

Country Overview: Malaysia

Introduction

Malaysia manages an estimated 11.10 percent (55 MPAs, 4,964.18 km²) of its waters and coastal areas. These areas include 42 marine parks, five fisheries prohibited areas, and eight national marine protected areas.

In peninsular Malaysia dugongs are largely found in the southern state of Johor, mainly around Sibu and Tinggi Islands and their adjacent waters. They are also found in Sabah, where they are recorded around Mantanani, Bangi and Mengalum Islands, and in Sarawak in the waters of Brunei Bay, Lawas.

The Malaysia GEF Dugong and Seagrass Conservation Project will focus on two key sites: (i) Sibu and Tinggi Islands; and (ii) the Lawas waters of Sarawak. Whilst the bulk of the Malaysian dugong population occurs around Sibu and Tinggi, studies conducted in the waters of Lawas have recorded numerous sightings and the presence of a high diversity of seagrass species along its coastline and adjacent waters. Aerial sighting surveys have also observed dugongs in Brunei Bay, confirming the existence of a viable dugong population in the area. Dugongs' preferred food – *Halophila* and *Halodule* seagrasses – is abundant in the area, and dugong feeding trails have been regularly found during seagrass monitoring. This evidence suggests that the waters of Lawas are a crucial nursery, feeding and transient ground for dugongs.

Dugong Population

Estimates of population size in the region are largely anecdotal and based on interviews and/or limited aerial surveys of Palau, Sabah (Malaysia) and parts of Indonesia conducted in 2001, 2007 and 2008. Therefore, many unknowns regarding dugongs and their seagrass habitats remain.

Some dugong hotspots have been identified but their population and genetics require further field research. Field work is also required to investigate and analyse the causes of dugong mortality in order to support the development of conservation measures.

Seagrass Habitat

Information concerning seagrass species and distribution in Malaysia dates to 2010, but there is neither information on the ecological status of the habitats nor analysis of the correlation between threats and ecological status. Seagrass ecosystems in Malaysia remain outside the scope of recent studies assessing the importance of national ecosystems to local communities, thereby degrading their representation in considerations of socio-economic development.

Cultural Significance

As late as the 1970s, dugongs in the region were hunted from small boats using nets or harpoons. Their hides were prized for their quality, while the meat was considered a delicacy and the tusks were used to fashion tool handles. Various parts of the carcass were used for medicines, including to cure asthma, or as an aphrodisiac. However, local superstitious beliefs resulted in many local fisherman releasing dugongs when accidentally caught in their nets.

Most hunting ended in the 1980s; however, a 2008 survey found that eleven percent of respondents (32 individuals) still hunted dolphins or dugongs occasionally or opportunistically during fishing trips.

The reduction of dugong hunting may be attributed to (a) the knowledge that dugongs are a protected species under Malaysian law and (b) the severe decrease in dugong populations in the past few decades (even many older fishers in Malaysia have never encountered a dugong while fishing).

Current Threats and Conservation Measures

Dugongs today face a number of potential threats in Malaysian waters, including: boat strikes and boat disturbance; physical disturbance of seagrass due to placement and dragging of anchors and unintentional human damage; poorly governed interaction with tourists; incidental entangling in nets outside Marine Protected Areas (MPAs); and improper management of waste disposal, run-off and oil spills. In some areas, dugongs are also threatened by incidental by-catch and destructive fishing practices such as trawling within MPAs and surrounding seagrass areas, and elsewhere by coastal development.

At present, MPAs are focused primarily on the protection of corals, mangroves, fish and turtles; hence there is a need for emphasis on the conservation of dugong and seagrasses both at the local and national levels. Malaysia prepared a National Plan of Action for Conservation and Management of Dugong in 2011, and although dugongs are protected under other national and international legislation, to date there are no specific reserves or guidelines for dugong and seagrass protection.

Key legislation	Content
Constitution of Malaysia	Empowers those at the Federal and State levels to establish laws regarding wildlife resources.
Fisheries Act 1985	Part VI Section 27 – aquatic mammals or turtles in Malaysian fisheries waters. Applies to Malaysia’s 200-nautical mile Exclusive Economic Zone (EEZ). Part IX, Act 4(1) and (2) – allows for the establishment marine parks or reserves in Malaysian waters.
Fisheries Regulations 1999	Control of endangered fish species in the whole country.
Protection of Wildlife Act 1972	Applies to peninsular Malaysia. Lists <i>Dugong dugon</i> as a totally protected species.
Wild Life Protection Ordinance 1998	Applies to Sarawak. Lists <i>Dugong dugon</i> as a totally protected species.
Wildlife Conservation Enactment 1997	Applies to Sabah. Lists <i>Dugong dugon</i> as a totally protected species.

GEF Projects

To tackle the various threats to dugongs and their seagrass habitats in Malaysian waters, the GEF Dugong and Seagrass Conservation Project will implement five project components.

At the country-level, MY2 will establish a National Facilitating Committee and a Technical Working Group for dugong and seagrass protection. These bodies will review and improve the

implementation of the National Plan of Action for Conservation and Management of Dugongs (NPOA), refine key legislation relevant to the conservation of dugongs and seagrass habitats, and strengthen coordination and cooperation at a national level.

Two additional components will focus specifically on Pulau Sibul and Pulau Tinggi (island of Tinggi) and their surrounding waters, both located in the state of Johor. MY1 will seek to expand existing marine parks to include the non-protected area southwest of the islands; and MY3 will assist local communities in understanding the ecological and economic importance of conserving dugong and seagrass resources, improving local capacity to manage these resources more effectively in harmony with social, cultural and economic needs.

MY4 aims to overcome knowledge barriers that hinder the understanding of dugong and seagrass conservation needs in Johor to enable the comprehensive development of effective conservation and management plans, including the extension of current MPA boundaries to include additional critical seagrass meadows.

A further component, MY5, will establish a Marine Protected Area (MPA) for the conservation of dugongs and seagrass in the Bay of Brunei off Lawas, located in the state of Sarawak. This project will involve: data gathering in support of the establishment of an MPA and prevention of further degradation of seagrasses and loss of dugongs; raising awareness and capacity-building in Lawas to mobilise local support for the MPA and establish an appropriate governance structure; and undertaking the legal establishment of the MPA.

Project Partners

Project	Title	Partner
MY1	Operationalising the Malaysian National Plan of Action for dugongs in Pulau Sibul and Pulau Tinggi, Johor, peninsular Malaysia	Department of Marine Park Malaysia (DMPM)
MY2	Establishment of a National Facilitating Committee and Technical Working Group for conserving dugongs and their habitat	Turtle and Marine Ecosystem Research Centre (TUMEC), Department of Fisheries Malaysia, Ministry of Agriculture and Agro-base Industry
MY3	Community understanding and management of dugong and seagrass resources in Johor, Malaysia	Universiti Sains Malaysia (USM)
MY4	A multi-pronged approach to overcoming knowledge barriers on the ecology and status of dugongs in Johor: Towards critical habitat protection	The MareCet Research Organisation of Selangor (MareCet)
MY5	Overcoming knowledge gaps and involving the local community in supporting the establishment of a Marine Protected Area (MPA) for the conservation of dugongs and seagrass in Bay of Brunei, Lawas, Sarawak, Malaysian Borneo	Sarawak Forestry Corporation Sendirian Berhad (SFCSB)