Parks Victoria Research Partners Panel Project Summary Report

Developing a rapid assessment technique to investigate ecological condition of soft-sediment habitats in marine national parks

Background

Marine Protected Areas need to be monitored to inform governing agencies of the ecological condition of the park and to inform management. Monitoring tends to be time consuming and expensive so managers often seek out rapid assessment techniques which are faster and cheaper. These methods are particularly useful in habitats which are easily disturbed or difficult to monitor, such as soft sediment habitats. Soft sediment habitats provide essential habitat for a range of invertebrate fauna and are feeding grounds for migratory birds and fish; however, a monitoring program has not yet been established in these areas.

Aims

- To obtain baseline data on the macroinvertebrate communities within and outside marine national parks in Western Port and provide recommendations for a rapid assessment method.

Results

- Macroinvertebrate communities differed between Churchill Island Marine National Park, French Island Marine National Park and Yaringa Marine National Park.
- Macroinvertebrate communities differed between the marine national parks and external sites.
- Variables potentially useful for rapid assessment techniques were identified as: the abundance of two species of ghost shrimp, one species of crab and one species of worm, substrate temperature and total organic carbon.

Implications

- These variables can be used to develop rapid assessment monitoring techniques.
- Rapid assessment techniques can allow Parks Victoria to more easily assess the health of these habitats in marine national parks.

Relevant parks and ecosystems

Churchill Island Marine National Park
French Island Marine National Park
Yaringa Marine National Park
Soft Sediment

More information

Contact Science and Management Effectiveness Branch, Parks Victoria on 13 1963

Publications

Butler, S. N. Reid, M. and Bird, F. L. 2009. Population biology of the ghost shrimps, Trypaea australiensis and Biffarius arenosus (Decapoda: Thalassinidea), in Western Port, Victoria. Memoirs of Museum Victoria 66: 43–59.

Butler, S. N. and Bird, F. L. 2010. Monitoring the macroinvertebrates and soft sediments in the Marine National Parks in Western Port. Parks Victoria Technical Series 60.

Left: whelk on soft sediment. Right: juvenile mangrove trees at low tide. Photo credits – Parks Victoria and Deakin University