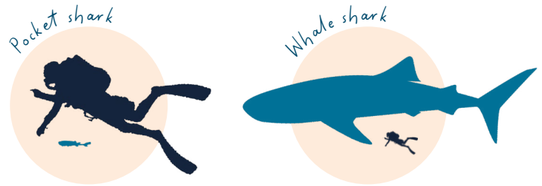
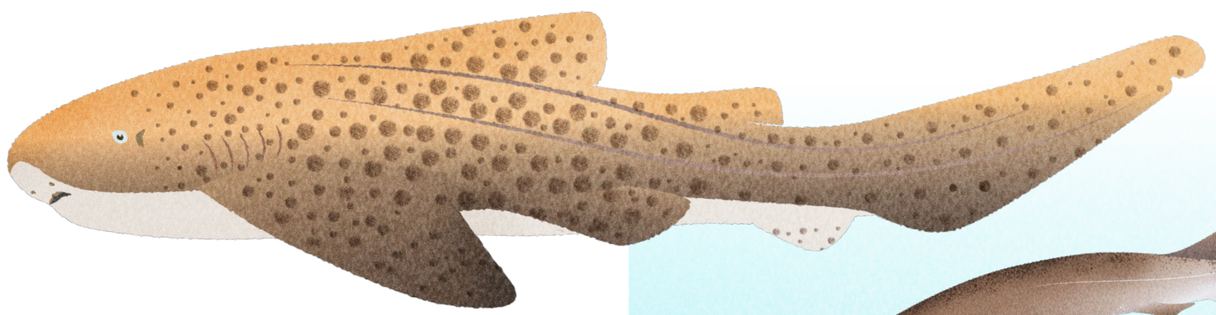
Sharks are older than trees and the rings of Saturn!

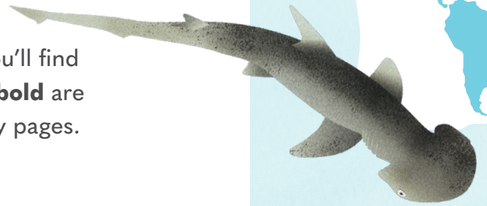
Some fit in your hand while others are the size of a bus.



They come in pink, blue and even squirt luminous fluid at will! With more than 500 species, sharks fill a variety of ecosystem roles. They transport vital nutrients by eating in one area and pooping in another. As well as actively hunting prey, they keep populations healthy by eating the sick and the old. Just by being there, large sharks alter behaviour, creating a 'landscape of fear' which indirectly maintains coral reef and seagrass habitats. Sharks even help with climate change! By discouraging animals from overgrazing seagrass beds, seagrass can regenerate and function as carbon sinks. Sharks are ~15% carbon and at the end of their lives they sink, sequestering that carbon in the sea floor. Sharks need our help – but we need them too. We need a healthy ocean, and a healthy ocean needs sharks.

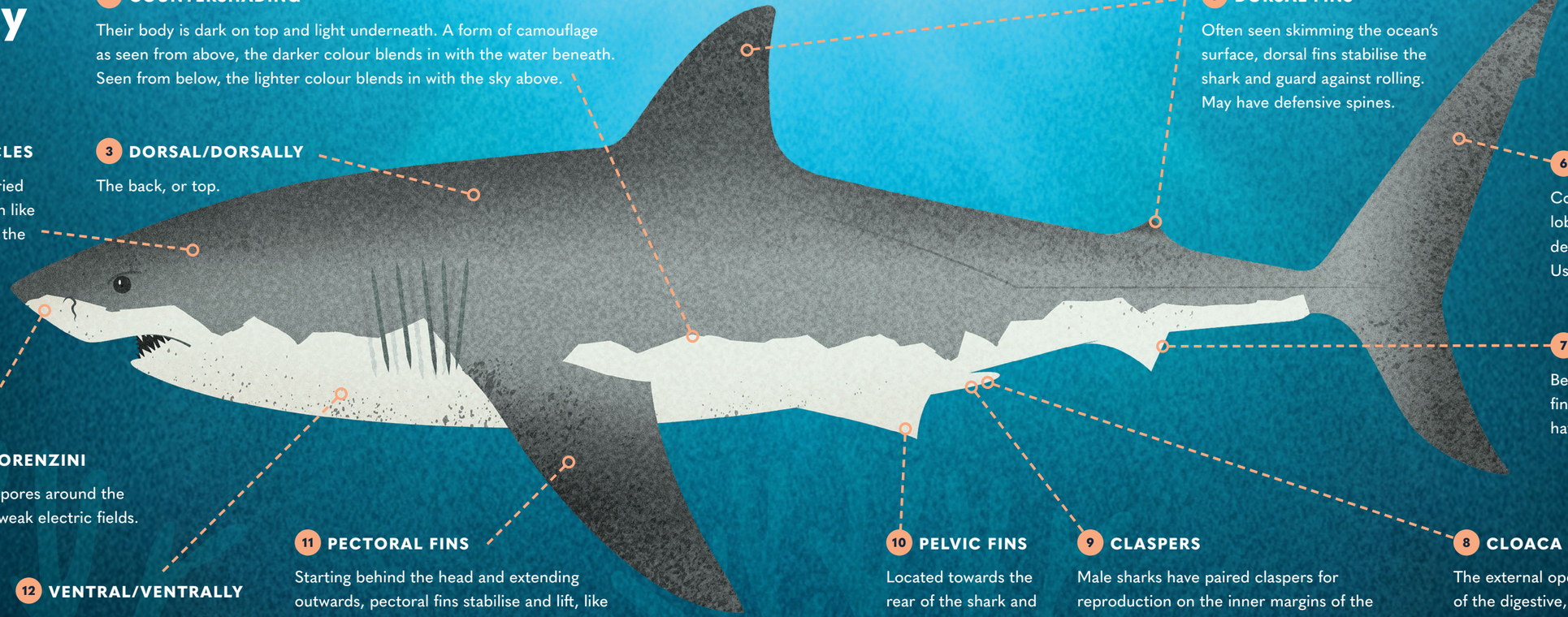
As you discover each new shark, you'll find definitions of words that appear in **bold** are defined in the glossary and anatomy pages.





The light shading on maps shows areas where a species is resident, and the darker shading shows where a species is possibly resident.

Anatomy



1 AMPULLAE OF LORENZINI

Small, sensitive gel-filled pores around the shark's head that detect weak electric fields.

2 DERMAL DENTICLES

Tiny tooth-like scales buried in the skin that feel rough like sandpaper. They protect the shark and make them so streamlined that swimsuits for Olympians are made from fabric that mimics these 'skin teeth'.

3 DORSAL/DORSALLY

The back, or top.

4 COUNTERSHADING

Their body is dark on top and light underneath. A form of camouflage as seen from above, the darker colour blends in with the water beneath. Seen from below, the lighter colour blends in with the sky above.

5 DORSAL FINS

Often seen skimming the ocean's surface, dorsal fins stabilise the shark and guard against rolling. May have defensive spines.

6 CAUDAL OR TAIL FINS

Consist of an upper and lower lobe of various sizes and shapes depending on the species. Usually provide propulsion.

7 ANAL FINS

Between the pelvic and caudal fins for stability. Not all sharks have them.

8 CLOACA

The external opening of the digestive, urinary and genital tract.

9 CLASPERS

Male sharks have paired claspers for reproduction on the inner margins of the pelvic fins. Female sharks do not have claspers.

10 PELVIC FINS

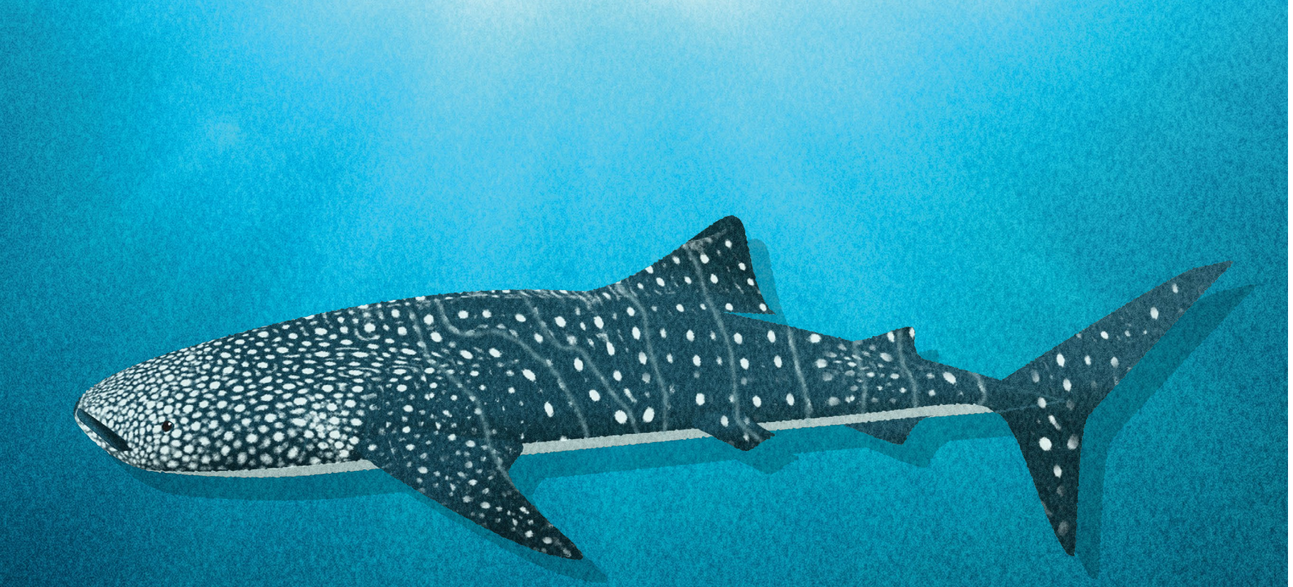
Located towards the rear of the shark and are used to stabilise.

11 PECTORAL FINS

Starting behind the head and extending outwards, pectoral fins stabilise and lift, like aeroplane wings. Larger in pelagic sharks.

12 VENTRAL/VENTRALLY

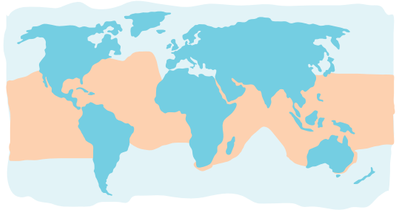
The belly, or underneath.



WHALE SHARK

RHINCODON TYPUS

HABITAT



Whale sharks are found alone, or in groups called aggregations of over 100 sharks. They are highly migratory, crossing oceans to return to the same sites every year.

DIET

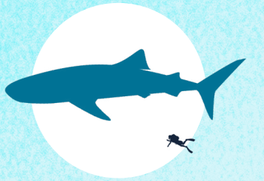
Whale sharks are often vertical, their heads at or near the surface, feeding on tiny planktonic and nektonic species, such as anchovies, tuna, squid and crustaceans. When feeding, they turn their head from side to side and gape up to 28 times a minute to suck in all the tiny animals.

BIOLOGY

- These gentle giants are not only the world's largest sharks, but the largest living fish on the planet.
- The unique spots and stripes on their skin are like our fingerprints. Computer software that was designed to map the stars is used to identify individual whale sharks from their unique pattern.
- Whale sharks give birth to up to 300 fully developed live pups about 40 cm (16 in) long.

CONSERVATION STATUS

Endangered

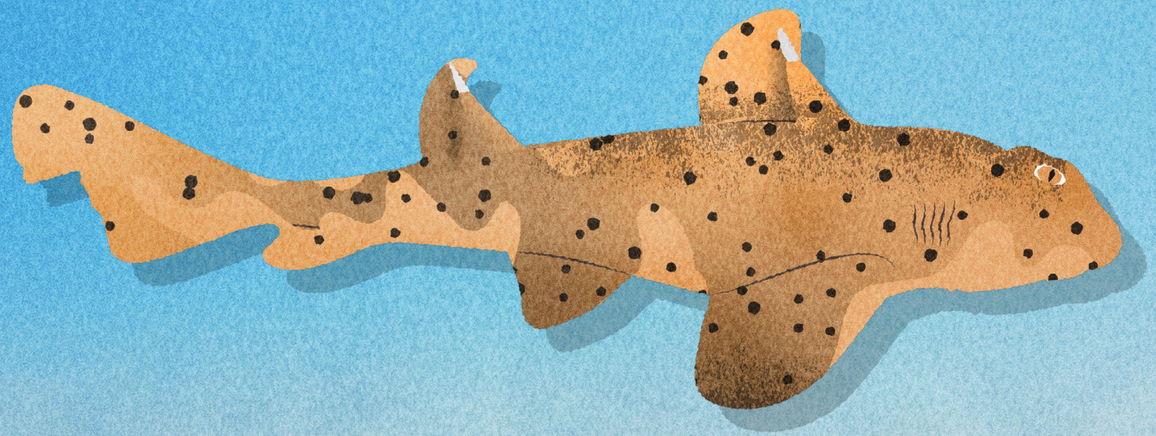


MAXIMUM SIZE

20 m (66 ft)

FIN FACT

They can retract their tiny teeth-covered eyeballs into their eye sockets for protection!



HORN SHARK

HETERODONTUS FRANCISCI

HABITAT

Horn sharks are found in eastern Pacific Ocean waters over 21°C (70°F) of the US and Mexican coasts, and possibly Ecuador and Peru. Adolescents live in deeper water, while juveniles live on the sandy bottom and use feeding pits made by rays for shelter. Adults inhabit rocky reefs with crevices and caves, or algae cover.

DIET

Horn sharks eat crabs, fish and sea urchins – adults often eat enough sea urchin to turn their teeth purple!

BIOLOGY

- Horn sharks are named after the sharp spines that are present in front of both **dorsal fins**.
- Slow and sporadic swimmers, they blend in with the greens and browns of their habitat. These small, elusive sharks hunt at night and by day, hide in caves, under ledges or among kelp.
- Horn sharks divide themselves into different areas according to size and maturity, to prevent competition. Adults that live on reefs have shorter fin spines than those living in algae, as their spines get worn down by going in and out of caves.

CONSERVATION STATUS

Least Concern

MAXIMUM SIZE

1.2 m (4 ft)

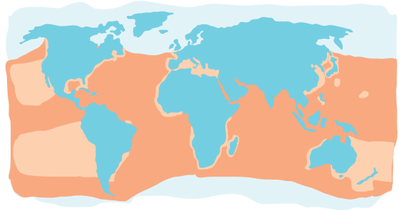
FIN FACT

Returns to the same resting place at dawn and stays there until evening.

GREAT WHITE SHARK

CARCHARODON CARCHARIAS

HABITAT



Great white sharks live in waters that are between 12°C and 24°C (54–75°F) and less than 205 m (670 ft) deep, both along the coast and in the open ocean. They can dive to depths of 1,200 m (3,900 ft). They usually travel alone or in pairs, rather than in a school, but may feed in groups of 10 or more.

DIET

Young great white sharks feed on fish, squid and stingrays. Adults feast on large fish, other sharks, sea turtles and marine mammals.

BIOLOGY

- Great white sharks are large and torpedo-shaped with a pointed snout and large fins. Like most sharks, they have **countershading** – dark grey or bronze on top and white underneath.
- These sharks are **ovoviviparous** – they give birth to 2 to 17 fully developed pups that hatch from eggs inside the mother's body.
- Great white sharks can live for up to 73 years. Females mature at 33 years of age.

CONSERVATION STATUS

Vulnerable

MAXIMUM SIZE

6.4 m (21 ft)

FIN FACT

Keeps its body temperature warmer than the water it is swimming in.

COOKIECUTTER SHARK

ISISTIUS BRASILIENSIS

HABITAT

These deep-sea sharks are found in tropical and temperate oceans. They live in schools from the surface down to 3,700 m (12,100 ft) spending their days in the depths and coming up to the surface waters at night.

DIET

They feed on squid, fish and marine mammals that are much larger than they are. They attach to prey using a specialised jaw to form a vacuum, then spin their body to cut out a plug of flesh, swallowing the meal before detaching.

BIOLOGY

- Cookiecutter sharks are small and cigar-shaped, with a dark band around their gills like a necklace. They are dark brown on top, but have photophores that give their lighter underside a greenish glow.
- They are **ovoviviparous** – giving birth to 6 to 12 fully developed pups that hatch from eggs inside the mother's body.
- They shed all their teeth at once and eat the bottom ones. The upper teeth are small and slender, like thorns, and the lower teeth are large and flat, like triangles.

CONSERVATION STATUS

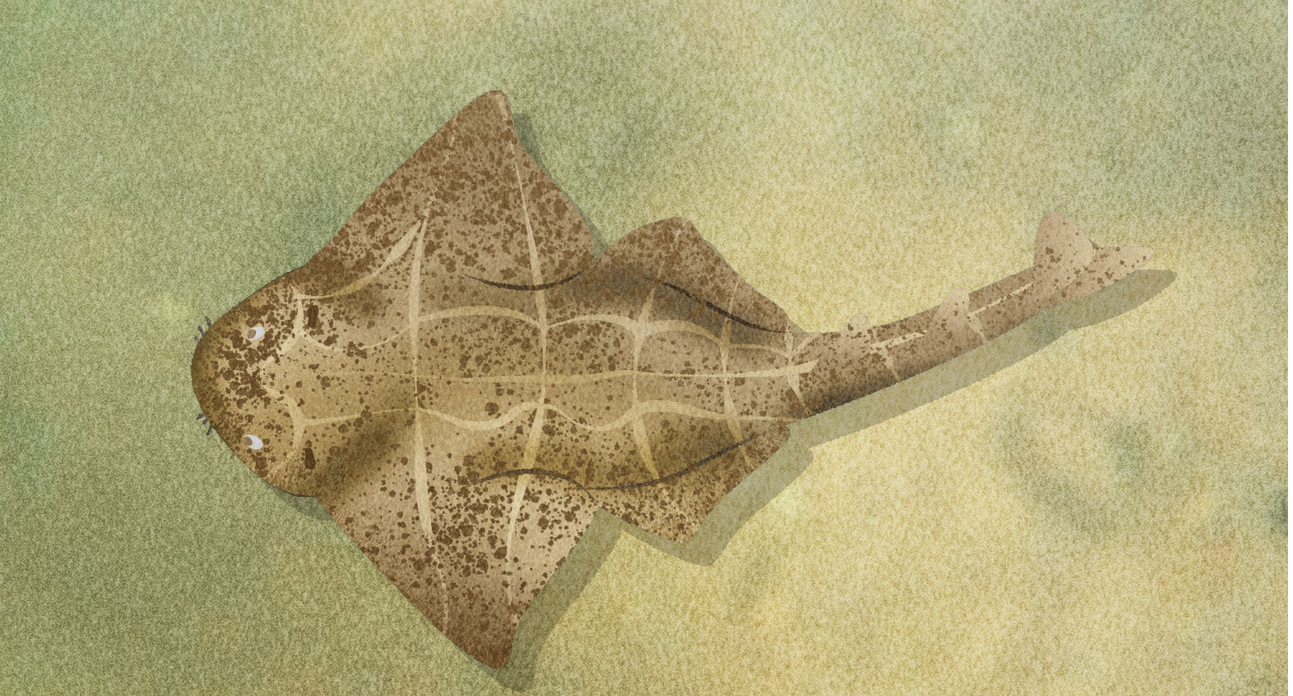
Least Concern

MAXIMUM SIZE

56 cm (22 in)

FIN FACT

The common name comes from the circular cookie-shaped wounds it leaves on its prey.



ANGELSHARK

SQUATINA SQUATINA

HABITAT

Angelsharks live on or near the sea floor in temperate waters 1–150 m (3–490 ft) deep. They are found in the north-eastern Atlantic Ocean, the Mediterranean Sea and the Black Sea.

DIET

Their diet consists of flatfish and other bottom-dwelling fish, but they will also eat skates, crustaceans, molluscs and even cormorants (a seabird).

BIOLOGY

- There are at least 23 species of angelsharks in the Squatinidae family. All have a flat body with long **pelvic** and **pectoral fins**. The skin has flecks of black, brown, grey, green and white.
- Their body shape and colour patterns provide camouflage when they lie buried in the sandy sea floor, perfectly still, with just their eyes exposed. Their **spiracles** act like a snorkel sticking out of the sand to deliver oxygen straight to the brain, allowing them to breathe while under the sand. Angelsharks are nocturnal ambush predators. They can lie in wait for days, then strike passing prey within one-tenth of a second.

CONSERVATION STATUS

Critically Endangered

MAXIMUM SIZE

2.4 m (8 ft)

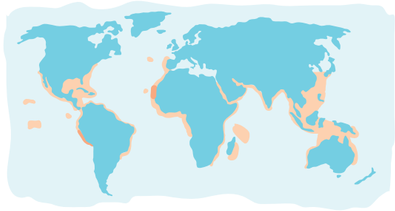
FIN FACT

The common name comes from the angel's-wing shape of its fins.

SCALLOPED HAMMERHEAD SHARK

SPHYRNA LEWINI

HABITAT



These sharks are coastal and semi-oceanic, living in warm, tropical and temperate waters. Although they are mostly found in the top 25 m (82 ft) of the ocean, they can dive to 1,000 m (3,280 ft).

DIET

They have relatively small mouths despite their large heads, which are equipped with sensitive **ampullae of Lorenzini**, to help them find prey buried in the sand. They mainly eat bony fish, smaller sharks and rays, squid, octopus and crustaceans.

BIOLOGY

- Scalloped hammerhead sharks have a cephalofoil – a wide head shaped like a double-ended hammer, with eyes on each end. Their arched head has an indentation front and centre, with two more either side of the main one that give them a scalloped appearance.
- Females mature at 13 years of age and can live for 35 years.
- Juveniles are found in large schools, while adults travel alone, in pairs or in schools. Scalloped hammerheads are both residents and travellers – some live permanently in one area, while other, smaller individuals form huge schools and migrate towards the poles in summer.

CONSERVATION STATUS

Critically Endangered

MAXIMUM SIZE

4.3 m (14 ft)

FIN FACT

When diving deep into cold waters, they hold their breath to keep themselves warm!