

Southern Shelf Waters and Reef Edge of Palau IMMA

Criterion A: Species or Population Vulnerability

Dugongs (Fig. 4) are listed as a vulnerable on the IUCN Red List. However, a regional assessment of dugong by Marsh et al. (2011) concluded the Palau population as Critically Endangered and very isolated. The closest dugongs are 800 km to the south in Papua Barat and 850 km to the west in the Philippines (Marsh et al., 2002).

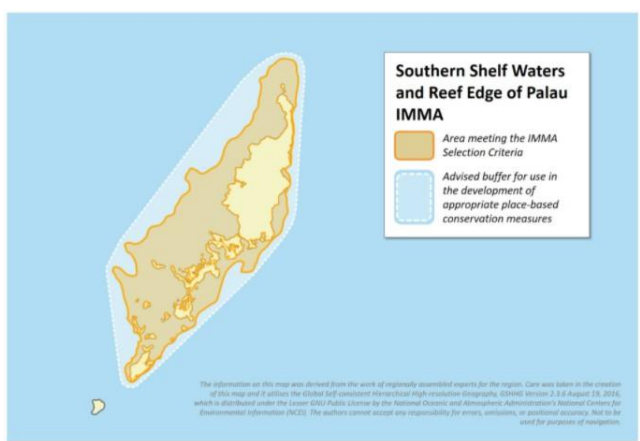
Palau's dugong population is considered small and vulnerable to extinction. Dugongs are traditionally hunted, but only for extremely special occasions such as the death or the appointment of a very high-ranking chief. National law prohibits hunting, capture or harassment of dugongs with a very steep fine and up to one year in prison for each offense (Palau National Government, 2001). Poaching and ship strikes result in the loss of 5 individuals each year on average. However, actual losses are likely higher due to unreported incidents of poaching.

Criterion B: Distribution and Abundance Sub-criterion B1: Small and Resident Populations

An aerial survey conducted in 2012 covered a total area of 292 km², which is only 4% of the total potential dugong habitat in Palau. After 192 flights over the course of 140 days, 912 dugong sightings were recorded. One to three dugongs were seen on most flights (Davis, 2004). The abundance estimate was 50-200 individuals (Davis, 2004).

Criterion B: Distribution and Abundance Sub-criterion B2: Aggregations

While most sightings during aerial surveys included groups of 1-3 individuals, there have been at least two recorded sightings of aggregations of 30 individuals or larger within the IMMA (Fig. 3) (Etpison, 2012).



Area Size

1,490 km²

Qualifying Species and Criteria

Dugong – *Dugong dugon*

Criteria A, B1, B2, C1, C2, D1

Marine Mammal Diversity

Feresa attenuata, *Peponocephala electra* (Fig. 1),
Physeter macrocephalus (Fig. 2), *Stenella longirostris*, *Stenella attenuata*, *Pseudorca crassidens*, *Globicephala macrorhynchus*, *Dugong dugon*

Summary

The Palau IMMA hosts a small resident dugong population that is considered one of the world's most isolated dugong populations. It is separated by at least 800 km from all other known populations. It is estimated at between 50-200 individuals that typically occur in groups of 3 or less, but occasionally in larger aggregations.



Figure 1: Melon-headed whales surfacing within the IMMA.
Photo: Olive Andrews

Criterion C: Key Life Cycle Activities

Sub-criterion C1: Reproductive Areas

Of the 912 dugong sightings recorded during aerial surveys in 2012, 53 mother-calf pairs were observed (in 6% of total flights) (Davis, 2004). Therefore, the waters of Palau are used by the resident dugong population for reproduction.

Criterion C: Key Life Cycle Activities

Sub-criterion C2: Feeding Areas

Dugong in Palau are resident and are observed feeding largely in seagrass beds (Davis, 2004; Etpison, 2012; Holm, pers. comm.).

Criterion D: Special Attributes

Sub-criterion D1: Distinctiveness

The Palau dugong population is considered one of the world's most isolated dugong populations, separated by at least 800 km from all other known populations (Etpison, 2012; Marsh and Sobtzick, 2019).



Figure 2: Sperm whales near the coast of Palau. Photo: Olive Andrews

Supporting Information

Andrews, O. 2013. Palau Marine Mammal Research Project. Australian Marine Mammal Center, Final Report.

Davis, P. Z. 2004. Current status of knowledge of dugongs in Palau: A review and project summary report. Koror: The Nature Conservancy.

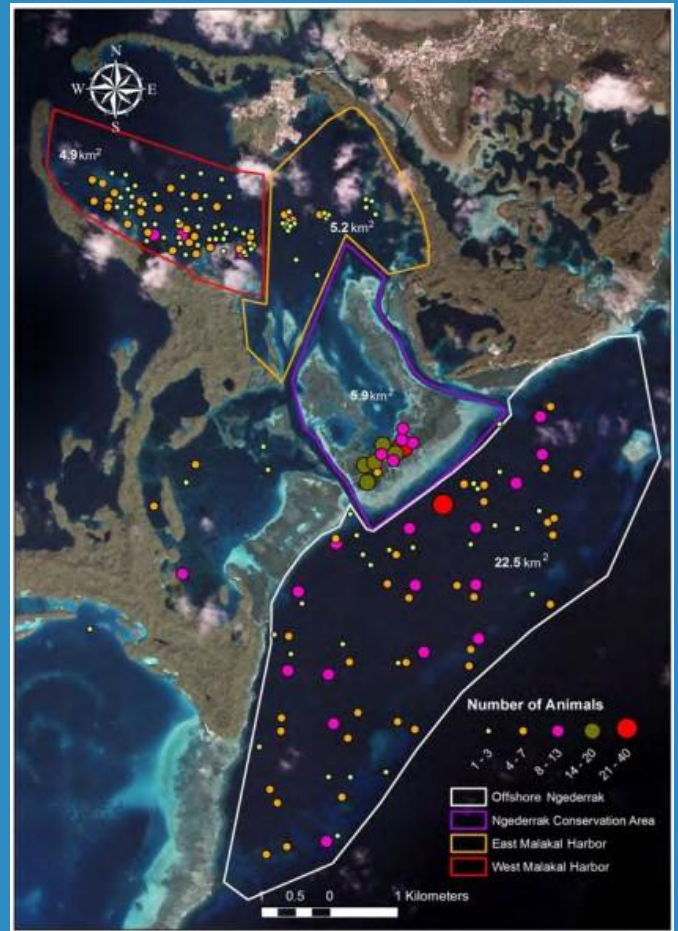


Figure 3: Map of the four sites represented by colored area polygons near Malakal Harbor with 95% of all dugong sightings. From Etpison, 2012.

Etpison, M. 2012. Palau Dugong dugon awareness campaign: 2010-2011. Koror: Coral Reef Research Foundation.

Marsh, H.P. 2002. The dugong (*Dugong dugon*) status reports and action plans for countries and territories in its range. Early Warning and Assessment Reports. Nairobi: United Nations Environment Programme.

Marsh, H.P. 2011. The ecology and conservation of Sirenia: dugongs and manatees. Cambridge: Cambridge University Press.

Marsh, H. and Sobtzick, S. 2019. Dugong dugon (amended version of 2015 assessment). The IUCN Red List of Threatened Species 2019: e.T6909A160756767. <https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T6909A160756767.en>. Downloaded on 06 September 2021.

Palau National Government. 2001. Increased penalties for illegal taking, possessing or exporting dugongs and turtles. Palau National Government Report (2001, October). RPPL 6-28. Republic of Palau.



Figure 3: A dugong off the coast of Palau being pursued by remoras and yellow pilot fish. Photo: Mandy Etpison

Acknowledgements

We would like to thank the participants of the 2017 IMMA Regional Expert Workshop held in Apia, Samoa for the identification of IMMAs in the Pacific Islands Region. Funding for the identification of this IMMA was provided to the Global Ocean Biodiversity Initiative by the International Climate Initiative (IKI). The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) supports this initiative on the basis of a decision adopted by the German Bundestag. Support was also provided by SPREP, the French Biodiversity Agency, Whale and Dolphin Conservation and the Tethys Research Institute.

MARINE MAMMAL PROTECTED AREAS TASK FORCE

IMMA

Gobi

TETHYS since 1986

WDC WHALE AND DOLPHIN CONSERVATION

OFB OFFICE FRANÇAIS DE LA BIODIVERSITÉ

SPREP Secretariat of the Pacific Regional Environment Programme

Supported by:

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

based on a decision of the German Bundestag

Suggested Citation: IUCN-Marine Mammal Protected Areas Task Force, 2021. Southern Shelf Waters and Slope Edge of Palau IMMA Factsheet. <https://www.marinemammalhabitat.org/wp-content/uploads/imma-factsheets/PacificIslands/southern-shelf-waters-slope-edge-palau-PacificIslands.pdf>. Downloaded on (day month year).

PDF made available for download at <https://www.marinemammalhabitat.org/wp-content/uploads/imma-factsheets/PacificIslands/southern-shelf-waters-slope-edge-palau-PacificIslands.pdf>.