

PRESENTS

TOTOABA

Totoaba macdonaldi

The Totoaba is the largest species of the Scianidae family and is a croaker endemic to the Gulf of California in Mexico. During five decades, the commercial fishery targeting this species was one of the most important fisheries in the northwest region of the country. Overfishing led to the fishery's collapse and a permanent ban was established in 1975 and remains in place to this day.

ENDEMIC SPECIES

TAXONOMY

Kingdom: Animalia
Phylum: Chordata
Class: Actinopterygii
Order: Perciformes
Family: Scianidae
Genus: *Totoaba*
Species: *T. macdonaldi*



- Distribution:** It is endemic to the Gulf of California, Mexico.
- Diet:** Mainly fish and small crustaceans like shrimp.
- Predators:** Sharks and orcas; birds and large fish prey on juveniles.
- Reproduction:** Totoaba migrate to the upper Gulf of California between January and May to spawn in large aggregations. Females spawn once every season.
- Age of sexual maturity:** 6 years for males, 7 years for females.

CONSERVATION TIMELINE

- 1890:** The species is first described and named *Cynoscion macdonaldi*.
- 1920:** Commercial trade of totoaba meat begins.
- 1950:** Totoaba sport fishing starts to gain popularity in San Felipe, Baja California.
- 1955:** A seasonal ban is established during the spawning season to allow the species to reproduce.
- 1974:** The Colorado River delta is declared a Refuge Area and no fishing is allowed within.
- 1975:** The collapse of the totoaba fishery results in a permanent fishing ban.
- 1976:** The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) lists the totoaba as endangered.
- 1980:** The species is reclassified as *Totoaba macdonaldi*.
- 1992:** The Technical Committee for the Protection of totoaba and vaquita marina is formed; fishing nets >10 in mesh size are banned.
- 2021:** The International Union for Conservation of Nature (IUCN) changes the species' category to vulnerable. The Intergovernmental Group on Sustainability in the Upper Gulf of California (GIS) is formed.

ANATOMY
Its long body is slightly compressed and females tend to be larger than males.

Average size:
Up to **2 meters**



Average life span:
27 years

Average weight:
135 kg

Machorro: common name given to juveniles.

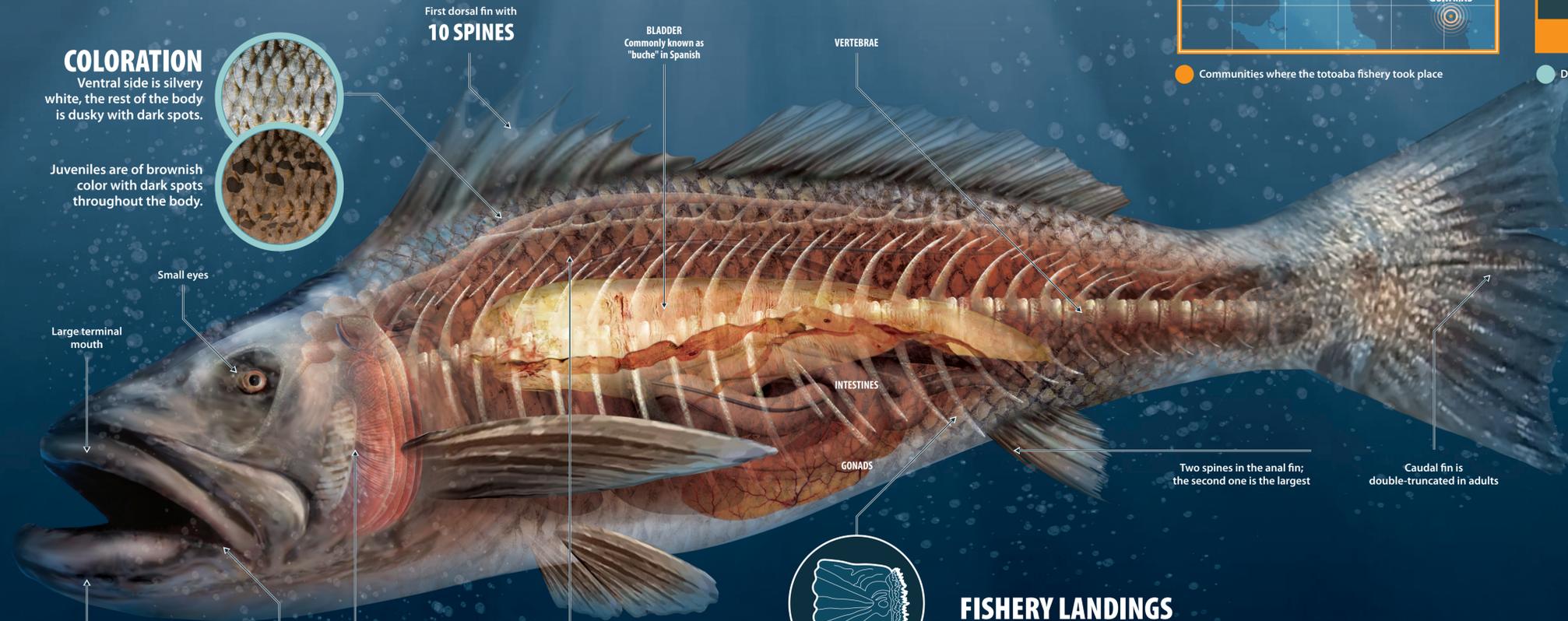
DISTRIBUTION
Historical data shows its distribution ranged from the Colorado River delta to Río Fuerte in Sinaloa and to Bahía Concepción along the Baja Peninsula. Recent records confirm its presence as South as La Paz Bay in Baja California Sur and El Mármol in Sinaloa.



● Communities where the totoaba fishery took place
● Distribution range

COLORATION
Ventral side is silvery white, the rest of the body is dusky with dark spots.

Juveniles are of brownish color with dark spots throughout the body.



First dorsal fin with **10 SPINES**

BLADDER
Commonly known as "buche" in Spanish

VERTEBRAE

Small eyes

Large terminal mouth

INTESTINES

GONADS

Two spines in the anal fin; the second one is the largest

Caudal fin is double-truncated in adults

3 PAIRS OF PORES in lower jaw

Lower jaw is slightly prominent

Smooth operculum; **15 to 20 GILL RAKERS**

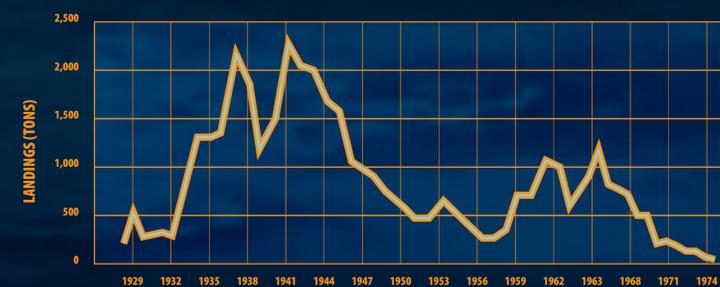
Ctenoid scales are large and thick



10,000 BLADDERS were seized between 2013 and 2020 in China, Mexico, Hong Kong and the U.S.

FISHERY LANDINGS

The highest landing records for totoaba occurred between 1935 and 1945. As productivity began to decline, fishers turned their attention to other species. The fishery officially closed in 1975 after only reaching 59 tons, indicating a collapse.



BEHAVIOR

Forms large aggregations in the delta region.

Juveniles stay in the delta until they reach 3 years of age.

1-70 metros
Depth range it inhabits.

ECOLOGICAL ROLE

They help keep their prey's population in check.

THREATS

LOSS OF HABITAT
Damming of the Colorado River has resulted in changes in nursery habitats along the delta.

ILLEGAL FISHING
The bladder's high value in the black market fuels poaching.

BYCATCH
Juveniles (>45 cm) and adults are accidentally caught in trawling nets used in the industrial shrimp fishery.

SOURCES:
• Cisneros-Mata, M.A. (Ed.) (2020). Evaluación de la población de *Totoaba macdonaldi*. Instituto Nacional de Pesca y Acuicultura, México. 106 pp.
• Cisneros-Mata, M.A., et al. (2021). *Totoaba macdonaldi*. The IUCN Red List of Threatened Species 2021: e.T22003A2700800. <https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T22003A2700800.en>
• dataMares. (2022). La Conservación de *Totoaba macdonaldi*. Visualización interactiva. Disponible en: <https://public.tableau.com/app/profile/datamares/viz/LaconservaciondeTotoabaMacdonaldi/totoaba>.
• dataMares. Perfil de especie: Totoaba (*Totoaba macdonaldi*). [datamares.org/perfil-de-especie-totoaba/?lang=es](https://www.datamares.org/perfil-de-especie-totoaba/?lang=es)
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