

Location



Introduction

The Republic of Kenya, located on the east coast of Africa, is bordered by South Sudan and Ethiopia on the north, Somalia and the Indian Ocean on the east, Tanzania on the south and Uganda on the west. The country's approximately 600 km of coastline is influenced by four ocean currents: the East African Coastal Current, the Somali Current, the Southern Equatorial Current and the Equatorial Counter Current).

Kenya's coastal region has a tropical climate with two distinct monsoon seasons, the North East Monsoon (NEM), from November to March which is also the hottest time of year, and the South East Monsoon (SEM), from May to September, during which afternoon or evening storms are common.

The western Indian Ocean is a major shipping route for oil from the Middle East and the Port of Mombasa is a key facility within East Africa. Kenya is host country for the Regional Maritime Rescue Coordination Centre (RMRCC) in Mombasa which is part of a trilateral agreement with Tanzania and the Seychelles for maritime search and rescue.

Although the impact of Somali pirates in the Indian Ocean appears to be ebbing as of 2020, there are still warnings by international maritime agencies regarding this threat. There is some political uncertainty in the country, with major changes to the country's constitution, based on recommendations from the Building Bridges Initiative, under consideration.

Regional Seas and Biogeography

East Africa Regional Sea
Western Indian Ocean Large Marine Ecosystem

Habitats

Kenya's coast is buffered by a fringing reef, which runs nearly its entire length, offering extra protection for marine and coastal wildlife, and reducing coastal erosion.

The coast itself includes sandy beaches, coral atolls and mangroves, with lagoons and creeks. Offshore are a number of islands including the *Funzi islands*, *Wasini Island* and *Mombasa Island* in the south and the *Lamu Archipelago* in the north, which provide habitat for migratory and wintering waders,

-> **Tidal flats:** Primary feeding area for many wading and shorebird species, found along much of the coastline with a few rocky beaches and steep cliffs in the south, where some pelagic birds roost.

-> **Mangrove forests and sea grasses:** important for foraging marine turtles and dugong, cover much of the coast as well.

-> **Estuaries:** The mouths of the *Tana* and *Sabaki Rivers* create significant estuaries and deltas as they reach the coast, where marine turtles, colonial waterbirds, and some land-based species forage, nest and rest.

Biodiversity Hotspots

-> Ramsar sites and IBAs:

The *Tana River Delta*, a Ramsar site and IBA in northern Kenya, is the second most important estuarine and deltaic ecosystem in Eastern Africa. It hosts five species of marine turtle, three of which nest there, as well as African elephant, dugong, hippopotamus and Nile crocodile. It is one of the few breeding sites for colonial nesting waterbirds in the country with up to 5,000 birds of at least 13 species regularly found here. A small coral platform offshore provides a resting site for two species of tern which feed in *Ungwana Bay*.

The *Mida Creek, Whale Island and Malindi-Waatamu Coast* IBA in the north, is important for migratory and wintering waders, with up to 6000 birds present at any one time. It is also an important nesting site for terns and feeding area for waders.

-> IMMAs:

The *Lamu Offshore* IMMA, in northern Kenya hosts large numbers of blue whales, including 3 separate subspecies, during the SEM.

The *Kisite-Shimoni* IMMA, which includes the *Kisite Mpunguti* MNPR, in southern Kenya protects a pristine, well-developed coral barrier reef only interrupted at the mouths of rivers and hosts a resident population of Indo-Pacific Bottlenose dolphin, spinner dolphin and Indian Ocean humpback dolphin. Humpback whales are present between July and October during calving season.

The *Watamu-Malindi and Watamu Banks* IMMA has year-round population of Indo-Pacific bottlenose dolphin and Indian Ocean humpback dolphin, as well as migratory Humpback whales, which are present between July and October.

-> Marine National Park and Reserves/ Marine National Reserves:

The *Watamu* MNPR, just south of *Malindi*, is home to large numbers of Green turtle, as well as Olive ridley, Hawksbill and Leatherback turtles. The park is also known for its dugong and a variety of birdlife.

Malindi MNPR has fringing reefs, coral gardens in the lagoons, sea grass beds, mangroves, mudflats hosting a diversity of marine mammals, turtles and various species of shorebirds.

Mombasa MNPR in the south, hosts sea turtles and large nesting colonies of seabirds, as well as migratory shorebirds.

The area along the *Kipini Coast*, which includes *Kipini Conservancy lands*, is an important nesting and foraging area for all five species of marine turtle found in Kenyan waters,

Kiunga MNR, in the *Lamu Archipelago*, hosts nesting seabirds on offshore islands from June to September. Migrant waders forage on the tidal flats, three species of marine turtle nest on the beaches and dugong have been recorded 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

Birds traveling the East Asia/East African Flyway may migrate through or overwinter in Kenya.

Nesting seabirds are found on many of the offshore islands of Kenya. Waders and shorebirds are common on tidal flats and herons, egrets and ducks may be found in estuaries and lagoons.

→ At risk reptiles

Kenya hosts five species of marine turtle. Of these, Hawksbills are found nesting in the tropical north, while Loggerhead and Leatherback nest in the south. Olive ridley, a frequent local forager, only sporadically nests in the country. The largest population of nesting Green turtles is found in the area near *Lamu*. Nile crocodile are found in several areas.

→ At risk mammals

Fifteen species of marine mammal have been reported in Kenyan waters and a number of the sites listed in the biodiversity hotspots section host feeding and calving animals. In addition to whales, offshore and dolphins, dugong are found in coastal seagrass beds and mangrove swamps. African savanna elephant and hippopotamus often inhabit nearshore areas, especially estuaries, and deltas.

Past experience with oil spill and potential risks

Groundings on the reefs outside Mombasa harbour are not uncommon but rarely result in pollution incidents. In 2015, an inland pipeline owned by the Kenya Pipeline Company, leaked oil into the River Thange. No information about wildlife impact could be found.

The Western Indian Ocean is a major sea route for oil shipments from the Middle East and the Port of Mombasa is a key facility in East Africa. Since 2019, a number of oil companies have been approved for exploration wells in the Lamu Basin.

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

- Tri-lateral Agreement with Kenya, Tanzania and the Seychelles

- Nairobi Convention (Regional Seas) and its Protocol Concerning Co-operation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region

- Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA)

Oil Spill Response and HNS Spill Response

→ National Contingency Plan?

A draft National Contingency Plan for Marine Spills from Shipping and Offshore Installations or National Marine Oil Spill Response Contingency Plan (NMOSRCP) was developed in 2014, to update the original plan, which was put into effect in 2001. It is not clear whether this updated plan has been approved, however this document covers both oil and HNS spills.

→ Role of Competent National Authorities

Under the NMOSRCP, the Kenya Maritime Authority (KMA) is charged with developing, coordinating and managing the Plan for both coastal and inland waters, and is the Competent Oil Spill Authority. KMA is also charged with overseeing preparedness and response, including coordination of drills and exercises.

The Kenya Ports Authority (KPA) and other port operators along the coastline, as well as the oil companies operating in Kenya, are required to maintain Tier2 capabilities. Most oil companies are members of the Oil Spill Mutual Response Group (OSMAG) which coordinates personnel and equipment from members of the group. Tier 3 spill responses are activated and coordinated by KMA, in cooperation with OSMAG, KPA, the oil companies and the spiller. A NMOSRCP Working Group (NOSRPWG) is led by the Director General of KMA and audits the plan annually and edits it following any exercises/drills.

In the event of a spill the RMRCC, managed by Kenya in cooperation with the Seychelles, Somalia and the United Republic of Tanzania, is notified. In turn, RMRCC notifies the KMA who notifies the Pollution Control Department of KPA, the relevant Harbour Master and the OSMAG Technical Coordinator.

In the event of land-based spills, KMA supports the National Environment Management Authority (NEMA) during a response. In addition, each coastal county maintains a shoreline response plan for minor spills. In the case of large spills or spills in Tanzania and the Seychelles the RMFCC may be activated.

Oiled Wildlife Preparedness and Response

→ Formal guidelines?

Within the NMORSCP is the requirement to form an Environment Group which acts in an advisory capacity to response efforts and facilitates the welfare, rehabilitation or humane disposal of impacted wildlife. The Fisheries Department and the Kenya Wildlife Service (KWS) generally serve on this group, as does the Kenya Society for the Prevention of Cruelty to Animals (Kenya SPCA), which takes the lead in wildlife welfare and rehabilitation. Depending on the nature and extent of the incident, further environmental groups (including NGOs) may be involved.

Under the plan the Wildlife Branch Director is responsible for minimising impacts on wildlife, setting up a central Wildlife Processing Centre and overseeing the activities of private wildlife care groups.

The Wildlife Rescue Group Supervisor oversees search and collection, as well as transport to the Centre. The Wildlife Rescue Group coordinates with the Planning Situation Unit for conducting aerial and group population surveys in the vicinity of the spill, and deploys acoustic and visual hazing equipment, where needed. The Wildlife Rehabilitation Centre Manager is responsible for overseeing the operations at the Centre.

→ Response objectives and strategy

Rescue and rehabilitation, as well as environmental protection, are listed in the NMOSRCP.

→ Euthanasia or rehabilitation?

Euthanasia is allowed on humane grounds, but the priority would be for rehabilitation.

→ Impact assessment

KMA is responsible for oversight of impact assessment. The Environment Group is also involved in impact assessment, although specific independent bodies may be set up in cases of long-term impact.

The Kenya Marine and Fisheries Research Institute (KEMRFI) has oversight of the use of dispersants and would likely be involved in impact assessment as well. Temporary Exclusion Zones (TEZ) may be designated to protect the marine environment.

→ Notification and early response

KWS is notified by the KMA and initiates notification of any cooperating agencies, NGOs, etc. as needed.

→ Wildlife responders

KWS and the Kenya SPCA oversee wildlife response utilising nearby NGOs as needed. In the area around Watamu Marine Park, Local Ocean Conservation (LOC) would likely be involved in sea turtle rescue and rehabilitation. There do not appear to be any avian or marine mammal facilities near the coast. Nature Kenya-the East Africa Natural History Society, while having only limited involvement with marine and coastal issues, works to encourage oiled wildlife response.

→ Cooperation between stakeholders

KWS works with the KMA in the event of an oil spill and would bring in other organisations, institutes and individuals as necessary.

→ Permanent facilities

Local Ocean Conservation has a Turtle Rehabilitation Centre near the Watamu Marine Park, the only sea turtle rescue and rehabilitation facility on the East African coast. There are no coastal facilities for other wildlife.

→ Current processes

In 2020, a workshop for all Nairobi Convention Member States was held on Strengthening Preparedness and Response to Marine Spills in the Western Indian Ocean. As a result of the workshop the Convention Secretariat was tasked with coordination of the implementation of the Regional Contingency Plan for Preparedness for and Response to Major Marine Pollution Incidents in the Western Indian Ocean (the RCP). A recommendation was made that a steering

committee/regional working group be established to develop an implementation plan for sustainable financing, organise tabletop exercises to test the plan and conduct annual communication drills, joint exercises and capacity building.

Documentation and references

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- Ramsar Country Profile: <https://www.ramsar.org/wetland/kenya>
- Kenya Wildlife Service National Marine Parks: <http://kws.go.ke/marine-national-park>
- Regional Maritime Rescue Coordination Centre (RMRCC)-Mombasa: <https://kma.go.ke/index.php/search-rescue/overview>
- Draft National Marine Oil Spill Response Contingency Plan 2014 (NMOSRCP): <https://kma.go.ke/index.php/marine-environment/oil-spill-response#>

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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)

Madagascar pond heron / *Ardeola idea* / EN / Resident / Nonbreeding

Basra reed warbler / *Acrocephalus griseldis* / EN / Resident / Breeding/nesting in spring/summer

Matudaira's storm-petrel / *Hydrobates matsuiarae* / VU / Resident / Nonbreeding

Madagascar pratincole / *Glareola ocularis* / VU / Resident / Nonbreeding

➔ **At risk reptiles**

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

Hawksbill turtle / *Eretmochelys imbricata* / CR / Migratory / Nesting October to March

Green turtle / *Chelonia mydas* / EN / Migratory / Nesting October to March

Leatherback turtle / *Dermochelys coriacea* / VU / Migratory / Nesting October to March

Loggerhead turtle / *Caretta caretta* / VU / Migratory / Nesting October to March

Olive ridley turtle / *Lepidochelys olivacea* / VU / Migratory / Rarely nests

➔ **At risk mammals**

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

Antarctic blue whale / *B. musculus ssp.intermedia* / CR / Migrant / Non-breeding

Indo-Pacific humpback dolphin / *Sousa chinensis* / EN / Migrant / Non-breeding

Blue whale / *Balaenoptera musculus* / EN / Migrant / Non-breeding

African savannah elephant / *Loxodonta africana* / EN / Resident / Does not appear to breed or calve at coastal locations

Dugong / *Dugong dugon* / VU / Resident / Breeds year-round

Sperm whale / *Physeter macrocephalus* / VU / Migrant / Non-breeding

Hippopotamus / *Hippopotamus amphibius* / VU / Resident / Breeding occurs during dry season, calving in the wet season