



THE NORTH MARINE BIOREGIONAL PLAN

# BIOREGIONAL PROFILE

## APPENDIX D7

# NORTH MARINE REGION PROTECTED SPECIES GROUP REPORT CARDS: DUGONGS



A DESCRIPTION OF THE ECOSYSTEMS, CONSERVATION VALUES AND USES  
OF THE NORTH MARINE REGION



Australian Government

Department of the Environment, Water, Heritage and the Arts

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## D7 North Marine Region Protected Species Group Report Card – Dugongs

Current at February 2008. For updates see <[www.environment.gov.au/coasts/mbp/north](http://www.environment.gov.au/coasts/mbp/north)>.

### General information

The dugong (*Dugong dugon*) is the only living member of the family Dugongidae and is only one of four living species of the order Sirenia.

### Nationally protected species

The dugong is listed as migratory and marine under Section 248 of the EPBC Act and is listed under CITES Appendix I and CMS Appendix II. A Memorandum of Understanding on the conservation and management of dugongs and their habitats throughout their range was signed on the 31 October 2007. The dugong is also listed as vulnerable to extinction under the *World Conservation Union's Red List of Threatened Species* (IUCN 2000).

### Ecology of protected species in the North Marine Region

Dugongs are found throughout the tropical and subtropical coastal and island waters of the Indo–West Pacific region. A significant proportion of the world's dugong populations occur in coastal waters from Shark Bay in Western Australia to Moreton Bay in Queensland. Current dugong distributions are believed to represent relict populations separated by large areas where they are either extinct or close to extinction. The most recent estimate of the Australian population is around 80 000 individuals (Marsh *et al.* 2002).

Dugongs are long-lived animals with a low reproductive rate; they have a long gestation period and a high investment in each offspring. The maximum lifespan is approximately 70 years and the pre-productive interval ranges between six and 15 years (Marsh *et al.* 2003). Female dugongs usually bear a calf every two and half to seven years, with a gestation period of about 13 months. Calving occurs in the shallow waters of tidal sandbanks and estuaries, and breeding is more likely to occur in the second half of the year (Boyd *et al.* 1999).

Dugongs feed on seagrass meadows found in shallow tidal and sub-tidal coastal waters. Preferential grazing



Dugong feeding. Photo: Paul Anderson, Conservation and Land Management (CALM) Western Australia.

of seagrasses occurs in some areas, possibly based on the nutritional quality of the seagrass species (Preen 1992). Marine algae are also eaten, although algal feeding is believed to occur only where seagrass is scarce (Spain and Heinsohn 1973). Dugong movements are usually restricted to areas within tens of kilometres from seagrass beds, however observations of dugong movements have also shown that individuals may undertake long distance movements of up to 600 km in a few days (Saalfeld and Marsh 2004).

### Important areas for dugongs in the North Marine Region

There is no data available that identifies important areas for dugongs within the Region. Important sites within State and Territory waters adjacent to the Region include the following:

Blue Mud Bay – supports dugong feeding aggregations.

Groote Eylandt region – supports dugong populations.

Limmen Bight River to the Sir Edward Pellew Group – this area contains known seagrass beds supporting one of the top four dugong populations in Australia.

Wellesley Islands – support dugong populations.

### Known interactions and threats

Human activities that may affect dugongs in the Region include commercial fisheries, Indigenous harvest, and marine debris. Natural events such as cyclones and

flooding may also cause localised declines through damage to seagrass habitats.

### Fisheries

Trawling of the sea floor can damage seagrass beds, reducing food habitats for dugong populations. Closed areas in the Northern Prawn Fishery cover the known shallow water seagrass beds. Large-mesh (greater than 150 mm) fishing nets are also a documented threat to dugongs and illegal foreign fishing vessels apprehended in the Region have been observed with dugongs on board.

A number of measures have been introduced by Queensland and the Northern Territory to minimise impacts on these species. These measures include:

- barramundi net fishery closures between October to January;
- spatial closures to netting;
- a ban on setting nets across waterways or channels within 100 m of another net; and
- voluntary endangered species awareness course for commercial fishers.

### Indigenous harvest

Under Section 211 of the *Native Title Act 1993*, Indigenous people with a native title right can legitimately hunt dugongs in Australia to satisfy their personal, domestic or communal needs. Little information is currently available on levels of Indigenous harvest of dugongs in the Northern Territory and Queensland waters of the



Gulf of Carpentaria but they are believed to be relatively low.

The National Partnership Approach for the sustainable harvest of turtle and dugong is an initiative of the Natural Resource Management Ministerial Council. The Partnership involves the Australian, Western Australian, Northern Territory and Queensland governments as well as relevant Aboriginal and Torres Strait Islander communities. The key objective of the Partnership is to better understand the experiences and aspirations of Indigenous communities in relation to the sustainable management of marine turtles and dugongs and to use this to inform policy and programme development and implementation by Australian governments.

### Habitat loss

Loss of seagrass habitats in coastal waters adjacent to the Region is a potential threat to dugong populations. A five year monitoring study (1994–1999) of seagrass beds following the establishment of the lead and zinc export facility at Karumba has shown a major change in species composition and decrease in size of some seagrass areas (Queensland Department of Primary Industries 1999). Large losses of seagrass have also resulted from natural events such as floods and cyclones. For example, in 1985, Cyclone Sandy destroyed around 183 km<sup>2</sup> of seagrass (or 20 per cent of seagrass in the Gulf of Carpentaria) between the Sir Edward Pellew Group and Limmen Bight along the Northern Territory coast (Poiner and Peterkin 1995). Once an area has been denuded of seagrass, recovery is slow, if at all, in some regions (Poiner and Peterkin 1995).

### Other potential threats

Another potential threat to dugongs in the Region includes boat strike. No data is available on the number of dugong injuries or mortalities caused by boat strikes in the Region (UNEP 2002).

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