

Water Quality and Pollution

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*.

We know our coastal communities and marine environments are interconnected, from catchment to reef. The Commissioner's report explores the health of water quality and pollution from catchment to reef. The full report is available at www.ces.vic.gov.au



Water quality facts

- **Poor water quality in marine environments harms marine ecosystems and discourages their use for human recreation.** Water quality is monitored regularly in Port Phillip Bay, Western Port and the Gippsland Lakes.
- **Port Phillip Bay's water quality has been rated as good or very good** each year since monitoring and reporting began in 2002.
- **Western Port's assessment has been good** every year since monitoring and reporting began in 2000 except for 2017 when it was rated as fair. Despite the overall positive water quality assessments, seagrass extent in Western Port is impacted by turbidity caused by sediment loads and variation in water depth. Five of the nine estuaries flowing into Western Port and assessed for water quality in the 2021 Index of Estuary Condition received an assessment of very poor.
- The water quality in the eastern **Gippsland Lakes (Lake King and Lake Victoria) has been assessed as good** in six of the past seven years, while in **Lake Wellington was assessed as poor** for the past three years, and poor or very poor in seven of the past 10 years.
- Effects of stormwater vary across Port Phillip Bay's catchments. In the Dandenong catchment, stream health is being severely and adversely impacted by stormwater, while only minor impacts to stream health are occurring from stormwater in the Werribee catchment.
- Water quality in Corner Inlet and Nooramunga is not routinely measured.



Pollution facts

- It is estimated at more than **2.5 billion litter items and microplastics flow into Port Phillip Bay** from the Yarra and Maribyrnong Rivers each year. About 85% are microplastics. Industrial precincts are responsible for a large majority of microplastic pollution.
- No specific analyses of litter and plastics have been published for Western Port, Corner Inlet and Nooramunga, or the Gippsland Lakes.
- The coastal air quality indicator in this report is believed to be the **first instance of focused coastal air quality reporting in Australia.**
- Coastal air quality surrounding Port Phillip Bay is generally good. However, focused research on air quality near shipping terminals using lower-quality air monitoring sensors provides evidence of poor air quality, due to **high concentrations of fine particle pollution near Station Pier.**
- In regional coastal areas, **bushfire smoke has been measured at levels significantly higher than health-based standards.** Air quality near the Gippsland Lakes was closely monitored during the 2019–20 bushfire season when daily air quality standards were frequently breached.

Discover more

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



Commissioner
for Environmental
Sustainability
Victoria

Catchment to Reefs: Water Quality and Pollution



Light pollution

Short-tailed shearwaters at Phillip Island have been protected by reducing road lighting, traffic controls and warning signals, combined with a rescue program. (WP)

Coastal air quality

Monitoring during the 2019-20 bushfires shows the air quality standard for PM_{2.5} was frequently breached due to bushfire smoke. (GL)



Regulated point source discharges

Licensed discharges to marine waters remains a knowledge gap and challenge for reporting (SW). The largest wastewater discharge comes from the Western Treatment Plant (Werrbee), which discharges ~420 ML/day.

Coastal contaminated land

There are many more sites with contaminated, potentially contaminated or remediated land on the PPB coast compared to other regions.

Water quality

PPB rated as Good or Very Good since 2002.
WP rated as Good since 2000 (except Fair in 2017).
Eastern GL rated as Good for six of the past seven years.
Lake Wellington rated as Poor for past three years.



Stormwater

Minor impacts to stream health from stormwater in the Werrbee catchment; severe impacts in the Dandenong catchment (PPB). The Mornington Peninsula North-Eastern and Western Creeks sub-catchments both have poor stormwater condition (WP).

Nitrogen cycle

PPB and WP assessed as Good status. The denitrification efficiency process generally maintains the nutrients in PPB at an optimal level for biodiversity.

Litter and plastics

2.5 billion litter items are estimated to annually flow into PPB.

Nutrients and sediments

Authorities have targets for nutrient and sediment loads (PPB & CIN). However, no public reporting is available to track targets.

Coastal acid sulfate soils

GL has a greater area of potential coastal acid sulfate soils than PPB, WP and CIN combined.

Recreational water quality

EPA's Beach Report detects infrequent breaches of objectives, usually due to stormwater after significant rainfall. (PPB)