

# Who has the reason? Vaquita retractors or detractors

## Abstract

Plenty has been said about the current situation of the vaquita, whether or not it is in danger of extinction due to incidental fishing or the changes that the marine environment has suffered due to the lack of fresh water, but none of this views has been categorical. Meanwhile, fishermen in the Upper Gulf of California (UGC), México, is limited to going out to fish because a recent close season to all fisheries in the region. There are no well-paid job alternatives to compare with the fishing activity. It is urgent to find real fishing alternatives with high value products with conservation criteria to protect the Vaquita. That is why an urgent meeting with all UGC specialist is needed to find real solutions to change fishermen situation and rescue the Vaquita.

**Keywords:** vaquita, conservation, artisanal fishermen, upper gulf of California, welfare

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Nobody knows what is the real situation of the vaquita *Phocoena sinus* population in the Upper Gulf of California, Mexico. Many has been said about this species: that if Vaquita dies in the fishing nets for shrimp, Gulf corvine, mackerel, and other species, but there is no a certain relation between them besides tatoabas fishery. In other hand, there are some researches that argue that the lack of fresh water from the Colorado River has changed the river Delta from estuarine to hyper-saline conditions and that has changed vaquita behavior and alimentation and it still a healthy ecosystem<sup>1</sup> but we do not known how many vaquitas where before 1936 when the Hoover dam was built and how big was the population since then. All this argument are just assumptions.

The vaquita was described for first time in 1958<sup>2</sup> and first reports of vaquita killing three years later<sup>3</sup> but it was until 1993 when an abundance survey was done.<sup>4</sup> In 1997, The Comité Internacional para la recuperación de la Vaquita (International Committee for the Recovery of the Vaquita [CIRVA]) endorses a real abundance of vaquita in 567 individuals,<sup>5</sup> and Vaquita population continue declining even when many conservation and management action has been done.

The first action to protect the vaquita was done in 1975 when the IWC Scientific Committee concerns about vaquita incidental mortality in totoaba (*Totoaba macdonaldi*) gillnets and was listed to its protection in the appendix I (species fully protected) of CITES in 1979, followed in 1985 as Endangered under US Endangered Species Act and in 1990 in the IUCN as an Endangered species Rojas-Bracho et al.,<sup>6</sup>. In 1993, the Upper Gulf of California was decreed Biosphere Reserve as a result of the recommendations of the Technical Committee for the Preservation of Totoaba and Vaquita created by Mexico's Ministry of Fisheries,<sup>7</sup> followed by the decree of the vaquita refuge in 2005<sup>8</sup> and the agreement that commercial fishing is temporarily suspended using gillnets, formwork, and/or lines operated with small boats in the Northern Gulf of California.<sup>9</sup>

Must of the research in the Upper Gulf of California has been conducted in the biological area and very few on the socio-economic field. Nonetheless, several actions has involved fishermen to reduce vaquita mortality, as the creation of the Alto Golfo Sustentable a coalition between the Natural Resources Defense Council (NRDC), Ocean Garden (the primary exporter of Mexican shrimp and other seafood products) and fishermen who promote conservation and sustainable fisheries practices to prevent the vaquita's extinction.

In 2008 the Programa de Acción para la Protección de la Especie: Vaquita program (Program Action for the Conservation of the Species: Vaquita; [PACE]) was launched, this program was an economic and voluntary program that considered compensation for reducing the fishing effort through the elimination of shrimp driftnet and finfish gillnets.<sup>10,11</sup> More recently a new agreement published in the DOF<sup>9</sup> addressed four specific issues who involves the expansion of the vaquita polygon; a two-year closed season for all fisheries in the site, and providing a monetary compensation to the affected fishermen with fishing permits; an increased enforcement to prevent illegal fisheries and the introduction of new and ecological gears, but all these actions have resulted in reductions in fishermen employment and income<sup>11</sup> mainly because fishermen without permits and industrial fishery employees were not considered for the economical compensation. These restrictions did not consider catch revenue from other gears or alternative economic activities.<sup>12,13</sup> The first management actions have not produced the desired conservation results because nobody (governmental and scientific authorities) anticipated that the new job alternatives and fishing gears could fail so unexpectedly.<sup>14</sup> This is because none of the actions done has include local fishers and their knowledge that would likely consider longer term and larger scale sustainability of the Upper Gulf of California system.<sup>15</sup>

The truth is that the vaquita population is declining very fast and a real solution must be taken immediately. A reunion of International and Mexican experts who has worked in the Upper Gulf of California and has studied marine mammals but also in economy, anthropology and environment must be released as soon as possible. This meeting could give the sufficient knowledge to prevent Vaquita extinction but also prevent social deterioration of the fishing communities in the area.

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## Conflicts of interest

Author does not have any conflicts of interest.

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