

WEEK ONE
SEPT 26-OCT 1

EXPEDICIÓN INTERNACIONAL

VAQUITA MARINA 2015



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ADAM Ü

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SUZANNE YIN

HONORARY VAQUITA

OBSERVER:

SECRETARY RAFAEL

PACCHIANO ALAMÁN



R/V OCEAN STARR

ESTIMATING ABUNDANCE OF MEXICO'S CRITICALLY ENDANGERED PORPOISE

SURVEY OVERVIEW

Vaquitas are a critically endangered porpoise found only in a small part of the Upper Gulf of California, Mexico. Vaquita are the smallest porpoise and have the smallest distribution of any marine mammal. Recent acoustic data indicating a strong decline in vaquita numbers prompted the government of Mexico to take unprecedented steps to save their porpoise from extinction resulting from accidental deaths when animals drown in fishing nets that are set for fish and shrimp. The 2-year ban on gillnets within the distribution of vaquitas was announced by President Peña Nieto in April of 2015. This survey will obtain the most precise abundance estimate of vaquitas possible at the beginning of the ban period.

The Vaquita Expedition 2015 will take place from September 26 to December 3. Chief Scientists for the survey are Lorenzo Rojas-Bracho (from Mexico's Department of Environment and Natural Resources, SEMARNAT) and Barbara Taylor (from Southwest Fisheries Science Center, NOAA Fisheries); the survey is funded by SEMARNAT. Both visual and acoustic methods are required to obtain a precise abundance estimate. The entire distribution of vaquitas between 20 and 50 meters deep will be visually surveyed from a research ship (the R/V *Ocean Starr*) using 6 huge binoculars called 'big eyes'. These 25-power binoculars are needed to see the shy vaquita before they react to the ship. Scientists came from Mexico, the US, United Kingdom and Germany to provide porpoise sighting expertise.

Mexico is a world leader in acoustic monitoring of porpoises using a passive acoustic device called a CPOD. Armando Jaramillo-Legorreta and his team will deploy 134 CPODs in a grid in the shallow water vaquita distribution where the ship cannot go. The CPODs detect the very high frequency clicks that vaquitas use to find fish in the productive, muddy waters. Developing the acoustic monitoring system was the primary objective of the last vaquita survey in 2008. The system was designed to detect the hoped for 4%/year recovery of vaquita. Instead, the system detected a dramatic 67% decline between 2011 and 2014.

The project is a research collaboration between SEMARNAT and the Southwest Fisheries Science Center, NOAA Fisheries. Support is provided from Instituto Nacional de Ecología y Cambio Climático, Comisión Nacional de Áreas Naturales Protección, Comisión Nacional para el Conocimiento y uso de la Biodiversidad, and The Marine Mammal Center.

VISUAL TEAM WEEKLY SCIENCE SUMMARY

Weekly Report Oct 1, 2015

Sep 27-Oct 1

The specific objective of Expedición Vaquita 2015 is to estimate the number of vaquitas (*Phocoena sinus*). Therefore, equipment and procedures are designed to maximize the detection of vaquitas. The acoustic recording devices (C-PODs) are designed to identify vaquita clicks. The visual line-transect procedures are also specifically designed for vaquitas. All observers have experience using large (25X) binoculars on line-transect surveys for porpoises. The ship travels at a slow speed (6 knots) and does not stop or approach other species for identification (a “passing mode” survey). To estimate the proportion of vaquitas not detected near the trackline, there are 2 independent teams of observers. Because the ship does not stop and approach non-vaquita species, and observers do not continue to look at any sighting which is not a vaquita, many distant sightings of dolphins and whales cannot be identified to species with certainty. These sightings are recorded as “unidentified dolphin”, “unidentified whale” or other similar categories. In other words, the study is optimized for vaquitas, so sightings are basically classified as either “vaquita” or “non-vaquita” with certainty.

The visual portion of Expedición Vaquita 2015 began on September 27, 2015. During the first 5 days, light winds have permitted us to cover 193 nautical miles of transect lines (63% in conditions of Beaufort 2 or less) and a total of 110 sightings of 5 species. Wind conditions so far have been much better than average conditions in either 1997 or 2008. On Sep 30, we had the first sightings of vaquitas, porpoise that is the focus of the study. The three vaquita sightings occurred close to San Felipe, in an area where vaquitas had not previously been seen. The most common identified species have been bottlenose dolphins and long-beaked common dolphins.

Launch of Expedición Vaquita 2015

October 1, 2015 was a banner day for vaquitas when the project to estimate the abundance of the world’s rarest marine mammal was officially launched by the Minister of the Environment and Natural Resources, Rafael Pacchiano Alamán. At the suggestion of long-time vaquita observer Juan Carlos Salinas, the Navy vessel filled with dignitaries met the R/V *Ocean Starr* near San Felipe. Dignitaries were first briefed by chief scientists Drs. Lorenzo Rojas-Bracho and Barbara Taylor. It was an important opportunity for an exchange of information between the scientists and other important players in the complex program to save Mexico’s porpoise. As the ship steamed to the location where vaquitas had been seen the day before, leaders of the federal agencies SEMARNAT and SEGARPA, Governor Vega of the state of Baja California, and enforcement representatives of the Navy and PROFEPA learned about vaquitas and the

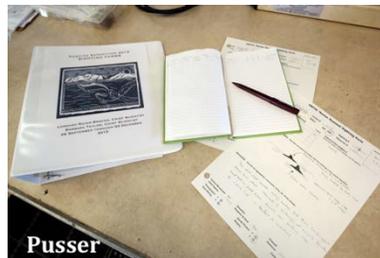
design of the 2015 project, which has been extensively reviewed by an international team of experts.

Just as this session was finishing, we received the message that vaquitas had been sighted! Everyone moved quickly through the ship to the flying bridge where observers Juan Carlos Salinas (vaquita sighter), Ernesto Vasquez and Sarah Mesnick were keeping the vaquitas in sight straight in front of the ship. Unlike the previous day when all 12 observers had a very difficult time resighting the elusive animals, these vaquitas surfaced repeatedly right in front of the ship. It was as if these vaquitas wished to be seen by those with the power to save them. Minister Pachiano himself was able to see the iconic marine mammal of Mexico.

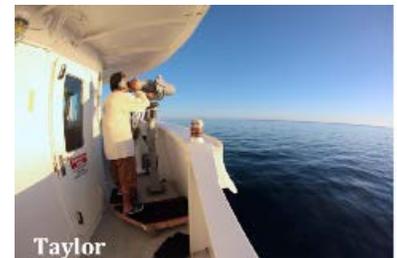
The location where vaquitas were seen by the Minister is only 8 miles from San Felipe, just inside the western boundary of the Vaquita Refuge. There have been few previous sightings or acoustic detections in the area. However, the distribution of vaquitas *may* be different this year due to the absence of gillnets under the emergency ban. In previous years about 350 pangas would have deployed 400 miles of gillnets in the region surrounding the Vaquita Refuge; under the ban, these fishermen are compensated not to fish while new fishing gears are developed to replace gillnets. Since the survey started, we have seen only a single panga over the horizon, a tribute to the fishermen and many governmental agencies cooperating to make this emergency ban happen. We hope someday to see both vaquitas and fishing without gillnets. It will take dedication to make this big economic shift happen, but a day like yesterday makes the difficult seem possible.



OBSERVER ON 'BIG EYES' ON THE BRIDGE



PUSSEY
SIGHTING FORM FOR VAQUITAS



TAYLOR
BRIDGE 'BIG EYES' AND WATERS EMPTY OF FISHING GEAR



TAYLOR
FIGURE 1 OBSERVERS USING 4 'BIG EYES' ON THE FLYING BRIDGE



PUSSEY
VISUAL SURVEY TEAM WITH 'VICKI', A LIFE SIZE ADULT FEMALE VAQUITA



**CHIEF SCIENTISTS BRIEFING
DIGNITARIES**



**DIGNITARIES ENJOYING VAQUITA
SCIENCE**



**SECRETARY PACCHIANO SEES HIS
FIRST VAQUITA**



**DEPUTY SECRETARY GARCÍARIVAS
IN CHARGE OF THE VAQUITA
PROGRAM LOOKS FOR VAQUITAS**



**GOVERNOR VEGA OF THE STATE OF
BAJA CALIFORNIA SEARCHES FOR
VAQUITAS**



**DIRECTOR AGUILAR OF AQUACULTURE
AND FISHERIES SPOTS A VAQUITA**