Marine Natural Values Study Summary

Point Danger Marine Sanctuary

Australia's southern waters are unique. Ninety per cent of our marine plants and animals are found nowhere else on earth.

The system of Marine National Parks and Sanctuaries has been established to represent the diversity of Victoria's marine environment, its habitats and associated flora and fauna.

Victoria's marine environment has been classified into five bioregions according to a nationally agreed scheme based on physical and biological attributes.

Point Danger Marine Sanctuary is one of five marine sanctuaries and two marine national parks in the Central Victoria bioregion.

Image left:
Egg urchin *Holopneustes* sp. in an intertidal rock pool. Photo by Mark Rodrigue, Parks Victoria.

Image right:
Intertidal reef and rock pool. Photo by Mark Rodrigue, Parks Victoria.

Description

The sanctuary covers 21.7 hectares and extends from the high water mark around the prominent limestone headland of Point Danger between the townships of Torquay and Jan Juc. It extends offshore for about 600 metres to the east and 400 metres to the south.

The sanctuary is accessible from the car park or adjacent beaches.

Parks Victoria acknowledges the Aboriginal Traditional Owners of Victoria – including its parks and reserves. Indigenous tradition indicates that the sanctuary is part of Country of Wadda wurrung.

Physical Parameters and Processes

The coastline is exposed to strong winds and large swell (mostly from the south and south west), and currents that are typical of open coastal locations. The seafloor is predominantly less than seven metres deep.

Surface water temperatures vary between an average 17.5 °C in the summer and 13.5 °C in the winter. Tidal variation is 2.1 metres for spring tides and 0.7 metres for neap tides.

Spring Creek discharges one kilometre to the west of the sanctuary and Barwon River discharges 20 kilometres to the east.

The geology of the sanctuary is limestone.

Marine Habitat Distribution and Ecological Communities

The main habitats protected by the sanctuary include intertidal and subtidal soft sediment, intertidal and subtidal reefs, and the water column.

Drift has been observed on the intertidal soft sediments, while many shorebirds have also been recorded in or near the sanctuary, a number of which are of conservation significance.

The intertidal limestone platform is home to twenty six species of marine plants. The brown algae Neptune's necklace *Hormosira banksii* is a key habitat forming algae on the limestone intertidal reef. Other brown algae (e.g. *Cystophora moniliformis*, *C. subfarcinata*, *Sargassum* spp.) are predominantly found in rock pools. Patches of small red corallines, filamentous algae and the green sea lettuce *Ulva* spp. are common on the intertidal platform.

The sanctuary is home to more than forty four species of intertidal invertebrates which are mostly found underneath rocks on the intertidal reef.

The most abundant mobile invertebrates include the pulmonate limpets *Siphonaria* spp., striped

conniwink *Bembicium nanum* and the rugose slit limpet *Clypidina rugosa*. Mussel beds made up of the tiny horse mussel *Limnoperna pulex* are also common. The top shell *Chlorodiloma adelaidae* can also be abundant hidden amongst rubble and under stones. The predatory gastropods *Lepsiella vinosa* and *Dicathais orbita* are often associated with *Limnoperna pulex* mussel beds. The turban shell *Turbo undulatus* and the limpet *Patelloida alticostata* are present but in lower densities than other molluscs.

The shallow subtidal rocky reefs are home to a mixture of brown algae, while extensive areas of the seagrass *Amphibolis antarctica* can be found growing over reef and sediment in the more sheltered areas.

The sanctuary is particularly recognised for its diverse sea slug (opisthobranch) fauna found on both intertidal and subtidal reefs with ninety six species having been recorded, many of which are endemic.

The water column is home to a variety of planktonic and pelagic organisms. Those that make their permanent home in the water column include sea jellies, salps, many fish, and phytoplankton and zooplankton. The water column is also foraging habitat for several seabirds.

Species and Communities of Conservation Significance

The sanctuary has eighteen conservation listed seabirds and shorebirds including three species of albatross (e.g. the wandering albatross *Diomedea exulans*), two species of tern (e.g. the Caspian tern *Hydroprogne caspia*), two species of shearwater (e.g. sooty shearwater *Ardenna grisea*), the Pacific gull *Larus pacificus*, and the common diving petrel *Pelecanoides urinatrix* among others.

The Point Danger Marine Sanctuary is home to two biota that have been recorded or presumed to be at their distributional limit including one crab *Hexapus granuliferus* and one marine snail *Tubercliopsis septapila*, though this may reflect collection effort in this area rather than actual Victorian distributions.

Major Threats

Measures to address or minimise threats identified for Point Danger Marine Sanctuary form part of the park management plan. Parks Victoria also uses an adaptive management approach which includes periodic reviews of priority natural values and threats through processes such as the State of the Parks evaluation and setting of desired conservation outcomes. Through these processes Parks Victoria has identified emerging threats and developed appropriate management responses.

Serious threats include marine pests and pathogens, illegal harvesting, nutrients and heavy metals from sewage outfall, man-made discharges of freshwater and stormwater, trampling, disturbance through recreation (e.g. dogs, horses, vehicles), increased shore-based development, litter from land or sea, oil pollution and impacts associated with shipwrecks (physical damage, pollution or cleanup impacts).

The invasive Japanese kelp *Undaria pinnatifida* has recently been found in Apollo Bay Harbour and there are concerns about its possible spread.

Climate change also poses a serious medium to long term threat to natural values. Parks Victoria will use an adaptive management approach to develop responses and actions that focus on priority climate change issues such as extreme weather events and existing risks that will likely be exacerbated by climate change.

Research and Monitoring

Parks Victoria has established extensive marine research and monitoring programs that address important management challenges for the marine national parks and sanctuaries. These focus on improving baseline knowledge, as well as applied management questions.

Since the establishment of the parks in 2002 our knowledge and understanding of natural values and threats for the system have improved significantly through the marine science program. Much of the research has been undertaken as part of the Research Partners Program involving collaboration with various research institutions.

There are five ongoing research projects and one habitat mapping project that are relevant to Point Danger Marine Sanctuary, while eight research projects and one habitat mapping project have already been completed. The sanctuary also has an ongoing intertidal reef monitoring program.

While recognising there are still knowledge gaps Parks Victoria will continue to focus on addressing the information needs that will assist management.

For more information, including marine habitat mapping products, please see the full versions of the Marine Natural Values reports on www.parks.vic.gov.au.

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