

PRESENTS

BULL SHARK

Carcharhinus leucas

The bull shark is a cartilaginous fish belonging to the Class Chondrichthyes. It is one of the few elasmobranchs able to move between marine and freshwater due to osmoregulation. Though they have a reputation of being aggressive, bull sharks are popular in recreational and scientific diving and serves as a conservation flagship species.

TAXONOMY

Kingdom: Animalia
Phylum: Chordata
Class: Chondrichthyes
Order: Carcharhiniforme
Family: Carcharhinidae
Genus: *Carcharhinus*
Species: *C. leucas*



Fun fact: This species is euryhaline, which means they can survive in both fresh and marine waters.

Distribution: Tropical and subtropical oceans worldwide.

Diet: Opportunistic carnivore; bony fish, invertebrates, other elasmobranchs, birds, sea turtles, dolphins, terrestrial mammals. Cannibalism in juveniles has been reported.

Predators: Larger sharks (e.g., great white), crocodiles, humans.

Reproduction: Placental viviparous (develops in utero); females give birth in coastal lagoons and there is no parental care.

CONSERVATION TIMELINE

1948: Mexico Fisheries Law grants exclusive rights (excluding sharks) to cooperatives.

1950: The National Fisheries Registry, which ratified the species for the exclusive use of cooperatives, is included in the Fisheries Law.

1995: FAO published the International Plan of Action for the Conservation and Management of Sharks.

1999: FAO International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks).

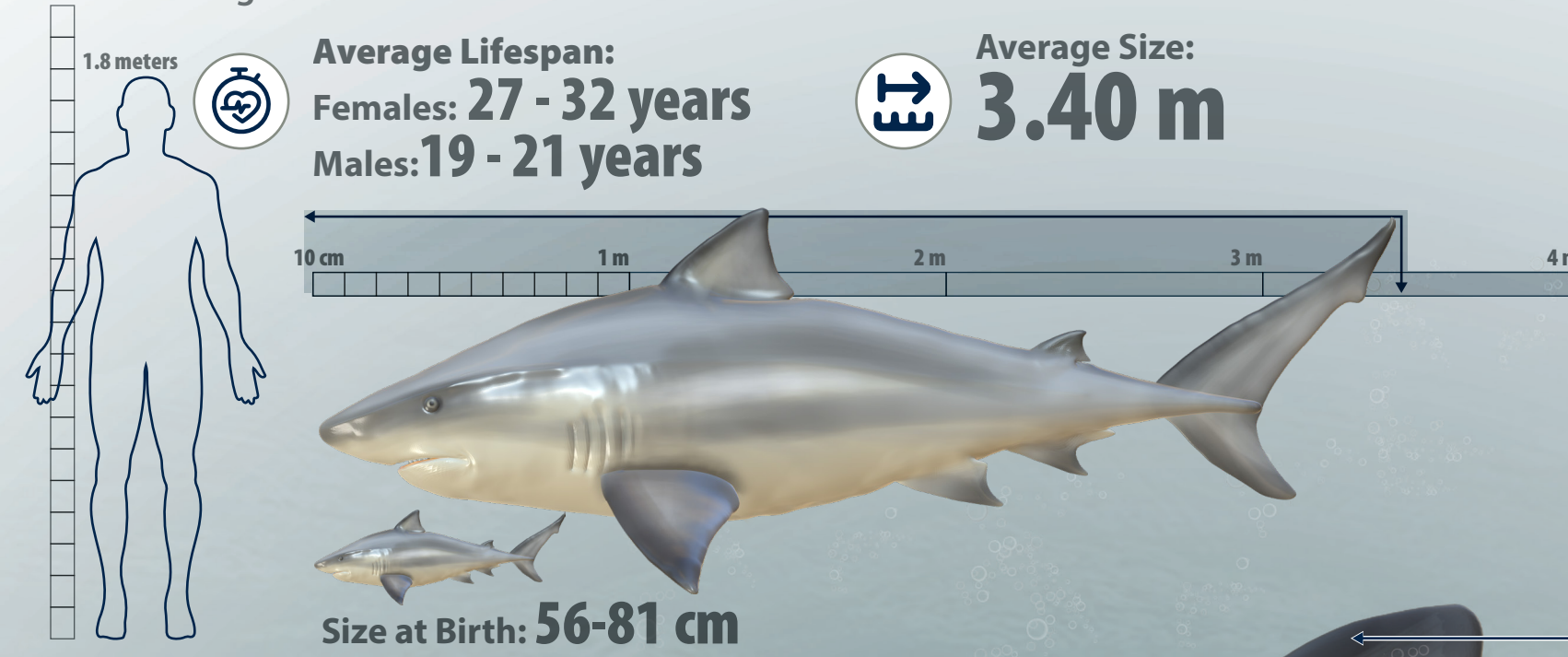
2004: Mexico's INAPESCA publishes National Plan of Action for Sharks and Rays.

2007: The NOM-029-PESC-2006 established the guideline for responsible shark and ray fishing.

2013: Mexico updates the NOM-017-PESC-1994 regulating sport fishing in federal waters.

ANATOMY

Bull sharks have large, robust bodies; females tend to be larger than males.



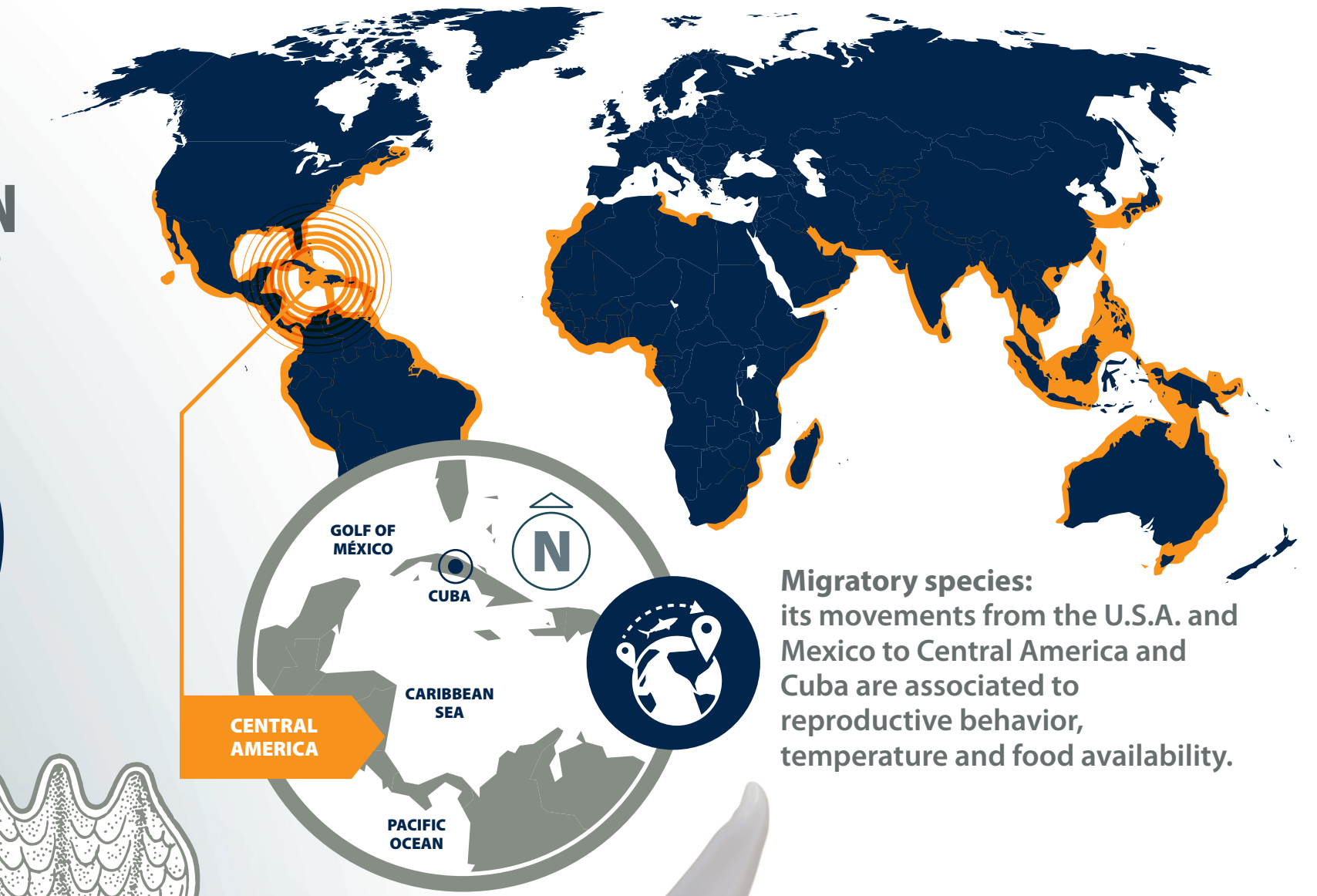
Average weight:
Adult: up to 230 kg

Maximum size:
females: 3.24 m
males: 2.99 m

Sexual Maturity:
Females: 1.80 – 2.30 m (>18 years)
Males: 1.57 a 2.26 m (14-20 years)

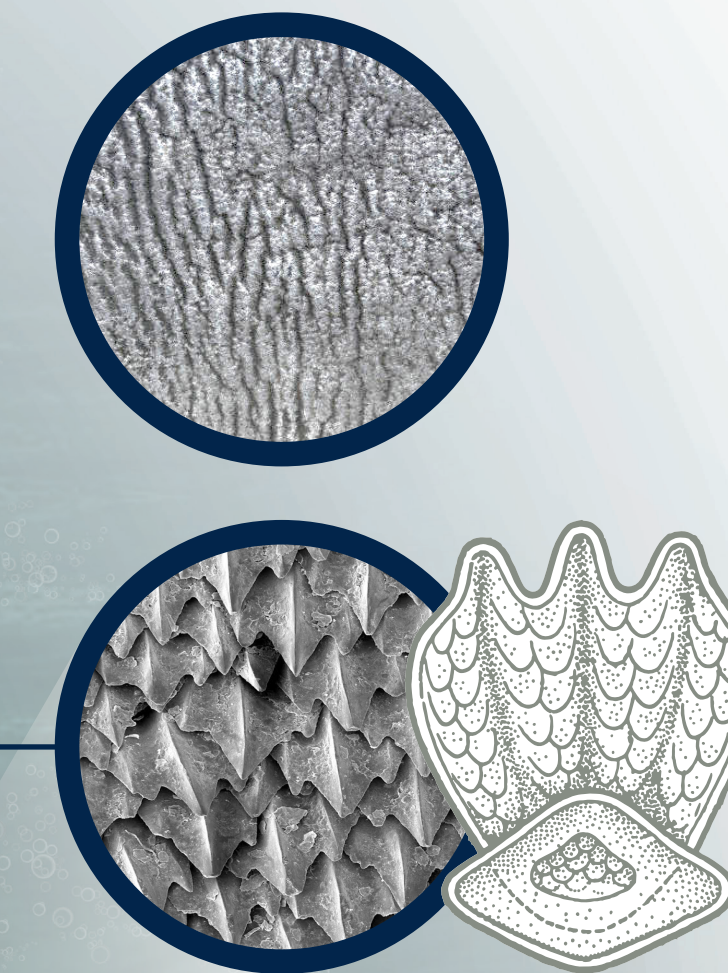
DISTRIBUTION

Its wide distribution includes all tropical and subtropical oceans worldwide. In Mexico, it can be found from Baja California to Chiapas on the Pacific, including the Gulf of California, as well as the Caribbean.



COLOR PATTERN

Gray dorsally with a white underside.



Fins:
Fin appendage dark, inconspicuous

First dorsal fin is large and triangular

Body is large and robust

Skin covered with placoid scales

Stomach
Liver
Kidneys
Intestines

Rectal gland, kidneys, and liver regulate salinity

Second dorsal fin is high with short rear lobe

BEHAVIOR

Solitary, generally diurnal, and non-territorial.

Prefers coastal and freshwater habitats, including shallow bays, lagoons, island passages, and surf zones.

30 to 152 m is their preferred depth.

Diving with bull sharks has become a popular ecotourism attraction worldwide.

ECOLOGICAL IMPORTANCE

Maintains trophic web stability in marine and freshwater ecosystems.

Its presence indicates ecosystem health.

FISHERIES

Shark fisheries are legal in Mexico.

Fins exported to Asia.

Meat for domestic consumption.

Teeth and vertebrae are used for crafts.

Liver oil used as a nutritional supplement.

THREATS

OVERFISHING
Capture of juveniles before reproduction.

HABITAT LOSS
Coastal urbanization and land-use changes degrade marine ecosystems.

CLIMATE CHANGE
Habitat alteration, storms, flooding.

Credit: Alejandra Apolinar Romo
México Marino is a collaboration between Fundación Coppel, Mares Mexicanos and dataMares.

SOURCES:
• DOF (2012). ACUERDO por el que se da a conocer la Actualización de la Carta Nacional Pesquera. Viernes 24 de agosto de 2012.
• Betancourt J.C.C., C.E. Ramirez & J.L. Castillo. (2013). Catálogo de aletas, tronchos y cabezas de tiburones en el Pacífico Mexicano. SAGARPA-INAPESCA. 64 p.
• Compagno L.J.V. (1984). Sharks of the World: an annotated and illustrated catalogue of shark species known to date. Part 2 - Carcharhiniformes. FAO Fisheries Synopsis (125) Vol. 4, Pt. 2:251-655.
• Reilly, B. D., et al. (2011). Branchial osmoregulation in the euryhaline bull shark, *Carcharhinus leucas*: a molecular analysis of ion transporters. *Journal of Experimental Biology*, 214(17), 2883–2895. doi:10.1242/jeb.058156
• Rigby, C.L., et al. (2021). *Carcharhinus leucas*. The IUCN Red List of Threatened Species 2021: e.13937282910670. <https://doi.org/10.2305/IUCN.UK.2021.2.RLTS.T3937282910670.en>. Revisado 28 de febrero, 2024.