

INTERNATIONAL
WHALING COMMISSION

A STATEMENT FROM THE SCIENTIFIC COMMITTEE OF THE IWC

Grave concern for the survival of the vaquita porpoise

Despite nearly thirty years of repeated warnings, the vaquita hovers on the edge of extinction due to gillnet entanglement.



Vaquita displaying the characteristic dark eye-patch and shown in the calm conditions needed to detect this cryptic porpoise species. October 2008. © Thomas A. Jefferson, Viva Vaquita

The vaquita is a small porpoise found only in the northern Gulf of California, Mexico. Recent studies show there are now only about 10 surviving animals ¹, but they are not yet doomed to extinction.^{2,3} The Scientific Committee of the IWC is making this statement because it believes that 100% enforcement of a ban on gillnets in their core habitat is needed to give the vaquita a chance of recovery.

CONSERVATION STATUS

The first abundance survey of the vaquita was conducted in 1997 and estimated a population of less than **567** animals.⁴ The 2015 survey⁵ estimated that numbers had dropped to **59**. By 2018 only about **9 or 10** individuals remained⁶ and numbers remain this low today. This represents a decline of **83% in three years**.¹

Abundance Estimate	95% Confidence Limits	Year of the Estimate	Survey Method	Reference
567	177-1,073	1997	vessel survey	Legorreta-Jaramillo et al. 1999 ⁴
245	68-884	2008	vessel survey	Gerrodette et al. 2011 ⁷
59	22-145	2015	vessel survey	Taylor et al. 2016 ⁵
30	8-96	2016	acoustic monitoring	Thomas et al. 2017 ⁸
9	6-19	2018	acoustic monitoring	Jaramillo-Legorreta et al. 2019 ⁶

Vaquita population surveys using different methods to estimate vaquita population size and trends. It is impossible for such estimates to give exact numbers and Confidence Limits are statistics used to show the highest and lowest figures between which the actual number is located.

In 2019 and 2021, researchers responsible for acoustic monitoring faced the enormous difficulty of over 110 acoustic detectors being removed by illegal fishers. Therefore, for those years it was not possible to estimate the vaquita population size, and it was necessary to modify the acoustic monitoring programme.¹ However, during the visual surveys in those years, adults and calves were observed and appeared healthy, and there was a higher rate of survival than expected.²

Recent acoustic surveys from April to December 2022, identified 77 acoustic encounters of vaquitas in 17 of the 42 sampling sites, showing that vaquitas still exist in at least a small portion of their previous habitat.⁹ However, illegal fishing continued unabated¹⁰, even in a designated “Zero Tolerance Area” (ZTA) until this year (see **Threats** below)

In these circumstances, this species with approximately 10 individuals remaining is in immediate danger of extinction.

THREATS

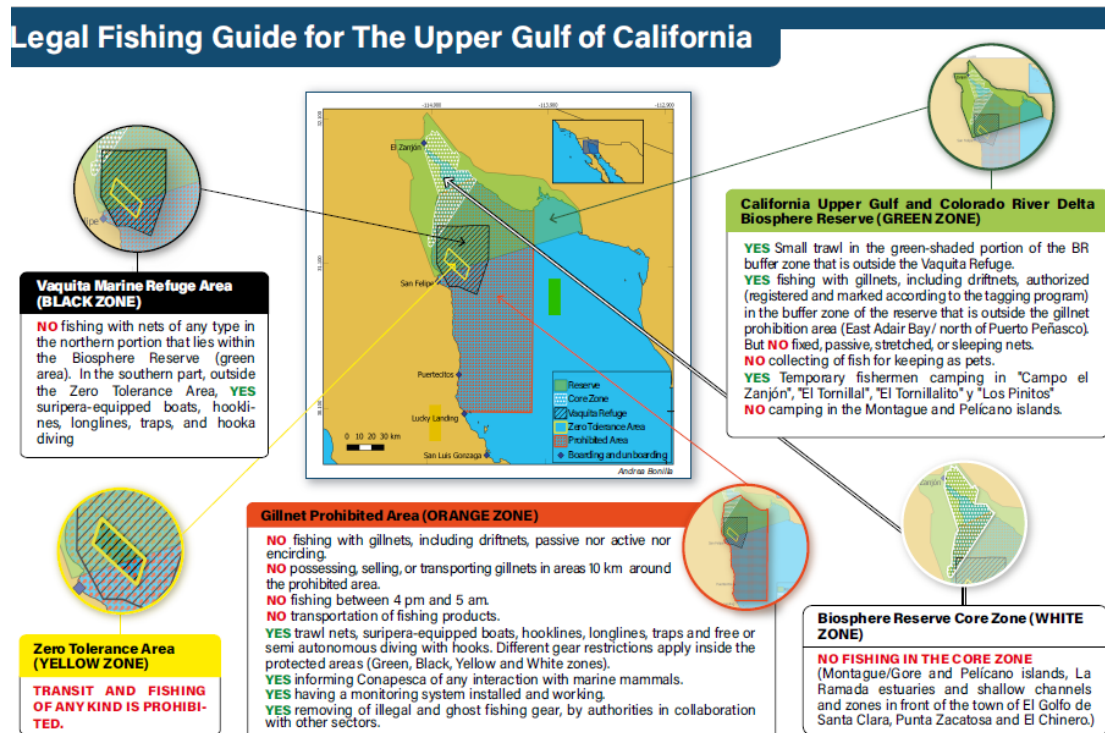
Incidental mortality in gillnets (‘bycatch’) has been recognised by the Scientific Committee as the only significant threat to the survival of the vaquita.

Vaquita become entangled in all types of gillnets. Shrimp gillnets are a significant problem¹¹ but the overwhelming impact in the last 10 years is from nets set for totoaba.¹⁰ The totoaba is a fish similar in size to the vaquita. Its value has skyrocketed due to the black market demand for totoaba swim bladders in Hong Kong and continental China.^{12, 13} The involvement of organised crime in the totoaba fishery¹⁴ makes it particularly difficult and dangerous to address.

CONSERVATION EFFORTS

- Over many years there have been multiple attempts to designate protected areas for portions of the vaquita’s habitat in the upper Gulf, and it has been illegal to fish for totoaba since 1975¹¹, but all these efforts have been ineffective due to inadequate enforcement and other factors.^{15, 16}

- In 1990, the IWC Scientific Committee expressed its concerns about bycatch of vaquita in gillnets for the first time. The Committee warned that the vaquita was headed toward extinction, and recommended actions including stopping the major cause of entanglement by fully enforcing closure of the totoaba fishery and stopping illegal shipments of totoaba.¹⁷
- In 2016, a fishing gear retrieval program began removing fishing nets from the core vaquita habitat area; by 2019, over 1,000 nets had been removed and destroyed.¹⁸
- Since 2016, the Scientific Committee has issued dozens of recommendations expressing concern about the vaquitas decline and encouraging elimination of gillnets in vaquita habitat, and the IWC endorsed resolutions in [2007](#) and [2016](#) that vaquita conservation should be prioritised and gillnets banned in the upper Gulf of California¹
- In 2022 the Mexican Navy in collaboration with other Mexican government agencies installed a grid of 193 gillnet-deterrent structures on the seabed of the ZTA. Subsequently it appears that gillnet fishers have been avoiding the ZTA and the buffer zone around it.¹⁹



Source: Pesca Alternativa de Baja California

LESSONS LEARNED

General

The decline of the vaquita has continued despite a very clear understanding of both the cause (bycatch in gillnets) and the solution (replacement of gillnets with safe alternatives in the vaquita habitat). This underscores the need to look beyond the immediate conservation concern, to understand and address wider factors.

This also means that efforts to prevent extinction should begin much earlier than was the case for vaquita, when there are still significant numbers of individuals remaining and adequate time to develop a conservation strategy.

Urgency, prioritisation and timely responses are critical. The case of the vaquita shows how delay can create an emergency situation demanding extreme actions which could have been avoided.

Conservation strategies must consider the interests of the threatened species, the interests of the people who live alongside it, and their economic and social circumstances. Only when all three are maximised, so that human livelihoods too are maintained, can sustainable species conservation be achieved.

Similarly, regulatory frameworks are only effective if implementation, enforcement, governance and corruption are considered from the very beginning of developing a conservation plan to save an endangered species.

Specific

Developing and testing alternatives to gillnets while at the same time promoting 'vaquita-safe' markets and marketing has been recommended ^{1, 15, 16} alongside the provision of equipment, training and permits for alternative fishing methods.

Better and earlier engagement with community members and leaders, and a focus on adaptive management that considers the changing needs and perspectives of stakeholders over time would have made efforts more effective.

When designating future refuges, reserves, and other protected areas, consideration should be given to 'the Edge Effect.' This is where fishing effort concentrates at the limits of a prohibited area such as the ZTA, creating new problem areas.²⁰

Engagement with the media is also important to try and ensure that accurate information is shared. Recent claims in the media have suggested that the threat of gillnet entanglement has been greatly reduced ²¹, but reports documenting vessel traffic within the supposed ZTA concluded that such claims are not supported by multiple lines of evidence which instead suggest that the amount of illegal fishing using gillnets for totoaba, other fin fish, and shrimp has actually increased.¹⁰

The initial effects of the gillnet deterrence structures are promising ¹⁹, but the long-term consequences of their deployment need to be monitored and results disseminated in scientific journals and via public media outlets. The relevant government agencies have the opportunity and responsibility to document, scientifically, the contribution of these deterrents to the reduction in net fishing activity in the ZTA

THE BIG PICTURE

There has never been a more appropriate time to take stock and learn lessons, and we must do things differently in the future. The vaquita's plight exemplifies the challenges facing other dolphin and porpoise species living in coastal waters and struggling to survive alongside human activities, particularly fishing. Bycatch in fishing nets and entanglement in lines and other gear is estimated to kill more than 300,000 whales, dolphins and porpoises every year.²²

CONCLUSION

This statement is issued today to encourage wider recognition of the warning signs of impending extinctions, and to generate support and encouragement at every level for the actions needed now to save the vaquita.

The extinction of the vaquita is inevitable unless 100% of gillnets are substituted immediately with alternative fishing gears that protect the vaquita and the livelihoods of fishers. If this doesn't happen now, it will be too late.

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