

ANALYSIS OF THE REPORTING SUBMITTED BY MEXICO ON IT PROGRESS MADE IN IMPLEMENTING ITS COMPLIANCE ACTION PLAN ON TOTOABA

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The following is an analysis of the Progress and Results Report (August 2023) submitted by the Government of Mexico on its Compliance Action Plan to Prevent Fishing for and Illegal Trade in Totoaba, their Parts and/or Derivatives, to Protect the Vaquita” (CITES Notification No. 2023/112 Mexico Compliance Action Plan; hereafter the “CAP Report”). As necessary, other information including recent media reports, have been used in this review to substantiate concerns about the implementation of the CAP Report.

The authors of this analysis, Drs. Lorenzo Rojas-Bracho and Barbara Taylor, have both worked on vaquita conservation for over 30 years, co-authored more than 30 peer-reviewed scientific articles on vaquita, and have first-hand knowledge of illegal fishing and other activities in the area near San Felipe during the period of reporting (April 18-July 31, 2023). Our main concerns are:

- 1) gillnets continue to be used, wantonly and extensively, for harvesting fish and shrimp except within the Zero Tolerance Area (“ZTA”);
- 2) no progress has been made toward transitioning communities to alternative fishing gear;
- 3) focusing compliance and enforcement effort solely on the ZTA will not result in vaquita recovery or in sustainable management of totoaba; and
- 4) monitoring of vaquitas remains compromised by fishing activities.

In an appendix, we offer more detailed points on those sections of the CAP Report where we have expertise. Our observations differ strongly on many points from the conclusions of the Secretariat. Those differences are summarized in a table at the end of this analysis.

Vaquitas are being driven close to extinction by a single threat: entanglement in gillnets¹. The decline from roughly 600 to 200 vaquitas between 1997 and 2008 was caused largely by entanglement in the small-mesh gillnets used for shrimp, a type of gear that some fishers and government officers now claim, incorrectly, to be vaquita-safe². The highest rate of vaquita

¹ The Navy states in Annex 2.8 that based on an analysis conducted on risk factors, without disclosing any further details on how this analysis was conducted, that there are other threats to the vaquita. These claims are contrary to many peer-reviewed publications (see Appendix for detailed comments below on Annex 2.8).

² A test of the tensile strength of very light gillnets (0.20mm and .30mm monofilament nylon) claimed to be vaquita-safe was conducted at the Marine and Fisheries Institute, Memorial University, St. John’s Newfoundland, Canada in 2018. The gillnet was provided by fishers of the Upper Gulf who witnessed the testing. The most commonly used monofilament for shrimp gillnets in the Upper Gulf is 0.37mm. Although the nets tested in the flume tank were of a smaller caliber, the University researchers concluded: “*It was clear that the monofilament*

entanglement is in large-mesh gillnets used for totoaba. These nets account for the decline in vaquita numbers from about 200 individuals in 2008 to around ten animals by 2018, with rampant totoaba poaching starting around 2010. The 2020 Regulatory Agreement³ accordingly banned all gillnets within vaquita habitat as well as the possession, manufacturing, sale, and transport of gillnets on the water and adjacent land areas.

Point 1: Gillnets remain in rampant use for fish and shrimp except within the ZTA

In the period covered in the CAP Report (April 18-July 31), we had opportunities during the vaquita survey (conducted from May 10 to May 26) while operating from land (where our vaquita survey team was housed) and sea (while conducting the survey), to observe illegal fishing. Only two types of fishing methods were seen: gillnetting (during stronger tides) and diving for clams (during weaker tides). At times, fishers departing or arriving at inspection points on shore were stopped and papers were handed to various Mexican government authorities for inspection. Despite regulations prohibiting the use, possession, and transport of gillnets, many vessels were heavily laden with illegal nets (see CAP Report at Figure 1.1⁴). None of these vessels were hindered from either proceeding to fish or returning home. In addition, many vessels had no registration number visible on the vessel (i.e., “white pangas”) and some had outboard engines of a higher horsepower than authorized.

The CAP Report indicates that vessel numbers in both the ZTA and Vaquita Refuge declined when comparing the data from April-July 2023 with the same period in 2022. There is no description or validation for the distance that fishing vessels can be detected or of the effort expended to monitor and record vessel activity. Without this documentation it is not possible to interpret the percentages given for declines in the ZTA or Vaquita Refuge, but particularly from the Refuge.

In summary, the ban on gillnets contained in the 2020 Agreement is not being adhered to and, in fact, there is no evidence that the quantity of gillnets being used has been reduced except for the small number of nets confiscated within the ZTA.

Point 2: There has been no progress in transitioning communities to alternative gear

The International Committee for the Recovery of the Vaquita (“CIRVA”), since its inception in 1997, has repeatedly made clear that the only way that vaquita extinction can be avoided is if

gillnets tested here would kill vaquitas. Therefore, all nets provided by the Fisher’s Federations pose a significant danger of mortality to vaquita and other vulnerable animals.”

³ Agreement regulating gears, systems, methods, techniques and schedules for the performance of fishing activities with smaller and larger vessels in Mexican Marine Zones in the Northern Gulf of California and establishing landing sites, as well as the use of monitoring systems for such vessels. Available at:

https://www.dof.gob.mx/nota_detalle.php?codigo=5601153&fecha=24/09/2020#gsc.tab=0.

⁴ All references to figures, tables, and page numbers in this analysis are from the Spanish version of the CAP Report since an official English translation of the report has not been made available by the Secretariat or government of Mexico.

fishers in the Upper Gulf transition to using vaquita-safe gear, i.e., not gillnets. While alternative gear has been developed⁵, there is no incentive for fishers to transition to such gear because gillnetting is completely tolerated except in the ZTA with little risk of citation, arrest, or prosecution.⁶

Since 1997, the Government of Mexico has made no meaningful effort to support fishing communities transitioning to alternative gear – no comprehensive training program and no designation of areas where or times when only alternative gear can be used (thus preventing active interference by gillnetters). As documented in the CAP Report (see pages 53 and 57), only 23 permits were granted for alternative gear to the 192 fishing cooperatives and 178 commercial fishing permit holders active in the Upper Gulf (pg. 58). The lack of permits authorizing the use of alternative gears reinforces illegal fishing and other illegal activities (e.g., possession, transport, manufacturing, and use of gillnets) and fails to incentivize communities to use vaquita-safe fishing practices.

Point 3: Focusing solely on the ZTA will not result in vaquita or totoaba recovery

The CAP Report focuses solely on the ZTA despite Action Lines referring to both the ZTA and the Vaquita Refuge. The establishment of the ZTA as part of the 2020 Agreement provided an important opportunity to guard this key portion of vaquita habitat while the changes necessary for species recovery (i.e., eliminating gillnets in and outside the ZTA by converting communities to alternative gear use) are made. Survey data reveals that the ZTA appears to support a small number of apparently healthy vaquitas, including calves.⁷

The recent installation of concrete blocks with hooks to snag illegal gillnets has, according to the evidence, acted as a deterrent against extensive illegal fishing in this area.⁸ The use of these

⁵ The CAP Report, in the Annex to goal 2.4, cites the Expert Committee on Fishing Technologies (ECOFT, 2017) report “Alternative gear to gillnets in the Upper Gulf of California” as evidence that alternative fishing gear exists and can replace the gillnets in the Upper Gulf of California (see Expert Committee on Fishing Technologies. 2017. ECOFT report available at: <https://drive.google.com/file/d/1w6SQ8EqY1HyiYV8Ke6PmdHmJU2IkKt4k/view>). This is true, however, the Fisheries Institute fails to mention that this international committee stressed that experimental trials should continue in order to improve the performance of the alternative fishing gears and thereby increase fishers’ willingness to substitute alternative gear for traditional gillnets. The fisheries authorities also fail to mention that ECOFT’s 2018 report recommends a transparent, multi-year workplan to facilitate additional and independent field testing of alternative gear. To the best of our knowledge, such independent testing has not been performed to validate the gear’s performance, for example in terms of catch-per-unit-effort of target species (see Appendix for further details).

⁶ This lack of incentive is reflected in meetings held in August 2023 between Mexican government officials and fishers where the fishers were informed by representatives of CONAPESCA that they could use gillnets in the Upper Gulf (outside the ZTA) despite such use directly contravening the September 2020 regulations (Pers. Comm. with a fisherman who attended the meeting but whose identity is being protected to avoid repercussions). Furthermore, the government has not been transparent in explaining how amendments to the September 2020 regulations discussed at meetings of the Grupo Intersecretarial de Seguimiento (“GIS”) will benefit fishers and their families while also meeting the conservation needs of the vaquita and other biodiversity in the Upper Gulf.

⁷ See, <https://iucn-csg.org/wp-content/uploads/2023/06/Vaquita-Survey-2023-Main-Report.pdf>

⁸ See, <https://iucn-csg.org/vaquitas-continue-to-surprise-the-world-with-their-tenacity/>

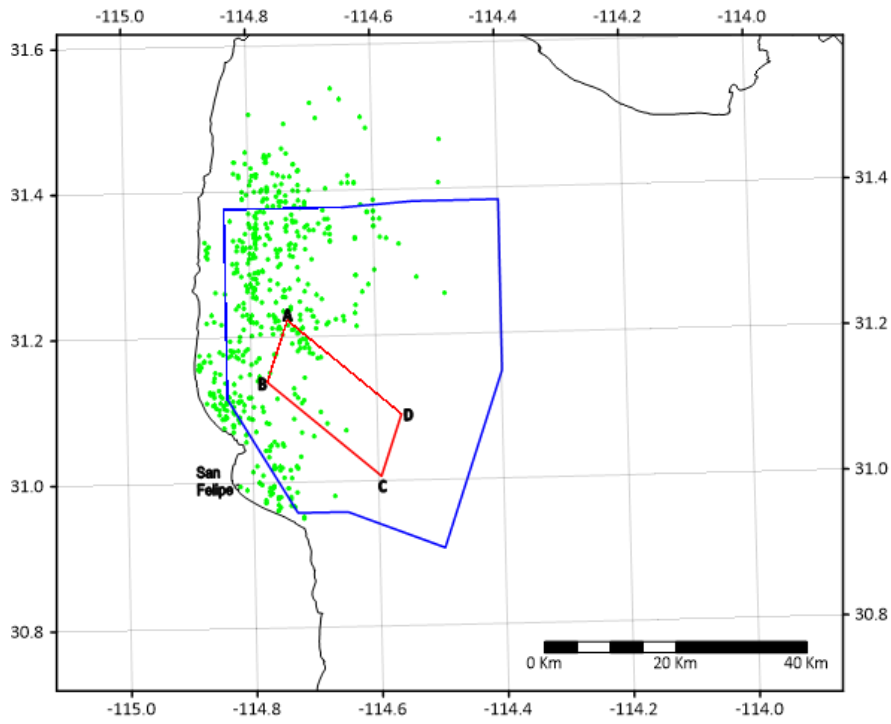
blocks, however, constitutes an emergency action to protect vaquitas in one small part of their range; it is *not* a permanent solution to the problem of ensuring their survival. Vaquitas use habitat outside the ZTA, though the extent to which they are currently using such habitat is unknown because intense fishing activity prevents their monitoring (see Point 4). As vaquitas recover and recolonize their historical range (see map in point 4 below for the vaquita range in 2015), which is the aim of conservation actions, the habitat they need will be much larger than the ZTA. Recovery cannot happen if gillnets remain the primary gear for capturing fish and shrimp.

The CAP Report fails to disclose how focusing enforcement and surveillance efforts only on the ZTA will affect totoaba conservation. There are, for example, no maps depicting where the illegal totoaba fishing has concentrated in recent years. According to recent assessment of the status of totoaba in the Upper Gulf, it was noted that “main current threat to the totoaba population is uncontrolled capture of sub-adults and adults who congregate from January to June in the Upper Gulf during the reproduction period,” and that “this capture regime is not sustainable.”⁹ The figure below (from the 11th CIRVA report¹⁰, which included a recommendation to establish the ZTA) shows that relatively little totoaba fishing occurred within the ZTA but that much of it occurred elsewhere within the Vaquita Refuge. Two large seizures of totoaba swim bladders within the US have occurred since April 2023¹¹, demonstrating that the totoaba fishery continues at a high level despite the reduction in gillnetting within the ZTA.

⁹ Mata, Miguel Angel Cisneros (editor). 2020. Evaluación de la población de *Totoaba macdonaldi*. Instituto Nacional de Pesca y Acuicultura. Note that the original document is in Spanish. The quoted text is from a machine translation of the conclusions section of the report.

¹⁰ <https://www.iucn-csg.org/wp-content/uploads/2019/03/CIRVA-11-Final-Report-6-March.pdf>

¹¹ The first occurred on April 13 at the Area Port of Nogales where 270 bladders (242 pounds) worth an estimated 2.7 million dollars were seized in the second largest seizure in US history and the largest seizure ever in Arizona. US Customs and Border Protection. June 12, 2023. “Second largest seizure of Totoaba Swim Bladders by Arizona CBP Officers”. Available at: <https://www.cbp.gov/newsroom/local-media-release/second-largest-seizure-totoaba-swim-bladders-arizona-cbp-officers>; On October 17, 2023, 91 swim bladders (109 pounds) with an estimated value of 910,000-1,365,000 dollars were seized at the Port of San Luis in Arizona representing the second largest seizure in Arizona. Customs and Border Protection. October 17, 2023. “Second Largest Seizure in Arizona of Protected Totoaba Swim Bladders Discovered in San Luis, Arizona Port of Entry”. Available at: <https://www.cbp.gov/newsroom/local-media-release/second-largest-seizure-arizona-protected-totoaba-swim-bladders#:~:text=For%20the%20second%20time%20this,in%20April%20of%20this%20year.>

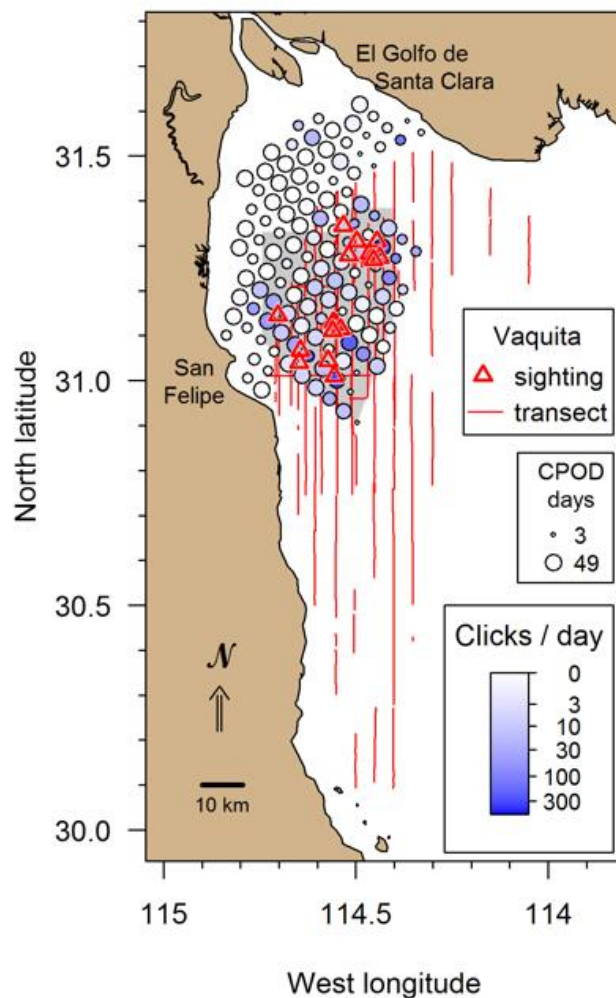


Map: Green dots are active totoaba nets removed between 2016 and 2018. Not little totoaba fishing within the ZTA (which had not yet been established). The blue polygon is the 2018 Vaquita Protection Refuge. The red polygon is the Zero Tolerance Area

Point 4: Monitoring of vaquitas remains compromised by fishing activities

The CAP Report does not mention that due to a conflict between the 2020 Agreement and earlier agreements/regulations, clam fishing is tolerated inside the ZTA despite a prohibition on all vessel activity, except for patrol and research vessels, in the ZTA.¹² During low tides, we observed tens of pangas operating within the ZTA.¹³ While clam fishing itself is not a direct threat to vaquitas, many acoustic detectors used to record vaquita sounds to determine their presence were found floating or were missing because they had been cut loose from their anchor lines and buoys. This problem occurred only when clam divers were present. As a consequence, vaquita research was hindered as acoustic monitoring now can only occur during strong tide periods to avoid loss of acoustic detectors).

The loss of acoustic detectors has eliminated the ability to monitor vaquitas acoustically within



the Vaquita Refuge since 2018 when a monetary compensation program that paid fishers not to fish within areas where gillnets are prohibited, including the Vaquita Refuge, was ended. The map depicts sightings and acoustic detections from the last full survey of vaquitas in fall of 2015. While most acoustic detections in 2018 were within the ZTA (the reason CIRVA recommended concentrating effort to protect vaquitas in that area), we know that vaquitas venture outside the ZTA. The original design for acoustic monitoring of vaquitas included operation only in summer months when fishing activity was low, and this allowed collection of over 3,000 days-worth of data annually. The current effort, however, produces only a small fraction of that because equipment loss is so pervasive.

The CAP Report fails to emphasize that during the May 2023 acoustic/visual survey, vaquitas (including at least one

¹² The Sea Shepherd Conservation Society routinely documents clam fishing within the ZTA. See, <https://seashepherd.org/milagro/illegal-fishing-vessel-report/>

¹³ See, <https://iucn-csg.org/wp-content/uploads/2023/06/Vaquita-Survey-2023-Main-Report.pdf>

calf) were seen outside the ZTA.¹⁴ Of concern, however, is that none of the vaquita photographed during the 2023 survey could be matched with uniquely marked vaquitas photographed during past surveys. While the previously photo-identified animals could have been present but missed during the 2023 survey, it is also possible that they either died or moved outside the ZTA. Survey results since 2018 have revealed that a minimum of approximately ten vaquitas are present at any time in or near the ZTA. The current level of monitoring cannot determine with precision and a high level of confidence whether the vaquita numbers are decreasing, increasing, or stable given that only a small portion of their range is being monitored and so much acoustic equipment is being lost to fishers.

Conclusions:

The joint actions by the Mexican Navy and the Sea Shepherd Conservation Society (“SSCS”) to protect vaquitas within the ZTA including through placement of concrete blocks, monitoring the blocks to detect net entanglement, and surveillance and enforcement of the Upper Gulf to prevent incursions by illegal fishers, represent a significant contribution toward saving the last few vaquitas and preventing complete extinction of the species.

To save the vaquitas and manage the totoaba sustainably, however, requires real, meaningful, and objectively documented progress be made on the other Action Lines identified in the CAP Report. There is, for example, no evidence that illegal gillnet use within the Vaquita Refuge has been (or will be) reduced, which means there is no potential for vaquitas to recover. Moreover, the continued tolerance of illegal activities outside the ZTA means that totoaba will continue to be poached with impunity in areas where they are known to occur in relatively high densities.

There is also no evidence that progress has been made toward converting fishing communities to alternative gear. Obtaining permits for alternative fishing gear and including a gear list in the CAP Report does not mean that alternative gear is currently in use or that fishers, who possess such alternative gear, can maintain their livelihoods without proper training in the use of the gear. The CAP Report paints an overly optimistic picture of vaquita conservation by concentrating on successes achieved in the ZTA while illegal fishing – directly threatening any prospect of vaquita recovery or sustainable management of totoaba – continues unregulated outside the ZTA boundary.

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The table below summarizes the items where the Secretariat’s conclusions differ strongly from our observations in our areas of expertise (Action Lines 1, 2, 4 and 5).

¹⁴ Id.

Color codes for table:

Secretariat:

Targets with associated milestones that have been achieved.	
Targets with associated milestones that have been well progressed but not yet completed and therefore justify further reporting to SC78.	
Targets with associated milestones that are not yet implemented, or their implementation dates are in the future and will require further reporting to SC78.	

Rojas-Bracho:

Targets with associated milestones that have been achieved.	
Targets with insufficient evidence to determine whether target has been achieved	
Targets with associated milestones that are not yet implemented, or their implementation dates are in the future and will require further reporting to SC78.	

Line of action 1: Monitor effective compliance with regard to authorized departure and landing sites, in accordance with the regulatory agreement.

Target	Milestones	Rojas-Bracho/Taylor observations	Conclusions of the Secretariat	Conclusions from Rojas-Bracho and Taylor
1.1 Verify all vessels departing from and arriving in authorized sites to conduct fishing activities.	Milestone 1 (M1): An additional inspection and verification point to those already defined has been established in the boardwalk or Malecon of San Felipe.	Report states there were insufficient personnel to verify all vessels. Lack of effort data makes level of adequacy impossible to determine. Two fishers have informed us this month that inspection only happens in the San Felipe Port.		
	Milestone 2 (M2): The monthly report of verified vessels and corresponding penalties in all the inspection points, including the additional point of the <i>Malecón de San Felipe</i> , has been produced.	The prevalence of vessels carrying illegal gear (gillnets) calls into question reported numbers of 'verified' vessels (that should not be carrying illegal gear)		
1.3 Install a long-range video surveillance system in strategic sites.	Milestone 1 (M1): The project to install a long-range video surveillance system in strategic sites has been prepared.	This goal has not been met and progress cannot be evaluated		
1.4 Implement an awareness raising programme for the fishing sector to change	Milestone 2 (M2): The workshops have been held.	Attendance was low and no details are provided that fishermen were told possession and use of		

its behaviour and deter illegal fishing, use of illegal nets and their manufacture, trade and transport; and change negative perceptions of the vaquita.		gillnets is illegal. Without details it is not possible to evaluate whether this milestone was accomplished.		
1.5 Increase terrestrial inspection and surveillance activities	Milestone 2 (M2): Extraordinary fishery and/or environmental inspections have been conducted.	The small number of inspections were apparently done at legal fish distribution sites, not where illegal activities take place		
	Milestone 3 (M3): Random terrestrial fishery and/or environmental inspection and verification points have been established.	The recent large seizures of totoaba buche in Arizona indicate the inadequacy of inspections within Mexico to stop illegal totoaba trade		
2.2 Keep monitoring the Zo continuously through the maritime radar system of the assigned ocean patrol.	Milestone 1 (M1): 24/7 radar monitoring in the Zo is ensured.	Insufficient details are provided to evaluate the radar system. The distance vessels can be detected is not given and there are no effort data (proportion of time the system is operated and monitored)		
2.3 Continue to monitor the VRA through the terrestrial radar system.	Milestone 1 (M1): 24/7 radar monitoring in the VRA is ensured.	See comments as for 2.2. Since much of the Vaquita Refuge is blocked by the Machorro mountains, further reporting is clearly required		
2.4. Intensify maritime, terrestrial and aerial patrols with manned and unmanned vehicles during authorized fishing seasons, ensuring permanent surveillance and law enforcement in the Zo and VRA.	Milestone 2 (M2): Maritime and terrestrial surveillance routes have been intensified during the gulf corvinafishing season, associated with illegal fishing of totoaba.	The period of reporting (April-July) is for a time when fishing activities are relatively limited (i.e., no fishing for shrimp, curvina, and very little for totoaba). This milestone cannot be evaluated without the primary fishing seasons being observed		
	Milestone 3 (M3): Aerial inspections using manned and unmanned vehicles have been intensified during the authorized gulf corvina fishing season.	The reporting period was not during corvina season		
2.5 Keep the Zo free of all types of nets and of the presence of vessels through the project of deploying concrete blocks.	Milestone 1 (M1): A programme for the removal and management of trapped nets has been implemented.	Clam diving vessels are completely tolerated in the ZTA and this coincides with the loss of acoustic equipment		

	Milestone 3 (M3): A monthly record has been drawn up of the number of vessels present to analyse the correlation between the deployment of blocks and the decrease of vessels in the Zo.	Tolerance of clam diving vessels compromises interpretation of the reported decrease in vessels. No comparison between SSCS vessel counts and Navy vessel counts		
2.6 Systematically apply procedures and penalties against anybody entering the Zo for any unauthorized activity.	Milestone 1 (M1): An information document has been completed and will be made available to fishers on the penalties incurred for operating illegally in the Zo.	Tolerance of clam diving vessels conflicts with the 2020 Agreement. The report covers education but not application of penalties		
2.8 VRA free of ghost nets.	Milestone 1 (M1): The working programme for the detection, removal and destruction of ghost nets has been launched.	Annex for 2.8 gives no details on effort to recover nets outside the ZTA but within the Vaquita Refuge.		
2.9 Apply procedures and penalties against anybody entering the VRA for any unauthorized activity.	Milestone 2 (M2): At least three information sessions have been organized to inform fishers of the standard incremental penalties incurred for unauthorized or illegal operation in the VRA.	None of the meetings documented in the Annex 2.9 mention the Vaquita Refuge, only the ZTA		
2.10 Establish a protocol for consistent interpretation and joint action aimed at the enforcement of laws, regulations and rules relating to fisheries, environmental issues, maritime and coast guard authorities.	Milestone 1 (M1): The draft protocol has been prepared and circulated for its review by competent authorities.	There is a clear conflict between the 2020 Agreement and allowing clam diving pangas to operate within the ZTA. No mention is made of this and it is clearly not resolved whether the Navy is enforcing the 2020 Agreement		
2.12 Put in operation a system to locate minor vessels.	Milestone 1 (M1): The project to install a system to locate smaller vessels has been developed.	Systems exist and are in use elsewhere, but not the Upper Gulf		
4.2 Issue all the permits for commercial fisheries with the alternative gear systems.	Milestone 1 (M1): The technical opinion of INAPESCA on alternative gear systems has been obtained.	Permits have been issued but no alternative fishing gear in use		
5.1 Estimate the population trend of the vaquita.	Milestone 2 (M2): The working plan has been drawn up.	The plan monitors the ZTA, which is a portion of the vaquita distribution. Actual abundance and trends are not possible to determine when only a portion of the species range is monitored, without additional surveys, and if uniquely marked vaquita cannot be found		

Appendix With Detailed Comments

Action Line 1

Goal 1.1 Verify all vessels that depart and arrive at authorized sites

There is no documentation of why the San Felipe Malecon was added as a launching and departure site, nor is there an indication of when this was done. One fisher has mentioned on Friday 20th of October that poor verification happens at the Malecon¹⁵.

The CAP Report notes that “there was not the necessary personnel to verify all the vessels” (pg. 13) and yet the Malecon was added as an inspection site which would increase the need for inspection personnel (particularly at the Malecon due to its high uses as a disembarkation and embarkation site). Further, the months covered in the CAP Report are months with the lowest fishing effort, so the personnel assumed to be needed to verify fishing activities must be far below what is needed during the shrimp, curvina, and totoaba seasons. Because neither inspection effort (number of hours and days) nor the corresponding proportion of vessels inspected and/or verified is reported, it is impossible to evaluate the government’s compliance with its stated goal of ‘all vessels being verified’.

No permits for fishing with gillnets should have been issued. The number of permits issued authorizing the use of alternative gear is not clear. In Annex 4.2, for example, Mexico reports that 579 fishing permits, including 556 for smaller vessels, have been issued but in the CAP Report it suggests that only 23 permits have been issued to authorize the use of alternative gear (pg. 56). It is our understanding from discussions with fishers that all current fishing permits authorize the use of alternative gear so it is unclear what distinguishes the 23 alternative gear permits from the other issued permits. Regardless of the numbers of permits issued allowing the use of such gear, very few fishers have alternative gear so they continue to fish with illegal gillnets.

Furthermore, the claim that 1,615 pangas were ‘verified’ (i.e., had legal permits and gear) cannot be true because only clam divers and gillnetters (which is illegal gear) were seen. It is not plausible that inspectors would have only encountered clam divers. Note that the panga shown in Figure 1.1 in the CAP Report is a typical panga loaded with gillnets that is being ‘inspected’ but should *not* have been ‘verified’ as it is not in compliance with the 2020 Agreement.

The CAP Report lacks any information about white pangas (i.e., pangas without registration numbers) and cloned pangas (i.e., two or more pangas using the same registration number), Such unregistered pangas are common and greatly disliked by local, legal fishers as they outcompete and impede the activities of fishers complying with the law. It is not plausible that none of these white pangas would be seen if the verification process were adequate.

¹⁵ Pers. comm. with fisherman whose identify must be protected to prevent adverse repercussions to him or his family.

Goal 1.2 Determine the functionality of the departure and arrival sites

It is unclear to us what 'functionality' means or what kind of functional analysis was performed, so we cannot comment.

Goal 1.3 Install a system of long-range video surveillance in strategic locations

This goal has not been met and progress cannot be evaluated.

Goal 1.4 Implement an Awareness Program and Raising awareness in the fishing sector to change behavior

This stated goal is vague. Did those undertaking the awareness raising program clearly advise fishermen that ALL gillnets are prohibited and that even the possession, transport, manufacture, and sale of such nets is banned even on land? Attendance at these programs was exceedingly low suggesting that this was no more than a box checking exercise. There is no clear timetable to convert fishers from using illegal gillnets to alternative gear. Similarly, the Annex to Goal 1.4 provides no convincing evidence of changing fishing behavior and gears. The number of cooperatives and permit fishermen listed in the CAP Report does not add up to the attendance mentioned in the workshops (179 coastal fishermen and 197 fishing cooperatives (Goal 1.4 H2, pg 14).

Goal 1.5 Increase land inspection and surveillance activities

With illegal totoaba products continuing to be seized, it is not clear if the small number of inspections in Mexico are effective in addressing illegal fishing. No explanation is given about using surveillance to target inspections. According to the CAP Report, the inspections were carried out in legal establishments and/or warehouses (CAP Report, pg. 21). Totoaba stockpile sites are clandestine. Further, the reporting period for the CAP Report (April-July) is after the 2023 illegal totoaba season was nearly finished. Consequently, little if any evidence of effective totoaba inspections will be collected at illegal landing sites or during night hours.

Action Line 2 Prevent the entry of vessels to the ZTA area as well as keeping it free from gillnets together with the Vaquita Refuge

For Action Line 2, the entire focus of the CAP Report is on preventing entry of vessels to the ZTA. The 2020 Agreement prohibits gillnet use in a much larger area that remains unmarked with buoys and is completely unenforced.

Goal 2.1 Keep the demarcation of the area marked and disseminate it among the maritime and fishing community

This goal has been largely accomplished but not all of the missing demarcation buoys have been replaced.

Goal 2.2 Maintain permanent monitoring of the ZTA through the radar system maritime patrol designated ocean patrol

This goal cannot be evaluated as there is no documentation of the detection capabilities of the radar systems used, the effort, or the areas covered. Further, clam diving vessels are being allowed to use the ZTA in violation of the September 2020 Agreement, so just having a vessel counts from radar is insufficient for determining whether gillnets are being used (as noted in the Annex for 2.3). Also, there must be significant undercounting as only 26 vessels were detected in the ZTA in May 2023 (CAP Report, Annex 2.2) when many more were documented from Sea Shepherd's vessel Sea Horse during the vaquita survey. An example of the disparity is for May 12 where CAP Report, Annex 2.2 reports 3 vessels and SSCS reports 24 (including 19 clam diving vessels and 4 where fishing type could not be determined). For that same day the total in the Vaquita Refuge from SSCS (that acknowledge that the entire Refuge cannot be monitored with their radar) was 33, which was what was reported in the CAP Report (Annex 2.3) at the total for the entire month of May. A comparison could be made between the number of vessels detected by the radar and the number counted on the water, but the data presented in the CAP Report do not include the number of days or hours the radar was operational, so it is not possible to evaluate the performance of the radar system. In general, the numbers cannot be interpreted as information on effort (i.e., number of days/month or hours/day the system is operational) and the effective range at which vessels can be detected by the land radar are not specified.

Goal 2.3 Maintain monitoring of the Vaquita Refuge through the ground radar system

No information is provided on the distance at which the ground radar is effective and the amount of time it is being monitored and recorded. It is also noteworthy that much of the totoaba fishing takes place north of the Machorro mountains where it is unlikely that the land radar could be effective as that area is not in the line-of-sight of the Navy port where the system is installed.

For the Vaquita Refuge, there was reportedly a 94 percent decline (CAP Report, pg. 34) which was based on data collected by land-based radar. Considering the geographic limitations of the ship-based radar on the SSCS vessel and Mexico's admission that its current land-based radars systems are "in the maintenance phase" (CAP Report, pg. 34), it is unclear where the data used to assess vessel activities in the Vaquita Refuge was obtained. Clarification of the basis for this claim is needed.

Goal 2.4 Intensify maritime, land and air patrols with manned and unmanned units during the authorized fishing seasons, guaranteeing permanent surveillance and law enforcement of the ZTA and Vaquita Refuge

The primary problem with examining the level of surveillance ‘during authorized fishing seasons’ is that the period covered (only data for April are provided) is a low fishing period (shrimp and curvina seasons are over, totoaba season is nearly over, and sierra fishing takes place at night). Data are simply too sparse to evaluate progress toward meeting this goal. It was not apparent during the May 2023 vaquita survey that the entire Vaquita Refuge was being patrolled; effort appeared to be concentrated in and slightly outside the ZTA.

Goal 2.5 Keep the ZTA free of all types of nets and the presence of boats through the Sembrado de blocks project

Net removal and deterrence through deployment of concrete blocks with entangling hooks have been the most successful conservation actions, though improvements are needed. Annex 2.5 H1 states that a program to recover trapped nets has been implemented and that the responsible parties are all part of the Mexican Government. No government agency, however, has an adequate monitoring program to find and remove nets from the blocks. Instead, the SSCS monitors the blocks for entangled nets and works with SEMAR to remove those that are found. This collaboration is mentioned in the same Annex 2.5 H1 but not in the table contained in CITES SC77 Doc. 33.12.2 Annex 5 that may be used by many CITES Parties to evaluate Mexico’s implementation of the CAP. This SSCS effort is limited in efficiency since SEMAR has not, until very recently, provided SSCS with the exact coordinates of deployed blocks and the blocks themselves are not designed to show up well on side-scan sonar.

Goal 2.5 states that the ZTA should be kept free of the presence of boats (as stated in the 2020 Agreement), but pangas diving for clams are tolerated. While the dive activities themselves do not threaten vaquitas, the acoustic monitoring equipment needed to detect and assess (at least qualitatively) the status of vaquitas is regularly vandalized or stolen in the neap tide (i.e., high tide) periods when many dive-pangas are present (see quote below under goal 5). Thus, conservation efforts are being hindered by the tolerance of fishing vessels of any kind within the ZTA.

In the mitigation section of Table VI.1 in Annex 2.5, milestone H1 the use of anti-vegetative coatings and/or enamels is noted. It is not clear what this refers to, or whether this ‘mitigation’ action has been implemented (though the report states that this action has been 100% fulfilled).

The “Status of Advance” column In the CAP Report is so poorly described that the accuracy cannot be evaluated. For example, for H3 in CAP Report Table for Action Line 2 (pg. 23) the Status of Advance column reports 38 percent fewer boats in the ZTA in 2023 compared to the same period in 2022, but the methods and effort used to arrive at this estimate are not given. Comparisons with other reports¹⁶ are not currently possible because reporting periods differ,

¹⁶<https://cetact.org/library/Substantial%20ZTA%20Reductions%20But%20Gillnetting%20Displaced%20to%20Adjacent%20VPR%20Aug%202023.pdf> ; see also <https://seashepherd.org/2023/04/20/sea-shepherd-announces-90-reduction-in-illegal-fishing-in-zta/>

however, the SSCS effort and detection radius (11.5km) are well documented. No attempt has been made to test and compare the various efforts to quantify the number of pangas in the ZTA. Similarly, in Annex 2.5 H2 there is no record of effort (e.g., days per month/hours per day) in searching for illegal gillnets. If the SSCS ship is not present, then the blocks are not being checked. If days are windy and patrols don't go out to sea, then recovery of zero nets does not indicate that nets were not present within the ZTA. Without effort data, the numbers given (like the 38 percent) are essentially meaningless.

Goal 2.6 Systematically apply procedures and sanctions to those who enter the ZTA to any unauthorized activity

The conflict between the 2020 Agreement, which states that *no* fishing vessels should be allowed within the ZTA, and reported earlier agreements/regulations allowing clam divers to operate in the area is not made clear. It is also not clear if CONAPESCA is actually informing fishers that gillnets are illegal to use, possess, sell, transport and manufacture in the region. Since there seems to be *no* enforcement of the gillnet prohibition at embarkation/landing sites, it is not clear why fishers should care about complying with the law, even if they were informed that such fishing is illegal. Further, goal 2.6 is to “systematically apply procedures and sanctions”, whereas the report only discusses educating the fishers about what the sanctions are, with no indication that any sanctions are actually being applied.

Goal 2.8 Vaquita Refuge free of ghost gillnets

Annex 2.8 does not give details on search effort, types of nets removed, areas where they were found, animals entangled, etc. SSCS's current effort focuses on the ZTA, which is a small part (less than a quarter) of the Vaquita Refuge. Past efforts using the Museo de la Ballena vessel, 20 privately owned pangas, along with efforts undertaken or coordinated by the Navy and WWF removed more than 400 gillnets in parts of the Vaquita Refuge. Without effort data (e.g., number of nets removed per month, per day and hours of searching per month and per day), it is not possible to infer that the 28 removals mentioned in the CAP Report constitute a reduction in the frequency with which ghost nets have been recovered from the Vaquita Refuge over time.

Annex 2.8 claims that the lack of freshwater flows from Colorado River into the Colorado River Delta, pollution, and inbreeding depression are threats to vaquitas without presenting a scintilla of evidence (because there is none). To the contrary, there are multiple published, peer-reviewed papers by the authors of this review and many scientific collaborators refuting each of these claims¹⁷. This annex was written by the Navy, which has consistently promoted these false

¹⁷Robinson, J.A., Kyriazis, C.C., Nigenda-Morales, S.F. Beichman, A.C., Rojas-Bracho, L., Robertson, K.M., Fontaine, M.C., Wayne, R.K., Lohmueller, K.E., Taylor, B.L., Morin P.A. 2022. The critically endangered vaquita is not doomed to extinction by inbreeding depression. *Science* 376: 635–639, Lorenzo Rojas-Bracho, Richard C. Brusca, Saúl Álvarez-Borrego, Robert L. Brownell Jr., Víctor Camacho-Ibar, Gerardo Ceballos, Horacio De La Cueva, Jaqueline García-Hernández, Philip A. Hastings, Gustavo Cárdenas-Hinojosa, Armando M. Jaramillo–Legorreta, Rodrigo Medellín, Sarah L. Mesnick, Edwyna Nieto-García, Jorge Urbán, Enriqueta Velarde, Omar Vidal, Lloyd T. Findley, and Barbara L. Taylor. 2019. Unsubstantiated Claims Can Lead to Tragic Conservation Outcomes. *BioScience* 69:12-14.,

claims. The Annex correctly notes that the September 2020 Agreement prohibits any type of fishing within the ZTA, but the Navy allows clam fishing to take place without any restrictions. No specific actions taken to search for or recover ghost nets in the Vaquita Refuge are identified in the CAP Report. As Mexico carried out such operations extensively between 2015 and 2017, there is no excuse for not restarting such programs which could employ local fishermen providing a means for them to support their families. Developing programs to remove nets, which are included in the CAP Report) are unnecessary since that methodology already exists. In short, no progress has been made toward reaching goal 2.8.

Goal 2.9 Apply procedures and sanctions to those who enter the Vaquita Refuge for any unauthorized activity

The Annex reports on a number of meetings to inform fishers of sanctions against unauthorized activities within the ZTA (which has *nothing* to do with goal 2.9). Implementation of this action item has been a complete failure: no attempt has been made (not even educational outreach) to achieve the stated goal. The CAP Report uses ZRV (which is used to refer to the Vaquita Refuge) as the target for educational outreach while Annex 2.9 clearly states the sessions pertained only to the Zo (or ZTA). This will be confusing to CITES officials and Parties who are responsible for reviewing and acting upon Mexico's extensive response.

Goal 2.10 Establish a common interpretation of the laws among agencies

There is no discussion in the CAP Report of the decision by Mexico to allowing clam fishing within the ZTA despite it being in violation of the September 2020 regulations. As mentioned repeatedly above, this is not a direct threat to vaquitas or totoabas but it does interfere with conservation efforts because of the seemingly inevitable loss of acoustic monitoring gear used to determine presence of the species. It also conflicts with the 2020 Agreement and thus reinforces the pattern of non-systematic enforcement of laws and regulations, which is inconsistent with goal 2.10.

Goal 2.11 Train the personnel of the competent authorities

Seems to be largely incomplete.

Goal 2.12 Put into operation a location system for boats

Table 2.1 in the CAP Report (Action Line 2, Goal 2.12 pg. 30) suggests that a system needs to be developed to track vessels but no meaningful progress has been made in implementing this

Gulland F, Danil K, Bolton J, Ylitalo G, Okrucky RS, Rebolledo F, Alexander-Beloch C, Brownell RL, Mesnick S, Lefebvre K, Smith CR, Thomas PO, Rojas-Bracho L. Vaquitas (*Phocoena sinus*) continue to die from bycatch not pollutants. Vet Rec. 2020 Oct 3;187(7):e51. doi: 10.1136/vr.105949. Epub 2020 Jul 13. PMID: 32661184; PMCID: PMC7591798.; additional studies are available upon request.

goal. This lack of progress is perplexing since this requirement was originally imposed in 2017¹⁸ and such systems remain operational on many vessels (although the VMS on over 200 vessels were reportedly removed or disabled by 2019).¹⁹ The importance of such systems was noted by Mexico's national commissioner of aquaculture and fisheries, Mr. M. Aguilar, who, when describing the progress achieved in the satellite monitoring system for fishing vessels (SISMEP), noted that this is "a cutting-edge tool, unique in its kind in our country, aligned with international agreements of which Mexico is part."²⁰

Mexico, however, has failed to pay to access the data from the monitoring company.²¹ Failing to pay to regularly and frequently access the data undermines monitoring, surveillance, and enforcement efforts. There is no excuse for failing to implement this action item.

In addition, it is not clear what "consolidated" means in the context of milestone H4 of goal 2.12. (pg. 41) and why this goal will take seven months to complete (May 2024) when the fisheries authorities have already participated in fishery tracking programs at least three previous times.²²

Finally, beyond the time it will take for the Navy to develop its own vessel monitoring system, the cost (estimated to be 149 million pesos (or nearly 8.2 million USD) is far in excess of utilizing an existing system. According to Pelagic Data Systems, their estimated cost for five years would be 4.25 million USD.²³

Action Line 3: Strengthen intelligence actions to combat transnational organized crime involved in illegal trade of totoaba.

This is outside our area of expertise

Action Line 4: Implement a fishing gear program alternatives and the marking program and equipment fishing for smaller boats

¹⁸ See, <https://www.gob.mx/conapesca/articulos/se-prohiben-permanentemente-las-redes-agalleras-en-el-alto-golfo-de-california-114586?idiom=es>

¹⁹ See, https://www.dof.gob.mx/nota_detalle.php?codigo=5488674&fecha=30/06/2017#gsc.tab=0

²⁰ See, <https://www.gob.mx/conapesca/articulos/presenta-conapesca-avances-en-el-sistema-de-monitoreo-satelital-de-embarcaciones-pesqueras-139914>

²¹ See, <https://mexicotoday.com/2020/10/11/opinion-saving-the-vaquita-marina-urgency-of-this-fall/>

²² In Sinaloa, Mexico with Pelagic Data Systems and del Pacifico Seafoods (see, https://www.Edf.org/sites/default/files/oceans/technologies_for_improving_fisheries_monitoring.pdf); in the Upper Gulf of California starting in 2017 (see, <https://unesdoc.unesco.org/ark:/48223/pf0000385398>; <https://www.gob.mx/conapesca/prensa/protege-conapesca-especies-del-alto-golfo-de-california-con-monitoreo-satelital-de-embarcaciones-175626?idiom=es-mx>; and in the Ulloa Gulf, Baja California Sur using Shellcatch to monitor bycatch (see, https://www.youtube.com/watch?v=ahu4_thb1ta&feature=youtu.be&ab_channel=shellcatchmedios).

²³ Pers. Comm. between Lorenzo Rojas Bracho and Pelagic Data System on October 23, 2023.

The CAP Report (pg. 17) notes that 1,623 vessels were verified to comply with fishing legislation and that only 8 vessels were not in compliance. This is entirely inconsistent with our own observations and is belied by evidence contained in the CAP Report itself. For example, the CAP Report repeatedly references that only 23 vessels had permits authorizing the use of alternative gear (see CAP Report page 57 and Table 4.3 on page 53). In other words, only 23 of the 1,623 vessels found to be in compliance with fishing laws were permitted to use alternative gear. Furthermore, in Annex 4.2 of the CAP Report, it is reported that 579 fishing permits have been issued (including 556 for small vessels and 23 for larger vessels) inferring that over 1,000 small fishing vessels have no permits. These numbers suggest that CONAPESCA considers fishers carrying illegal gillnets to have the proper permit, that they are transporting legal gear, or that, despite the claim in the CAP Report that no permits are granted authorizing the use of prohibited fishing gear, there is a wide tolerance by the authorities to the use of gillnets (See Annex 4.2, pg. 3-4).

In summary, the ban on gillnets contained in the 2020 Agreement is not being adhered to and, in fact, there is no evidence that the quantity of gillnets being used has been reduced except for the small number of nets confiscated within the ZTA.

The CAP Report suggests that permits for alternative fishing gear are supported by a technical report by INAPESCA and Annex 4.2 lists all of the alternative gear identified in fishing permits that comply with technical requirements. What is not disclosed are the specifications of the permitted gear, what independent validations of the gear have been conducted, the results of any testing conducted to assess the efficiency of the alternative gear (and the methodology used to conduct the tests), and evidence demonstrating that the gear does not pose a threat to vaquita or other species of concern.

Goal 4.1 (pg. 53) restrict fishing to local fishermen and prevent outside illegal fishermen from stealing local natural resources.

No progress is apparent. Furthermore, nothing is included here or in the response to other goals about how enforcement is dealing with white (i.e., unregistered vessels) and cloned pangas (i.e., where existing registration numbers are used on multiple vessels).

Milestone H1: A list of accredited and active fishermen in the Upper Gulf of California will have been updated.

Fishers' federations and cooperatives provided the Navy with a list of their members and number of pangas with their corresponding registration numbers. CONAPESCA has to confirm the accuracy of this list. To the best of our knowledge, this has not been done.

Milestone H1: The technical opinion of INAPESCA will be obtained for alternative gear systems.

To the best of our knowledge and according to information provided by fishermen there have been almost no trials by INAPESCA with the gear listed during this administration: Red de

arrastre camaronera, Red suripera, Red de arrastre escamera, Trampas rígidas, Líneas de anzuelo.²⁴

Goal 4.3 Train 100% of the organizations that have alternative fishing systems authorized in permits issued by CONAPESCA.

We are in the middle of the shrimping season. With only 23 alternative gear permits issued, this does not indicate that training has been sufficient to move towards alternative gear as the primary fishing methods. This insufficiency in the use of alternative gear is consistent with such gear not being available to the fishermen.

Goal 4.5 (pg. 54) development of alternative fishing gear for curvina.

It is not clear why the curvina fishery receives so much attention as there is little evidence that this fishery is problematic for totoaba or vaquita. Conversely, vaquita deaths have been documented in the shrimp, chano, sharks and rays, and sierra fisheries.

Action Line 4 of goal 4.5, to be implemented by CONAPESCA, is incomplete.

Action Line 5 Monitor the vaquita marina population

Goals 5.1 and 5.2 (pgs. 59/60 and 60/61, respectively) pertain to monitoring the status of vaquitas. The main text does not emphasize that the need to replace acoustic detectors (in 5.1) given the frequent theft or vandalism of these devices by fishermen to use their anchors, lines and buoys in constructing homemade nets. Indeed, one of the primary reasons that vaquita monitoring has been limited to the ZTA is because it has not been possible to monitor vaquita in the Vaquita Refuge since 2018 due to loss of acoustic detectors. Although ongoing monitoring of vaquitas in the ZTA is critically important and should be expanded, only minimum vaquita numbers can be estimated preventing a full survey of the species to improve conservation and enforcements actions for the species outside the ZTA.

The May 2023 vaquita survey results are provided in Annex 5.2 but the annexes to the survey report were not provided in the CAP Report.²⁵ In appendix 2 of the survey report (Report of the Acoustic Component), for example, the problem with allowing fishing within the ZTA was described as follows:

Problems during the survey

²⁴ Pers. Comm. with fishermen whose names are being withheld to avoid any adverse repercussions to the fishermen and/or their families.

²⁵ Those annexes are available at: <https://iucn-csg.org/wp-content/uploads/2023/06/Vaquita-Survey-2023-Appendices-FINAL.pdf>.

The first deployment of acoustic detectors occurred on 9 May, at the beginning of a neap tide period which coincided with the clam dive-fishery inside the ZTA. (Previously this fishery was likely responsible for some lost moorings, see CICESE 2021 and 2022). On the first detector replacement period 11 May there was a loss of 10 moorings. This same day the observers on the visual team saw three detectors floating at the surface and were able to retrieve two of them (see the first acoustic report in the annex).

We decided not to redeploy moorings in places where they were lost, given that the neap tide period was just starting. One mooring was lost in each of the next two sampling periods, and three were lost in the fourth. During the fifth sampling period we were able to redeploy moorings in sites with previous losses because this was during the spring tide period when the clam dive-fishery stops because the currents are so strong diving is dangerous. Fishing activities with nets typically resumes at this time, though we observed little fishing activity inside the ZTA during the spring tide period. We believe this is a testament to the deterrent power of the 193 concrete blocks with hooks deployed by the Mexican Navy. As such, it made the deployment of acoustic detectors relatively safe. In fact, during the next three sampling periods only two moorings were lost, both at the margins of the ZTA, which shows that it is now safer to deploy equipment inside the ZTA during spring tides.”

Another point that was not emphasized in the CAP Report is that many vaquita detections (including those that included a calf) were outside the ZTA (which can be seen in Figure 5.2 in “Survey report for vaquita research 2023”). Although this report emphasizes that the number of sightings went from 7 in 2021 to 16 in 2023, the survey report makes it very clear that the data do NOT indicate an increase in the number of vaquitas (the estimated number remaining has been approximately 10 since 2018). While observing healthy vaquitas and calves is excellent news, seeing none of those with unique dorsal fin markings that had previously been identified is worrisome as it raises concern that these older experienced individuals may have died or moved outside the ZTA.

Action Line 6 Raise awareness of illegal trade in totoaba and its consequences for conservation.

This is outside our area of expertise.

Action Line 7 Operationalize the Trilateral Enforcement Contact Group.

This is outside our area of expertise.