



Species-rich faunal community of the intertidal mudflats of Roebuck Bay

TEC Description

The community occurs on the intertidal mudflats of Roebuck Bay. Roebuck Bay is a sheltered marine embayment on the macrotidal Kimberley coast containing large intertidal flats composed predominantly of carbonate sediments, and receiving freshwater inputs to the bay mainly during the wet season. The community comprises a diverse and abundant marine fauna, with an estimated 300 to 500 species of macrobenthic fauna as well as a high diversity and abundance of migratory shorebirds. The threatened species *Caretta caretta* (loggerhead turtle), *Chelonia mydas* (green turtle), *Natator depressus* (flatback turtle) and the dwarf sawfish (*Pristis clavata*) (priority 1), as well as large proportions of the Australian populations of the birds *Limosa lapponica* (bar-tailed godwit) (migratory species) and the threatened *Calidris tenuirostris* (great knot), utilise the habitat and comprise part of the assemblage.



Distribution

Department of Biodiversity, Conservation and Attractions (DBCA) Region: Kimberley
DBCA Districts: West Kimberley
Local Government Authority: Shire of Broome

Habitat Requirements

Benthic invertebrate surveys confirmed the rich biodiversity of the benthic fauna in Roebuck Bay in 1997. Later surveys of invertebrates and sediment, and bird mapping demonstrated that the Roebuck Bay assemblage differs from other similar habitats in the Kimberley and elsewhere. Many of the benthic invertebrate fauna known from Roebuck Bay are short-range endemics.

Indigenous Interests

Roebuck Bay is the 'heart' of Yawuru nagulagun (Yawuru sea country) and holds immense cultural significance for the Yawuru people. The marine park and adjacent terrestrial reserves are jointly managed with the Yawuru Registered Native Title Prescribed Body Corporate.

An Aboriginal Sites Register is kept by the Department of Indigenous Affairs and significant sites are listed in the vicinity of the occurrences.

Conservation Status

Listed as vulnerable under WA Minister Environmentally Sensitive Areas list in policy.

Roebuck Bay is recognized as a Wetland of International Importance (1990), National Heritage listed place (2011), marine park (2016) and Indigenous Protected Area (2016), and is known as one of the most important sites in the world for migratory waders.

Threatening Processes

The main threat to the community that may impact invertebrate biodiversity or density and the shorebirds that frequent Roebuck Bay is increased nutrient loads from urban sources and subsequent blooms of *Lyngbya majuscula*. Other threats include disturbance to shorebird roosts from off-road vehicles and passive pedestrian traffic, increasing tourist pressure, industrial and urban pollution, dredging and reclamation of mudflats, and excessive pumping of groundwater from the shallow aquifers of the hinterland.

Recovery Plan

An interim recovery plan is recommended to outline the recovery actions required to reduce the threats and to maintain or improve the overall condition of the community in the known location. Recommended actions include liaison with authorities and land managers regarding land uses and threatening processes that may affect the community; implementing a people and vehicle management plan; monitoring and managing fauna, water quality and groundwater levels; and ensuring land use planning and development controls protect the community.

Citation

Department of Biodiversity, Conservation and Attractions. (2020). Recovery plans and interim recovery plans <https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/wa-s-threatened-ecological-communities>

Key References

Department of Conservation and Land Management (1990) Roebuck Bay and Eighty Mile Beach in Wetlands nominated by the Government of Western Australia, Australia for inclusion on the List of Wetlands of International Importance. CALM, Perth.


Department of Parks and Wildlife (2016). Yawuru Nagulagun / Roebuck Bay Joint Management Plan 2016. Department of Parks and Wildlife, Perth.

Pepping M., Piersma T., Pearson G. and Lavaleye M. (eds) (1999). Intertidal sediments and benthic animals of Roebuck Bay Western Australia: Report of the Roebuck Bay Intertidal benthic mapping program June 1997 (ROEBIM-97). Netherlands Institute for sea research, TEXEL, Department of Conservation and Land Management, and Curtin University.

For more information see the department's website www.dbca.wa.gov.au



Department of Biodiversity,
Conservation and Attractions



Watkins, D. (1993). Roebuck Bay, WA, Background information for the Conservation of a Wetland of International Importance.

Yawuru RNTBC (2011). Yawuru Cultural Management Plan. Nyamba Buru Yawuru, Broome.

Disclaimer

The State of Western Australia and its employees do not guarantee that this publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence that may arise from you relying on any information in this publication.



For more information see the department's website www.dbca.wa.gov.au



Department of Biodiversity,
Conservation and Attractions