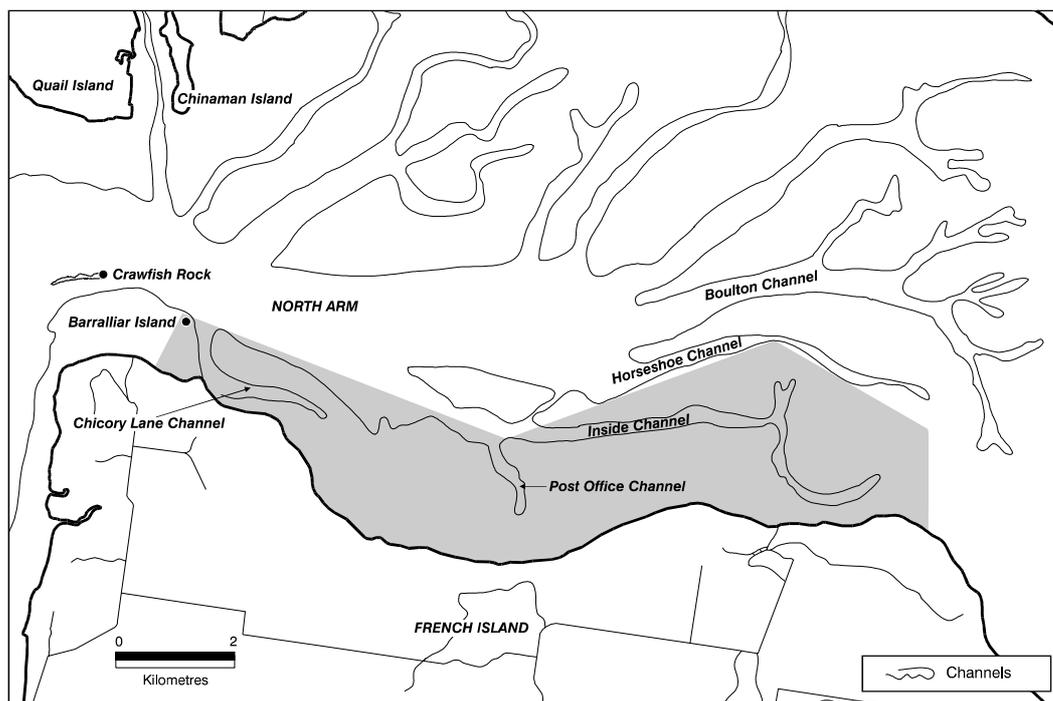
Recommendation

- A5** That the Yaringa Marine National Park of 930 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43.

References: 25, 247, 267, 361, 376, 388.



A6 French Island Marine National Park



This recommended park is one of three in Western Port. It protects seagrass beds as well as intertidal mudflats, areas of deeper channels, mangroves and saltmarsh.

Description of the park

- One of five marine national parks (with Port Phillip Heads, Yaringa, Churchill Island and Corner Inlet) proposed for the Victoria's Embayments biophysical region.
- Located about 10 km south of Tooradin, and adjacent to the northern shoreline of French Island National Park.
- Extending approximately 15 km along the northern shore of French Island; the park's northern boundary follows North Arm and the Horseshoe Channel.
- Approximately 2 700 hectares.

Environmental values

- The following bay habitat types are represented in the park: seagrass beds, mangroves, sheltered intertidal mudflats, sandy beaches and subtidal soft sediments in tidal channels.
- The north shore of French Island is one of the major areas of saltmarsh and mangrove fringe in Victoria and is of State geomorphological significance.

- The proposed park contains areas of seagrass (*Heterozostera tasmanica* and *Zostera muelleri*) including some areas where little loss of seagrass has been recorded. These are nursery areas for fish, including commercially important species such as whiting.
- Includes a well-developed tidal channel system of varying depth, profiles and orientations contributing to the high diversity of habitats.
- The area is part of the Western Port Ramsar wetlands. Intertidal flats are significant wader and foraging habitat used by 32 migratory species.
- Includes the waters around Barralier Island – one of the bay's 13 high tide roost sites – areas particularly sensitive to disturbance.

Community views

Input from the local community centred on difficulty of identification of boundaries due to exclusion of Post Office Channel from the park. The boundaries have been straightened and the Post Office Channel is now included within the park.

Commercial and recreational fishers were concerned about restrictions on their fishing activities in this



area, although most supported a smaller park in this location, or a marine protected area that would allow fishing to continue.

There was a high level of community concern about catchment activities and the poor condition of the Western Port environment.

Other nearby areas that were reconsidered during the public consultation on this proposal included various sections of Western Port waters bordering the northern and western shores of French Island. On balance, the recommended park is believed to best provide for conservation of a range of habitats with an acceptable level of impact on current uses.

Social and economic implications

Recreation and tourism

Popular area for boat-based recreational fishing for King George whiting, rock flathead, snapper, southern sea garfish, mostly in deeper channels outside of, or towards the outer boundaries of the park. There will be no restrictions on boating and other non-harvesting activities.

Commercial fishing

Current commercial fishing activities include mesh netting and seining. The following estimates of fisheries catch and value were provided by MAFRI and are based on the 1996/97 year to allow consistent comparisons between areas. See Appendix 5 for a fuller discussion of fisheries estimates.

The major commercial activities are mesh netting, seining for King George whiting and garfish, and longlining for snapper, valued in total at \$85 000. The ECC believes that the inclusion of Post Office Channel will not significantly affect this value.

Implementation and management

- The proposed park is readily accessible from Warneet, Blind Bight, Tooradin and other Western Port shore jetties.
- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing, take place. Areas, west of the proposed park, adjoining the shoreline of French Island, could be included in a monitoring program.

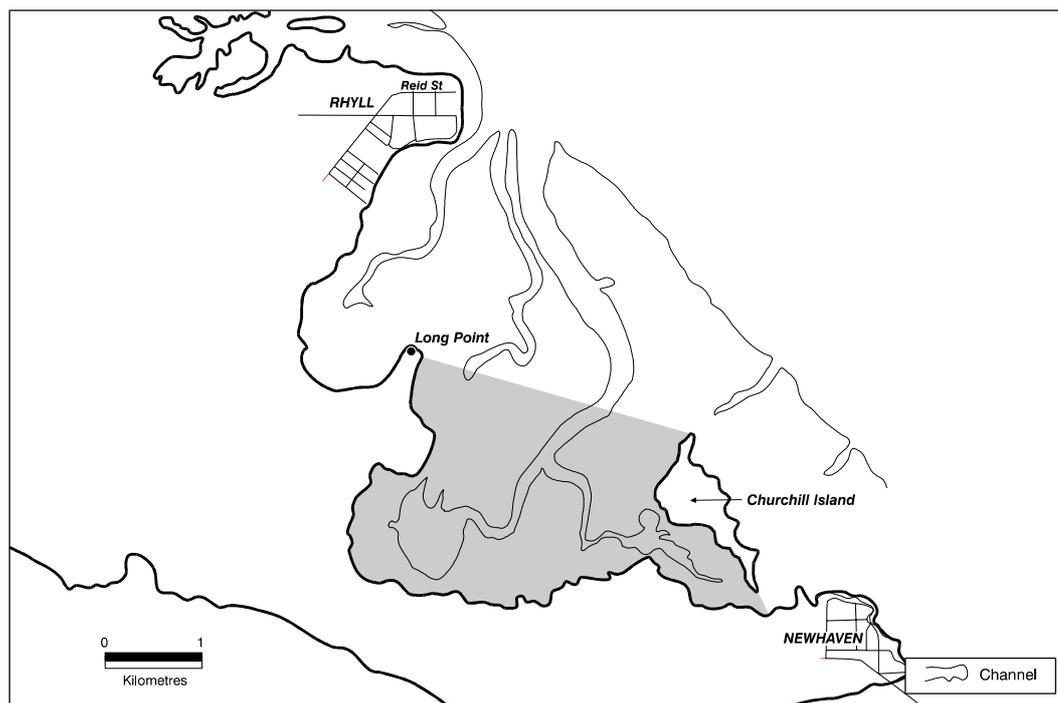
Recommendation

- A6** That the French Island Marine National Park of 2 700 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43.

References: 25, 242, 247, 267, 361, 376, 388.



A7 Churchill Island Marine National Park



The recommended park is one of three in Western Port. It protects a variety of sheltered habitats, including intertidal mudflats, seagrass beds and deep channels.

Description of the park

- One of five marine national parks (with Port Phillip Heads, Yaringa, French Island and Corner Inlet), proposed for the Victoria's Embayments biophysical region.
- Located south of Rhyll, on the eastern shore of Phillip Island.
- Extends from Long Point south of Rhyll township to the north point of Churchill Island and along the island's western shore to the bridge.
- Approximately 675 hectares.

Environmental value

- The following bay habitat types are represented in the park: seagrass beds, mangroves, sheltered intertidal mudflats, sandy beaches, subtidal soft sediments in tidal channels and rocky intertidal habitats (cobble and shingle).
- Significant roosting and feeding habitat for migratory waders.
- The intertidal mud flats extending from Rhyll to Newhaven are of State significance, and the area from Rhyll Inlet to Churchill Island is of national

significance as part of a group of primary foraging areas for the 32 migratory waders found in Western Port (especially whimbrels and bar-tailed godwits).

- The area is part of the Western Port Ramsar wetlands.
- Seagrasses *Zostera muelleri*, *Amphibolis antarctica* and *Heterozostera tasmanica*.
- The raised beach between Chambers Point and Long Point and the adjacent Churchill Island are of State geological and geomorphological significance.

Community views

Input from the local community centred on concerns about the loss of boat-based recreational fishing in the channels, and potential flow-on impacts to local businesses dependent on recreational fishing visitors.

Scientists and conservation groups expressed the view that the proposed park did not adequately reflect the full range of intertidal and subtidal habitats in the area. Other groups commented that the significant areas for migratory waders were not included in the park.



The boundaries of the park have been amended and the area of the park substantially reduced to lessen the potential impact on local businesses and recreational fishing. Further changes to the recommended park would not be possible without significantly reducing the ecological viability of the park.

Social and economic implications

Impacts on coastal communities

The nearest coastal town to this park is Rhyll with an estimated population of 430 residents.

Rhyll is a small coastal community with a high level of holiday housing (approximately 50% of dwellings) and a high share of retirees (about 44% compared to the State average of 16%). Consumer services account for 29% of employed residents. Although not all of employed residents work in Rhyll, the town's business profile indicate there are six businesses classified as retail trade, or accommodation, cafes and restaurants – servicing visitors to Rhyll, including recreational fishers. The Churchill Island Marine National Park, which does not include the major recreational fishing grounds, is unlikely to impact on Rhyll's economy. (See Appendix 4 for more details.)

Recreation and tourism

The general area is popular for boat-based recreational fishing and hand spearing, shore-based sightseeing, and bird watching and other natural history activities.

The areas which are particularly popular for boat-based recreational fishing – off Rhyll township, and parts of the channels between Rhyll and Churchill Island – are not included in the park, to minimise impacts on users.

There will be no restrictions on non-harvesting activities.

Commercial fishing

Current commercial fishing activities include mesh netting and beach seining. The following estimates of fisheries catch and value were provided by MAFRI and are based on the 1996/97 year to allow consistent comparisons between areas. See Appendix 5 for a fuller discussion of fisheries estimates.

There is little commercial activity within this park, the major activity being mesh netting with some beach seining south of Rhyll. The estimated total value of commercial fishing for an area similar to the previous (larger) proposed area is \$11 000. The full implications of the buy-back of commercial bay and inlet fishing licences have yet to be determined, but it is likely that commercial fishing near Rhyll will decrease.

Implementation and management

- Ready access from Pleasant Point, Churchill Island, Newhaven (boat ramp) and San Remo will allow visitors to enjoy the park.
- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing, take place. The area east of the recommended park, between Corinella and Reef Island, could be included in a monitoring program.

Recommendation

- A7** That the Churchill Island Marine National Park of 675 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43.

References: 25, 242, 247, 267, 361, 376, 388.

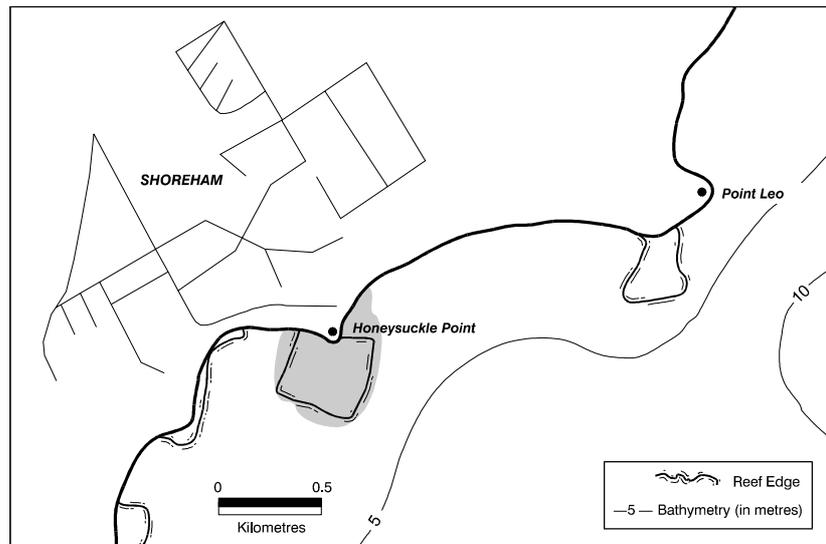


Special Management Areas

C10 Honeysuckle Reef

Values

This 25 ha area is recommended for its diverse intertidal reef communities. It is predominantly flat and shallow, within a relatively sheltered bay area. Honeysuckle Reef has a shallow pool area used extensively by schools of young fish. The small site includes mainly intertidal reefs and some subtidal reefs. Part of the adjacent beach is used as a high tide roost for migratory waders. The intertidal rock platform is used for rocky shore angling. The area is popular for walking, beachcombing, sightseeing and some snorkelling. The subtidal reef also provides excellent opportunities for underwater recreation.



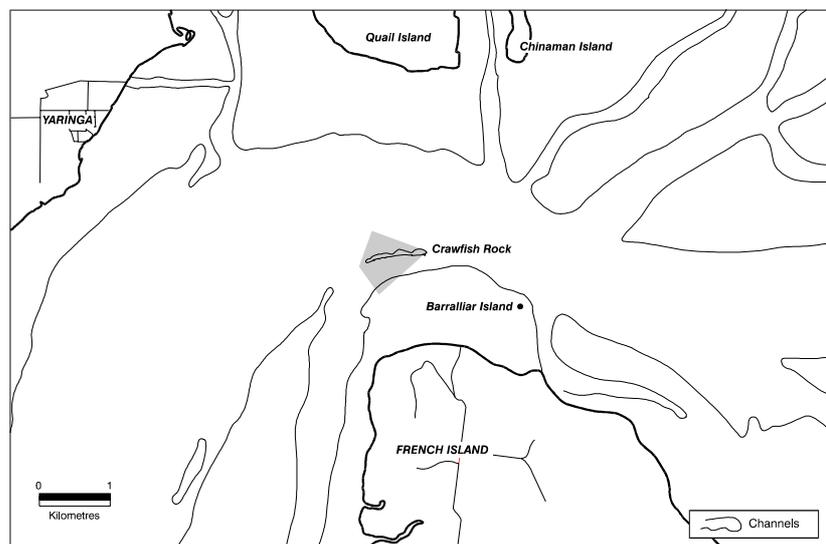
Management issues

Extensive shellfish harvesting has depleted the intertidal and subtidal invertebrate populations. Management of the area should focus on developing and implementing strategies for restoration of the intertidal rocky reef communities, and minimising disturbance to high tide roosts.

C11 Crawfish Rock

Values

This 45 ha area is an unusual intertidal/subtidal reef located in the north-west of Western Port. Crawfish Rock is significant because it supports a benthic fauna with apparent affinities with deep water communities in Bass Strait. Due to high water turbidity around Crawfish Rock reducing light penetration, many deep-water species of algae, hydroids and sponges occur at unusually shallow depths.



Crawfish Rock also has a number of distinct communities characterised by differing combinations of light, current energy and substrate types. A recent visit conducted by divers from the Marine Research Group indicates that the area has remained largely intact since the original 1971 survey.

Management issues

Management should address specific strategies to protect the biological and scientific values of the site.

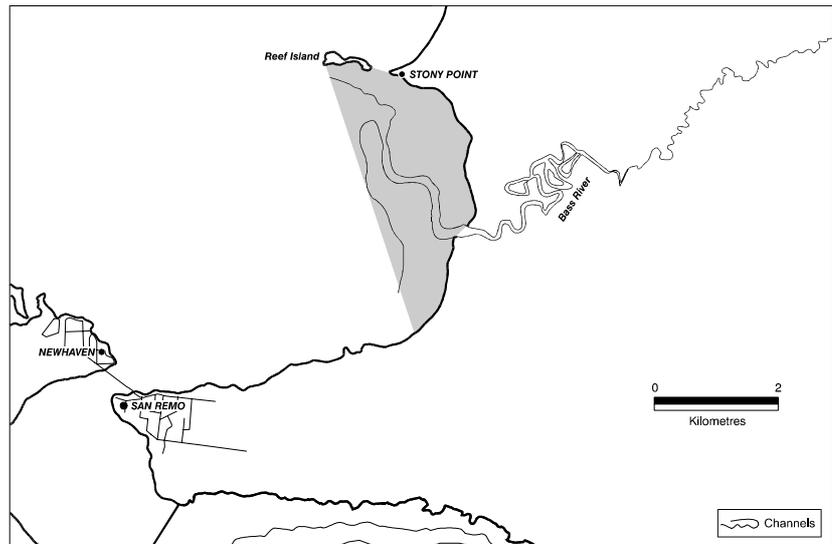


Special Management Areas

C12 Bass River delta

Values

This 635 ha area in eastern Western Port has significant ecological values as a fish nursery, bird roost, and for its diversity of habitats including intertidal flats and subtidal areas. The shallow waters of the Bass River delta support diverse fish life, and the area is a nursery for various species of shark and whiting. The intertidal flats are foraging areas for waders associated with the adjoining high-tide roost at Reef Island. The delta complex is of geomorphological significance and supports significant mangrove-saltmarsh habitat, extensive intertidal and subtidal flats of bare sand, dense algal beds and seagrass. The delta is a major boat-based recreational fishing area with significant commercial seine and mesh netting activity. Whiting and flathead are the species predominantly targeted.



Management issues

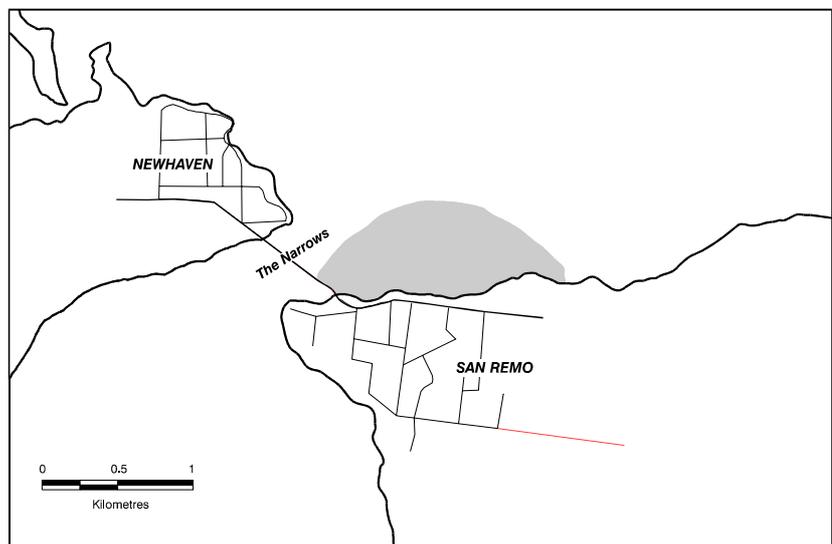
The Bass River delta suffers from serious infestation of the exotic weed *Spartina*. Within a management planning process, threats to the ecological values of the site should be identified and appropriate protection measures implemented.

C13 San Remo

Values

This 70 ha site contains the only marine community listed under the *Flora and Fauna Guarantee Act* 1988. It is the only known example of its kind, comprising an extremely rich opisthobranch (sea slugs) and bryozoan (sea mosses) community. 125 species of opisthobranchs have been recorded at San Remo of which eight are known only from this site.

The diversity of substrate types including patches of sand, mud, boulders and vesicular, weathered basalt; the north-facing aspect; and the low wave energy and proximity to a fast-flowing tidal channel, are some of the factors that contribute to the existence of this apparently rare community. The site includes the edge of a deep and fast-flowing tidal channel, which is the most diverse part of the community.



Management issues

An Action Statement has been prepared for this community under the provisions of the *Flora and Fauna Guarantee Act*. There are a number of measures available under the Act to control works and activities which may pose a threat to the community. The status of the community should continue to be monitored.



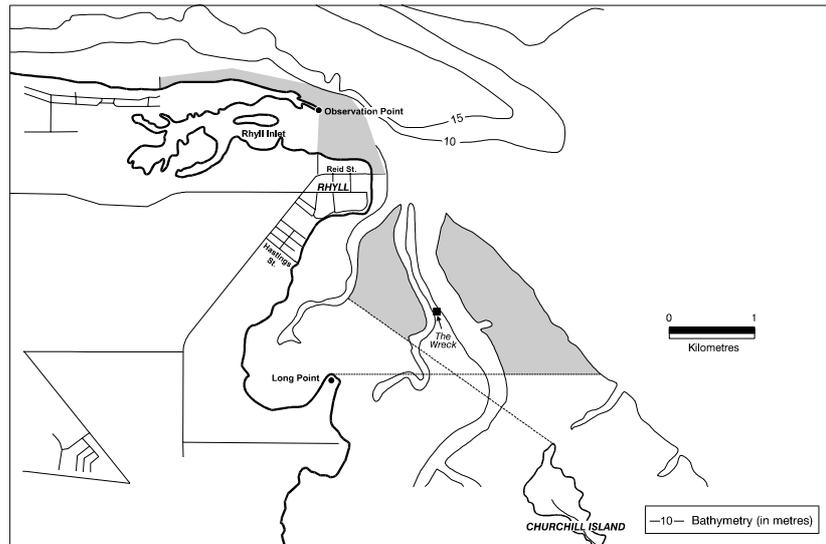
Special Management Areas

C14 Rhyll

Values

This 375 ha area is within a primary foraging area for 32 species of migratory waders. Rhyll Wetlands, (including Rhyll and Rowell Wetlands, Rhyll Inlet, and Conservation Hill) have international significance as bird habitat and fall within the Western Port Ramsar area.

The Rhyll wetlands area, off the previously recommended special management area at Observation Point, is recognised as a major high tide roost, and the mudflats further south are important feeding areas for red-necked stints, curlew sandpipers, eastern curlews, and double-banded plovers. As well as abundant bird life, the low profile basalt reef, mangroves, saltmarsh, soft sediments and dynamic sand spit, with a complex array of active and relict geomorphological features, are of high conservation value.



Management issues

The recommendation includes an extension of the Rhyll Wetlands precinct of Phillip Island Nature Park (PINP), and additional intertidal mudflats further south. The boundary of the site extends offshore from the western boundary of the PINP, and eastwards from the PINP boundary at Rhyll Inlet. The offshore boundaries, with Reid Street as a reference, have been adjusted for ease of identification.

Management should address strategies for protection of the values of the area for migratory waders. Incorporation of the northern portion of this area (Observation Point) into the Phillip Island Nature Park should be considered.



Other bays, inlets and estuaries

This section sets out the recommendations for marine protected areas for bays, inlets and estuaries other than Port Phillip Bay and Western Port. (Note that the Gippsland Lakes are specifically excluded under the Terms of Reference.)

Bays, inlets and estuaries have biophysical characteristics that clearly distinguish them from the open coast. They are typified by predominantly soft substrates, restricted water exchange patterns and low wave energy. Two habitat types – mangroves and intertidal flats with associated channel systems – occur only in this biophysical region.

Victoria's bays, inlets and estuaries contain a diverse range of biotic assemblages depending on their physical morphology and hydrological regimes. Corner Inlet, like Western Port, is a large, mostly shallow estuarine area with extensive mudflats and seagrass beds. The small narrow estuaries in western Victoria have an impoverished fauna compared to those in the east which tend to be larger and better wind-mixed. The dominant seagrasses are *Zostera muelleri* and *Heterozostera tasmanica*, with large areas of *Posidonia australis* occurring only in Corner Inlet, and the east coast species *Zostera capricorni* reaching its southern limit in Mallacoota Inlet. Although all of Victoria's bays, inlets and estuaries are grouped in one biophysical region, individual areas are very different from each other, and the larger bays and inlets are quite distinct.

Shallow Inlet and Anderson Inlet are small inlets in south Gippsland, with significant values especially for wading birds. The Corner Inlet and Nooramunga area in south Gippsland is Victoria's third largest embayment, and its natural values were recognised in the mid 1980s when it was declared a marine and coastal park. The whole area is listed as a wetland of international importance under the Ramsar Convention. The inlet supports a commercial fishery and is also popular for recreational fishing and boating. There are four small ports in the area: Port Franklin, Port Welshpool, Port Albert and Barry Beach. Shallow Inlet and adjoining coastal land was declared a marine and coastal park in the mid-1980s.

Both Shallow Inlet and Anderson Inlet are highly significant for migratory wading birds, and are very popular for beach activities, recreational fishing and boating. Although Corner Inlet, Nooramunga and Shallow Inlet in south Gippsland are marine and coastal parks, no highly protected areas have been established.

Most of Victoria's inlets, lagoons and larger estuaries have been heavily modified. Very few of the estuaries or their catchments are essentially unmodified. Of the less modified examples, most are included within national parks or other protected areas. Only those in far East Gippsland, between Wingan Inlet and the Betka River (particularly the estuary areas of Shipwreck Creek, Seal Creek, Benedore River, Red River and Easby Creek), are essentially natural. These rivers and their catchments are located in the Sandpatch Wilderness area of Croajingolong National Park, and are listed in the *Heritage Rivers Act* 1992 as natural catchment areas. Given the very high significance of these areas, the high level of protection already afforded to them, and the fact that very few similar estuaries are in such a natural condition, the ECC believes that three of these five small estuaries should remain as undisturbed as possible to provide a benchmark against which the condition of other estuaries can be measured (see Recommendation D4 on page 50).

The management of particular areas within some bays and inlets is subject to international obligations to protect wetlands and specific birds, such as the Ramsar Convention on Wetlands of International Importance and bilateral migratory bird agreements with Japan and China. Catchment management plans and coastal action plans are an additional means to address management issues affecting smaller estuaries.

In western Victoria, estuary management is a specific focus of current coastal planning being carried out by the Western Coastal Board. In eastern Victoria, many smaller inlets and estuaries are within national parks or other protected areas, and management issues are dealt with through park management planning processes, eg Wingan and Tamboon Inlets in the Croajingolong National Park.



The recent voluntary buy-back of commercial bays and inlets fishing licences has resulted in the cessation of commercial fishing in Anderson Inlet, Shallow Inlet, and only a small number of licences remain in Lake Tyers, Tamboon Inlet and Mallacoota Inlet. The remaining Lake Tyers and Tamboon Inlet licences are non-transferable, and commercial fishing in these inlets will cease when the current licence holders exit the fishery.

This part of the report gives descriptions of the recommended marine national park and special management area in Victoria's Bays, Inlets and Estuaries biophysical region outside Port Phillip Bay and Western Port. Additional recommendations relating to existing parks can also be found in this

section on page 50. See the Executive Summary for a table of changes to the recommendations since the Draft Report.

Section 3.7 of this report provides an overview of the recommendations for marine protected areas, including recommendations for permitted uses and activities.

Recommended areas

Marine National Park

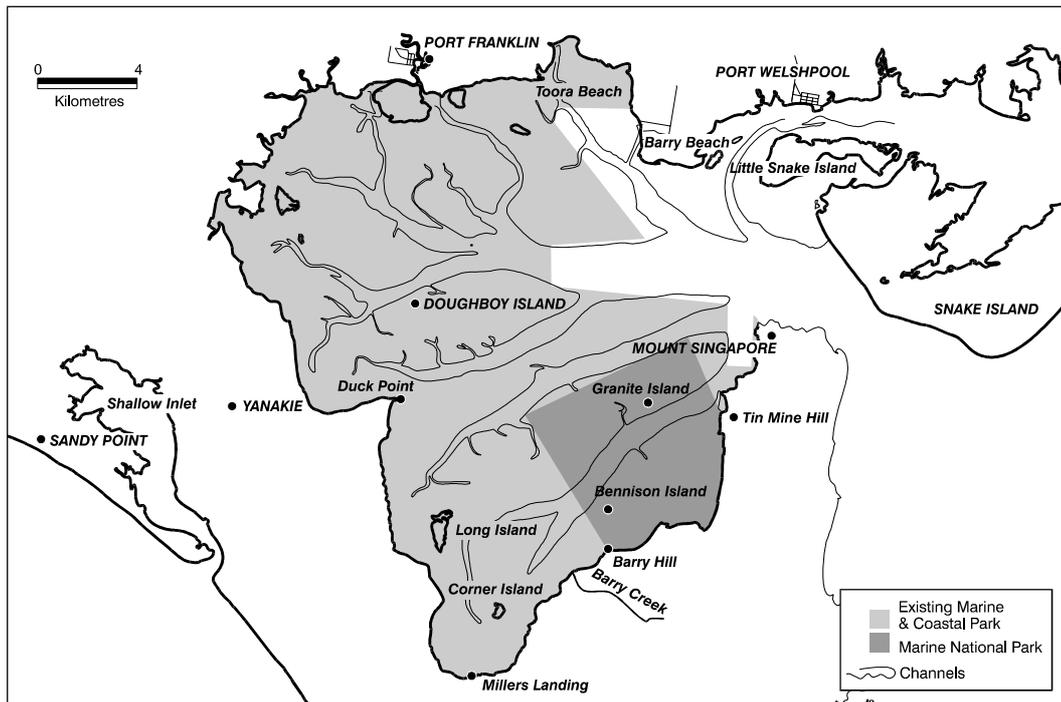
A10 Corner Inlet Marine National Park

Special Management Area

C17 Mallacoota Inlet (parts)



A10 Corner Inlet Marine National Park



*This recommended marine national park is within the well-known and popular Corner Inlet Marine and Coastal Park and is the only highly protected area in Victoria's third largest bay. The shoreline varies from the low watery landscapes of the marshes and dunes to the dramatic backdrop of the granite peaks of Wilsons Promontory National Park. The park protects a variety of sheltered habitats such as intertidal mudflats, channels and seagrass beds including the only substantial beds of broad-leafed seagrass (*Posidonia australis*) in Victoria.*

Description of the park

- One of five marine national parks (with Port Phillip Heads, Yaringa, French Island and Churchill Island), proposed for the Victoria's Embayments biophysical region.
- Located north of Wilsons Promontory and about 6 km east of Yanakie, part of existing Corner Inlet and Marine and Coastal Park.
- Extends along approximately 11 kilometres of coastline east of Barry Creek to south of Tin Mine Cove.
- Approximately 4 150 hectares in size.

Environmental values

- Includes many open bay habitat types such as seagrass, mangrove, intertidal sandy beaches and subtidal soft sediments.
- Contains samples of extensive seagrass communities, including the broad-leafed seagrass (*Posidonia australis*). Corner Inlet contains the only extensive beds of *Posidonia* in Victoria. The *Posidonia* community is the most faunally diverse

of all habitats studied in the Corner Inlet-Nooramunga area. Other seagrasses include *Zostera muelleri* and *Halophila ovalis*.

- Very high diversity of invertebrates in soft sediments.
- Part of the internationally listed Ramsar area, especially significant for over-wintering, migratory wading birds. Corner Inlet supports up to 50% of Victoria's migratory waders and 21.5% of Victoria's total wading population.

Aboriginal interests

Gippsland and East Gippsland Aboriginal coastal communities strongly expressed the need for Government to consult their communities prior to decision-making and implementation.

Community views

Input from the local community centred on concern about the impact on commercial fishers and recreational fishers who generally opposed the proposal, and others who called for better representation of seagrass habitats.



An alternative proposal was submitted to the ECC, focusing on protection of intertidal mangrove and saltmarsh habitats. However this proposal did not adequately protect the full range of seagrass and other subtidal habitats in Corner Inlet.

The ECC has not made substantial changes to this recommended park, other than a small increase in area to provide a better representation of *Posidonia* and *Halophila* seagrasses.

Social and economic implications

Impacts on coastal communities

The nearest townships to this park are Foster, Port Franklin, Port Welshpool, and Toora with an estimated combined population of 1 750 residents.

Collectively, these four townships share a diverse economy. The largest proportion of employment (31% of employed residents) falls within the consumer services sector, including retail trade and accommodation, cafes and restaurants, and health services. Fifteen percent of residents are employed in the manufacturing sector and about 10% in the agriculture, forestry and fishing industry.

The implementation of Corner Inlet Marine National Park will have some impact on fishing industry (see below) but it is unlikely to affect the economy of the four townships to any substantial degree (see Appendix 4 for more details). However, these towns have been affected by major changes experienced in rural and regional Victoria over the last decade which can affect the way in which communities perceive and deal with further change.

Recreation and tourism

The general area is popular for boating, boat-based recreational fishing and, to a lesser extent, diving. Part of the coastline adjacent to the proposed park is used for boat-based camping and coastal bushwalking. There will be no restrictions on boating, diving, and other non-harvesting activities.

The effect of the recommended park on recreational fishing is likely to be limited due to the availability of alternative areas in Corner Inlet.

Commercial fishing

Current commercial fishing activities include estuary/beach seining and mesh netting. See Appendix 5 for a fuller discussion of fisheries estimates.

This area is used by Corner Inlet licence holders, predominantly from Port Franklin and, to a lesser extent, Port Welshpool. Techniques used include seines, ring nets, mesh nets and snapper long lines. A variety of species are caught in this area.

The MAFRI catch estimates are for a substantially different area to the current proposal, and hence are not included here. However, with recent changes to the catch reporting areas for Corner Inlet, an upper limit can be put on the catch for this area. The proposed park is within the catch and effort cell south of a line between Duck Point and Mount Singapore. In the fishing year 1998/99 the value of fish attributed to this area was \$325 000. It is estimated that approximately one third of the catch comes from the area within the proposed park, hence the impact is a loss of areas that yield approximately \$100 000 of catch.

Implementation and management

- The proposed park is readily accessible by boat, mainly from Port Welshpool and Port Franklin but also from Toora Beach and Yanakie Landing.
- Management of bay and inlet fisheries in Victoria is currently being reviewed by Government, including a voluntary buy back of commercial fishing licenses. The outcomes will influence management of the proposed park.
- Monitoring and assessment of the effectiveness of the park will be assisted by comparison with similar areas where activities such as fishing take place. Other areas in Corner Inlet could be included in a monitoring program.
- The ECC has recommended that the intertidal area of Wilsons Promontory Marine National Park between Tin Mine Cove and Millers Landing be set aside as areas in which harvesting of flora and fauna is not permitted (see Recommendation D2 on page 50).

Recommendation

A10 That the Corner Inlet Marine National Park of 4 150 ha shown on Map A be used in accordance with the general recommendations for marine national parks outlined on page 43.

References: 127, 147, 212, 275, 295, 304, 337, 372.

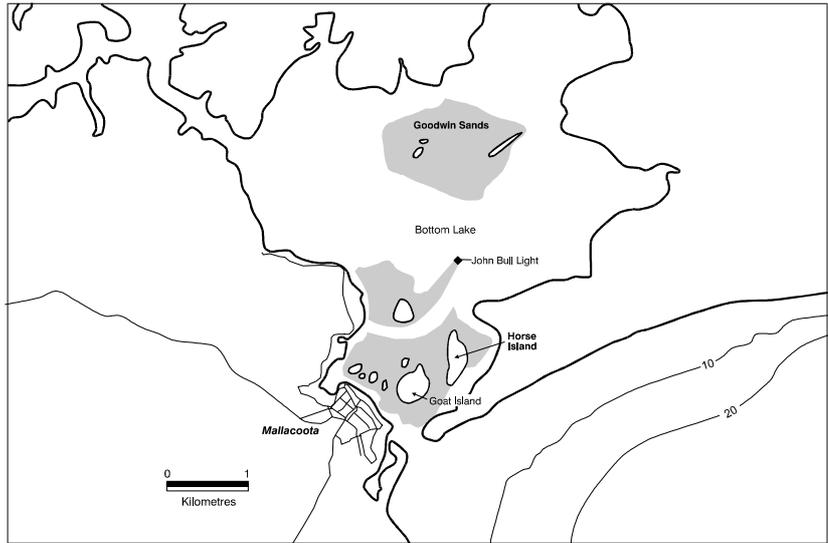


Special Management Areas

C17 Mallacoota Inlet (parts)

Values

This 340 ha area includes the tidal delta area at the entrance to the inlet, and the Goodwin Sands. Mallacoota Inlet is the largest estuarine lagoon system in south-eastern Australia, and provides habitat for a wide range of flora and fauna. Three species of seagrass were recorded in Mallacoota Inlet, *Zostera muelleri*, *Heterozostera tasmanica* and a species of *Ruppia*. *Zostera muelleri* is the dominant subtidal vegetation in Mallacoota Inlet with the largest area in the tidal delta. *Ruppia* beds are restricted to the Bottom Lake and are most dense around the Goodwin Sands area. A wide variety of birds depend on the inlet, including Caspian, little, fairy and crested terns, all of which breed on Goodwin Sands. Some of these birds are listed under the bilateral Japan Australia Migratory Birds Agreement. Both the tidal delta and Goodwin Sands are of regional geological and geomorphological significance.



Management issues

The islands on the Goodwin Sands are included in the Croajingolong National Park. Management of the recommended areas should complement management of the wildlife values of the islands.



