



## Species-rich faunal community of the intertidal flats of Roebuck Bay

### Summary 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, which receives freshwater inputs to the bay mainly during the wet season. The community comprises a diverse and abundant marine fauna, with an estimated 300–500 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 (Calidris) tenuirostris* (great knot), utilise the habitat and comprise part of the assemblage.



### Distribution

Known from one occurrence that spans approximately 44km north-south, alongside the Broome townsite.

Department of Biodiversity, Conservation and Attractions (DBCA) Region: Kimberley

DBCA District: 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

Traditional Owner group: Yawuru

Roebuck Bay is the 'heart' of Yawuru nagulagun (Yawuru sea country) and holds immense cultural significance for the Yawuru people. Much of the community is covered by the Yawuru Indigenous Protected Area, which encompasses the Yawuru Nagulagun / Roebuck Bay Marine Park and adjacent terrestrial reserves. A register of Aboriginal cultural heritage sites kept by the Department of Planning, Lands and Heritage lists numerous sites of Aboriginal significance in the vicinity of the community.

Joint management of Yawuru Nagulagun / Roebuck Bay Marine Park and Yawuru Birragun Conservation Park is undertaken by the Yawuru Native Title Holders Aboriginal Corporation and DBCA through an Indigenous Land Use Agreement. Yawuru Minyirr Buru Conservation Park is managed through a tripartite arrangement between the Yawuru Native Title Holders Aboriginal Corporation, the Shire of Broome, and DBCA. The community occurs on land subject to the Rubibi and Edarrbur native title determinations held for the Yawuru Community. The Kimberley Land Council is the native title representative body for the region.

## Conservation status

State: Listed as a vulnerable ecological community under the *Biodiversity Conservation Act 2016*. Threatened ecological communities are declared environmentally sensitive areas under the *Environmental Protection Act 1986*.

National: The community occurs within the West Kimberley National Heritage listed place, protected under the *Environment Protection and Biodiversity Conservation Act 1999*.

International: Roebuck Bay is recognised as a Wetland of International Importance and is known as one of the most important sites in the world for migratory waders.

## Threatening processes

The main threat 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 off-road vehicles, pedestrian traffic and increasing tourism, industrial and urban pollution, dredging and reclamation of mudflats, and excessive pumping of groundwater from the shallow aquifers of the hinterland.

## Recovery plan

Development of a recovery plan is recommended for this community. Priority actions include liaising with authorities and land managers regarding land uses and threatening processes that may affect the community, managing off-road vehicles and pedestrians to minimise disturbance of roost sites, monitoring and managing fauna, water quality and groundwater levels, and ensuring land-use planning and development controls protect the community.

## Key references

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