



CITES & LIVELIHOODS CASE STUDY 2022

# “Vaquita-safe” fishing for conservation and livelihoods in Mexico

## SPECIES, USE AND TRADE

The Vaquita is a porpoise and the Totoaba a marine fish, both endemic to the Gulf of California in Mexico. Totoaba migrate north to spawn in the Upper Gulf of California, and two fishing communities (San Felipe and El Golfo de Santa Clara) were established there 100 years ago to take advantage of the seasonal aggregations and harvest the swim bladder, which was dried and traded to China. Over-exploitation led to Mexico banning the fishing of Totoaba in the 1970s. However, over the past decade the illicit trade in its swim bladder has led to a renewed epidemic of poaching with prohibited gillnets. Accidental entanglement and drowning in these illegal gillnets (and other types set for commercial seafood species) has been the primary driver of the near-extinction of the Vaquita. The population has declined by 99% since 2011 and is now thought to number less than ten. Both species are listed on the IUCN Red List – Vaquita was assessed as Critically Endangered in 2022 and Totoaba as Vulnerable in 2021. Both species have been on CITES Appendix I since the late 1970s.

Mexico’s national measures to protect Vaquita and Totoaba over the past several decades, and especially since 2017, have resulted in a complex set of marine protected areas with different types of fishing restrictions, although gillnets are prohibited throughout. The two Upper Gulf fishing communities have suffered economically and socially from the restrictions, towards which there is hostility and resistance. There are at least 1000 fishers in these two communities, most of whom still illegally use gillnets for fishing (of shrimp and other commercially valuable species), and some of whom are involved in illegal Totoaba fishing and/or illegal fishing of other species.

A project implemented by the NGO Cetacean Action Treasury with local partners Museo de la Ballena y Ciencias del Ma (Museo de Ballena) and Pesca Alternativa de Baja California (Pesca ABC) has provided incentives for fishers to engage in “Vaquita-safe” fishing. These include modification, testing and training of fishing gear that is legal and poses no risk to Vaquitas; supporting improved post-capture, pre-processing treatment; establishing traceability through a combination of high-tech (cameras, GPS and blockchain) and low-tech (community catch monitors, usually women); educational awareness and social marketing to build community pride in legal and sustainable fishing; and developing premium-price markets within Mexico for “Vaquita-safe” seafood.



Dried totoaba swim bladders in China. Photo: Yvonne Sadovy, IUCN.



MEXICO



**VAQUITA** (*Phocoena sinus*) and



**TOTOABA** (*Totoaba macdonaldi*)



APPENDIX I (BOTH)



**VAQUITA – CRITICALLY ENDANGERED; TOTOABA – VULNERABLE**



Illustration of totoaba poachers and traffickers. Credit: Alonso Delgadillo, from the ebook *Odisea por La Vaquita* Marina by Victor R. Rodriguez.

## LIVELIHOOD BENEFITS

The project is intended to demonstrate that it is possible to earn a livelihood that is legal AND sustainable. Average catches of shrimp are lower using “Vaquita-safe” nets (cast nets and small trawls) because only one set can be carried aboard a fishing skiff, whereas multiple gillnets are typically deployed. However, prices obtained have the potential to be higher due to the “Vaquita safe” traceability and branding. The products are legally compliant and not at risk of fines or other penalties. With higher prices paid for legally caught shrimp and finfish, the average gross earnings per fishing trip compare well with the average for illegal gillnets.

Illegal Totoaba fishing however remains more profitable but with a higher risk of penalties which now range to up to 15 years in prison. “Vaquita-safe” fishers are also gaining increasing respect in their communities – one former Totoaba poacher, who at first suffered taunts from his former colleagues, now says some are asking to join his group to give up their stressed and addiction-risk lifestyle (Totoaba poachers generally work at night, and due to cartel links are sometimes paid with or supplied with methamphetamine).

## CONSERVATION IMPACTS

It is too early to tell what the conservation impacts of Vaquita-safe fishing will be, but if illegal use of gillnets can be stopped through a combination of incentives and deterrence, it is a safe assumption that Vaquita extinction can be prevented and Totoaba populations can recover. There will also be broader marine conservation benefits as gillnets pose a bycatch risk to other species and also impede sustainable fisheries management, with large unreported catches. It is also hoped that intelligence-led enforcement efforts against organized crime elements involved in Totoaba poaching and trafficking that the Mexican government has put in place since November 2020 will provide a strong disincentive to continue poaching – with subsequent knock-on benefits for the Vaquita.

## LESSONS LEARNED AND FUTURE DIRECTIONS

Mexico is subject to international compliance measures under CITES, the World Heritage Convention, and several United States laws and treaty processes. The pilot “Vaquita-safe” project could provide a model for achieving higher levels of voluntary compliance among community fishers, establishing traceability mechanisms, and also growing national awareness of the costs of tolerating IUU seafood. Having the fishing community recognize and accept that it is financially viable and personally safer to transition to legal fishing is a critical component for achieving conservation benefits for the Vaquita and Totoaba. The project highlights the importance of linking sustainable management with enforcement, however. The project is pioneering a conservation-friendly model of “fish less, earn more” by assisting fishers to access consumers willing to pay a price premium

for certified sustainable seafood. However, without a credible enforcement deterrent, Totoaba poachers will be able to continue to make outsized profits from a concentrated period of illegal gillnetting during the reproductive spawning season.

The conservation status of both Vaquita and Totoaba has worsened since they were listed on CITES Appendix I in the late 1970s, and the harm suffered by the fishing communities of the Upper Gulf has been partly caused by their continued participation in illegal harvest and trade of Totoaba and other commercial seafood. The only way to rebuild the Upper Gulf community fishing economy is for fishers to convert to legal and sustainable fishing. Otherwise, not only species, but also human livelihoods, will continue to decline.

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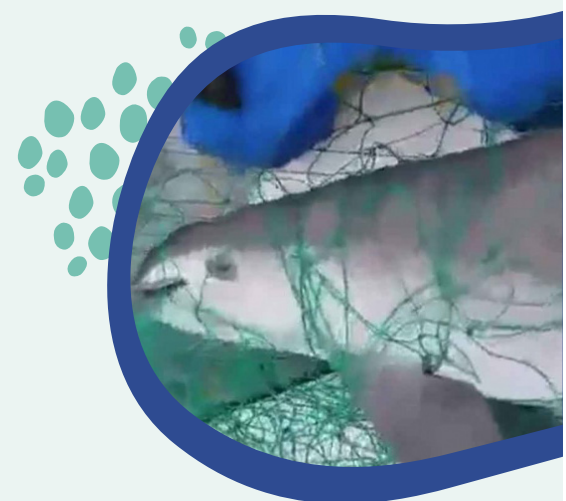


Above: Large blue shrimp captured with Vaquita-safe cast net. **Photo:** Museo de la Ballena y Ciencias del Mar.

Below: Fishing skiffs equipped with Vaquita-safe suripera cast nets. **Photo:** Museo de la Ballena y Ciencias del Mar.



Below: Dead adult vaquita entangled in a totoaba gillnet aboard a poacher's panga, March 2020. **Credit:** IUCN Cetacean Specialist Group (poor quality as it was filmed by one of the poacher's cellphones and leaked to Mexican media La Reforma) <https://iucn-csg.org/march-2020-another-vaquita-death/>



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