

Location



Introduction

Malaysia is a federation of thirteen states in Southeast Asia with two distinct geographical regions divided by the South China Sea. Peninsular Malaysia consists of the southern part of the Malay Peninsula and nearby islands, bordering Thailand to the north, the Strait of Malacca to the west, Singapore to the south and the South China Sea to the east. Malaysian Borneo occupies the northern part of the island of Borneo and offshore islands bordering Indonesia's Kalimantan region to the south, the South China Sea to the west, the Pacific Ocean to the north and the Sula and Celebes Seas to the east.

All of Malaysia is tropical, with high temperatures and humidity, and heavy rainfall. The northeast monsoon lasts from November to March, with an inter-monsoonal period from March to May. The southwest monsoon last from May to October, with a second inter-monsoonal period from October to November. Rough seas occur along southwestern Sarawak and north/northeastern Sabah during the northeast monsoon, while the southwest monsoon brings flooding to the southwestern coast of Sabah. Temperatures range from 27-32°C.

Malaysia is party to ongoing negotiations regarding the Spratly Islands, there are disputes regarding maritime boundaries in the Johor and Singapore Straits, and maritime boundary negotiations with Indonesia and Brunei are ongoing.

Regional Seas and Biogeography

East Asia Seas including:

Peninsular Malaysia's South China Sea, Strait of Johore, Strait of Malacca and Andaman Sea
Malaysian Borneo's Balabac Strait, Sulu Sea, Celebes Sea and South China Sea.

LMEs

- Bay of Bengal
- Gulf of Thailand
- South China Sea.

Habitats

The country's approximately 4,670 km of coastline includes approximately 2,000 km on Peninsular Malaysia and approximately 2,600 km on Malaysian Borneo (Sabah and Sarawak). Coastal habitat ranges from sandy beaches, mangrove swamps, coral reefs and seagrass beds, and includes numerous caves and small offshore islands.

- Mangroves: are found along much of Malaysia's coastline, with the largest concentration in Sabah (60%), followed by Sarawak (22%) and Peninsular Malaysia (18%). Approximately 85% of the total area of mangroves is protected in National Parks and as Permanent Reserve Forests (PRFs).
- Tidal flats: cover much of the country's coastline.
- Coral Reefs: are largely concentrated in northern Sabah. Some areas of Peninsular Malaysia, particularly along the northwest and central east coast, also host coral reefs.
- Seagrass beds: are found on much of the Peninsular Malaysian coast, with limited areas in Sabah.

Biodiversity Hotspots

Malaysia has numerous National Parks and IBAs. Below are some of those sites.

→ Ramsar sites

Pulau Kukup (also an IBA) is an uninhabited mangrove island near the southwestern tip of the Malaysian peninsula. The wetlands support Smooth-coated Otter (VU), and the island supports breeding and migratory Lesser Adjutant (EN), as well as providing feeding grounds for shorebirds and waders on its mudflats.

Tanjung Piai (also a State Park for Eco-tourism) consists of coastal mangroves and intertidal mudflats supporting Lesser Adjutant (EN) and providing feeding grounds for shorebirds and waders on its mudflats.

Sungai Pulai, the largest riverine mangrove system in Johor State, is located at the Sungai Pulai river estuary which supports marine and coastal birds, Smooth-coated Otter (VU) and nesting crocodiles.

Kuching Wetlands (also a National Park) is a saline mangrove system hosting crocodiles, monkeys, Lesser Adjutant (VU) and other coastal and estuarine birds.

Lower Kinabatangan-Segama Wetlands (also a Forest Reserve) is a coastal mangrove, brackish and peat swamp forest on the east coast of Sabah, fed by the Kinabatangan and Segama Rivers hosting Sumatran Rhinoceros (CR), which may spend time along the coast, and a variety of coastal avian species.

Kota Kinabalu Wetland is a mangrove swamp in Kota Kinabalu City, near the coast of northern Sabah which supports more than 90 resident and migratory bird species including Chinese Egret (VU) and Lesser Adjutant (VU). It is the last remaining mangrove ecosystem on the city's coast.

➔ **National Parks**

Similajau National Park in Sarawak includes coastal and marine ecosystems which support 185 species of birds, cetaceans, marine turtles and Saltwater Crocodiles.

Talang-Satang National Park (also an IBA) includes two island groups with parts serving as a wildlife sanctuary for nesting Green (EN) and Hawksbill (CR) Turtles. The park is also host to significant numbers of marine and coastal birds. Cetaceans may be found in coastal waters.

Turtle Island National Park in Sabah consists of 3 islands in Malaysia and 7 in the Philippines, and hosts nesting Hawksbill Turtles (CR).

Bako National Park (includes an IBA) includes both rainforest and coastline and is host to more than 150 species of bird, many found within the mangrove swamps. Asian Small-clawed (VU) and Hairy-nosed (EN) Otters and Bearded Pig (VU) forage in nearshore areas.

Maludam National Park (within the Sadong-Saribas Coast IBA) in Sarawak includes intertidal mudflats and mangroves supporting coastal avian species.

Palau Bruit National Park (includes an IBA) in Sarawak, is a low-lying island. Its northern tip consists of a huge expanse of mudflats which host waders and shorebirds.

➔ **IBAs**

North-central Selangor coast includes mudflats that are foraging grounds for wintering shorebirds, several key islands and mangrove forest.

Brunei Bay is shared by Brunei and Malaysia. Its rivers and bays take up much of the area, with three main estuaries which are significant for birds.

Sipadan Islands have been a bird sanctuary since before Malaysia's independence.

Pulau Layang-Layang is a man-made island in the Spratly Islands of the South China Sea is an important refuge for breeding seabird colonies including several species of tern.

➔ **National Protected Areas/Marine Parks**

Tanjung Datu-Samunsam Protected Area (also a National Park, Marine IBA and wildlife sanctuary) hosts a variety of birds and mammals.

Kedah Marine Park, located north of Penang, hosts marine mammals such as dolphins and whales, as well as whale sharks.

Pahang Marine Park hosts nesting Green Turtles (EN).

IMMAs

Matang Mangroves and Coastal Waters, located in Perak state in northwestern Peninsular Malaysia, have extensive mangrove forests within riverine and estuarine waterways leading out to a shallow intertidal mudflat coastal region. The area hosts populations of Indo-Pacific Humpback Dolphins (VU) in the inner waterways and near coast areas. Irrawaddy River Dolphin (EN) are found in the estuaries and nearshore waters and Indo-Pacific Finless Porpoise (VU) are found along the western edges of this region.

Satun-Langkawi Archipelago, located in the shared Thailand-Malaysia border area of the Andaman Sea, hosts the largest groups of Indo-Pacific Humpback Dolphin (VU) in the world with groups of more than 100 individuals regularly sighted. The area is also important for Indo-Pacific Finless Porpoise (VU) and Irrawaddy River Dolphin (EN).

Mersing Archipelago, located off the east coast of Johor state on Peninsular Malaysia, has mangroves, coral reefs and extensive seagrass meadows which host a small but reproductively active population of Dugong (VU).

Kuching Bay, in Sarawak, Malaysian Borneo, encompasses two large estuaries and interconnecting river systems feeding into the bay. The area hosts four species of cetaceans: Indo-Pacific Finless Porpoise (VU), Indo-Pacific Humpback Dolphin (VU), Indo-Pacific Bottlenose Dolphin, and Irrawaddy River Dolphin (EN), many of which are resident in the area.

Similajau-KualaNyalau Coastline, in Sarawak, Malaysian Borneo includes coastal waters with few rivers, bays or estuaries. Irrawaddy River Dolphins (EN), Indo-Pacific Finless porpoise (VU) and Indo-Pacific Humpback Dolphins (VU) all appear to be resident in the area.

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

Malaysia is home to more than 740 avian species. The country is situated on East Asian-Australasian Flyway which sees large numbers of wading and shorebirds on migration.

It's coastal and marine waters are home to at least 10 globally threatened resident and migratory waterbird species, among them the Spoonbill Sandpiper (CR) and Christmas Frigatebird (CR).

→ At risk reptiles

Four species of sea turtle are found in Malaysia's waters: Green (EN), Hawksbill (CR), Olive Ridley (VU) and Leatherback (VU). There are 6 conservation centres in Malaysia for sea turtles. The numerous marine turtle sanctuaries in Peninsular Malaysia are managed by the Department of Fisheries Malaysia, in Sarawak by the Sarawak Forestry Corporation and in Sabah by the Sabah Parks Administration. These sanctuaries protect nesting beaches and provide hatcheries for at-risk eggs.

Sea snakes and Saltwater Crocodiles are common in Malaysian waters.

→ At risk mammals

Malaysia hosts twenty-nine species of cetacean, either resident or migratory, thirteen of which are commonly sighted. Some are resident, largely in coastal and estuarine/riverine habitats and others are only found offshore. Dugong (VU) are found in the area around Tinggi and Sibu Islands in Johor, where there are efforts underway to create a sanctuary for this species.

In addition to marine mammals, Asian Small-Clawed Otters (VU), Smooth-coated Otter (VU) and Hairy-nosed Otter (EN) are found in many coastal and estuarine areas throughout the country. Baku National Park hosts Bearded Pig (VU).

Past experience with oil spill and potential risks

Malaysia has experienced a number of spills, most of which have occurred in the Strait of Malacca or Singapore Strait shipping lanes. The *Nagasaki Spirit* (1992), the *Evoikos* (1997) and the *SA Helderberg* (2007) occurred with little or no shoreline impact.

The *APL Denver* collision (2017) and the bulk carrier *Sinica Graeca* (both 2017) caused oiling of shorelines in Malaysia and Singapore and in Johor State respectively.

There is no reference to wildlife impacts in any of these incidents.

The Strait of Malacca, bordering Peninsular Malaysia to the west is one of the busiest shipping lanes in the world.

International and Regional Treaties and Agreements

→ Oil spill and HNS Response

d 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
- Association of South East Asian Nations-Oil Spill Response Action Plan (ASEAN-OSRAP) and MoU on ASEAN Cooperation Mechanism on Joint Oil Spill Preparedness and Response (ASEAN 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)
- MoU for Joint Response: Straits of Malacca and Singapore
- Coordinating Body on the Seas of East Asia (COBSEA)

Oil Spill Response and HNS Spill Response

→ National Contingency Plan?

The Malaysia Oil Spill Contingency Plan (MOSCoP) was updated in 2021. Malaysia is also party to the ASEAN Regional Oil Spill Contingency Plan, adopted in 2018, which agrees to mutual support in the event of an incident.

→ Role of Competent National Authorities

The Department of Environment (DoE), within the Ministry of Environment and Water, has overall responsibility for oil spill response, with the major operating role falling to the Marine Department of the Ministry of Transport. Response to spills spreading from other countries or incidents in the country's Exclusive Economic Zone (EEZ) is carried out by the National Operation Committee (NOC) of the MOSCoP, chaired by the Director General of the DoE and comprised of representatives of various government agencies and the petroleum industry. The Ministry of Foreign Affairs is brought in if assistance is required from other countries. The MOSCoP also takes into account the role of local experts from academic disciplines.

Spills involving local facilities such as ports, terminals, etc. are responded to under a local Tier 1 contingency plan with operations carried out by the operators of the facilities.

Oil companies operating in Malaysia are required to maintain adequate equipment for response.

Oiled Wildlife Preparedness and Response

→ Formal guidelines?

Under the Malaysia Oiled Wildlife Response Plan (MOWReP), the DoE is responsible for coordinating preparedness of relevant agencies for response to wildlife affected by oil spill incidents.

The DoE will work with State DoEs, the oil and gas industry, the Malaysian Fisheries Department and various universities and interested parties to further develop oiled wildlife preparedness.

→ Response objectives and strategy

As the MOWReP is in the early stages of development, the details of objectives and strategy are limited.

→ Euthanasia or rehabilitation?

Rehabilitation would be allowed.

→ Impact assessment

It is likely that the DoE, the Fisheries Department, and State DoEs would oversee impact assessment. State Wildlife Departments, local university departments such as the Borneo Marine Research Institute (BMRI) and the University of Malaysia Terengganu (UMT)'s Marine Endangered Species Research program, and NGOs such as Marine Mammal Conservation/Research (MareCet), the Sarawak Dolphin Project, the Marine Turtle Conservation Programme Sarawak, Zoo Negara, and the Malaysian Nature Society (MNS) would likely be

contacted as needed, dependent on the situation.

➔ **Notification and early response**

The DoE would notify relevant parties, depending on the region involved.

➔ **Wildlife responders**

There are no experienced oiled wildlife responders and no marine avian rehabilitators in the country. However, the Department of Fisheries Turtle and Marine Endangered Species Research Division, the Sabah Wildlife Department, the Sarawak Forestry Corporation and the Sarawak Dolphin Project, as well as MareCet are experienced marine wildlife responders.

It is likely that, as the MOWReP continues to be developed, training for responders will be developed. For the near future, international assistance would be needed for any significant wildlife response.

➔ **Cooperation between stakeholders**

The various groups involved in the first oiled wildlife response workshop will work together on planning and preparedness.

➔ **Permanent facilities**

There are no permanent facilities for oiled wildlife, nor for marine wildlife rehabilitation.

➔ **Current processes**

In July 2022, an Oiled Wildlife Response Workshop for the East Coast Region of Peninsular Malaysia was held. The workshop was organised by GHSE Petronas, the national oil company, in collaboration with the DoE and included representatives from the Pahang State DoE, the Terengganu State DoE, the Kelantan State DoE, the Department of Wildlife Protection and National Parks Peninsular Malaysia (PERHILITAN), the Malaysian Fisheries Department, the UMT, the Petroleum Industry of Malaysia Mutual Aid Group (PIMMAG) and Oil Spill Response Limited (OSRL).

Documentation and references

ITOPF Country Profile 2021: <https://www.itopf.org/knowledge-resources/countries-territories-regions/malaysia/>
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IUCN RedList: <https://www.iucnredlist.org/species>
Sarawak Forestry Commission Managed Parks: <https://sarawakforestry.com/parks-and-reserves>
Oiled Wildlife Response Workshop for the East Coast Region of Peninsular Malaysia: <https://www.facebook.com/doe.gov.my/posts/359394726364764>

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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)**

White-shouldered Ibis / *Pseudibis davisoni* / CR / Resident (possibly extinct locally) /
Christmas Island Frigatebird / *Fregata andrewsi* / CR / Resident / Breeding/Nesting (inland only)
Spoon-billed Sandpiper / *Calidris pygmaea* / CR / Migratory (autumn-spring) / Non-breeding
Chinese Crested Tern / *Thalasseus bernsteini* / CR / Migratory (autumn-spring) / Non-breeding
Milky Stork / *Mycteria cinerea* / EN / Resident / Breeding (possibly year round)
Masked Finfoot / *Heliopais personatus* / EN / Migratory (autumn-spring) / Non-breeding
Storm's Stork / *Ciconia stormi* / EN / Resident / Breeding/Nesting (inland only)
Far Eastern Curlew / *Numenius madagascarensis* / EN / Migratory (wintering) / Non-breeding
Great Knot / *Calidris tenuirostris* / EN / Migratory (wintering) / Non-breeding
Spotted Greenshank / *Tringa guttifer* / EN / Migratory (wintering) / Non-breeding
Lesser Adjutant / *Leptoptilos javanicus* / EN / Resident / Breeding/nesting
Chinese Egret / *Egretta eulophotes* / VU / Migratory (wintering) / Non-breeding
Aleutian Tern / *Onchoprion aleuticus* / VU / Migratory (wintering) / Non-breeding

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

Green Turtle / *Chelonia mydas* / EN / Migratory / Nesting (Apr-Sept)
Hawksbill Turtle / *Eretmochelys imbricata* / CR / Migratory / Nesting (year round)
Olive Ridley / *Lepidochelys olivacea* / VU / Migratory / Nesting (limited records)
Leatherback / *Dermodochelys coriacea* / VU / Migratory / Nesting (rare)

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

Irrawaddy River Dolphin / *Orcaella brevirostris* / EN / Resident / Breeding/Calving (possibly year round)
Indo-Pacific Finless Porpoise / *Neophocaena pocaeniodes* / VU / Resident / Breeding/Calving (possibly year round)
Indo-Pacific Humpback Dolphin / *Sousa chinensis* / VU / Resident / Breeding/Calving (possibly year round)
Dugong / *Dugong dugon* / VU / Resident / Breeding/Calving (possibly year round)
Blue Whale / *Balaenoptera musculus* / EN / May be Migratory or Resident / Breeding/Calving (not documented)
Asian Small-Clawed Otter / *Aonyx cinereus* / VU / Resident / Breeding (possibly year round)
Smooth-coated Otter / *Lutrogale perspicillata* / VU / Resident / Breeding/Pupping (May-October/Jan-March)
Hairy-nosed Otter / *Lutra sumatrana* / EN / Resident / Breeding/Pupping (Nov-Mar/Dec-Feb)
Bearded Pig / *Sus barbatus* / VU / Resident / Breeding/Nesting (varies based on food availability)