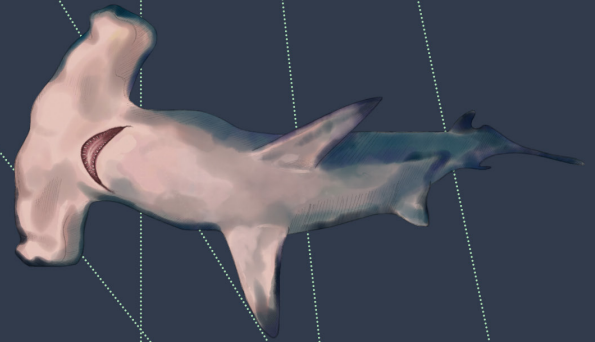
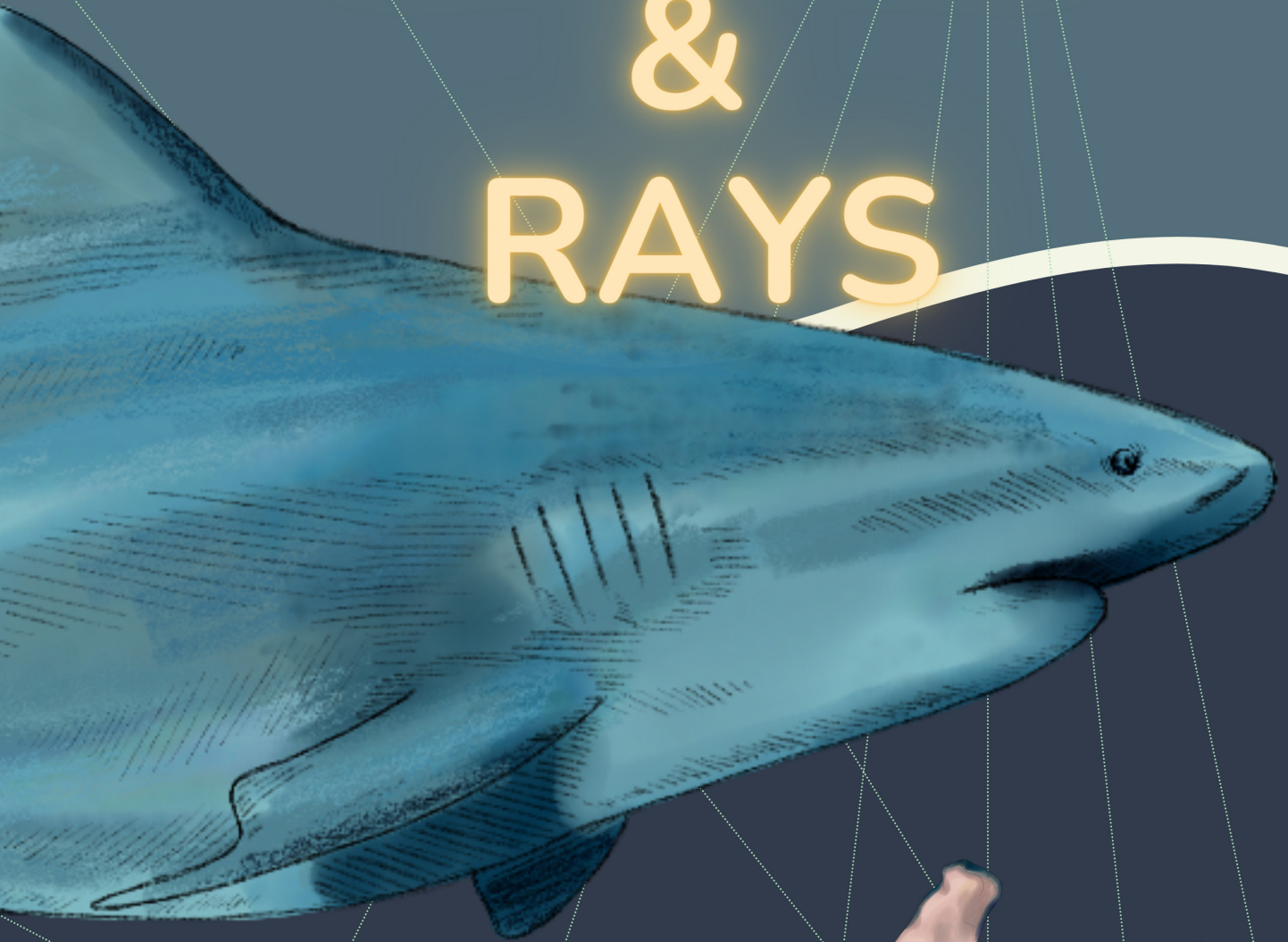
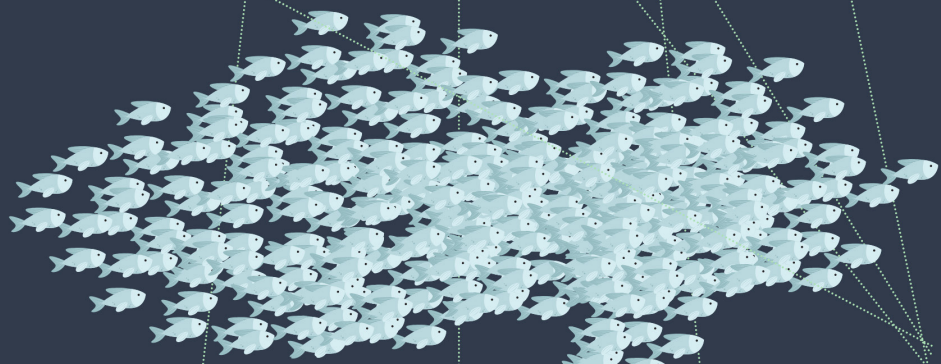
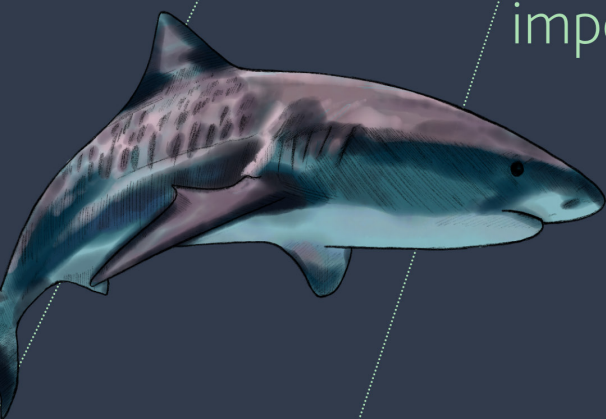


SHARKS & RAY



Sharks and Rays of East Africa, their habitats,
importance and threats.



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The introductory guide to the commonly sighted sharks and rays of East Africa has been produced to raise awareness on the need to conserve and protect sharks and rays in East Africa.

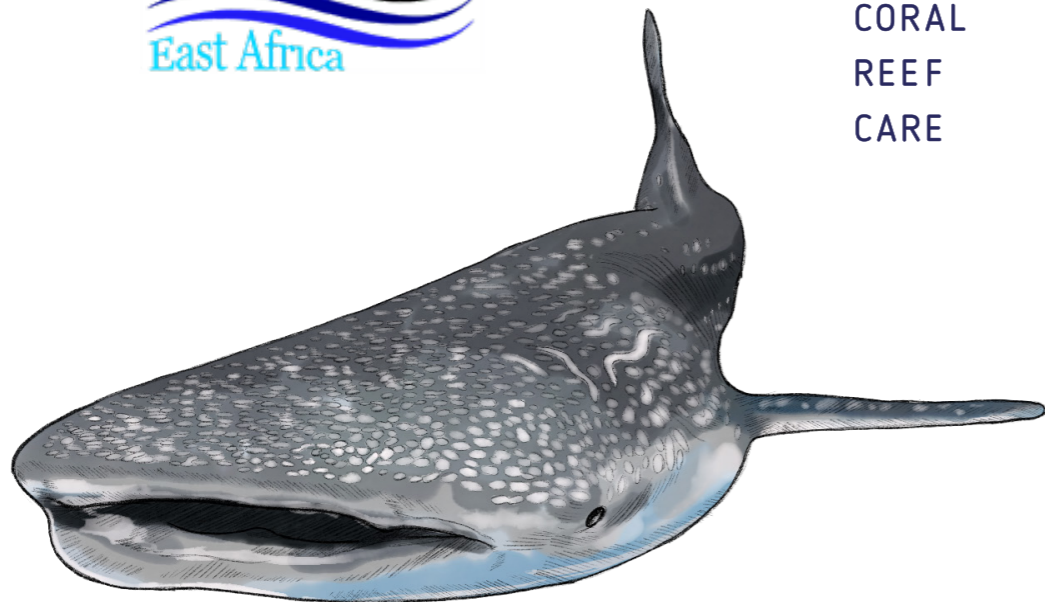
This guide also serves to show the different types of shark and ray species found along the East African coast, their habitats and threats. We seek to demystify myths, state facts and raise the awareness of people along the coast in order to contribute to the understanding of shark and ray species.

This book may be distributed free of charge to schools, coastal communities and all interested parties.

2021



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INTRODUCTION

Sharks and rays play a crucial role in the maintenance of the marine and coastal ecosystems. They are found across the globe's oceans and in diverse habitats such as the open ocean, coral reefs, seagrass meadows, mangrove forests and estuaries.

In addition to their importance, sharks continue to be viewed as mysterious and scary sea creatures and this guide serves to break down the myths while stating the facts to help people understand general shark behaviour and the need to conserve these important fishes.

IMPORTANCE OF SHARKS AND RAYS

Sharks and rays are important to the environment and communities through the following ways:

- As top predators, they keep the environment healthy by eating sick and weak animals and maintaining the balance of lower level predators. Having no sharks and rays in the ocean is like the savanna without lions, the ecosystem will be out of control.
- All shark and ray species are a source of attraction in the dive tourism industry. For instance, species such as whale sharks, manta rays and mobula rays are a favourite of many divers.

Sharks and rays have been around for up to 400 million years and this makes them one of the oldest living species on the planet. However, due to low reproduction rates and increased threats such as overfishing, their populations have continued to decline over time.



Sharks and rays are top predators in a marine food web (they eat a lot of other creatures while have few or no predators)

400 million years
The number of years that sharks and rays have been around.

1000 There are over 1000 shark and ray species in the world

Skeleton Made of strong and flexible cartilage

Birth Some sharks lay eggs while rays and some shark species give birth to live young

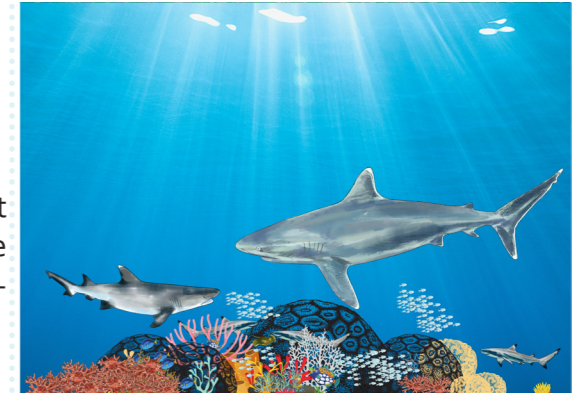
Body Both sharks' and rays' bodies are covered in tooth-like denticles

Sharks and rays habitats

Sharks and rays inhabit the following habitats: coral reefs, intertidal zones of mangrove forests, seagrass meadows, estuaries and the open ocean.

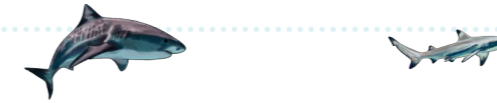
Coral reefs

Coral reefs are widely distributed along the East African coast except where large river inlets are getting into the ocean where reefs break. Sharks and rays such as Blacktip reef sharks, Whitetip reef sharks, Grey reef sharks, Blue-spotted ribbon tail stingrays can be found in coral reefs.



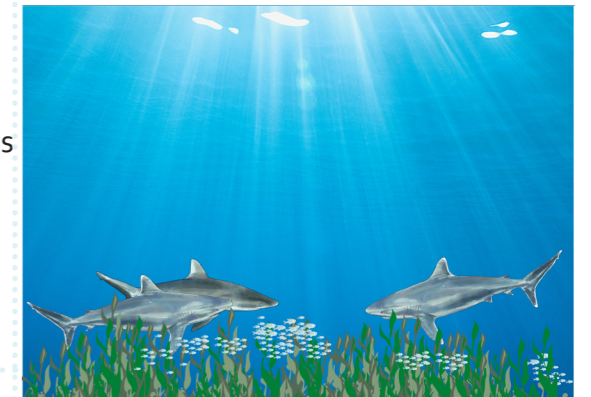
Mangrove forests

Mangroves are found along the intertidal zone in several areas along the East African coast. Some shark and ray species such as Bull sharks, Blacktip reef sharks and some stingrays use mangrove habitat as nurseries and feeding grounds.



Seagrass meadows

Seagrass meadows are common habitats along the East African coast and some sharks and rays utilize seagrass as foraging habitats.



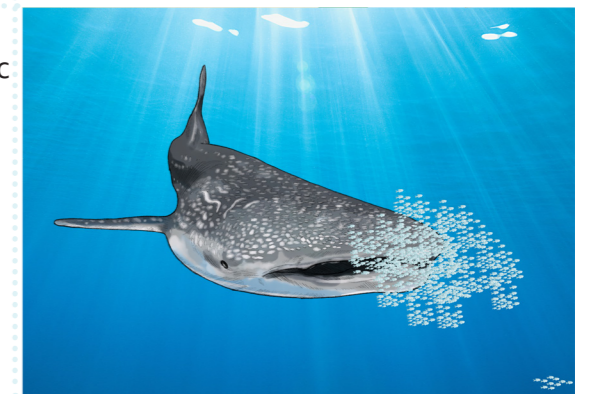
Estuaries

Estuaries are brackish water habitats formed where rivers connect to the ocean. Sharks and rays including the rare sawfish inhabit these habitats. The rare Giant guitarfish can also be found in these waters.



Open ocean

Pelagic sharks such as the Scalloped hammerhead, Oceanic whitetip and Mako sharks are found in the open ocean.



Demystifying beliefs about sharks and rays

Contrary to popular belief, sharks are not man-eating animals as shown in various movies or as told in many stories. In fact, most species are harmless if not provoked.

Most shark and ray species are shy and not dangerous to humans. However, one should always be aware of the potential defensive behaviour of animals due to factors such as presence of food, mating and guarding their territory.

Sharks are carnivorous and they feed on fish, crustaceans (shellfish such as crabs and lobsters), molluscs (octopus and squid) and other invertebrates. Some large sharks such as the whale sharks, and rays such as the manta rays are filter feeders that feed on floating organisms on the surface of the ocean.

Threat status of sharks and rays

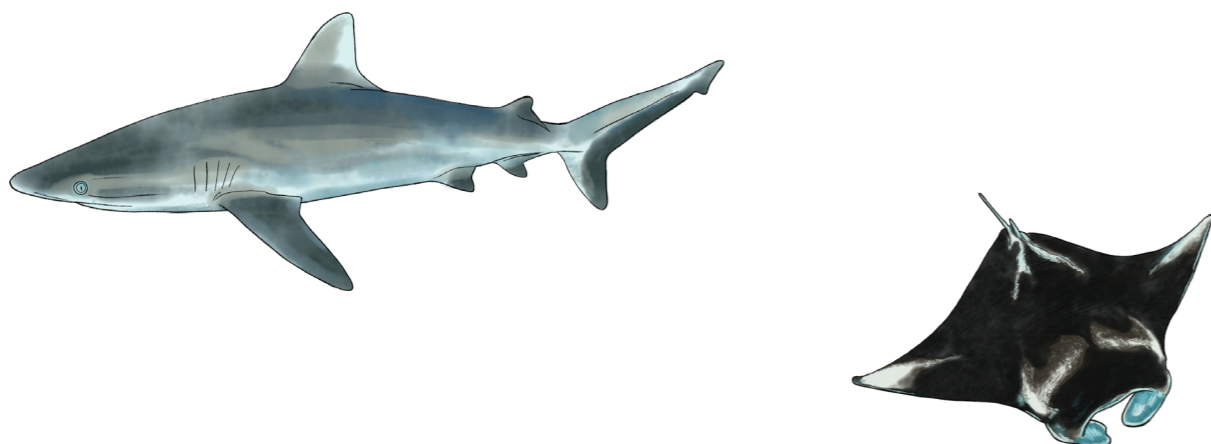
Many shark and ray species continue to be threatened. The various threat status categories ranging from extinct (EX) to least concern (LC) are informed by species assessment studies. The 13 common species along the East African coast are affected differently with the majority of these sharks and rays being vulnerable.

Some of the activities that threaten the survival of sharks and rays include destructive fishing, shark finning, habitat destruction and pollution. Specifically, the critically endangered Scalloped hammerhead sharks and the Giant guitarfish are commonly fished for their meat and fins.

The Whale shark that is endangered is commonly exploited for its liver oil that is often used in traditional boat building. In some cases, these giant but gentle fish have been trapped to allow snorkellers to swim next to them.

The other common sharks and rays are mostly fished for meat or caught as incidental bycatch in large nets. Climate change also continues to affect these sharks and rays as oceanic water turns acidic or habitats are destroyed due to climate change or coastal development.

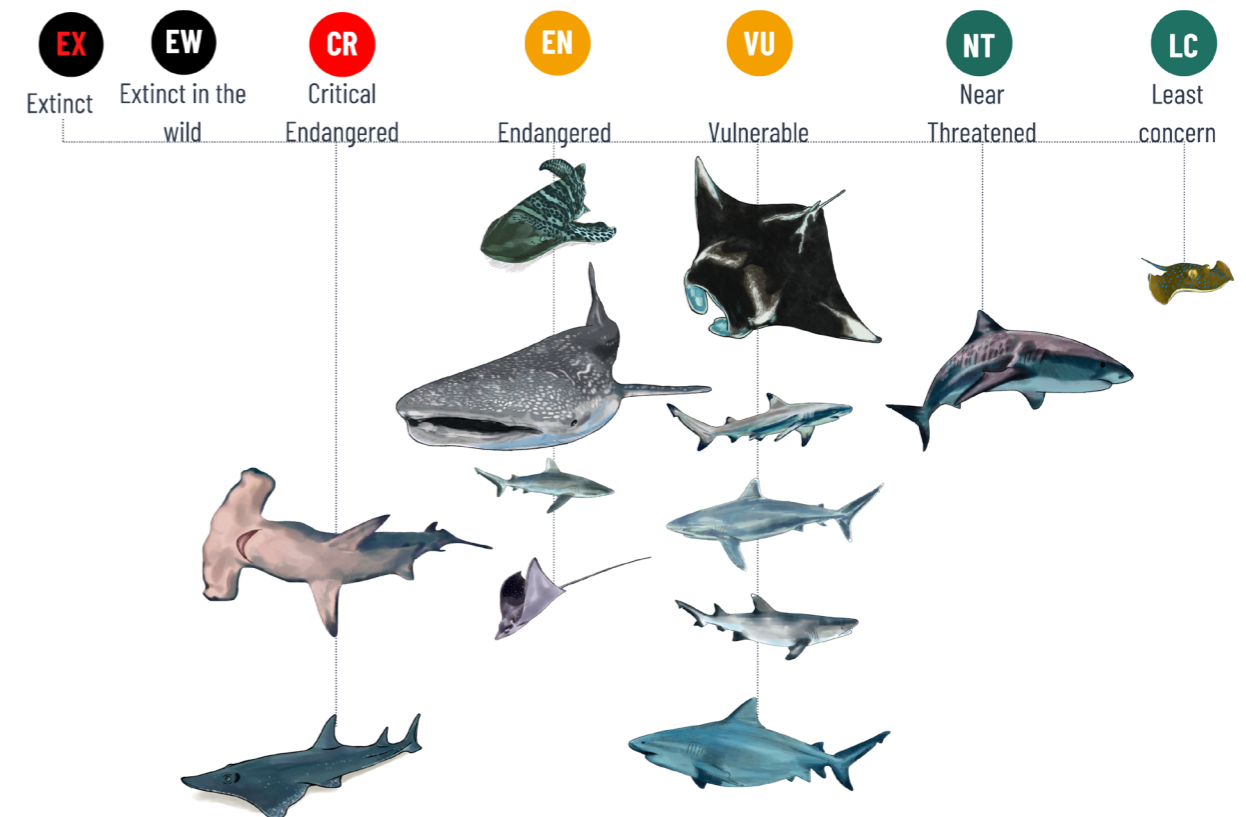
We can conclusively say that the majority of the sharks and rays are under threat due to threats that are related to human activities. It is therefore our responsibility to raise awareness on the need to protect shark and ray species.



Common sharks and rays species in East Africa

There are about 120 sharks and 69 ray species recorded in East Africa. However, only a few of these are commonly sighted by divers or caught by fishers. In this guide, the 13 common species are illustrated including information such as the local and scientific name, the maximum length the shark can grow to and their associated habitat and behavior.

IUCN species threat categories




Blacktip reef shark

Local name: *Pezi weusi* | Scientific name: *Carcharhinus melanopterus*

Max length: 180cm
Associated habitat: coastal and reef

Blacktip reef sharks feed on small fish, cephalopods (octopus, squid) and crustaceans (crabs and other shellfish). These species are important in the diving industry.

VU

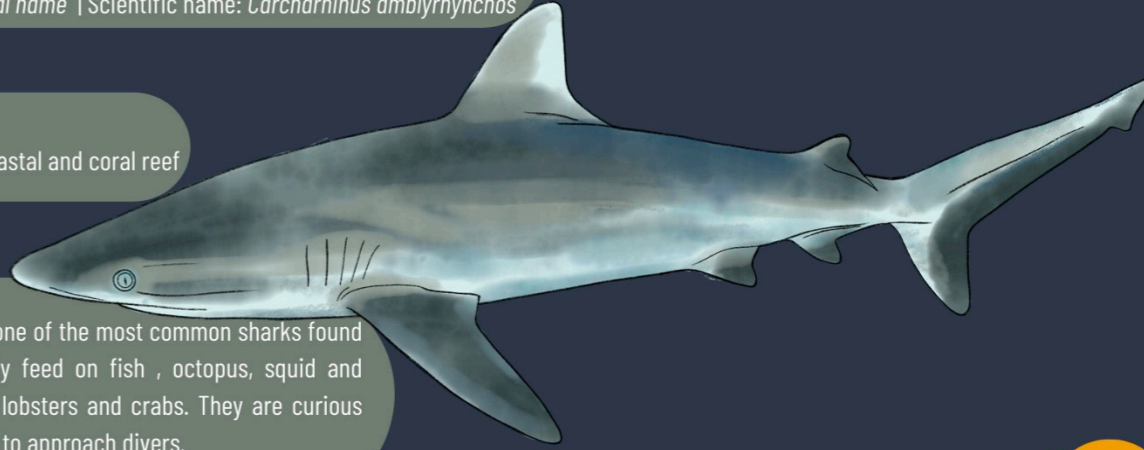


Scalloped hammerhead shark
Local name: *Papa mbingusi* | Scientific name: *Sphyrna lewini*

Max length: 400cm
Associated habitat: coastal and open ocean

The Scalloped hammerhead sharks feed on fish and cephalopods (octopus and squid).

CR

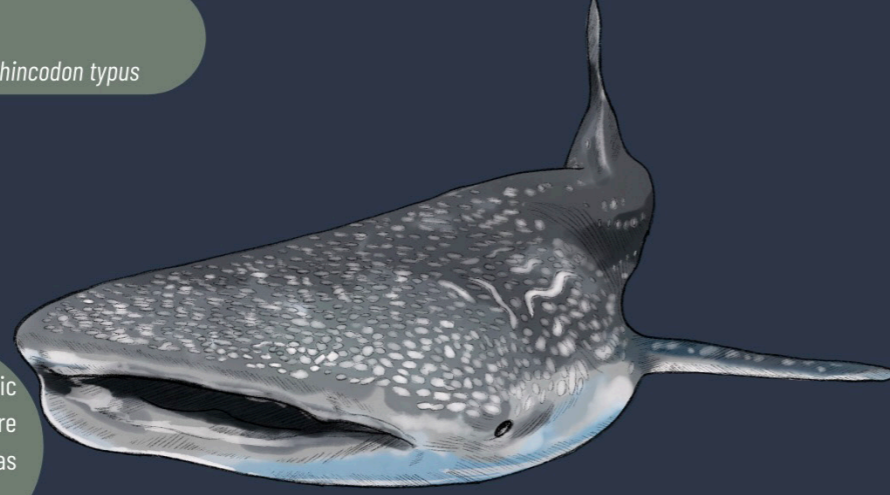


Grey reef shark
Local name: *no local name* | Scientific name: *Carcharhinus amblyrhynchos*

Max length: 255cm
Associated habitat: coastal and coral reef

Grey reef sharks are one of the most common sharks found on reefs. They mainly feed on fish, octopus, squid and crustaceans such as lobsters and crabs. They are curious and have been known to approach divers.

EN

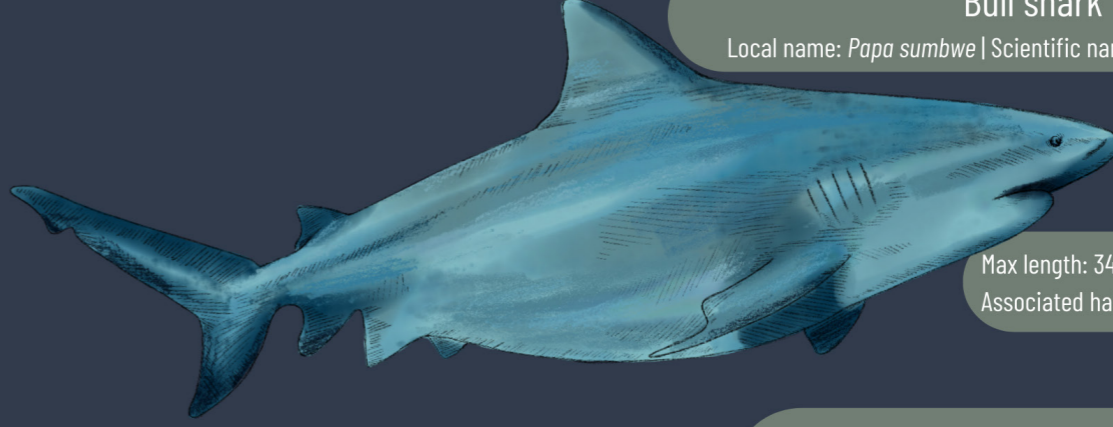


Whale shark
Local name: *Papa shilingi* | Scientific name: *Rhincodon typus*

Max length: 1200cm
Associated habitat: open ocean and inshore coral reefs

Whale sharks feed on plankton, planktonic crustaceans, and tiny fishes. Whale sharks are popular with ecotourism activities such as snorkeling.

EN

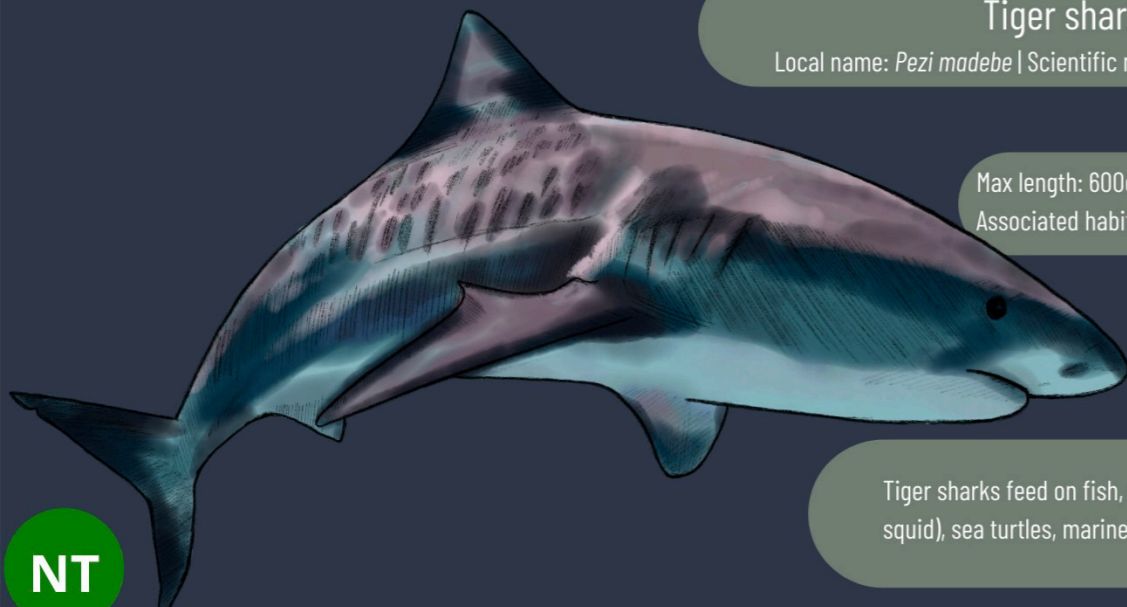


Bull shark
Local name: *Papa sumbwe* | Scientific name: *Carcharhinus leucas*

Max length: 340cm
Associated habitat: coastal and riverine

Bull sharks diet consists of bony fishes, other sharks (elasmobranchs), octopus and squid (cephalopods) and marine mammals. They are also known to be territorial.

VU




Tiger shark
Local name: *Pezi madebe* | Scientific name: *Galeocerdo cuvier*

Max length: 600cm
Associated habitat: coastal and open ocean

Tiger sharks feed on fish, cephalopods (octopus and squid), sea turtles, marine mammals and sea birds.

NT



Silvertip reef shark
Local name: *Marimbe* | Scientific name: *Carcharhinus albimarginatus*

Max length: 300cm
Associated habitat: coastal and reef

Silvertip reef sharks feed on bony fishes, small sharks, octopus and squid.

VU

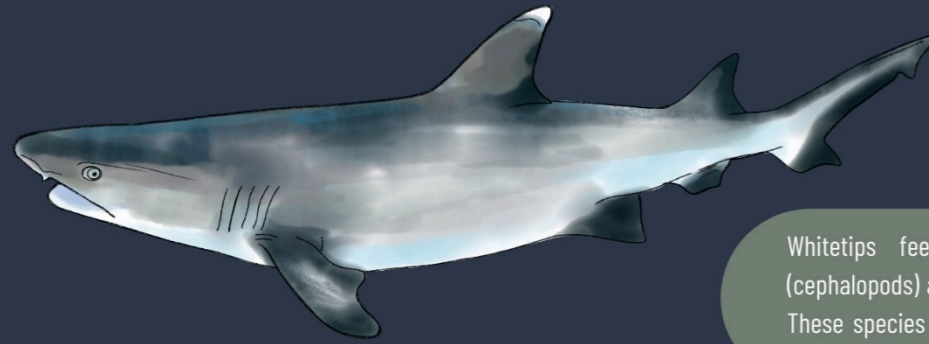
Whitetip reef shark

Local name: *Papa siruanzi* | Scientific name: *Triaenodon obesus*

Max length: 160cm
Associated habitat: coastal and coral reefs

Whitetips feed on small fish, octopus and squid (cephalopods) and crustaceans such as crabs and lobsters. These species are quite curious and have been known to approach divers and spear diving fishers.

VU



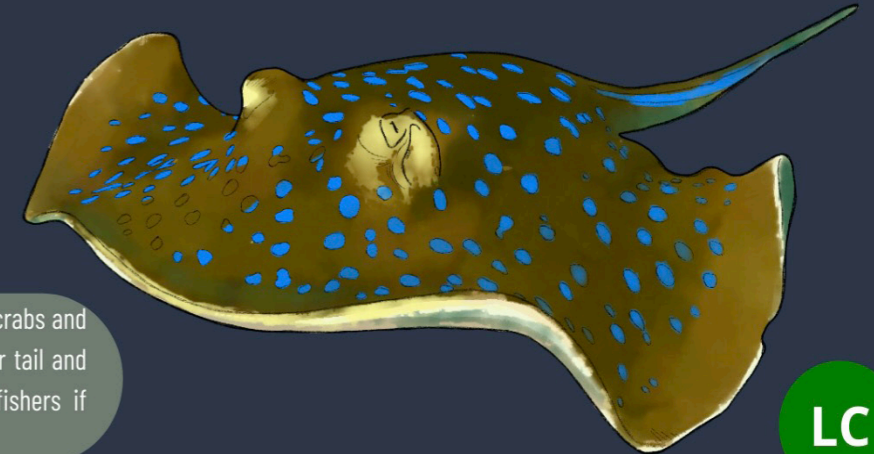
Bluespotted ribbontail stingray

Local name: *Nyenga* | Scientific name: *Taeniura lymma*

Max length: 70cm
Associated habitat: shallow sandy habitats and seagrass patches

Bluespotted ribbontail stingrays feed on shrimps, crabs and molluscs. They possess a venomous sting on their tail and can inflict a painful wound to swimmers and fishers if stepped on.

LC



Zebra/ Leopard shark

Local name: *Papa chindi* | Scientific name: *Stegostoma tigrinum*

Max length: 235cm
Associated habitat: sandy bottoms and outer reef slopes.

Leopard sharks feed on molluscs, crustaceans and bony fishes.

EN



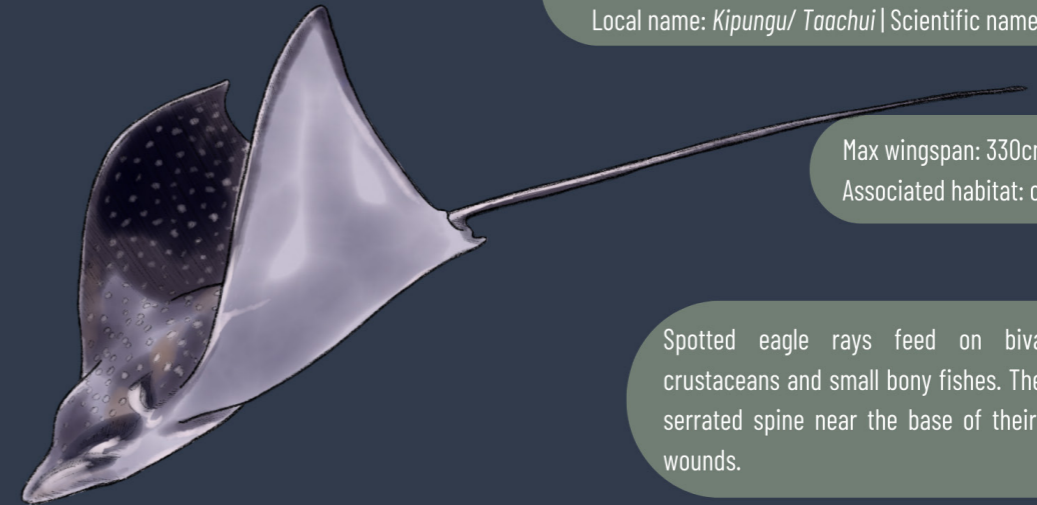
Spotted Eagle ray

Local name: *Kipungu/ Taachui* | Scientific name: *Aetobatus narinari*

Max wingspan: 330cm
Associated habitat: coastal and reefs

Spotted eagle rays feed on bivalves, cephalopods, crustaceans and small bony fishes. They have a venomous, serrated spine near the base of their tail that can inflict wounds.

EN



Giant Guitarfish

Local name: *Papa charawanza* | Scientific name: *Rhynchobatus djiddensis*

Max length: 300cm
Associated habitat: coastal and sandy shallow areas

The Giant guitarfish feeds on bony fishes, molluscs and crustaceans (crab, lobsters).

CR



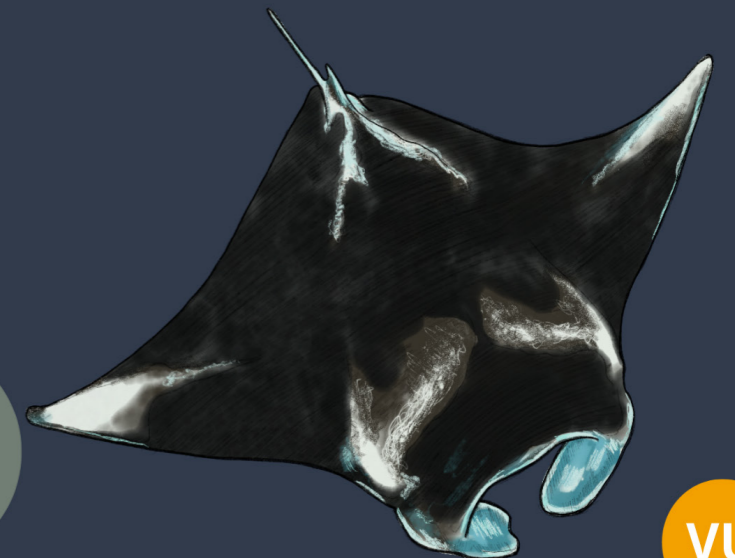
Reef manta ray

Local name: *Taachui* | Scientific name: *Manta alfredi*

Max wingspan: 500cm
Associated habitat: inshore and around coral reefs

The Reef manta rays feed on pelagic (open ocean) zooplankton and small pelagic fishes. They are important to the dive industry.

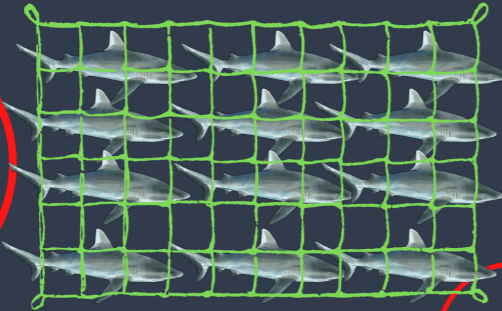
VU



THREATS TO SHARKS AND RAYS

The main threats to sharks and rays include overfishing, bycatch and destructive fishing gears and practices, shark finning, pollution, habitat degradation and climate change

Destructive fishing gears



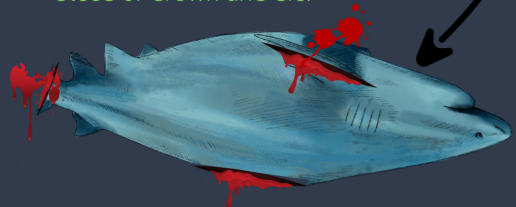
Sharks and rays get easily entangled in fishing nets with very small and large mesh size.

Overfishing

Sharks and rays are exploited for meat, skin and captured live for aquariums. This leads to a reduction in the number of shark and ray populations.

This is the brutal practice of hunting sharks for their fins. The fins are cut off and the sharks discarded into the ocean alive where they bleed or drown and die.

Shark finning



Pollution from solid waste, sewage discharge, plastics and chemicals are threatening sharks and rays

Pollution



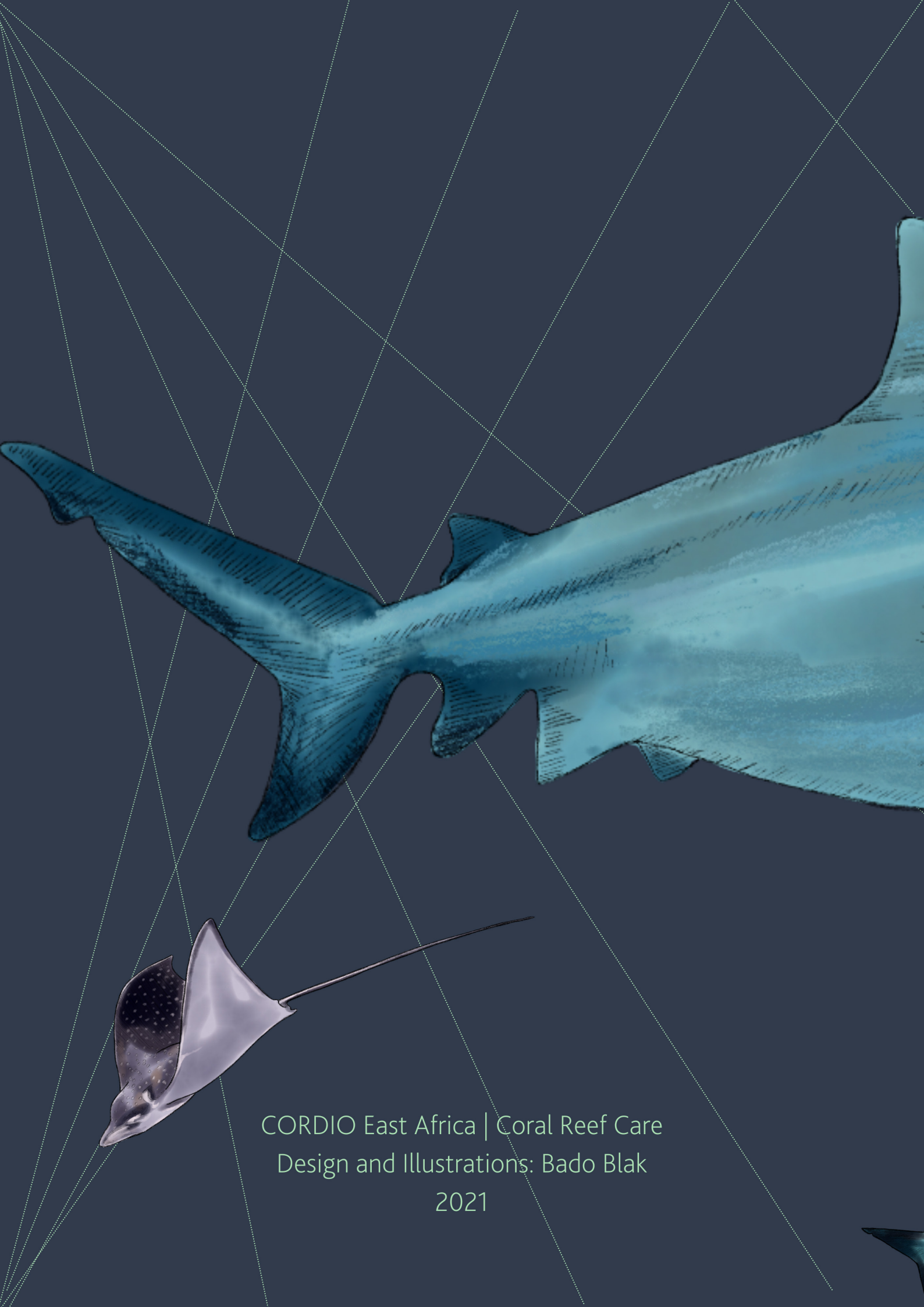
Coastal development and climate change are causing a widespread degradation of shark and ray habitats, specifically coral reefs and mangrove forests.

Habitat degradation



References

Jeremy Kiszka, Jean-Pascal Oud & Per Berggren. 2016. Sharks and Rays: A Field Guide to the Common Elasmobranchs of East Africa. WIOMSA. Zanzibar, Tanzania.



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