

Pangas Sightings Report and Military Presence in the Zero Tolerance Zone, inside the Vaquita Refuge

Introduction

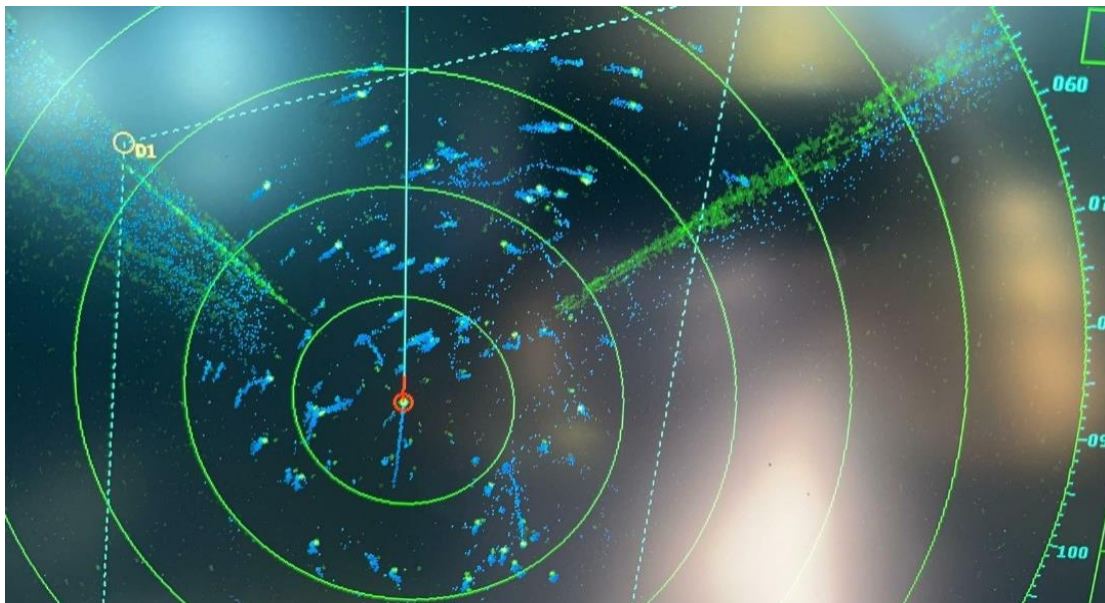
The Vaquita Survey 2021, a project in which expert observers conducted a visual monitoring of vaquita (*Phocoena sinus*), aboard the vessels *Narval* of the Whale Museum and *Sharpie* of Sea Shepherd Conservation Society, was carried out from October 15 to November 4, 2021. The monitoring consisted of navigating parallel and perpendicular lines within the Zero Tolerance Zone (ZCT) within the Vaquita Refuge, an area in which the greatest acoustic activity has been detected by the hydrophones known as CPODS, making it crucial to protect this area in order to preserve the species, which is on the verge of extinction. The main objective of this report is to know the direct effect that the fishing boats called "pangas", as well as their nets and buoys, had on the visual monitoring.

Methodology

Pangas Count

An adaptive monitoring was carried out in which the presence of "pangas" was monitored in the Zero Tolerance Zone, for which photos were taken to the radar of the vessel to verify the number of small vessels within the delimited area. Initially we took a sample every three hours, however, the presence of vessels is determined by tidal cycles, which is why we switched to taking three photos per day when we noticed a greater presence of pangas around the vessels.

To identify the pangas on the radar, we considered the fluorescent green dots that had a trajectory and also performed visual counts with the help of binoculars to rectify the number of small boats present (Figure 1).



Radar photograph of the Sharpie vessel, represented by the central red dot; the TCZ, delimited by the dotted line; and smaller vessels within the area where the green dot is the vessel and the blue area is its trajectory. Photograph taken on November 02, 2021.

It should be noted that the boat's radar does not have sufficient range to cover the entire protected area; therefore, the location of the boat is mentioned in the Excel tables at the time each photograph was taken and the areas that are not visible are mentioned in the comments.

In addition, photos were taken of the boats and their nets as evidence. Not all the cameras have GPS, but those that do are noted in the attached files. For which, it was also ensured that the photographs taken were within the Zero Tolerance Zone.

Effort of the Secretariat of the Navy

Every hour, the absence or presence of navy vessels, who agreed to act as security for the boats, was recorded, for which a visual scan of the surrounding area was performed with the naked eye and 10x50 binoculars every hour. The number of navy vessels, whether they were following the Sharpie, and their approximate distance from the ship were noted.

Results

Days of work

The Zero Tolerance Zone located within the Vaquita Refuge was surveyed in parallel and perpendicular transects from October 17 to November 2 with observers using Big Eyes x25 binoculars to search for vaquita specimens.

During the project, data were collected on nine active days. The first three days of the project were not scheduled for this count, which began due to the excessive presence of boats, nets and buoys within the TZZ. The Sharpie boat had a period of no effort due to bad weather, which is why it had to migrate to San Luis Gonzaga Bay to seek refuge, as shown in Table 1.

Tabla 1. Ubicación del barco Sharpie en la zona del Alto Golfo durante el estudio:

Fecha	Ubicación del Barco Sharpie
17 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
18 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
19 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
20 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
21 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
22 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
23 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
24 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
25 de Octubre	Bahía de San Luis Gonzaga
26 de Octubre	Bahía de San Luis Gonzaga
27 de Octubre	Bahía de San Luis Gonzaga
28 de Octubre	Bahía de San Luis Gonzaga
29 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
30 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
31 de Octubre	Refugio Vaquita Marina y Zona de Cero Tolerancia
1o de Noviembre	Refugio Vaquita Marina y Zona de Cero Tolerancia
2o de Noviembre	Refugio Vaquita Marina y Zona de Cero Tolerancia

Pangas Counting

In total, 30 pangas counts were conducted within the ZCT, of which 16 counts were classified as Category 1 due to the presence of less than 20 pangas within the ZCT; 11 counts fell into Category 2, due to the presence of 21 to 65 pangas; and on two occasions there were Category 3 counts, with more than 65 vessels within the ZCT. The highest number of pangas counted within the TCZ occurred on November 1 and 2, 2021, counting 72 and 66 smaller vessels, with no Navy presence.

Effort of the Secretary of the Navy

In eight days of monitoring, the presence or absence of navy vessels following the Sharpie was counted in a total of 99 hours, of which, navy boats were found in a total of 10 hours near the ship. During these eight days, up to two Navy interceptors and one Navy panga were present on six of the eight days of the count, but in the distance, often among the pangas within the ZCT, however, no interaction with the pangas was apparent from the ship. On November 1 and 2, 2021, more than 65 pangas were counted within the ZCT, resulting in Category 3, without detecting any presence of navy vessels.

Conclusions

Unfortunately, the visual monitoring of vaquita was affected by the interaction with pangas, which forced the boats to change their courses, thus preventing the completion of the transects. In addition to this, the noise of the engines most likely scared away the vaquitas, which exhibit elusive behavior. In addition, the presence of boats and fishing nets within the ZCT puts at risk the specimens that are still alive, as these are their greatest threat.