

Jaramillo-Legorreta, A.M.; Rojas-Bracho, L.; Gerrodette, T. A new abundance estimate for vaquitas: First step for recovery. *Marine Mammal Science* [Mar. Mamm. Sci.]; vol. 15, no. 4, pp. 957-973; 1999.

Abstract:

A line-transect survey specifically designed to estimate vaquita (*Phocoena sinus*) abundance over its entire range was carried out by three boats in the summer of 1997. There was a total of 125 sightings of vaquita groups, mainly due to the use of large 25X150 binoculars, which were seven times more effective in detecting vaquitas than hand-held 7X binoculars. Results confirmed that the range of the vaquita is restricted to the northwestern corner of the Gulf of California, Mexico, but that the boundaries of the Upper Gulf of California and Colorado River Delta Biosphere Reserve do not correspond well with the distribution of vaquitas. The shallow water north of the town of San Felipe was found to have a higher density of animals than had been indicated by previous surveys. The total population size was estimated to be 567 animals, with a 95% confidence interval from 177 to 1,073. This estimate is an improvement over previous estimates, which had low numbers of sightings, relied on parameters taken from other species, and/or did not cover all areas where vaquitas could potentially be found. The 1997 estimate was more than twice the 1993 estimate, but there are several reasons why the numbers cannot be directly compared, and it should not be concluded the population is increasing. This first complete estimate of vaquita abundance can be a beginning for the recovery of this highly endangered species.