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# GREAT WHITE SHARK

## *Carcharodon carcharias*

The White Shark, a legendary and efficient predator, can save energy during long migrations and is known to ambush its prey, some of which are fast and agile like sea lions. In Mexico, white shark aggregation and nursery areas are ideal for research and support local economies through cage diving.

TAXONOMY

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Subphylum:** Vertebrata  
**Class:** Chondrichthyes  
**Subclass:** Elasmobranchii  
**Order:** Lamniformes  
**Family:** Lamnidae  
**Genus:** *Carcharodon*  
**Species:** *C. carcharias*



**Conservation status:**  
• Nom 059 - A (threatened)  
• IUCN - VU (vulnerable)

**Distribution:** In almost all regions of the ocean, between 60° North and 60° South.

**Diet:** Fish, sea lions and whale carcasses.

**Sexual maturity:** 26 years for males and 32 years for females.

HUNTING SKILLS

Sharks live in a dense environment, which means even the smallest vibrations and movements can be transmitted. The White Shark has 6 senses that help it detect its prey:

**LATERAL LINE**  
Can detect vibrations caused by other species nearby.

**TASTE**  
They can distinguish between pleasant and unpleasant tastes.

**ELECTRORECEPTION**  
It can detect electric signals from prey.

**SIGHT**  
Has acute vision, but only sees in green tones.

**SMELL**  
Can detect blood from several hundred meters away

**HEARING**  
It can hear noises inaudible to humans from several kilometers away.

CONSERVATION TIMELINE

- 1998:** El Vizcaino Biosphere Reserve is established.
- 2000:** Species is added to the IUCN Red List as Vulnerable.
- 2002:** The Great White Shark is included in the NOM-059-ECOL 2001 under the Threatened category.
- 2004:** Species is added to the Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- 2005:** Guadalupe Island is declared a Biosphere Reserve on April 25.
- 2013:** SEMARNAT publishes Isla Guadalupe Biosphere Reserve's management program.
- 2014:** A permanent ban on fishing for the great White Shark in Mexico is established.
- 2018:** The Conservation Action Plan for the Great White Shark is published.

THREATS

Bycatch is the main cause of death of white sharks. However, illegal fishing continues because:

THEY ARE DISPLAYED AS TROPHIES  
ILLEGAL TRADE OF ITS PARTS

**50,000 dollars**  
The price of a complete and well-preserved great white shark jaw in the black market.

**1,000 dollars**  
The price a set of dorsal and two pectoral fins can fetch.

**SOURCES:**  
DOF. 2014. ACUERDO por el que se establece veda permanente para la pesca de tiburón blanco (*Carcharodon carcharias*) en aguas de jurisdicción Federal de los Estados Unidos Mexicanos. Enciclopedia. Tiburón blanco. *Carcharodon carcharias*. <https://enciclovida.mx/especies/28611-carcharodon-carcharias>  
Galván-Magaña, F. et al. (2019). Shark ecology, the role of the apex predator and current conservation status. *Advances in Marine Biology*, Volume 93. <https://doi.org/10.1016/j.amb.2019.08.005>  
Hoyos-Padilla, E. M. 2017. El gran tiburón blanco: protector de los océanos. Publicación especial #3, Alianza WWF-Fundación Telmex Telcel. 120 pp.  
SEMARNAT. 2018. Programa de Acción para la Conservación de la Especie Tiburón Blanco (*Carcharodon carcharias*). SEMARNAT/CONANP, México (Año de edición 2018).

**ANATOMY**  
Known for its body's hydrodynamic shape resembling a torpedo and an extendable jaw.

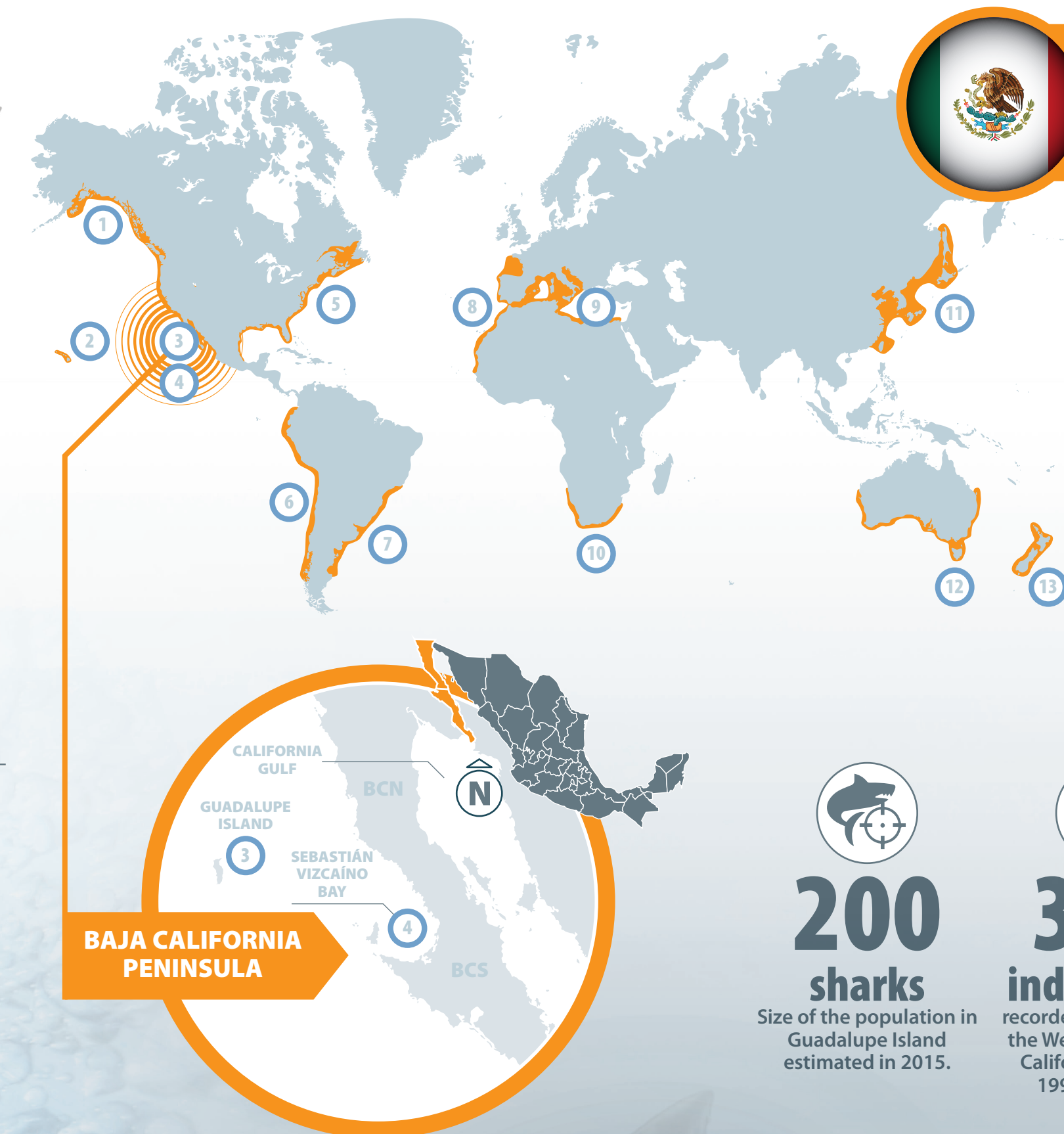
**3 - 6.5 meters**  
The maximum estimated length

**40 km/hr**  
The maximum speed estimated

**2,500 kilograms**  
The maximum estimated weight

DISTRIBUTION

Prefers temperate waters, both coastal and oceanic, and is considered an occasional visitor.



AGGREGATION AND NURSERY AREAS

- West coast of Alaska, Canada and United States.
- Hawaii, U.S.A.
- West coast of the Baja California Peninsula, Guadalupe Island and Gulf of California, Mexico.
- Sebastian Vizcaino Bay.
- East coast of Canada and United States.
- West coast of South America.
- East coast of South America.
- Northern coast of Spain and France, and Northeast coast of Africa.
- Mediterranean Sea.
- Eastern and Southern coast of South Africa.
- China, Japan and Korea.
- Southern coastline of Australia.
- New Zealand.

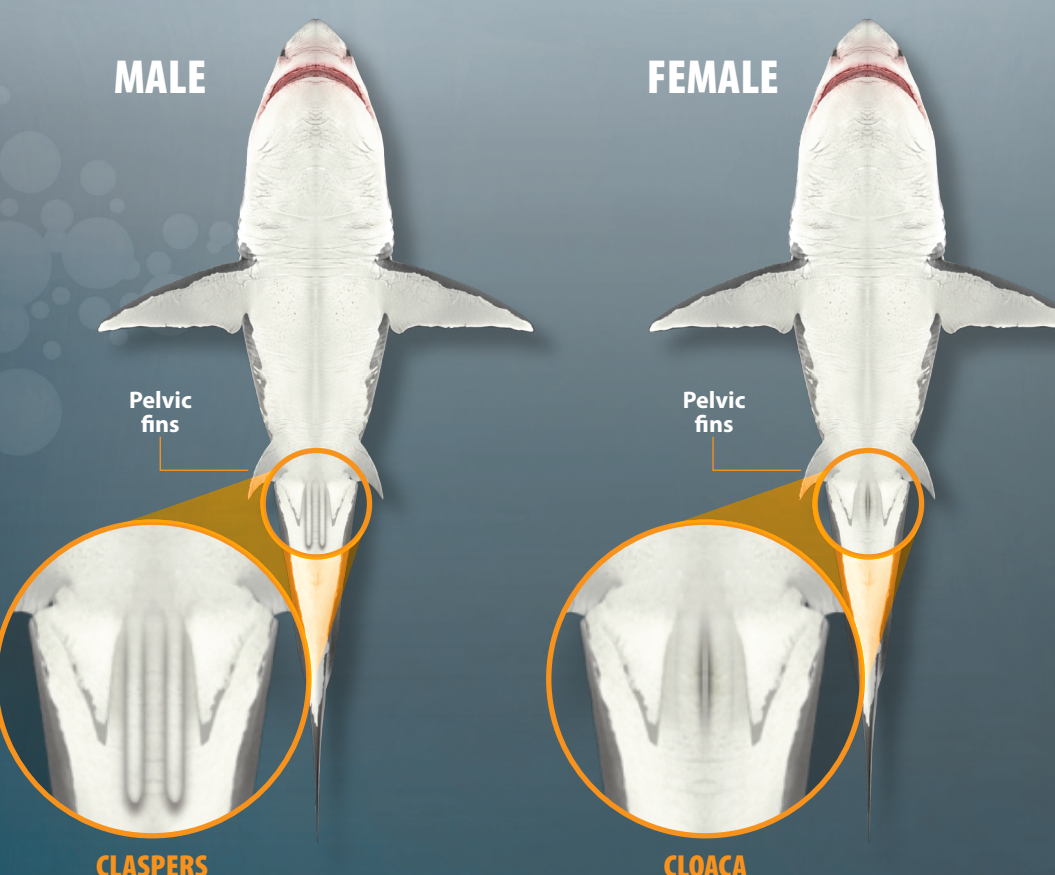
**200 sharks**  
Size of the population in Guadalupe Island estimated in 2015.

**390 individuals**  
recorded as bycatch on the West coast of Baja California between 1999 and 2013.

**34 individuals**  
sighted in a single day is the record for Guadalupe Island.

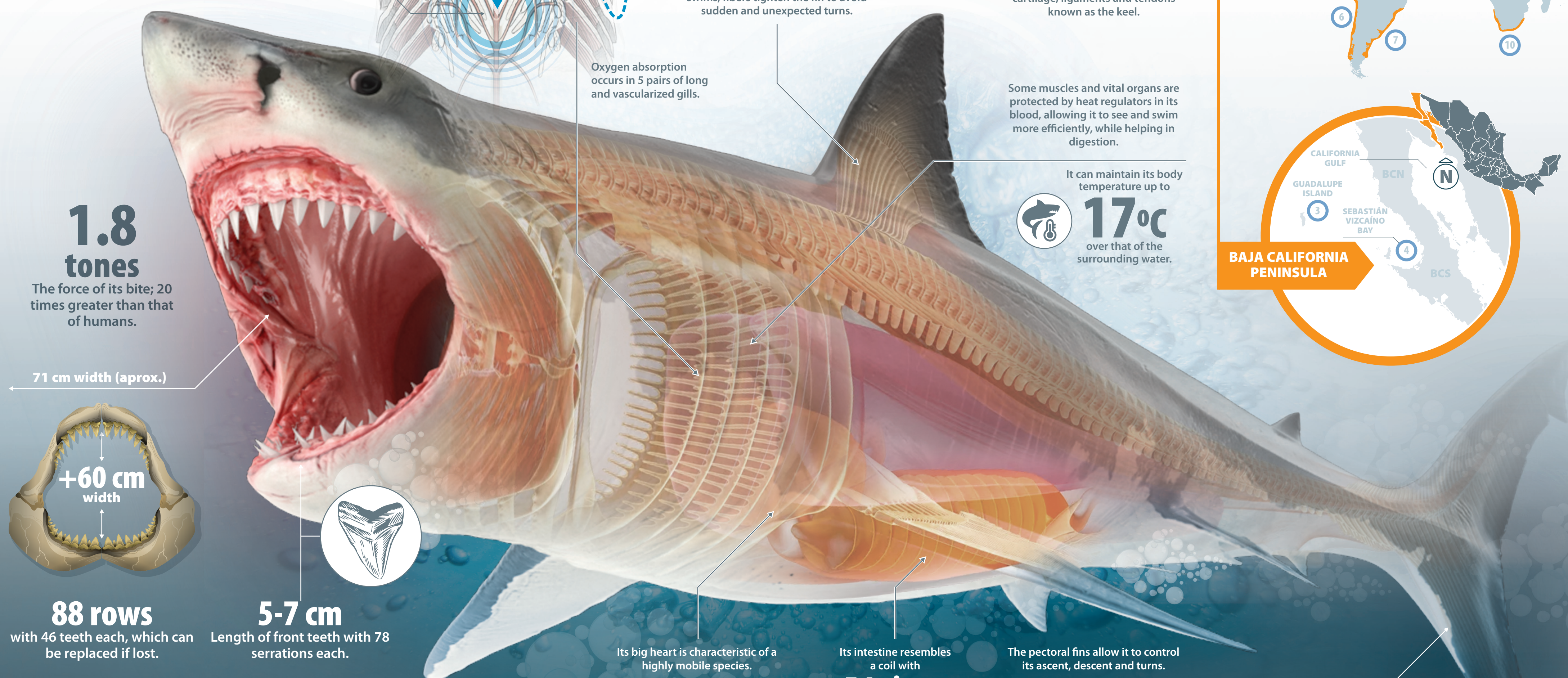
REPRODUCTION

Their fertilization is internal, that is, the male and the female copulate. The male inserts one of his gonopterygiums into the female's cloaca and introduces the sperm.



Males have two claspers, which are reproductive organs and are located near the pelvic fins.

Females have pelvic fins and give birth through the cloaca.



Water flows through its gills, which absorb the oxygen so that it is transported to the heart in the blood

The dorsal fin acts as a stabilizer. As it swims, fibers tighten the fin to avoid sudden and unexpected turns.

It has solid structure at the base of its tail reinforced with cartilage, ligaments and tendons known as the keel.

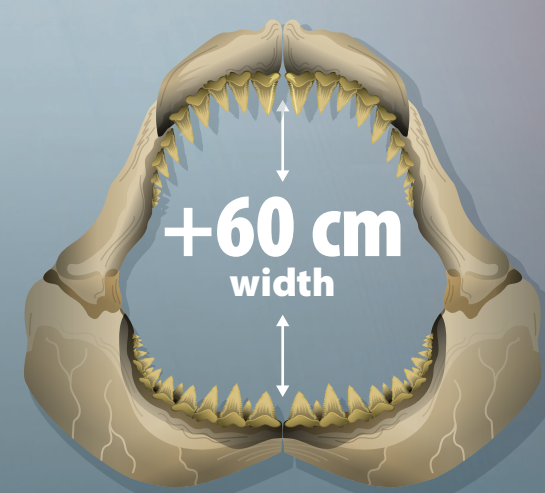
Some muscles and vital organs are protected by heat regulators in its blood, allowing it to see and swim more efficiently, while helping in digestion.

It can maintain its body temperature up to **17°C** over that of the surrounding water.

Oxygen absorption occurs in 5 pairs of long and vascularized gills.

**1.8 tones**  
The force of its bite; 20 times greater than that of humans.

71 cm width (aprox.)



**88 rows**  
with 46 teeth each, which can be replaced if lost.

**5-7 cm**  
Length of front teeth with 78 serrations each.

Its big heart is characteristic of a highly mobile species.

Its intestine resembles a coil with

The pectoral fins allow it to control its ascent, descent and turns.

**54 rings**

**+500 meters**  
**18% of its brain** is for smell sense (the largest among sharks)

**1.5 Kilometers**

The caudal fin is half moon shaped, rigid and flat, making it a highly efficient locomotion structure.