Department of **Water and Environmental Regulation**

Department of **Primary Industries and Regional Development**

GOVERNMENT OF WESTERN AUSTRALIA

Estuary View Drive sediment removal project

Revitalising Geographe Waterways

Algal mat and sediment on the shoreline of the Vasse Estuary

The Department of Water and Environmental Regulation (the Department) is planning to undertake a sediment removal project at Estuary View Drive, Wonnerup.

The aim of the project is to improve smell and liveability for residents by removing 'black ooze' sediment that is exposed over summer months along a small section (around 220m) along the bank of the Vasse estuary channel at Estuary View Drive. This will result in the removal of approximately 330m3, equating to 62 tonnes of sediments.

What work will take place?

Removal of sediment will be undertaken in winter (expected July 2022), when water levels are high and bird numbers low. Sediment will be removed and pumped into three geotextile bags using an unmanned dredge or micro dredge. Sediment will be retained in geotextile bags on a bunded and fenced area on the shoreline allowing water to drain out. Water will be treated before exiting through a pipe back into the estuary. Once dewatering is completed, sediments in the geotextile bags and the bund will be excavated to trucks and disposed of in the Class 3 waste management facility in Dardanup.

Disturbance to neighbours is expected to be minimal and work will be undertaken during normal working hours. A section of James Richardson Park will be fenced off to manage public access while the works are taking place and, signage will be installed to explain the project. At the conclusion of the works, the used section of James Richardson Park, including the lawn will be restored.

Algal mat accumulation

Why is the work being undertaken?

The proposed sediment removal has come about in response to ongoing concern from residents living on Estuary View Drive over persistent odours over summer months and poor visual amenity.

Sediment has built up in the Vasse estuary over many decades. Estuaries are naturally a highly productive environment where organic matter from macroalgae, phytoplankton and fringing plant material tends to accumulate. The Vasse Estuary receives a large load of nutrients from the rural and urban catchments. These nutrients provide fuel for large blooms of macroalgae and phytoplankton, which tend to eventually sink to the bottom of the channel and rot, adding to the sediment layer.

Sediment samples taken at Estuary View drive in 2021

Sediment removal will help address community concerns about liveability, visual amenity, and smell for residents. It will also improve the understanding of the effectiveness of removing sediments to reduce smells.

Will seawater inflows still be used to improve amenity?

In the summers of 2018-19, 2019-20 and 2020-21, seawater inflows were used to help cover exposed sediments at Estuary View Drive to reduce odour.

In the summer of 2020-2021, seawater inflow from the Vasse surge barrier resulted in both salinity intrusion in the Lower Vasse River, and the subsequent death of an estimated 7,000 Carters Mussels in April. The Carters Mussel is a salt-sensitive Threatened Species Listed as Vulnerable under the Environment Protection Biodiversity Conservation Act 1999 (Cth.) and Biodiversity Conservation Act 2016 (WA).

In the Vasse Estuary, increased water levels have caused concern about potential impacts on waterbird habitat and risks to surrounding vegetation. Continuing to increase water levels in summer is a current and emerging threat to the Ramsar values of the wetlands.

For these reasons, seawater inflow cannot be used to cover exposed sediments.

How will the community be informed and involved?

A community meeting and a site visit will be set up to debrief adjacent residents and a survey will be provided to gauge their support.

In 2018, the Department consulted with the community about removal of sediment adjacent to the Vasse surge gate sediment. At the time, most respondents supported for sediment to be removed at Estuary View Drive and, the use of Geotextile bags on the foreshore of James Richardson Park to dewater sediments if dredging was ever proposed in the future.

Red-Necked Avocet and other waterbirds using the Vasse Estuary in summer

Map 1: Map of the site plan

How will the project be monitored?

A comprehensive monitoring program will be established to assess if the sediment removal project improves smell and liveability for residents as well as environmental conditions at Estuary View Drive including:

- Smell will be monitored before, during and, one and two years after the project has ended to determine if the removal of exposed sediment has reduced odours. Smell will be monitored through a 'Community Odour Diary'.
- Water quality monitoring will be undertaken to assess water quality parameters (including nutrients, phytoplankton community composition, total suspended solids, hydrogen sulfide and oxygen levels).
- Dewatering discharge from bags to the Vasse estuary will be monitored for pH and checked against water quality guideline levels and treated where required before water being released into estuary.
- Sediment monitoring before and after sediment removal will be undertaken to assess the sediment composition and thickness to provide information on the effectiveness of the dredging program. Sediment chlorophyll will also be monitored to assess if sediment removal results in decreased benthic phytoplankton which could be linked to a reduction in odours.

What is the Revitalising Geographe Waterways program?

Revitalising Geographe Waterways aims to improve water quality, waterway health and management of Geographe waterways. It is part of the state government-funded Healthy Estuaries WA program which supports restoration and management activities across the regions.

Revitalising Geographe Waterways is overseen by the Vasse Taskforce, with over $18 million invested by State Government, Taskforce Partners, industry and community.

This project is overseen by the Vasse Wonnerup Wetlands Partnership which are the interim managers of the Vasse Wonnerup wetlands under Revitalising Geographe Waterways.

Geotextile bags (Source: Water Corporation)

How can I get more information on this project?

For further information on this project please contact the GeoCapes District Manager on 9781 0111.

HEALTHY ESTUARIES WA

Revitalising Geographe Waterways

VASSE taskFORCE