

Office of the Environmental Monitor

Fact Sheet: Seagrass Monitoring Program

What is seagrass?

Seagrass is a flowering marine plant, similar to grass on land. Seagrass converts light and nutrients into energy through photosynthesis. Therefore, its growth is limited to shallow and sheltered coastal waters where light is able to penetrate the water. It is often anchored in sand or mud bottoms, helping to stabilise the seabed.

Seagrass is important for Port Phillip Bay's (the Bay) ecosystem. It provides food and shelter for a wide range of marine plants and animals and is an important habitat for juvenile fish.



Photo: Port Phillip Bay seagrass beds

Seagrass is mostly found in the southern and western regions of the Bay. While the general locations of seagrass beds has not changed significantly since the early 1960s, the size of individual beds and their density has varied substantially in many areas. These changes can occur naturally, but can also be caused by human activities in the surrounding catchment, which affect the amount of light and nutrients in the water.

Seagrass Monitoring Program

The Channel Deepening Project (the Project) has a rule book, the Environmental Management Plan, which sets standards and controls to avoid and minimise environmental effects on seagrass, such as reducing light required for photosynthesis and smothering seagrass leaves with suspended sediment.

The rule book includes the Seagrass Monitoring Program, which is one of nine Baywide Monitoring Programs. The program's objective is to detect changes in seagrass health in the Bay outside expected variability during and after the Project.

The program will examine seagrass health including its distribution and density by using aerial photography to map the broad areas of seagrass in the Bay. More detailed aerial photography will be undertaken at nine, one square kilometre regions in the Bay and a more detailed field assessment will monitor seagrass health and the factors affecting seagrass at six of these regions. These areas are shown in Figure 1.

The extent of individual seagrass beds and their health including cover, height and density of seagrass shoots, will also be physically measured by SCUBA divers every three months in six of the regions. At the same time, environmental factors that affect seagrass, such as light, turbidity and nutrients will be measured to identify possible effects.

How the Port of Melbourne Corporation will use the data

The Port of Melbourne Corporation (PoMC) will use results from the Seagrass Monitoring Program to detect changes in seagrass health outside expected variability during the Project and until 2012. Where changes outside of expected variability are detected, a risk review will be undertaken. It will determine if the changes are significant to the ecosystem of the Bay and any action that may be required.

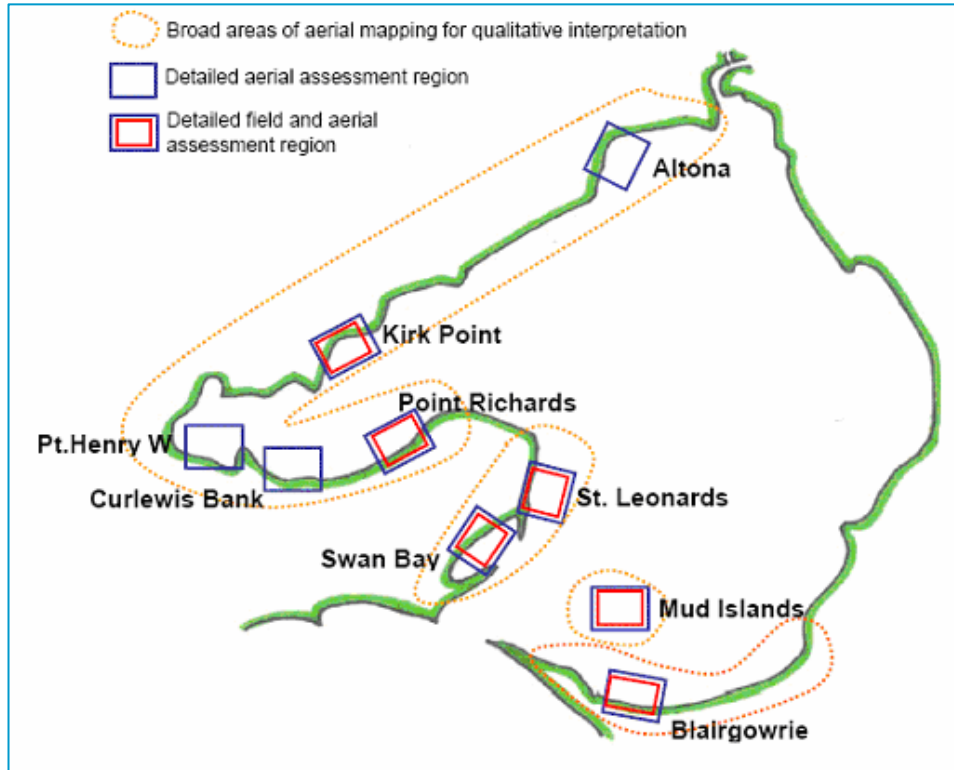


Figure 1: Seagrass Baywide Monitoring Program locations

The role of the Office of the Environmental Monitor

The Office of the Environmental Monitor (the Office) will assess the effects on seagrass to judge the environmental performance of the Project. The Seagrass monitoring data will be used to judge if dredging effects on the health of seagrass are consistent with that expected.

The Office will also monitor all data relating to PoMC's compliance with the management actions specified in the Environmental Management Plan that have been designed to minimise effects on seagrass.

These include Environmental Controls relating to when, where and how dredging can take place and have been designed to minimise the location, intensity and duration of the suspended sediment plume. Environmental Limits are also set to ensure that adequate light is available in the water column at important seagrass locations and that the plume is managed accordingly.

The combination of these monitoring results will provide the Office with an understanding of potential changes to the Bay's seagrass health. The Office will use the results to judge the environmental performance of the Channel Deepening Project. For further information on the nine Baywide Monitoring Programs visit

www.oem.vic.gov.au/Monitoringprogramsandresults.