

MULLALOO WATER QUALITY INVESTIGATIONS

Mullaloo Beach report – FAQs

What is this report and why was it commissioned?

Algal and water quality events at Ocean Reef and Mullaloo beaches have been reported to the Department of Water and Environmental Regulation (the department) since January 2024. The department engaged O2Marine, an independent consultancy to undertake an investigation of marine water quality within the Mullaloo beach area and the surrounding marine environment.

The objective of the investigation was to assess marine water quality and identify whether there are factors in the area which may be contributing to either a reduction in water quality or an increased risk of pollution or algal events. The investigation scope included engagement with the local community to understand their concerns and observations in relation to local water quality.

Who did the investigation?

O2Marine, an independent consultant specialising in marine ecological assessment and monitoring.

The report has been independently peer reviewed by the University of New South Wales Water Research Laboratory.

What did the investigation find?

The modelling study determined that dispersion/dilution of treated wastewater from the Beenypup outfall discharge has not changed significantly since the construction of the Ocean Reef Marina. The investigation showed no evidence that the community should be concerned about the outfall discharge affecting water quality at Mullaloo beach.

The modelling study suggests that there may be some effect of the new Ocean Reef Marina when compared to pre-construction, however further studies will need to be undertaken to validate these preliminary findings.

How was the investigation undertaken?

To begin the investigation, community concerns and observations were collected. This included a community consultation workshop that was held in August 2024. Following that, there was a period during which the community could directly submit data, observations and concerns.

The investigation also looked at water samples that have been collected from 2018 to 2024 at multiple locations around Mullaloo/Ocean Reef by Water Corporation, the Department of Health and the Department of Water and Environmental Regulation. Samples were taken from along the shoreline and from boats.

Hydrodynamic Modelling was used to understand the movement of the outflow directly from the wastewater outfall pipe, and how water moves in the surrounding Mullaloo/Ocean Reef area.

What is causing the water quality issues at Mullaloo Beach?

Algal blooms can occur in response to changes in temperature, light, rainfall or changes in nutrients in the water. They occur, when suitable conditions exist, all along the Western Australian coastline.

With respect to Mullaloo and Ocean Reef beaches, further investigation is needed to identify trends in local conditions and all the potential causes of algal blooms. Further studies are currently being scoped, which are a recommendation from the report's peer review process.

Is the Beenyup sewage outfall pipe causing water quality issues?

The investigation showed no evidence that the Beenyup outfall is affecting water quality at Mullaloo Beach. The hydrodynamic modelling showed no change in the movement of treated wastewater from Beenyup from before or after the Ocean Reef Marina development.

Is it safe to swim at Mullaloo?

It is currently considered safe to swim at Mullaloo Beach as there are no known health risks identified.

The Department of Health determines the safety of beaches for recreational activities. The Department of Health works with Local Government Authorities to regularly collect and test water samples to assess the health of popular waterways, including the ocean water quality at Mullaloo beach.

Where an algal bloom is suspected, samples are collected and sent to the Department of Water and Environmental Regulation's Phytoplankton Ecology Unit for analysis.

The Department of Health liaises with relevant local governments to issue a health warning when required and, if necessary, will close beaches where it is unsafe to swim.

You can report the algal bloom online to the department, and take advice from the Department of Health, which is available on its webpage.

Did the peer review support the investigations findings?

The peer review confirmed that the modelling tools used were suitable and accord with industry best practice.

The peer review also validated:

- the modelling approach used for the study area
- the level of dilution of effluent from the Beenyup Ocean outfall
- that wind driven transport dominates the currents and dispersion in the study area, and;
- the approach used to model potential changes to algal growth

The peer review made recommendations for some additional studies to support the study findings and to enhance modelling predictions. O2 and the peer reviewer have

agreed on a scope of works to address these recommendations. This work will commence shortly.

What happens now?

The Department of Water and Environmental Regulation is commissioning the additional work to address the recommendations made by the peer reviewer. This will be undertaken in the coming months.