

Marine and Coastal Biodiversity

Factsheet for State of the Marine and Coastal Environment 2021 Report

The Commissioner for Environmental Sustainability's *State of the Marine and Coastal Environment 2021 Report for Victoria* is prepared according to the *Marine and Coastal Act 2018*.

Victoria's marine and coastal environments are home to more than 12,000 plant and animal species, many not found anywhere else in the world.¹ The Commissioner's report shines a light on biodiversity by assessing the condition of birds, marine mammals, invertebrates on intertidal and subtidal reefs, coastal vegetation and fish. The full report is available at www.ces.vic.gov.au

Biodiversity Facts

The report contains comprehensive indicator assessments on coastal vegetation, invertebrates on intertidal and subtidal reefs, fish, birds and marine mammals.



Birds and mammals

- The main declines in the bird indicators were among trans-equatorial **migratory shorebirds**. These declines are most likely due to **habitat loss on their migratory flyways** in east Asia, particularly over the Yellow Sea.
- **Little penguins continue to thrive** on Phillip Island and around the St Kilda breakwater. Their numbers on Phillip Island are estimated at 32,000, and at St Kilda 1,400.
- There is a stable **population of approximately 100 dolphins** in Port Phillip Bay. Western Port has a small but stable resident population of 20 dolphins. There is also an estimated population of between 60 and 100 dolphins living in the Gippsland Lakes, but there has been significant mortality recently, linked with severe bushfire effects.

The health of Australian fur seals - numbers, pup production and impacts of disease - can indicate trends in the general health of the marine environment. Colonies at Cape Bridgewater, Chinaman's Hat, Phillip Island and Wilsons Promontory have also become major tourist assets. There are an **estimated 20,000 to 30,000 Australian fur seals** in the Seal Rocks colony (Western Port).

1. Department of Environment, Land Water and Planning (DELWP) 2020, 'Marine and coastal policy', East Melbourne, Victoria. https://www.marineandcoasts.vic.gov.au/_data/assets/pdf_file/0027/456534/Marine-and-Coastal-Policy_Full.pdf

Fish

Black Bream and Dusky Flathead are depleting (GL). Snapper is declining (WP); but strong recruitment in PPB should improve PPB and WP stocks in 5-10 years.

Migratory shorebirds (SW)

Decline likely due to habitat loss on migratory flyways in east Asia (Yellow Sea).

Macroalgae

Kelp has declined up to 98% in some areas of PPB since 1930s due to warmer, drier climate and Purple Sea Urchins. Black Sea Urchins (from NSW) are now found in eastern Victoria (MPAs) due to warming waters, reducing reefs to barrens that support less marine life.

Mangroves and Saltmarsh

Since European settlement: Minimal loss of mangrove in WP, CIN; unclear in PPB (52ha remain). Minimal loss of saltmarsh in WP; some loss in GL; 50% reduced in PPB; and over 50% in CI (20% in NI)

Dolphins

Stable populations in PPB (~100) and WP (~20), but GL dolphins (60 - 100) impacted by skin infections linked to 2019-20 bushfires.

Seagrass

Significant decline in PPB in drought (1997-2009); no data to assess recovery. Extensive loss (~75%) in WP in 1970-80s; some recovery. Slow decline in CIN since 1965; but stabilised (2013-2018), and increased (2018-2020).

Southern rock lobster (MPAs)

Protected Point Addis population increasing in abundance (x3.5) and no. (x4.5).

Subtidal reef fish (PPB)

A decline in no. of fish species in the north; a slight increase in the south.

Marine pests (PPB)

160 invasive marine species; most recent the Asian shore crab (Mount Martha 2020).



Fish and invertebrates

A few important stories emerged from the analysis of the information for commercially and recreationally important fish and invertebrates:

- **Black bream and dusky flathead** have both been rated as having a poor status in the Gippsland Lakes.
- **Blacklip abalone** has been assessed as poor status, with a deteriorating trend.
- **Southern sand flathead** has been assessed as poor in Port Phillip Bay, an unchanged status from State of the Bays 2016.
- There is a declining trend in the recreational fishery for **adult snapper** in Western Port. However, strong recruitment of snapper in Port Phillip Bay is expected to lead to improved fishery performance in Western Port over the next 5 to 10 years.
- **King George whiting** is expected to remain sustainable in Port Phillip Bay, Western Port and Corner Inlet.
- The protection provided by the Point Addis Marine National Park is having effects beyond the park boundary, with an increasing supply of **southern rock lobsters** observed in surrounding waters outside the park.



Pests and invasive species

- There are more than 160 invasive marine species in Port Phillip Bay. The impacts of these invasive species are significant – for example, the **northern Pacific seastar** causes changes in fish populations. The population had reached 165 million just five years after the species was first detected before dropping to approximately 36 million – subsequent localised removal works at key sites within Port Phillip Bay have had little effect on overall population numbers. New invasive species continue to arrive, most recently the **Asian shore crab** in late 2020.
- The northern Pacific seastar was detected in the Gippsland Lakes in 2015 and 2019. It was removed on both occasions.
- Western Port has several known invasive marine species, although the size and number of infestations is significantly less than in Port Phillip Bay.
- Corner Inlet has remained relatively free of invasive marine species. **Japanese kelp** has been detected at Port Welshpool, and the northern Pacific seastar has been detected at nearby Tidal River.



Seafloor integrity and health

- Seagrass meadows are critical habitat for marine species, protect shorelines and store significant amounts of carbon. Considerable seagrass loss has been observed in Port Phillip Bay (1997 -2009), in Western Port (mid '70s and early '80s) and in Corner Inlet (a slow decline from 1965 to 2013).
- The condition and extent of **macroalgae on subtidal reefs** in Port Phillip Bay has been assessed as poor for Point Cooke and Jawbone marine sanctuaries, fair for Ricketts Point Marine Sanctuary, and good for Port Phillip Heads Marine National Park. Macroalgae has been under threat in Cape Howe Marine National Park and Beware Reef Marine National Park, and there has been an increase in urchin barrens. Golden kelp has declined at Point Addis Marine National Park since 2012.
- **Shellfish reefs** provide valuable ecosystem services including fish production, coastal protection, erosion mitigation and nutrient cycling. The extent of shellfish reefs in Port Phillip Bay, Western Port and Corner Inlet is now minimal, and the status of the shellfish reefs indicator has been rated as poor.
- The status of the 'Conservation of marine ecosystems in protected areas' indicator is rated as fair. This assessment is based on a broad range of evidence. Victoria's marine protected areas are generally in good condition and meeting international target to conserve at least 10% of coastal and marine areas, but with a smaller spatial coverage of no-take zones relative to most other Australian jurisdictions. The trend is rated as stable because the area protected in marine parks has remained unchanged since 2002, while the condition of marine protected areas remains generally good.

Discover more

View the State of the Marine and Coastal Environment 2021 Report at www.ces.vic.gov.au



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Victoria