

Location



Introduction

The Republic of the Union of Myanmar, located in Southeast Asia, is bordered on the northeast by China, on the east by Laos and Thailand, on the southwest by the Andaman Sea, and on the west by the Bay of Bengal, Bangladesh and India.

The country's approximately 1,930 km of coastline is divided for administrative purposes into the Burmese Coast, Coastal Indochina (which covers the majority of the border with Thailand), and Peninsular Malaysia.

Myanmar has a tropical climate and experiences three main seasons: A dry and cool season from October to February, a hot and dry season from February to May, and a monsoon season from May to October.

Bangladesh referred its maritime boundary claims with Myanmar to the International Tribunal on the Law of the Sea.

Regional Seas and Biogeography

Bay of Bengal
Andaman Sea

LMEs
Bay of Bengal

Habitats

The Rakhine and Tenasserim plains, which are backed by high mountain ranges, make up the coastline. The Yangon and Bassein Rivers drain into the Irrawaddy Delta and the Bay of Bengal, while the Sittang flows into the Andaman Sea from the Sittange Delta, and the Salween in the north empties into the Gulf of Martaban. The coast is marked by mangroves, coral reefs, sandy beaches, rocky shorelines and numerous islands, most notably in the Myeik Archipelago.

Mangroves cover much of the Myanmar coast. They are the third most extensive in the Indian Ocean with one of the highest diversity of species. The largest areas are found in the Ayeyarwady estuarine delta and on the coasts of Rakhine and Tanintharyi.

Coral reefs are most prevalent in the middle Ayeyarwady region and coastal Rakhine and Tanintharyi, with more than 500 species having been recorded in the Myeik Archipelago.

Seagrass beds are limited to a few areas in the Bay of Bengal and the Myeik Archipelago.

Tidal flats cover much of the country's coastline.

Biodiversity Hotspots

Ramsar sites

The Gulf of Mottama Ramsar site is situated at the mouth of the Sittaung River of the larger Gulf of Mottama. The Gulf is the most extensive and significant intertidal mudflat system in the world with a tidal range of between six and seven metres. The mouth, which is around 100 kilometres wide, narrows into a funnel-shaped bay to produce a powerful bore phenomenon that can reach heights of over a metre on spring tides in the upper estuary, among the largest in the world. It supports up to 200,000 overwintering migratory waterbirds. In addition, it hosts over 70 waterbird species including 6 species of duck, 31 wader species and 16 gull and tern species. It is the most important wintering ground for the Spoon-billed Sandpiper (CR) and hosts significant populations of migrating Spotted Greenshank (EN), Great Knot (EN), and Lesser Adjutant (VU).

Nanthar Island and Mayyu Estuary, on the western coast of Myanmar within Rakhine State, has a coastal environment which includes estuarine and shallow marine waters, rocky shores and mangrove forest. It is one of the last refuges of the Spoon-billed Sandpiper (CR), with over 5% of the remaining global population reported

annually. Other threatened species include nesting Green (EN), Olive Ridley (VU) and Leatherback (VU) Turtles.

Meinmahla Kyun Wildlife Sanctuary (also an ASEAN Heritage Park) is a coastal wetland in the southern part of the Irrawaddy Delta hosting one of the largest remaining mangrove areas in the country, supporting Irrawaddy Dolphin (EN), Hawksbill (CR), Olive Ridley (VU), and Green Turtle (EN). The Northern River Terrapin (CR) inhabits coastal estuaries.

Waterbirds of concern in the sanctuary include Great Knot (EN), Spotted Greenshank (EN) and Lesser Adjutant (VU). It is the last estuarine habitat for Saltwater Crocodile (*Crocodylus porosus*) in the country.

National Parks

Lampi Island Marine National Park (also an ASEAN Heritage Site and IBA) is a group of islands in the Myeik Archipelago in the Andaman Sea which consists of sandy beaches, rocky coastlines, bays, inlets, coral reefs, and sea grass beds. The site hosts at least 228 avian species, three species of sea turtle and multiple species of mammal, including the Dugong (VU).

IBAs

In addition to the Gulf of Mottama, there are numerous other IBAs, however little data is available regarding specific species and habitat types in those sites.

IMMAs

The waters off the coast of Myanmar have not yet been evaluated for IMMAs.

Marine Wildlife Sanctuaries and Protected Areas

Moscós Islands Wildlife Sanctuary located in the Tanintharyi region, includes the South, Middle and North Moscos Islands, and hosts nesting sea turtles on South Moscos Island.

Thamihla Kyun (Diamond Island) located in the Ayeyawaddy Region hosts nesting Olive Ridley (VU), Green (EN), Loggerhead (VU), Leatherback (VU) and Hawksbill (CR) Turtles.

At risk Wildlife

In this section, some individual wildlife species are mentioned followed by a letter in parentheses. These are species included in the IUCN Red List of Threatened Species within the top three categories of risk - Vulnerable to extinction (VU), Endangered (EN) or Critically Endangered (CR). A more complete list of IUCN listed species is found in Appendix 1.

→ At risk birds

Myanmar sits on the East Asian-Australasian Flyway. Numerous species of waterbird are found along its coastal and estuarine waterways. The country's tidal flats host a variety of ducks, waders and shorebirds during winter. Breeding gulls, terns and ducks are found in the country, some of them year-round residents. Myanmar hosts significant numbers of Spoon-billed Sandpipers (CR) during the winter.

→ At risk reptiles

Five species of sea turtle are known to nest on Myanmar's beaches; however, Leatherback (VU) and Hawksbill Turtle (CR) nesting is rare. The largest nesting turtle population is found on Thamihla Kyun (Diamond Island). Nesting also occurs off the coast of Arakan State and the Ayeyarwady and Tanintharyi Regions.

Saltwater crocodiles (*Crocodylus porosus*) are also common in Myanmar's coastal regions and there have been reports of Northern River Terrapin (CR) in brackish estuarine areas.

→ At risk mammals

Twenty-nine species of marine mammal have been recorded in Myanmar's waters. Indo-Pacific Finless Porpoise (VU), Irrawaddy Dolphin (EN) and Indo-Pacific Humpback Dolphins (VU) have been confirmed in the Gulf of Mottama.

Past experience with oil spill and potential risks

In 2000, the *Asean Liberty* sank off of Yangon, spilling some bunker fuel, however there have been no significant oil spills impacting wildlife reported in Myanmar.

In addition to offshore drilling for oil and gas, the *China-Myanmar oil pipeline* is being developed between Madaya Island in Myanmar and Yunnan Province in China, with China holding exclusive rights to build and operate this crude oil pipeline.

There is an ongoing dispute over oil and gas rights within the Bay of Bengal. Heavy shipping traffic also occurs there.

International and Regional Treaties and Agreements

→ Oil spill and HNS Response

- CLC Convention 69
- CLC Protocol 76
- CLC Protocol 92
- FUND Protocol 76
- FUND Protocol 92
- FUND Protocol 2003
- LLMC Convention 76
- LLMC Protocol 96
- OPRC Convention 90
- HNS Convention 96
- HNS PROT 2010
- OPRC_HNS 2000
- BUNKERS CONVENTION 01

→ Marine Biodiversity Protection

- Indian Ocean South East Asia (IOSEA) Marine Turtle MoU
- Global Initiative South East Asia (GISEA)
- MoU on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and Southeast Asia (CMS IOSEA)

Oil Spill Response and HNS Spill Response

→ National Contingency Plan?

As of 2017, the National Oil Spill Contingency Plan was under development. There does not appear to be any mention of wildlife response in this plan and no further information on the status of the plan is readily available.

→ Role of Competent National Authorities

As of 2020, the Department of Marine Administration (DMA) under the Ministry of Transport and Communications was the competent national authority. In 2021, however, Myanmar established a Coast Guard which is intended to focus on search and rescue, environmental protection and law enforcement. How these two agencies will interact and divide duties is not clear.

Presently, beyond the DMA, three agencies are listed for reporting incidents: Myanmar Port Authority (MPA) within port limits, Maritime Police Force (MPF) from the port limits to internal waters and the Maritime Rescue Coordination Centre (MRCC) from the territorial seas to the Exclusive Economic Zone.

Oiled Wildlife Preparedness and Response

→ Formal guidelines?

There are no formal guidelines for oiled wildlife response in Myanmar. However, should a response be initiated it is likely the Ministry of Natural Resources and Environmental Conservation (MONREC) and the Ministry of Agriculture, Livelihoods and Irrigation (MOALI)'s Department of Fisheries would be involved. MONREC has a conservation mandate and oversees management of Reserved Forest Lands, including mangrove forests. MOALI oversees management of marine species.

→ Response objectives and strategy

N/A

→ Euthanasia or rehabilitation?

MONREC would likely determine how oiled wildlife is managed.

→ Impact assessment

MONREC and MOALI would likely be involved in impact assessment. The Mawlamyine University, the Myanmar Coastal Conservation Lab, Turtle Survival Alliance, the Gulf of Mottama Project, and Biodiversity and Nature Conservation (BANCA) which is the country's BirdLife International Partner might be involved as well.

→ Notification and early response

There is no formal notification and early response system for oiled wildlife in Myanmar.

→ Wildlife responders

The Turtle Survival Alliance may be able to provide assistance with marine turtles, the Gulf of Mottama Project may be able to provide assistance with marine mammal and avian response, and BANCA may be able to assist in avian response.

→ Cooperation between stakeholders

Several of the NGOs listed work with relevant government agencies on conservation and research projects.

→ Permanent facilities

The Turtle Survival Alliance, in cooperation with the Forestry Department runs a turtle rescue centre which is largely focused on freshwater and land turtles/tortoises.

There are no other permanent oiled wildlife or wildlife rehabilitation centres in the country.

→ Current processes

N/A

Documentation and references

IТОPF Country Profile 2017: <https://www.itopf.org/knowledge-resources/countries-territories-regions/myanmar/>

Sea Alarm Country Wildlife Profile 2010: <https://www.sea-alarm.org/publications/country-wildlife-response-profiles/>

Coastline length: <https://www.citypopulation.de/en/world/bymap/coastlines/>

Climate: <https://www.ipsinternational.org/what-is-the-climate-like-in-myanmar/>

Large Marine Ecosystems Hub: <https://www.lmehub.net/#>

New Myanmar Coast Guard Implications: <https://thediplomat.com/2021/10/whats-the-deal-with-myanmars-new-coast-guard/>

GI-SEA Country Profile: <https://www.gisea.org/regional-information/myanmar>

Ramsar Sites: <https://www.ramsar.org/wetland/myanmar>

Myanmar Marine Protected Areas: Context, Current Status and Challenges 2011: https://www.istituto-oikos.org/files/download/2018/MyanmarProtectedAreas_Context_CurrentStatusandChallenges.pdf

Ministry of Natural Resources and Environmental Conservation: <https://www.monrec.gov.mm/> Environmental Conservation Department <https://www.monrec.gov.mm/> (no English version)

IUCN Red List: <https://www.iucnredlist.org/species>

Birdlife Data Zone: <http://datazone.birdlife.org/country>

Rapid Assessment of the Gulf of Mottama East Coast: <https://cdn.myanmarseo.com/file/client-cdn/banca/wp-content/uploads/2020/09/Rapid-Assessment-of-The-Gulf-of-MottamaEast-Coast-2017.pdf>

Ocean Data Viewer: <https://data.unep-wcmc.org/>

International Coral Reef Initiative Myanmar profile: <https://icriforum.org/members/myanmar/>

Sea Turtles in Myanmar: <http://www.seaturtle.org/mtn/archives/mtn88/mtn88p10.shtml>

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Appendix 1

→ At risk birds

Common name / Latin name / IUCN Red List Category (CR,EN,VU) / Resident-Migratory (season) / Breeding-Nesting-Pupping (season)

Spoon-billed Sandpiper / *Calidris pygmaea* / CR / Migratory (winter) / Non-breeding
Baer's Pochard / *Aythya baeri* / CR / Migratory (winter) / Non-breeding
Scaly-sided Merganser / *Mergus squamatus* / EN / Migratory (winter) / Non-breeding
White-winged Duck / *Asarcornis scutulata* / EN / Resident / Breeding (wet season)
Masked Finfoot / *Heliopais personatus* / EN / Resident / Breeding (possibly year round)
Ciconia's Storm Stork / *Ciconia stormi* / EN / Migratory (seasonality uncertain) / Non-breeding
Great Knot / *Calidris tenuirostris* / EN / Migratory (winter) / Non-breeding
Spotted Greenshank / *Tringa guttifer* / EN / Migratory (winter) / Non-breeding
Indian Skimmer / *Rynchops albicollis* / EN / Migratory (winter) / Non-breeding
Black-bellied Tern / *Sterna acuticauda* / EN / Resident / Breeding (possibly year round)
Pallas' Fish Eagle / *Haliaeetus leucoryphus* / EN / Resident / Non-breeding
Common Pochard / *Aythya ferina* / VU / Migratory (winter) / Non-breeding
Lesser Adjutant / *Leptoptilos javanicus* / VU / Resident / Breeding (possibly year round)
River Tern / *Sterna aurantia* / VU / Resident / Breeding (possibly year round)

→ At risk reptiles

Common name / Latin name / IUCN Red List Category (CR,EN,VU) / Resident-Migratory (season) / Breeding-Nesting-Pupping (season)

Northern River Terrapin / *Batagur baska* / CR / Resident (coastal estuaries) / Breeding/nesting (possibly year round)
Hawksbill Turtle / *Eretmochelys imbricata* / CR / Migratory / Nesting (rare, summer)
Green Turtle / *Chelonia mydas* / EN / Migratory / Nesting (summer)
Loggerhead Turtle / *Caretta caretta* / VU / Migratory / Nesting (summer)
Olive Ridley / *Lepidochelys olivacea* / VU / Migratory / Nesting (summer)
Leatherback / *Dermochelys coriacea* / VU / Migratory / Nesting (rare, summer)

→ At risk mammals

Common name / Latin name / IUCN Red List Category (CR,EN,VU) / Resident-Migratory (season) / Breeding-Nesting-Pupping (season)

Blue Whale / *Balaenoptera musculus* / EN / Resident and Migratory populations / Calving (warm season)
Fin Whale / *Balaenoptera physalus* / EN / Resident and Migratory populations / Possible calving (season unknown)
Irrawaddy Dolphin / *Orcaella brevirostris* / EN / Resident / Calving (possibly year round)
Dugong / *Dugong dugon* / VU / Resident (Locally migratory) / calving dependent on rainfall and temperature
Indo-Pacific Finless Porpoise / *Neophocaena phocaenoides* / VU / Resident / Calving not well documented
Sperm Whale / *Physeter macrocephalus* / VU / Migratory (seasonality unclear) / Calving not well documented
Indo-Pacific Humpback Dolphin / *Sousa chinensis* / VU / Resident / Calving year round