## Marine Natural Values Study Summary

# Yaringa Marine National Park

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.

Yaringa Marine National Park is one of three marine national parks in Western Port Bay, which is part of the Victorian Embayments bioregion.

Image left:
Periwinkle *Austrocochlea* sp. on submerged mangrove leaves. Photo by Julian Finn, Museum Victoria.

Image right:
Intertidal bare sediment and mangroves in Yaringa Marine National Park. Photo by Adam Pope, Deakin University.

## Description

The park covers 776 hectares, in the north west of Western Port Bay in Watsons Inlet between Watsons Creek and Quail Island. It is about 9 kilometres south-west of the township of Tooradin.

It extends from the high water mark along 20 kilometres of the Watsons Inlet coastline. Its southern boundary is between the shore north of the Yaringa Marina channel and the southern tip of Quail Island.

The park is accessible only by boat.

It is part of three special protection areas that cover Western Port Bay. These include the Western Port Ramsar site, the East Asian-Australasian Flyway, and Mornington Peninsula and Western Port UNESCO Biosphere Reserve.

The park also includes a Special Protection Area for sensitive mangrove and saltmarsh, areas of value for roosting and feeding for seabirds and shorebirds.

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

## Physical Parameters and Processes

The substrate in the marine national park is soft sediment and the park is influenced by high turbidity in Western Port Bay, which arises from daily reworking and re-suspension of fine sediment by tidal, wind and wave action.

The park is not subject to large waves or swell and the large tides are the major driving force. Tidal variation is 2.6 metres for spring tides and 0.9 metres for neap tides.

Surface water temperatures vary between an average 20.5°C in the summer and 11.5°C in the winter.

Watsons Creek flows into the park north of Bungower Rd in Watsons Inlet. Langwarrin Creek flows into the park in the north-west and Cannon Creek from behind Quail Island in the north east.

## Marine Habitat Distribution and Ecological Communities

The main habitats protected by the sanctuary include subtidal and intertidal soft sediments (including mangroves, saltmarsh, mudflats and seagrass), and the water column. More than 82 per cent of the park is intertidal.

The park includes areas of saltmarsh (dominated by *Tetricornia arbuscula*

and/or *Sarcocornia quinqueflora*) and mangrove (*Avicennia marina*) habitat. The mangrove fringes are inhabited by crabs and at high tide fish such as gobies, mullet, and toadfish.

The park also includes extensive intertidal seagrass (*Zostera / Heterozostera*) beds that provide habitat for epiphytic algae, hydroids, ascidians, diatoms and sponges, and grazing invertebrates including many molluscs, crustaceans, polychaetes and crabs. They are important nursery areas for many fish including conservation listed syngnathids (a group that includes seahorses and pipefish).

Large intertidal flats of unvegetated mud and sand support invertebrates, microphytobenthos and demersal fish. Benthic invertebrates in both unvegetated and vegetated mudflats are an important food resource for the many migratory shorebird species that use the park.

Of the thirty one macroinvertebrate species found in the mudflats the most common are the ghost shrimp *Biffarius arenosus* (which is an important ecosystem engineer), sentinel crab *Macrophthalamus latifrons*, polychaete worms *Barantolla lepte* and *Lumbrineris* sp. and the introduced bivalve mollusc *Musculista senhousia*.

The most abundant of the thirteen species of fish that have been sampled over intertidal seagrass and unvegetated soft sediment in the intertidal zone were the yelloweye mullet *Aldrichetta forsteri* and smooth toadfish *Tetractenos glaber*. Also widespread were the common galaxid *Galaxias maculatus*, short fin eel *Anguilla australis* and tupong *Pseudaphritis urvillii*. Other fish recorded include the black bream *Acanthopagrus butcheri*, greenback flounder *Rhombosolea tapirina*, skipjack trevally *Pseudocaranx wrighti* and Western Australian salmon *Arripis truttaceus*.

Subtidal soft sediments are mostly unvegetated though they do include seagrass beds dominated by *Heterozostera nigricaulis*. Most of the subtidal habitat is on the edge or in the deeper channels that drain the intertidal mudflats. Fish associated with the subtidal sediments and in the channels include stingrays, perch, flathead and gobies.

Post-larvae of King George whiting *Sillaginodes punctatus* appear in Western Port Bay from September to November each year from adults spawning in South Australia and far western Victoria.

The water column is dominated by drifting planktonic species, which rely on currents for movement, nutrients and food. Common plankton found in the park includes phytoplankton such as diatoms, and zooplankton including copepods, jellyfish and ctenophores. Highly mobile fish, sharks and stingrays probably inhabit the water column.

## Species and Communities of Conservation Significance

Yaringa Marine National Park provides important feeding and roosting habitat for 39 conservation listed bird species such as the orange-bellied parrot *Neophema chrysogaster*, grey-tailed tattler *Heteroscelus brevipes* and the intermediate egret *Ardea intermedia*, which are listed under the Flora and Fauna Guarantee Act and regarded as critically endangered in Victoria.

The park protects feeding areas for twenty seven internationally important migrant species protected under the Australia Migratory Bird Agreement with either China (CAMBA) or Japan (JAMBA).

In addition to birdlife, syngnathids (the group that includes seahorses and pipefish) are likely to be present and are listed as threatened.

Potentially thirty two species of marine flora and fauna are

The oyster blennie *Omobranchus anolius*.
Photo by Julian Finn, Museum Victoria.

at their distributional limits in Western Port Bay and could occur within the park.

## Major Threats

Measures to address or minimise threats identified for Yaringa Marine National Park 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 for Yaringa Marine National Park include coastal erosion, litter, sediment and nutrients from the land and increasing urbanisation, vessels disturbing shorebirds, marine pollution and invasive marine pests.

The introduced Asian Date Mussel *Musculista senhousia* has been found in the park.

The Northern Pacific seastar *Asterias amurensis* is well established in Port Phillip Bay and was recently found at San Remo (although the San Remo population may have been eradicated). There are concerns about possible spread of this species.

Poor water quality from Watsons Creek at the northern end of the park poses a risk to natural values with market gardens contributing to the high nutrient and pesticide levels in the creek.

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 four ongoing research projects and one habitat mapping project that are relevant to Yaringa Marine National Park, while four research projects and one habitat mapping project have already been completed.

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.**

Worm holes in the soft sediment.
Photo by Julian Finn, Museum Victoria

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