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SMALL PELAGICS FISHERY IN SONORA, GULF OF CALIFORNIA

Second Surveillance Audit Report

Certification Code: F-SCS-0107

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Table of Contents

Table of Contents.....	2
Table List	4
Glossary.....	5
Executive Summary.....	6
Report details.....	8
Surveillance Information.....	8
Team Members.....	9
Background	10
Changes to Stock Assessments	10
Changes to Scientific Information.....	12
On-board observer program, port program, logbooks: Coverage & Sampling	13
Best Practices Training.....	13
Outcomes on Fishery Impact P2	14
Changes to Management Systems.....	15
Changes to Personnel	16
Changes Affecting Traceability.....	16
Version details.....	16
Results.....	18
Total Allowable Catch (TAC) and Catch Data	18
Recommendations	18
Conditions	19
Condition 1-1 (Pacific Sardine).....	19
Condition 1-2 (Pacific Sardine).....	22
Condition 1-3 (Pacific Sardine).....	25
Condition 1-4 (Thread Herring).....	27
Condition 1-5 (Thread Herring).....	31
Condition 1-6 (Thread Herring).....	34
Condition 1-7.....	38
Condition 2-1.....	39
Condition 2-2.....	41
Condition 2-3.....	43
Condition 2-4.....	47
Condition 3-1 and 3-2	50
Condition 3-3.....	53
Condition 3-4.....	56
Condition 3-5.....	59
Re-scoring Performance Indicators.....	61
Appendices.....	65
Evaluation Processes and Techniques	65

Site Visits.....	65
Agenda de Reunión.....	65
1.1.1 Segunda Auditoría de Vigilancia MSC: Gulf of California Small Pelagics Fishery.....	65
1.1.2 Agosto 6-7 2020.....	65
1.1.3 Guaymas, Sonora (remota).....	65
Stakeholder Participation.....	68
References.....	69
Template information and copyright.....	69

Table List

Table 1. Summary of Assessment Conditions.....	7
Table 2: Summary of Surveillance Information	8
Table 3. Fisheries program documents versions	16
Table 4. TAC and Catch Data of Pacific sardine in the northern-central Gulf of California	18
Table 5. TAC and Catch Data of thread herring in the northern-central Gulf of California.....	18

Glossary

ASAP	Age-Structured Assessment Program
BAC	Biologically acceptable catch
CAP	Client Action Plan
COBI	Comunidad y Biodiversidad
CONAPESCA	Comisión Nacional de Pesca y Acuicultura (National Commission of Fish and Agriculture)
DOF	Diario Oficial (Official Gazette)
ETP	Endangered, Threatened, and Protected
HCR	Harvest Control rule
INAPESCA	Instituto Nacional de la Pesca (National Fisheries Institute)
MSC	Marine Stewardship Council
NOM	Norma Oficial Mexicana
PI	Performance Indicator
PROFEPA	Procuraduría Federal de Protección al Ambiente
SAGARPA	Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación (Secretariat of Agriculture, Livestock, Fisheries and Food)
SCS	SCS Global Services
SEMARNAT	Secretariat of Environment and Natural Resources
TAC	Total Allowable Catch
UoA	Unit of Assessment
UoC	Unit of Certification

Executive Summary

This report summarizes the findings from the 2020 2nd surveillance audit of the Gulf of California small pelagics fishery in Sonora, Mexico. The fishery was re-assessed and renewed its certificate to the MSC requirements in January 2018 using the default assessment tree MSC Certification Requirements v1.3.

In this year's 2nd annual surveillance report, the assessment team evaluated expected outcomes of open conditions against the 2nd year milestones and the 1st year milestones if the condition was behind target. The team also reviewed any changes in the management system, regulations, the scientific base of information and any changes affecting traceability. A remote meeting was conducted on August 6-7, 2020, during which the assessment team spoke with the client and stakeholders to review the progress of the fishery on open conditions and review new information.

The fishery originally received 16 conditions in the 2017 reassessment; seven conditions in Principle 1, four conditions in Principle 2 and five in Principle 3 (See Table 1). At the conclusion of the 2nd surveillance the assessment team closed conditions 3-1 and 3-2. The audit team did not identify any conditions that were behind target for year one or year two milestones.

SCS determined that the Gulf of California small pelagics fishery continues to meet the standards of the MSC and complies with the Requirements for Continued Certification. SCS recommends the continued use of the MSC certificate through to the end of this certificate cycle when the remaining conditions are expected to close.

Table 1. Summary of Assessment Conditions

	Condition number	Performance indicator (PI)	Status	PI original score	PI revised score
1	1-1	1.1.2	On Target	75	Score not revised
2	1-2	1.2.1	On Target	70	Score not revised
3	1-3	1.2.2	On Target	75	Score not revised
4	1-4	1.2.1	On Target	70	Score not revised
5	1-5	1.2.2	On Target	75	Score not revised
6	1-6	1.2.3	On Target	75	Score not revised
7	1-7	1.2.4	On Target	75	Score not revised
8	2-1	2.1.2	Closed	80	Score not revised
9	2-2	2.3.2	On Target	70	Score not revised
10	2-3	2.3.3	On Target	65	Score not revised
11	2-4	2.5.2	On Target	75	Score not revised
12	3-1	3.2.2	Closed	75	Score not revised
13	3-2	3.2.2	Closed	75	Score not revised
14	3-3	3.2.2	On Target	75	Score not revised
15	3-4	3.2.3	On Target	75	Score not revised
16	3-5	3.2.5	On Target	70	Score not revised

Report details

Surveillance Information

Table 2: Summary of Surveillance Information

Fishery name	Small Pelagics Fishery in Sonora, Gulf of California.		
Unit(s) of assessment	<p>The small pelagics fishery in the Gulf of California targets the Northern/Central Gulf of California Pacific sardine (<i>Sardinops sagax</i>) and the Northern/Central Gulf of California thread herring complex (<i>Opisthonema</i> spp.), made up of three subspecies (<i>O. libertate</i>, <i>O. medirastre</i> and <i>O. bulleri</i>), or <i>sardina crinuda</i> and <i>arenque de hebra</i> in Spanish. The UoA covers permit holder, purse seiner vessels subject to Mexican National Standard Number NOM-003-SAG-PESC-2018, which operate in the Mexican territorial waters of the central-northern Gulf of California in NW Mexico. The certified fleet is composed of 46 purse seine vessel members associated to the CANINPES.</p> <p>There are approximately eight additional vessels licensed to capture the target species, currently, these are partially evaluated (i.e. Principle 1 and 2 scores consider the impacts of these vessels) but not fully. Therefore, these vessels cannot be considered eligible to join the certificate, unless the client group was to request an extension of scope to evaluate additional P2 and P2 components.</p>		
Date certified	22 Jan 2018	Date of expiry	21 Jul 2023
Surveillance level and type	Surveillance level 6		
Date of surveillance audit	August 6 th and 7 th , 2020		
Justification	NA		
Surveillance stage (tick one)	1st Surveillance		
	2nd Surveillance	X	
	3rd Surveillance		
	4th Surveillance		
	Other (expedited etc)		
Surveillance team	Lead assessor: Gabriela Anhalzer Assessor(s): Andy Bystrom, Enrique Morsan		
CAB name			
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	Email	leontp47@hotmail.com	
	Contact name(s)	León Tissot	

Team Members

Gabriela Anhalzer, team leader

- ✓ Completed training meeting requirements in Table 1 of GCRV2.4, as evidenced by the certificate of passing auditor training for the ISO course 19011
- ✓ Holds a Masters degree in coastal environmental management, and has over five years' experience in the fisheries sector related to stakeholder management and facilitation.
- ✓ Completed of the latest MSC training modules applicable to this assessment within the past five years (V2.1 Team Leader MSC modules in January 2019) .
- ✓ Has undertaken several MSC fishery assessment and surveillance site visits as a team member in the last 5 years including: Surveillance for the southern Gulf of California Thread Herring Fishery in Sinaloa & Nayarit Mexico, the Small pelagics fishery in Sonora, Gulf of California, US Atlantic Sea Scallop Fishery, US Atlantic Spiny Dogfish Fishery, and the North-eastern Tropical Pacific Purse Seine Yellowfin and Skipjack Tuna Fishery.
- ✓ Has demonstrated experience in applying different types of interviewing and facilitation techniques, as verified by SCS records audit witness records and previous audit reports.
- ✓ Is competent in the MSC Standard and current Certification Requirements, auditing techniques, and communication and stakeholder facilitation techniques, as verified by the completion of ISO 19011 auditor training.
- ✓ Has affirmed she holds no conflict of interest

Dr. Enrique Morsan – Universidad Nacional del Comahue, Argentina – Principle 1 Expert

- ✓ With 32 years of experience as a fisheries scientist is stock assessments, marine invertebrate biology, ecology and resource assessment
- ✓ Has passed the MSC compulsory training modules for Team Members within the last 5 years (08/13/19).
- ✓ Affirms he has no conflict of interest in conducting this assessment.

Andy Bystrom, Principales 2 and 3

- ✓ With relevant degree (M.Sc in Natural Resource Management) or over 5 years of research experience in marine policy, fisheries and research consulting while supporting NGOs and private sectors of different countries.
- ✓ Has passed the MSC compulsory training modules for Team Members within the last 5 years (February 2020)
- ✓ Affirms he has no conflict of interest in conducting this assessment.

Background

Changes to Stock Assessments

In 2019, INAPESCA carried out a population analysis of Monterey sardine (*Sardinops sagax*) and thread herring (*Opisthonema libertate*) from the Gulf of California considering the period 1971/72 to 2018/19 (Morales Bojórquez and Hernández Rivas, 2020a,b). The Age-Structured Assessment Program (ASAP) was used in both cases which did not imply a change in the stock assessment methodology in relation to previous years. It is an updated approach and well accepted method to assess populations under commercial exploitation due to the realistic outcome of the dynamic of the population, and allows an interpretation of the stocks' status, producing biological reference points and biologically acceptable biomass. The following fishery-independent indexes were used:

- Annual Relative Abundance Index of Evaluation Survey Data (kg of Pacific sardines/thread herring per haul hour (kg / hour), from the historical series (1990 - 2019)
- Annual relative abundance index of acoustic surveys data (Tons per year (t / year), of the cruise series (2008 - 2019)
- 3) Relative abundance index of ichthyoplankton cruise data (number of Pacific sardine/thread herring eggs and larvae per 10 m²)
- Probability index of sardine spawning
- Index of the proportion of sardines in the diet of birds. The indexes 1 -3 were used in both species whereas the indexes 4 and 5 were used only for Pacific sardine.

The ASAP analysis allowed for the estimation of the size of the population by age groups (in number and weight), fishing mortality, as well the generation of some biological reference points. For both species, the results indicated great interannual variability in the series (recruits, spawners and totals, in numbers and tons): recruitment increased from the early 1970s, reaching a peak in the early 1980s, falling to very low levels between 1990 -1991/1993 and again an upward trend with high variability increasing to historic maximum values in the 2006/07 season for *Sardinops sagax* and 2009/2010 for *Opisthonema libertate*. For both species, the abundance series of spawners adults follows a similar trend, although the peaks were recorded one year with respect to recruitment. The species differ in the magnitude of the absolute biomass, minimum biomass (B_{MIN}), exploitation rate (E), fishing mortality (F), and biologically acceptable catch (BAC).

Pacific Sardine

Between 2008/09 and 2013/14 the trend in the abundance series (in number and weight) was downward, however in recent years there was an upward trend: the spawning biomass increased from around 432,000 t in 2014 / 15 to almost 1,020 million tons in 2017 / 18-2018 / 19, while the exploitable biomass behaves the same way as the spawners, but the values in 2014/15 were almost 409,000 tons while this value increased to approximately 876,000 tons in 2016 / 17 and an average of 1,288 million tonnes in 2017 / 18-2018 / 19. The annual fishing mortality rate and the exploitation rate ($E = 1 - \exp(-F)$) show values below 0.15 / year for almost the entire time period, with some seasons where these values were between

0.16 and 0.23, with a maximum peak in 1988/89 and the second highest peak in 2008/09. A similar trend presents $E = C_{total} / B_{exp}$, although higher values are observed with respect to $E = 1 - \exp(-F)$, but the peaks occur in the same stations. Fishing mortality and E in the MSY ($F_{MSY} = 0.309$ and $E_{MSY} = 0.266$), were much higher than the $F_{current} = 0.107$ / year and $E_{current} = 0.101$ year. On the other hand, the estimate of the spawning biomass in the MSY was $B_{MSY} = 557,053$ t, biomass lower than that estimated for the last years. When applying the control rule ($BAC = (B_{exp} - B_{MIN}) * FRACTION$) stipulated in the Fisheries Management Plan, considering that $B_{MIN} = 120,000$ t and $FRACTION = 1 - \exp(-F_{MSY})$, it was found that the population of Pacific the sardine it has been exploited below the estimated BAC in the period of time analysed. Considering the current trend in the biomass of the Pacific sardine, as well as an exploitation level of 0.266, the BAC for the 2019-2020 period would be 206,480 tons.

On the other hand, a Kobe diagram, presented to the audit team, shows that the Pacific sardine population is in good condition and the fishing effort has been below the recommended maximum, so there is no overfishing.

Thread herring

The biomass of the spawners and the total biomass show a trend similar to that observed for abundance in number, with the maximum peak of the total biomass in 2009/10. In the last twelve years, the biomass of the reproductive adults has presented values above one million tons, with its maximum value in 2010/11. In the case of exploitable biomass, the trend is very similar to that of the adults, although the values in the last ten years have been above 922,000 tons, with the maximum value in 2011/12 and 2012/13.

The annual fishing mortality rate (F_{annual}) and the exploitation rate ($E = 1 - \exp(-F_{annual})$) show values below 0.12 / year during almost the entire time period, with two seasons with maximum values in 1972/73 (0.256) and 1982/83 (0.189). A similar behavior presents $E = C_{total} / B_{exp}$, although higher values are observed with respect to $E = 1 - \exp(-F_{annual})$, but the peaks were observed in the same seasons. The fishing mortality and E in the MSY ($F_{MSY} = 0.534$ and $E_{RMS} = 0.414$), were much higher than the $F_{current} = 0.046$ / year and $E_{current} = 0.045$ / year. On the other hand, the estimate of the biomass of spawners in the MSY was $B_{MSY} = 491,047$ t, biomass that is much lower than the biomass estimated for the last years. When applying the control rule stipulated in the Fisheries Management Plan ($BAC = (B_{exp} - B_{MIN}) * FRACTION$), considering that $B_{MIN} = 52,700$ t and $FRACTION = 1 - \exp(-F_{MSY})$, it was found that the population of thread herring have been exploited below the estimated BAC in the analysed time period. Taking into account the current trend in the biomass of the thread herring, as well as an exploitation level of 0.414, the BAC for the 2019-2020 period would be 408,000 tons.

Similar to that of the Pacific sardine, a Kobe diagram presented to the assessment team by the client indicates that the thread herring population is in a healthy condition and the fishing effort has been below the recommended maximum, therefore, overfishing does not occur.

Morales-Bojorquez & Hernández-Rivas (2020 a,b) as members of the Comité Técnico de Pelágicos Menores (Technical Committee of Small Pelagic), revised the assessment of both species and highlighted the following aspects:

- It could be useful to try short-term biomass projections
- There are clear details about the nature and scope of the fishery independent data used to modelling, even when there are no tables to explicit them, and biological information related to age determination.
- There are no details about the uncertainty of the model
- The report indicates the estimation of reference point values, mainly associated with the calculation of the fishing mortality relative to the maximum sustained yield. The biologically acceptable catch (BAC) refers to the annual catch that would be sustainable for the resource
- There is consensus in the potentiality of the model used (ASAP) to obtain realistic outcomes of the population dynamic and recommended its continuity.

Changes to Scientific Information

The following information was collected to improve the understanding of the population dynamics of the small pelagic species:

- Gut contents of Pacific sardine were studied by Aviles-Hernandez et al (2020) from samples collected during surveys in the Gulf of California during acoustic surveys in May-June and November-December 2016 (CPM-11-16). A total of 139 stomachs have been processed. According to the relative frequency the most important prey was Euphausiids with 94.16% and 52.94% of the rest of the crustacean muscles.
- The incidental catch of small pelagic fish in the Gulf of California region was evaluated during the period 2019-2020 by Matus-Hernandez et al (2020). The information was collected by the observer program aboard the small pelagic purse seine fleet in the Gulf of California. A total of 552 sets were recorded. The species composition of the bycatch included a great diversity of taxonomic groups (fish, crustaceans, molluscs and cnidarians), within which 155 species are distributed, for this analysis the individuals that were identified at the species level were considered. The evaluation of the incidental catch was carried out on a global and monthly basis both for all the smaller pelagic catches, and specifically for the thread herring and the Pacific sardine. The estimated bycatch for all minor pelagic species was 135.69 tonnes (t) and for thread herring and Pacific sardine species 93.84 t and 0.167 t respectively, with global bycatch radius values of 0.0067, 0.0087 for thread herring and 0.00013 for the Pacific sardine. The estimated bycatch values were low (<1%), indicating that the small pelagic fishery represents a low impact on the marine ecosystem of the Gulf of California.
- Estimation ex situ of target strength of the main small pelagic species in NW Mexico was conducted by Gonzalez-Maynez et al, 2020a. This is the first attempt to establish the target strength for acoustic estimation of thread herring, macarela, japanese sardine, and Pacific sardine. The calibration of the single beam echosounder was carried out in Bahia Catalina with

the objective to improve the hydroacoustic estimation and address fish density estimates (Gonzalez-Maynez et al, 2020b)

Since the reassessment in 2018, the fishery has implemented additional measures to strengthen data collection systems and mitigate the impact of the fishery on Principle 2 elements. The progress on these areas are detailed in the sections below as they relate to the time period between the first and second surveillance audits.

On-board observer program, port program, logbooks: Coverage & Sampling

The observer program has changed in relation to the first surveillance of 2019. Prior to November 2019, Global Grupo was responsible for the operational aspects of the observer program. However, beginning at the end of the 2019 season and from that point forward, the Program has been run by the non-profit Comunidad y Biodiversidad (COBI), as it was prior to Global Grupo's presence. The nonprofit's staff includes 8 onboard observers, 1 coordinator, and 3 port observers. Observers work on 40% (19) of the fleet's vessels which represent 100% of the boat owning companies involved in the fishery. Observer coverage is at 17% and COBI has implemented a rigorous observer training and logbook use program where it presented 25-30 vessel captains with the observer programs protocols and oriented them to the fishery's bycatch mitigation methods. Additionally, COBI drafted an observer manual in 2020 that, among other things, details ETP species mitigation measures.

In addition to the target catch and bycatch data that COBI's onboard observers collect, the port observers record information on volumes, species, and sizes of small pelagic and bycatch species.

The observer program is supported by the mandatory use of logbooks by all vessel captains in which they record information on the results of each set by species and size, climatic data, and data related to bycatch. The latter includes information on fish and sharks, crustaceans, birds, marine mammals, and turtles. Observer data indicate that the fishery has reduced its interactions with endangered, threatened, and protected (ETP) species and continues to demonstrate negligible amounts of catch of this organism group. The sightings made it possible to show that species in special protection status (birds, marine mammals, mantas, and turtles) are not being affected. In addition, the implementation of mitigation measures continues to be implemented by crew members.

Best Practices Training

The observers, in addition to having a related university career, pass a series of technical courses and controls including a psychometric test and a 15-day performance improvement training per year. In 2019 8 onboard observers, 1 coordinator, and 3 port observers took a training course as part of the program's transition from Global Grupo to COBI. The technical training was given with the participation of experts from the institutions involved in the management and research of small pelagics in the area (INPESCA, CONAPESCA, SEMARNAT, among others). The course curriculum included taxonomic identification, ETP

species recognition, legal frameworks, fishery certification, logbook review, database use and maintenance, and sampling sizes. Additional training classes that COBI offered since the last surveillance audit include the following:

- Observer program challenges and opportunities
- Mexican fisheries and management tools
- Importance of islands and natural areas
- Small pelagic fishery governance

The program has also produced a draft observer manual that details bycatch mitigation and best practices for the fishery, including guidelines for the proper manipulation of rays, sharks, sea turtles, as well as the various strategies that crew members can implement to reduce seabird interactions.

Outcomes on Fishery Impact P2

Information available to support management comes from three sources:

- **The observer program:** In 2019 administration of the observer program passed from Global Grupo to COBI. COBI's program operates with 8 onboard observers, a coordinator, and 3 port observers.
- **Port observations:** Specific information regarding this program since the year 1 surveillance audit was not provided to the audit team by the client.
- **Logbooks:** All vessels are required to keep logbooks. No additional information was provided by the client.

The information collected by the observers shows that the mortality of seabirds and other ETP species including marine mammals and mantas is negligible and there is no impact on the abundance of their populations. Specific to seabirds, the onboard observers collect three data points: number of birds present during fishing activities, number of direct bird interactions with the fishing gear, number of impacted birds by the fishing gear.

Likewise, the data indicate that bycatch levels of species with maximum catch percentages stipulated in the NOM-003-SAG/PESC-2018 are within permissible levels. The results of this program fail to indicate with any certainty the percentage of the total landed catch that was bycatch species. This could be due to COBI's nascent program.

Elasmobranch bycatch accounted for 0.0003% of the total catch per observer reports. The brown pelican was the seabird with the highest sightings, this is because during the breeding season they are concentrated in the Gulf Islands of California, which means that this bird represents a high percentage of sightings during fishing operations. ETP interaction data for the 2019-2020 season includes the following:

- **Brown pelicans:** 33,808 individuals sighted, 1,290 individuals captured, 1,151 individuals released alive, and 139 (0.25%) deaths
- **Blue-footed boobies:** 1,654 individuals sighted, 1 individual captured, 1 individual released alive, and 0 deaths
- **Sea lions:** 5,000 sealions observed and no recorded deaths

- **Sea turtles:** 14 sea turtle sightings (6 green and 8 olive ridley), 11 captured, and 1 death

In relation to seabird mitigation measures, the most widely used is a fixed device that prevents birds from interacting with the winch and block. Vessel crews also use water curtains and horns to deter birds from entering the nets. They have also discovered that shaking colourful foul weather gear effectively deters seabirds from entering the nets.

Changes to Management Systems

The NOM-003-PESC-1993 was modified, renamed as NOM-003-SAG-PESC-2018, and was published in the Diario Oficial de la Federación (Official Gazette of the Federation) on March 12, 2019. The main modification of the NOM includes a new version of the fishery's Management Plan, which states that INAPESCA is to conduct the stock assessment, monitor fishing activities, and compute the BAC based on the status of the stock. The results are communicated to stakeholders, fishers, and the management branch of the government (CONAPESCA) and procedures can be agreed to start operations on the base of the limit established with the BAC.

The NOM's Section 4.6 establishes INAPESCA's technical measures to manage the fishery. More specifically, this decision-making process allows for the application of technical guidance elements as management measures.

Regarding the need for the incorporation of procedural linkages in management measures, the new NOM-003 (sections 4.13.5.1 – 4.13.5.5) sets bycatch limits for individual groups of organisms including finfish, crustaceans, mollusks, elasmobranchs, and cnidarias. The NOM also establishes the volume of the fishery's total catch that can be composed of bycatch species (1.00 – 0.20% depending on organism class), minimum size limits for Pacific sardine, thread herring, and other small pelagic species, and the % of their catch that can be under the minimum size.

Regarding the need for the fishery to develop a strategy with measures relevant to the main risk to the ecosystem, section 4.13.5.1 of the NOM now sets a bycatch limit for finfish at a maximum of 1.0% per individual trip and an overall annual fishery catch of 0.50%. Furthermore, the new legislation prohibits fishing activity to occur within a radius of 2.5 km around 28 river mouths, coastal and estuary bays, and lagoons located along the Mexican Pacific (4.13.7.1 – 4.13.7.28).

Regarding the percent of target species catch below the minimum size limit, the new NOM (section 4.2.2) establishes minimum size limits for the Gulf of California and all other areas of the Mexican Pacific **except** in the southern region of the Gulf of California where the size limit will be determined through studies and published in the D.O.F. (Diario Oficial de la Federación). The NOM allows 33% of the annual Pacific sardine catch to be below the minimum size limit (150mm) for the species and 38% of the thread herring catch to be below the species' minimum size (160mm except for the south region of Gulf of California, where the minimum legal size is 140mm). This process demonstrates that a legal framework and a monitoring, control, and surveillance system are in place that establish catch parameters and monitor the fishery's adherence to them. Whether or not the fishery complies with the amount of permissible bycatch

and percent of catch below the minimum size limits was not clear from the information the client presented to the audit team.

The NOM establishes the sampling size (10 kg/vessel/trip) to estimate the proportion of catch size structure below the legal size. If the cumulative proportion reaches the established threshold, the fishery must halt operation according to measures stated in CONAPESCA’s technical report. This mechanism implies an additional harvest control rule, which complements other management measures previously established: spatial or temporal closure by zones or by species, threshold for minimum legal size, changes in the Total Allowable Catch (TAC) by species, restrictions to fishing effort.

A meeting of the Comité Técnico para el Estudio de los Pelágicos Menores was held on February 4-6, 2020 as a way of facilitating collaboration between the Sinaloa and Sonora fisheries. During the meeting the results of an internal revision and corrections of the management plan were presented by INAPESCA. A report detailing the external review and revision of the management plan and other components of the management system was anticipated for 2020; however, the pandemic caused the suspension of various activities related to this work, though meeting minutes for the Comité and results of an internal revision and corrections of the Management plan were presented to the audit team by INAPESCA.

Changes to Personnel

Global Grupo A.C. no longer manages the observer program. The program is now run by COBI.

Changes Affecting Traceability

No changes were detected during this audit.

Version details

Table 3. Fisheries program documents versions

Document	Version number
MSC Fisheries Certification Process	Version 2.0
MSC Fisheries Standard	Version 1.3
MSC General Certification Requirements	Version 2.3
MSC Surveillance Reporting Template	Version 2.0

The surveillance audit was carried out in accordance with the default assessment tree of the MSC Fisheries Certification Requirements V1.3 under which the fishery was originally certified. Following the MSC guidelines for implementation timeframes, the surveillance was conducted in accordance with the new process requirements in FCR v2.0.

The issues for the certifier, in addition to checking progress against conditions to close out, is to determine whether a random check on the performance of the fishery verifies continued compliance with the MSC standards and to document the most recent research, landings, and survey trends relating to the fishery.

The annual surveillance audit process is comprised of five general parts:

1. The certification body provides questions around areas of inquiry to determine if the fishery is maintaining the level of management observed during the original certification.
2. The certification body informs stakeholders that they can contribute to the surveillance audit by participating in a face-to-face interview process or by submitting comments in writing. The certification body must inform stakeholders of the opportunity to provide comment at least 30 days before the onsite meeting.
3. The surveillance assessment team meets with the fishery client in an opening meeting to allow the client to present the information gathered and to answer questions asked by the surveillance team. The surveillance team can then ask questions about the information provided to ensure full understanding of how well the fishery management system is functioning and if the fishery management system is continuing to meet the MSC standards. Additional interviews are conducted of fishery management and science personnel as well as stakeholders.
4. The surveillance team determines if any PIs should be re-scored and presents its findings to the client fishery at the end of the site visit in a closing meeting. The results outline the assessment team's understanding of the information presented and its conclusion regarding the fishery management system's continued compliance with MSC standards.
5. The surveillance team submits a draft report to the fishery client and a subsequent final report to the MSC for posting on the MSC website. If there are continued compliance concerns, these are presented as non-conformances that require further action and audits as specified in the surveillance report.

Results

Total Allowable Catch (TAC) and Catch Data

Table 4. TAC¹ and Catch Data of Pacific sardine in the northern-central Gulf of California

	Species	Year	Catch (mt)	Effort (days fishing)	N. of vessels	Source
TAC	<i>S. sagax</i>	2018/19	292,600	3,294 ²	46	Nevarez-Martinez et al. 2020
UoA share of TAC	<i>S. sagax</i>	2018/19	169,500 ³			
UoC share of TAC	<i>S. sagax</i>	2018/19	169,500 ⁴			

Table 5. TAC⁵ and Catch Data of thread herring in the northern-central Gulf of California.

	Species	Year	Catch (mt)	Effort (days fishing)	N. of vessels	Source
TAC	Opisthonema Complex	2018/19	382,000	3,294 ⁶	46	Nevarez-Martinez et al. 2020
UoA share of TAC	Opisthonema Complex	2018/19	81,810 ⁷			
UoC share of TAC	Opisthonema Complex	2018/19	81,810 ⁸			

Recommendations

General

The audit team recommends that all data used in the stock assessment and for calculating the BAC, such as species specific catch, effort both in days of fishing and fishing trips, are presented in summary tables that include at least the last 10 years or, if available data spans less than 10 years, all years in the records. Other pertinent information is the estimate of abundance and associated CV used in fitting the stock assessment model or computing the BAC. It is good scientific practice to make all data used in reported analyses available to readers. A good place to present these tables is in the POA report rather than in their specific reports such as the stock assessment and the use of the control rule.

¹ The small pelagics fisheries in Mexico can be managed actively by computing a BAC which in practice operates as a TAC because is a limit that if exceeded, overfishing occurs. Values in the table are BAC.

² Nominal effort in fishing trips. Trips are not separated by species.

³ There are 8 vessels that do not belong to the UoA and could have access to the TAC, but there is no allocation of the catch to UoA and non-UoA vessels.

⁴ Id.

⁵ The small pelagics fisheries in Mexico can be managed actively by computing a BAC which in practice operates as a TAC because is a limit that if exceeded, overfishing occurs. Values in the table are BAC.

⁶ Nominal effort in fishing trips. Trips are not separated by species, it applies to all small pelagics.

⁷ There are 8 vessels that do not belong to the UoA and could have access to the TAC, but there is no allocation of the catch to UoA and non-UoA vessels.

⁸ Id.

Conditions

Condition 1-1 (Pacific Sardine)

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	1.1.2	SIId	75
Condition	By the fourth annual surveillance audit, the client shall provide evidence that the target reference point for Pacific sardines considers the ecological role of the stock.		
Milestones	<p>Surveillance 1 (2019) By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected.</p> <p>Expected Outcome: The client, together with INAPESCA and other technical groups (for example, CICIMAR), will initiate meetings with the purpose of proposing the most appropriate mechanisms to define a formal target reference point that considers the ecological role of Pacific sardine.</p> <p>At least one meeting’s minutes agreements reached and signed by the participant will be presented.</p> <p>Expected score: No anticipate changes in score at this stage.</p> <p>Surveillance 2 (2020) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed three years.</p> <p>Expected Outcome: The client will provide a technical report showing the progress in determining the target reference point that considers the ecological role of the Pacific sardine; also, a summary of the agreements reached, and the revisions made in the meetings.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 3 (2021) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years.</p> <p>Expected Outcome: The target reference point (TRP) for Pacific sardine will be determined. The client, in coordination with INAPESCA, will have a meeting with academics and CONAPESCA to discuss the incorporation of the TRP in the normative documents, including the Management Plan, before being published in the Official Federal Gazette (DOF). The client will provide a technical report showing the progress in determining the TRP; Also, a summary of the agreements reached, and the revisions made at the meetings.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 4 (2022) Condition expected to be fully met.</p> <p>Expected Outcome: The client will provide a final report on the Target Reference Point that considers the ecological role of Pacific sardine; This Target Reference Point will be included in the Management Plan (and other regulatory mechanisms) which will be formally published in the Official Gazette of the Federation (DOF).</p> <p>Expected score: 80</p>		

<p>Client action plan</p>	<p>The client will present evidence that the target reference point for Pacific sardine considers the ecological role of the stock.</p> <p>The client will actively collaborate with INAPESCA and other technical groups in the necessary investigations to determine the target reference point for this species. This reference point will be included in the Small Pelagics Management Plan (and other regulatory mechanisms) which will be formally published in the Official Gazette of the Federation (DOF).</p> <p>The activities and results will be reflected in working minutes and in Technical Reports and will be made public via a technical meeting to the fishing industry and CONAPESCA (Administrative Body) for its systematic and effective application.</p>
<p>Progress on Condition [Year 1]</p>	<p>The client presented a document with minutes of a meeting held in January 2019 which was held to “address observations to the fisheries of small pelagics: Fisheries of the Gulf of California, Sinaloa and Nayarit” within the context of the work of the Small Pelagics Technical Committee. The meeting was convened with the intention to follow up on the Action Plan committed under the MSC Certification process.</p> <p>With regards of Condition 1-1, the group agreed that Drs Pablo del Monte and Manuel Zetina and Francisco Arreguin will draft the rational for a proposed “Limit reference point” that includes the ecological role of the Pacific sardine to be included in the Management Plan.</p> <p>The Surveillance Audit Team acknowledges that there must have been a description and discussion of the problem with the group of scientists that are now responsible to directly address the unmet requirement in this PI. Achieving an understanding of the nature of the problem and of the expectations in terms of the MSC certification requirements and appointing a group of qualified scientists to work on the development of a solution is considered enough progress for year 1. The fishery has provided evidence of these achievements in the minutes submitted to the team. Progress at surveillance audit 2 however, will be expected to be represented at least by a draft or proposal that is being discussed by other parties.</p>

<p>Progress on Condition [Year 2]</p>	<p>A new draft document related to the trophic ecology of Pacific sardine was presented to the audit team at the 2nd surveillance (Aviles-Hernandez et al 2020) as a follow-up to the 1st year document described above. It describes the results of stomach contents collected during two acoustic surveys in 2016. The analysis was partial and remains on going and definitive result are expected for the next surveillance.</p> <p>Also, in the Pacific sardine stock assessment report Narvaez-Martinez et al. (2020a) use fishery-independent information to obtain five abundance indexes. One of them, elaborated by Dra. Enriqueta Velarde (Universidad Veracruzana - Instituto de Ciencias Marinas y Pesquerías), is based on the proportion of sardine in the diet of seabirds. This analysis is dependent on the available information collected during previous surveys, and the result are still partial. The study is on-going.</p> <p>Even though they are just pieces of information, the Surveillance Audit Team considers that they could contribute to the discussion to propose a limit reference point that includes the ecological role of the Pacific sardine to be included in the Management Plan. Taking into account the complex nature of the problem, and of the expectations in terms of the MSC certification requirements, appointing a group of qualified scientists to work on the development of a solution is considered enough progress for this surveillance.</p>
<p>Status of condition</p>	<p>On target</p>

Condition 1-2 (Pacific Sardine)

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
Condition	1.2.1	Sla	70
Milestones	<p>By the fourth annual surveillance audit, the fishery shall provide evidence that the harvest strategy for Pacific sardines is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.</p> <p>Surveillance 1 (2017). By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected.</p> <p>Expected Outcome: The client, in coordination with INAPESCA and the Small Pelagics Technical Committee, will initiate meetings to propose and discuss the formal mechanisms for stopping fishing activities, when approaching BAC.</p> <p>At least one minute of the meetings signed by the participants will be presented with all the agreements reached.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 2 (2018 2020) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years.</p> <p>Expected Outcome: The client will provide a technical report showing progress in determining the formal mechanisms for stopping fishing activities when close to the BAC; Also, a summary of the agreements reached, and the revisions made at the meetings.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 3 (2021) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years.</p> <p>Expected Outcome: The formal mechanisms for stopping fishing activities will be determined when approaching BAC. The client, in coordination with INAPESCA and the Small Pelagics Technical Committee, will have a meeting with CONAPESCA to discuss these mechanisms, as well as their incorporation in the normative documents, including the Management Plan, before their publication in the Official Gazette of the Federation (DOF). The client will provide a technical report showing progress in determining formal mechanisms; Also, a summary of the agreements reached, and the revisions made at the meetings.</p> <p>The report will also include evidence that the proposed mechanisms have been “tested” to meet the requirements for the 80 level in SI1.2.1b to indicate that there is some logical argument and analysis that supports the choice of strategy.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 4 (2022) Condition expected to be fully met.</p> <p>Expected Outcome: The client will provide a final report on the formal mechanisms for stopping fishing activities, when close to the BAC; These formal mechanisms will be included in the Management Plan (and other regulatory mechanisms) which will be formally published in the Official Gazette of the Federation (DOF).</p>		

<p>Client action plan</p>	<p>The client will actively collaborate with INAPESCA and the Small Pelagics Technical Committee to review and implement the necessary changes in the Fisheries Management Plan that will allow the formal mechanisms to stop fishing activities, when close to the Biological Allowable Catch (BAC), So that they work together to achieve the management objectives.</p> <p>The activities and results will be reflected in working minutes and at least one Technical Report and will be made known through technical meetings to the fishing industry and to CONAPESCA (Administrative Body) for its systematic and effective implementation. These changes to the Management Plan, will be documented with its publication in the Official Gazette of the Federation (DOF).</p>
<p>Progress on Condition [Year 1]</p>	<p>The fishery proposed to insert a modification in the review of NOM-003-PESC-1993 that was happening at the time of re-assessment to open the possibility to communicate and implement the scientific advice provided by the INAPESCA derived from the stock assessment.</p> <p>The revised NOM now named NOM-003-SAG-PESC-2018 was published in the Official Gazette on March 12th, 2019. Section 4.6 of the NOM states: “The Secretariat may establish periods and closed areas for the capture of smaller pelagics to apply dynamic management of the fishery, avoid interaction with other fisheries, as well as contribute to the conservation of other biological resources and the ecosystem. Such periods and closure zones will be announced through Regulatory Agreements that will be published in the Official Gazette of the Federation, based on the technical opinion issued by INAPESCA for such purpose, prior to the socialization of the measure”. In other words, the INAPESCA conducts the stock assessment and computes the BAC based on the status of the stock; the results are communicated to other stakeholders including the fishers and the management branch of the government (CONAPESCA) and procedures can be agreed to start operations on the base of the limit established with the BAC.</p> <p>The change in the NOM fits the requirement of a mechanism to transform a definition in the Management Plan, which is the technical guidance, into an actual management regulatory action. At the time of the first surveillance audit however, no Regulatory Agreement to present the proposed BAC and how to apply it had been produced because the NOM had not been published yet. Nevertheless, the fishery presented evidence of the computation of the BAC based on results of a stock assessment. There is also evidence of meetings where the INAPESCA presented information on the size distribution of the fish to the industry and other authorities, signing an agreement to stop the fishery for three months from August to October 2018 “to protect the stocks”.</p> <p>The progress represented in insertions into the revised NOM to provide for the mechanisms to implement management guidance, is considered significant towards closure of this Condition. In particular, the mechanisms outlined in the revised NOM allow for the elements of the harvest strategy to work together monitoring the status of the stock and react if the PRI (or the ecosystem-based reference point) is approached. For future Surveillance Audits, it is expected that the fishery could provide evidence of meetings early in the season where the INAPESCA communicates the proposed BAC derived from the stock assessment, and that all parties, having received the pertinent information, discussed and agreed on closing the fishery when the cumulative catch is approaching the BAC. As the fishing season progresses, it is also expected that periodic formal communications exist to inform the fishers the status of the cumulative catch relative to the BAC and the expectation for the following weeks, so the fleet can plan a course of action based on the advice from the INAPESCA.</p>

<p>Progress on Condition [Year 2]</p>	<p>The NOM-003-PESC-1993 was modified to open the possibility to communicate and implement the scientific advice provided by INAPESCA derived from the stock assessment. The new NOM-003-SAG-PESC-2018 was published in the Official Gazette on March 12th, 2019. Section 4.6 of the NOM states: “The Secretariat may establish periods and closed areas for the capture of smaller pelagics to apply dynamic management of the fishery, avoid interaction with other fisheries, as well as contribute to the conservation of other biological resources and the ecosystem. Such periods and closure zones will be announced through Regulatory Agreements that will be published in the Official Gazette of the Federation, based on the technical opinion issued by INAPESCA for such purpose, prior to the approval of the measure”.</p> <p>Technical guidance, included in the new version of the Management Plan, states that INAPESCA shall conduct the stock assessment and compute the BAC based on the status of the stock; communicate the results to other stakeholders including the fishers and the management branch of the government (CONAPESCA); develop agreed upon procedures to start fishing operations based on the limit established by the BAC. Condition 1-2 requires an actual management regulatory action and a description of the mechanism to be implemented. For the 2nd Annual Surveillance the fishery shall provide evidence that the harvest strategy for Pacific sardines is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. The version of the Management Plan describes details of the harvest strategy, including stock assessment modelling, clear biological reference points, and how to improve the procedures to obtain the BAC; it also describes the way in which the guidelines regulate the operation of the fleet whenever the catch approaches the BAC. INAPESCA will collect and record the Arrival Fishing Forms (Aviso de Arribo) , either from the Oficina Federal de Pesca (Federal Fisheries Offices) or those provided by the fishing companies, with which the catches per species per month must be quantified, which will allow defining in which month the BAC would be reached. Once the potential date has been defined, the corresponding authority (CONAPESCA) must be notified, by means of a technical opinion as of when the fishing activities should be suspended.</p> <p>The progress made towards the completion of this condition includes the revision and replacement of the NOM-003-PESC-1993. The proposed Management Plan for Small Pelagic, with details of the harvest strategy and explicit harvest control rules, is also considered by the audit team to represent significant progress towards demonstrating that the harvest strategy is responsive to the state of the stock and to the closure of this Condition.</p>
<p>Status of condition</p>	<p>On target</p>

Condition 1-3 (Pacific Sardine)

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
Condition	1.2.2	Sla	75
Milestones	<p>By the fourth annual surveillance audit, the fishery shall present evidence that for Pacific sardines defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>Surveillance 1 (2017): By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected.</p> <p>Expected Output: The client, in coordination with INAPESCA and the Small Pelagics Technical Committee, will initiate meetings to propose the most appropriate mechanisms to limit, reduce or stop fishing when approaching BAC.</p> <p>The minutes of the meetings signed by the participants will be presented with all the agreements reached, as well as the main agreed mechanisms.</p> <p>Expected score: No anticipate changes in score at this stage.</p> <p>Surveillance 2 (2018 2020) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years.</p> <p>Expected Output: Proposed mechanisms to limit, reduce or cease fishing will be announced when the permissible biological catch (BAC) for that year is reached. A meeting will be held where INAPESCA and the client will discuss how to initiate, in a preliminary way, the tests to evaluate the mechanisms of limitation, reduction and cessation. Some test analyses of the chosen mechanisms will be carried out to determine their feasibility when the BAC is approaching.</p> <p>The minutes of the meeting (or meetings), signed by the participants, will be provided with the agreements reached; A report of the selected mechanism will be submitted; And a progress report will be provided after testing the mechanisms.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 3 (2019 2021) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years.</p> <p>Expected Outcome: At this stage, the client, INAPESCA and CONAPESCA will review and discuss the mechanisms proposed and the results of the tests carried out to evaluate them and propose the official document to be published, which in principle is the Management Plan, but could also be the National Fisheries Charter (CNP), or normative agreement, etc.</p> <p>The minutes of the meeting, signed by the participants, will be provided for discussion and review of the mechanisms.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 4 (2020 2022) Condition expected to be fully met.</p> <p>Expected Outcome: The mechanisms will be established, the Management Plan updated and published in the Official Journal of the Federation (DOF).</p> <p>The mechanisms to limit, reduce or cease fishing when approaching the permissible biological catch of the year will be explicitly, systematically and effectively implemented.</p>		

	<p>In addition, these mechanisms will be included in the Management Plan or other regulatory document and published in the Official Gazette of the Federation (DOF).</p> <p>Expected score: 80</p>
<p>Client action plan</p>	<p>Explicit mechanisms to limit, reduce or cease fishing as it approaches the annual BAC, will be defined in the Management Plan, which must be published in the Official Federal Gazette (DOF) (as noted in Condition 1-2).</p> <p>The client will actively collaborate with INAPESCA and the Small Pelagics Committee to update the Management Plan, as well as to implement a systematic monitoring of catch levels to determine when the annual BAC is being reached. INAPESCA will announce, until the Small Pelagics Management Plan is published in the DOF, these results through technical reports that will be the basis for management decision making (limit, reduce or cease fishing as it approaches the annual BAC), ensuring that the fishery does not represent a risk for the Pacific sardine population. These mechanisms will be defined in the Management Plan.</p> <p>For the formal implementation of these mechanisms, the technical reports will be disseminated through technical meetings between industry, INAPESCA and CONAPESCA for their implementation, after the effective publication of the Management Plan in the Official Federal Official Gazette (DOF).</p>
<p>Progress on Condition [Year 1]</p>	<p>The fishery proposed to insert a modification in the review of NOM-003-PESC-1993 that was happening at the time of re-assessment to open the possibility to communicate and implement the scientific advice provided by the INAPESCA derived from the stock assessment.</p> <p>The revised NOM now named NOM-003-SAG-PESC-2018 was published in the Official Gazette on March 12th, 2019. Section 4.6 of the NOM states: “The Secretariat may establish periods and closed areas for the capture of smaller pelagics to apply dynamic management of the fishery, avoid interaction with other fisheries, as well as contribute to the conservation of other biological resources and the ecosystem. Such periods and closure zones will be announced through Regulatory Agreements that will be published in the Official Gazette of the Federation, based on the technical opinion issued by INAPESCA for such purpose, prior to the socialization of the measure”. In other words, the INAPESCA conducts the stock assessment and computes the BAC based on the status of the stock; the results are communicated to other stakeholders including the fishers and the management branch of the government (CONAPESCA) and procedures can be agreed to start operations on the base of the limit established with the BAC.</p> <p>The change in the NOM fits the requirement of a mechanism to transform a definition in the Management Plan, which is the technical guidance, into an actual management regulatory action. At the time of the first surveillance audit however, no Regulatory Agreement to present the proposed BAC and how to apply it had been produced because the NOM had not been published yet. Nevertheless, the fishery presented evidence of the computation of the BAC based on results of a stock assessment. There is also evidence of meetings where the INAPESCA presented information on the size distribution of the fish to the industry and other authorities, signing an agreement to stop the fishery for three months from August to October 2018 “to protect the stocks”.</p> <p>The progress represented in insertions into the revised NOM to provide for the mechanisms to implement management guidance, is considered significant towards closure of this Condition. For future Surveillance Audits, it is expected that the fishery could provide evidence of meetings early in the season where the INAPESCA</p>

	<p>communicates the proposed BAC derived from the stock assessment, and that all parties, having received the pertinent information, discussed and agreed on closing the fishery when the cumulative catch is approaching the BAC. As the fishing season progresses, it is also expected that periodic formal communications exist to inform the fishers the status of the cumulative catch relative to the BAC and the expectation for the following weeks, so the fleet can plan a course of action based on the advice from the INAPESCA.</p>
<p>Progress on Condition [Year 2]</p>	<p>The new NOM states: “The Secretariat may establish periods and closed areas for the capture of smaller pelagics to apply dynamic management of the fishery, avoid interaction with other fisheries, as well as contribute to the conservation of other biological resources and the ecosystem.” Furthermore, the Management Plan, a technical guidance document, states that INAPESCA shall conduct a stock assessment and compute the BAC based on the status of the stock; the results are communicated to other stakeholders including fishers and managers and procedures shall be agreed on to start operations on the base of the limit established with the BAC. The Management Plan was revised by the Comité Técnico para el Estudio de los Pelágicos Menores and the mechanism to stop the fishing when the total catch is close to BAC was considered appropriated as a harvest control rule (Hernandez-Rivas at al, 2020).</p> <p>In particular, the mechanisms outlined in the revised NOM allow for the elements of the harvest strategy to work together monitoring the status of the stock and react if the PRI (or the ecosystem-based reference point) when it is approached. For future Surveillance Audits, it is expected that the fishery could provide evidence of meetings early in the season where INAPESCA communicates the proposed BAC derived from the stock assessment, and that all parties, having received the pertinent information, discussed and agreed on closing the fishery when the cumulative catch is approaching the BAC. As the fishing season progresses, it is also expected that periodic formal communications exist to inform fishers of the status of the cumulative catch relative to the BAC and the expectation for the following weeks, so the fleet can plan a course of action based on the advice from INAPESCA.</p> <p>The progress represented with the new NOM and Management Plan which provide the mechanisms to implement management guidance, is considered significant towards closure of this Condition. For future Surveillance Audits, it is expected that the fishery could provide evidence of testing that allows for the evaluation of the feasibility of application of such mechanisms, and meetings early in the season where INAPESCA communicates the proposed BAC to all parties, and reaches consensus on the closing the fishery when the cumulative catch approaches the BAC. As the fishing season progresses, it is also expected that periodic formal communications exist to inform the fishers of the status of the cumulative catch relative to the BAC and the expectation for the following weeks, so the fleet can plan a course of action based on the advice from INAPESCA.</p>
<p>Status of condition</p>	<p>On target</p>

Condition 1-4 (Thread Herring)

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	1.2.1	Sla	70

<p>Condition</p>	<p>By the fourth annual surveillance audit, the fishery shall provide evidence that the harvest strategy for thread herring is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.</p>
<p>Milestones</p>	<p>Surveillance 1 (2017). By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected.</p> <p>Expected Outcome: The client, in coordination with INAPESCA and the Small Pelagics Technical Committee, will initiate meetings to propose and discuss the formal mechanisms for stopping fishing activities, when close to the BAC.</p> <p>At least one minute of the meetings signed by the participants will be presented with all the agreements reached.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 2 (2018 2020 2020) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years.</p> <p>Expected Outcome: The client will provide a technical report showing progress in determining the formal mechanisms for stopping fishing activities when close to the BAC; Also, a summary of the agreements reached, and the revisions made at the meetings.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 3 (2021) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years.</p> <p>Expected Outcome: The formal mechanisms for stopping fishing activities will be determined when approaching BAC. The client, in coordination with INAPESCA and the Small Pelagics Technical Committee, will have a meeting with CONAPESCA to discuss these mechanisms, as well as their incorporation in the normative documents, including the Management Plan, before their publication in the Official Gazette of the Federation (DOF). The client will provide a technical report showing progress in determining formal mechanisms; Also, a summary of the agreements reached and the revisions made at the meetings.</p> <p>The report will also include evidence that the proposed mechanisms have been “tested” to meet the requirements for the 80 level in SI1.2.1b to indicate that there is some logical argument and analysis that supports the choice of strategy.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 4 (2022) Condition expected to be fully met.</p> <p>Expected Outcome: The client will provide a final report on the formal mechanisms for stopping fishing activities, when close to the BAC; These formal mechanisms will be included in the Management Plan (and other regulatory mechanisms) which will be formally published in the Official Gazette of the Federation (DOF).</p>
<p>Client action plan</p>	<p>The client will actively collaborate with INAPESCA and the Pelagic Minor Technical Committee to review and implement the necessary changes in the Fisheries Management Plan that will allow the formal mechanisms to stop fishing activities, when close to the Biological Allowable Catch (BAC), So that they work together to achieve the management objectives.</p>

	<p>The activities and results will be reflected in working minutes and at least one Technical Report and will be made known through technical meetings to the fishing industry and to CONAPESCA (Administrative Body) for its systematic and effective implementation. These changes to the Management Plan, will be documented with its publication in the Official Gazette of the Federation (DOF).</p>
<p>Progress on Condition [Year 1]</p>	<p>The fishery proposed to insert a modification in the review of NOM-003-PESC-1993 that was happening at the time of re-assessment to open the possibility to communicate and implement the scientific advice provided by the INAPESCA derived from the stock assessment.</p> <p>The revised NOM now named NOM-003-SAG-PESC-2018 was published in the Official Gazette on March 12th, 2019. Section 4.6 of the NOM states: “The Secretariat may establish periods and closed areas for the capture of smaller pelagics to apply dynamic management of the fishery, avoid interaction with other fisheries, as well as contribute to the conservation of other biological resources and the ecosystem. Such periods and closure zones will be announced through Regulatory Agreements that will be published in the Official Gazette of the Federation, based on the technical opinion issued by INAPESCA for such purpose, prior to the socialization of the measure”. In other words, the INAPESCA conducts the stock assessment and computes the BAC based on the status of the stock; the results are communicated to other stakeholders including the fishers and the management branch of the government (CONAPESCA) and procedures can be agreed to start operations on the base of the limit established with the BAC.</p> <p>The change in the NOM fits the requirement of a mechanism to transform a definition in the Management Plan, which is the technical guidance, into an actual management regulatory action. At the time of the first surveillance audit however, no Regulatory Agreement to present the proposed BAC and how to apply it had been produced because the NOM had not been published yet. Nevertheless, the fishery presented evidence of the computation of the BAC based on results of a stock assessment. There is also evidence of meetings where the INAPESCA presented information on the size distribution of the fish to the industry and other authorities, signing an agreement to stop the fishery for three months from August to October 2018 “to protect the stocks”.</p> <p>The progress represented in insertions into the revised NOM to provide for the mechanisms to implement management guidance, is considered significant towards closure of this Condition. In particular, the mechanisms outlined in the revised NOM allow for the elements of the harvest strategy to work together monitoring the status of the stock and react if the PRI (or the ecosystem-based reference point) is approached. For future Surveillance Audits, it is expected that the fishery could provide evidence of meetings early in the season where the INAPESCA communicates the proposed BAC derived from the stock assessment, and that all parties, having received the pertinent information, discussed and agreed on closing the fishery when the cumulative catch is approaching the BAC. As the fishing season progresses, it is also expected that periodic formal communications exist to inform the fishers the status of the cumulative catch relative to the BAC and the expectation for the following weeks, so the fleet can plan a course of action based on the advice from the INAPESCA.</p>

<p>Progress on Condition [Year 2]</p>	<p>The new NOM and Management Plan state that INAPESCA shall conduct the stock assessment and compute the BAC based on the status of the stock; communicate the results to other stakeholders including the fishers and the management branch of the government (CONAPESCA); develop agreed upon procedures to start fishing operations based on the limit established by the BAC. The condition 1-4, like condition 1-2, requires an actual management regulatory action and a description of the mechanism to be implemented. For the 2nd Annual Surveillance the fishery shall provide evidence that the harvest strategy for Pacific sardines is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. The version of the Management Plan describes details of the harvest strategy, including stock assessment modelling, clear biological reference points, and how to improve the procedures to obtain the BAC; it also describes the way in which the guidelines regulate the operation of the fleet whenever the catch approaches the BAC. INAPESCA will collect and record the Arrival Fishing Forms (Aviso de Arribo) , either from the Oficina Federal de Pesca (Federal Fisheries Offices) or those provided by the fishing companies, with which the catches per species per month must be quantified, which will allow defining in which month the BAC would be reached. Once the potential date has been defined, the corresponding authority (CONAPESCA) must be notified, by means of a technical opinion as of when the fishing activities should be suspended.</p> <p>The progress made towards the completion of this condition includes the revision and replacement of the NOM-003-PESC-1993. The proposed Management Plan for Small Pelagic, with details of the harvest strategy and explicit harvest control rules, is also considered by the audit team to represent significant progress towards demonstrating that the harvest strategy is responsive to the state of the stock and to the closure of this Condition.</p>
<p>Status of condition</p>	<p>On target</p>

Condition 1-5 (Thread Herring)

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
Condition	1.2.2	Sla	75
Milestones	<p>By the fourth annual surveillance audit, the fishery shall present evidence that for <u>thread herring</u> defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>Surveillance 1 (2017): By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected.</p> <p>Expected Output: The client, in coordination with INAPESCA and the Small Pelagics Technical Committee, will initiate meetings to propose the most appropriate mechanisms to limit, reduce or stop fishing when approaching BAC.</p> <p>The minutes of the meetings signed by the participants will be presented with all the agreements reached, as well as the main agreed mechanisms.</p> <p>Expected score: No anticipate changes in score at this stage.</p> <p>Surveillance 2 (2018 2020) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years.</p> <p>Expected Output: Proposed mechanisms to limit, reduce or cease fishing will be announced when the permissible biological catch (BAC) for that year is reached. A meeting will be held where INAPESCA and the client will discuss how to initiate, in a preliminary way, the tests to evaluate the mechanisms of limitation, reduction and cessation. Some test analyses of the chosen mechanisms will be carried out to determine their feasibility when the BAC is approaching.</p> <p>The minutes of the meeting (or meetings), signed by the participants, will be provided with the agreements reached; A report of the selected mechanism will be submitted; And a progress report will be provided after testing the mechanisms.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 3 (2019 2021) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years.</p> <p>Expected Outcome: At this stage, the client, INAPESCA and CONAPESCA will review and discuss the mechanisms proposed and the results of the tests carried out to evaluate them and propose the official document to be published, which in principle is the Management Plan, but could also be the National Fisheries Charter (CNP), or normative agreement, etc.</p> <p>The minutes of the meeting, signed by the participants, will be provided for discussion and review of the mechanisms.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 4 (2020 2022) Condition expected to be fully met.</p> <p>Expected Outcome: The mechanisms will be established, the Management Plan updated and published in the Official Journal of the Federation (DOF).</p> <p>The mechanisms to limit, reduce or cease fishing when approaching the permissible biological catch of the year will be explicitly, systematically and effectively implemented.</p>		

	<p>In addition, these mechanisms will be included in the Management Plan or other regulatory document and published in the Official Gazette of the Federation (DOF).</p> <p>Expected score: 80</p>
<p>Client action plan</p>	<p>Explicit mechanisms to limit, reduce or cease fishing as it approaches the annual BAC, will be defined in the Management Plan, which must be published in the Official Federal Gazette (DOF) (as noted in Condition 1-2).</p> <p>The client will actively collaborate with INAPESCA and the Small Pelagics Committee to update the Management Plan, as well as to implement a systematic monitoring of catch levels to determine when the annual BAC is being reached. INAPESCA will announce, until the Small Pelagics Management Plan is published in the DOF, these results through technical reports that will be the basis for management decision making (limit, reduce or cease fishing as it approaches the annual BAC), ensuring that the fishery does not represent a risk for the Pacific sardine population. These mechanisms will be defined in the Management Plan.</p> <p>For the formal implementation of these mechanisms, the technical reports will be disseminated through technical meetings between industry, INAPESCA and CONAPESCA for their implementation, after the effective publication of the Management Plan in the Official Federal Official Gazette (DOF).</p>
<p>Progress on Condition [Year 1]</p>	<p>The fishery proposed to insert a modification in the review of NOM-003-PESC-1993 that was happening at the time of re-assessment to open the possibility to communicate and implement the scientific advice provided by the INAPESCA derived from the stock assessment.</p> <p>The revised NOM now named NOM-003-SAG-PESC-2018 was published in the Official Gazette on March 12th, 2019. Section 4.6 of the NOM states: “The Secretariat may establish periods and closed areas for the capture of smaller pelagics to apply dynamic management of the fishery, avoid interaction with other fisheries, as well as contribute to the conservation of other biological resources and the ecosystem. Such periods and closure zones will be announced through Regulatory Agreements that will be published in the Official Gazette of the Federation, based on the technical opinion issued by INAPESCA for such purpose, prior to the socialization of the measure”. In other words, the INAPESCA conducts the stock assessment and computes the BAC based on the status of the stock; the results are communicated to other stakeholders including the fishers and the management branch of the government (CONAPESCA) and procedures can be agreed to start operations on the base of the limit established with the BAC.</p> <p>The change in the NOM fits the requirement of a mechanism to transform a definition in the Management Plan, which is the technical guidance, into an actual management regulatory action. At the time of the first surveillance audit however, no Regulatory Agreement to present the proposed BAC and how to apply it had been produced because the NOM had not been published yet. Nevertheless, the fishery presented evidence of the computation of the BAC based on results of a stock assessment. There is also evidence of meetings where the INAPESCA presented information on the size distribution of the fish to the industry and other authorities, signing an agreement to stop the fishery for three months from August to October 2018 “to protect the stocks”.</p> <p>The progress represented in insertions into the revised NOM to provide for the mechanisms to implement management guidance, is considered significant towards closure of this Condition. For future Surveillance Audits, it is expected that the fishery could provide evidence of meetings early in the season where the INAPESCA</p>

	<p>communicates the proposed BAC derived from the stock assessment, and that all parties, having received the pertinent information, discussed and agreed on closing the fishery when the cumulative catch is approaching the BAC. As the fishing season progresses, it is also expected that periodic formal communications exist to inform the fishers the status of the cumulative catch relative to the BAC and the expectation for the following weeks, so the fleet can plan a course of action based on the advice from the INAPESCA.</p>
<p>Progress on Condition [Year 2]</p>	<p>As stated in condition 1-3 for Pacific sardine, the mechanisms outlined in the revised NOM allow for the elements of the harvest strategy to work together monitoring the status of the stock and react if the PRI (or the ecosystem-based reference point) when it is approached. For future Surveillance Audits, it is expected that the fishery could provide evidence of meetings early in the season where INAPESCA communicates the proposed BAC derived from the stock assessment, and that all parties, having received the pertinent information, discussed and agreed on closing the fishery when the cumulative catch is approaching the BAC. As the fishing season progresses, it is also expected that periodic formal communications exist to inform fishers of the status of the cumulative catch relative to the BAC and the expectation for the following weeks, so the fleet can plan a course of action based on the advice from INAPESCA.</p> <p>The progress represented with the new NOM and Management Plan which provide the mechanisms to implement management guidance, is considered significant towards closure of this Condition. For future Surveillance Audits, it is expected that the fishery could provide evidence of testing that allows for the evaluation of the feasibility of application of such mechanisms, and meetings early in the season where INAPESCA communicates the proposed BAC to all parties, and reaches consensus on the closing the fishery when the cumulative catch approaches the BAC. As the fishing season progresses, it is also expected that periodic formal communications exist to inform the fishers of the status of the cumulative catch relative to the BAC and the expectation for the following weeks, so the fleet can plan a course of action based on the advice from INAPESCA.</p>
<p>Status of condition</p>	<p>On target</p>

Condition 1-6 (Thread Herring)

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
Condition	1.2.3	SIb	75
Milestones	<p>By the third surveillance the fishery shall provide evidence that the stock abundance of <u>thread herring</u> is be regularly monitored at a level of accuracy and coverage consistent with the harvest control rule.</p> <p>Surveillance 1 (2017): By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected.</p> <p>Expected Output: The client, together with INAPESCA, will start meetings with the aim of advancing the determination of thread herring sardine biomass by hydroacoustic methods.</p> <p>The client will present at least a record of the meetings signed by the participants with all the agreements reached.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 2 (2018 2020) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years.</p> <p>Expected Outcome: The analysis is continued for the evaluation of thread herring sardine by hydroacoustic methods. In addition, work will be carried out to determine the target strength of thread herring so that it can be applied more strongly in t. herring evaluations. The results will be documented through reports that will be presented at the technical meetings that will be attended by interested parties.</p> <p>The client will present technical progress reports with the main results of the specific evaluation of the thread herring.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 3 (2019 2021) Condition expected to be fully met.</p> <p>Expected Outcome: Systematic acoustic investigations and the specific evaluation of the thread herring stock will continue. Also, a technical meeting will be held between the interested parties for the analysis and discussion of the results obtained. The client will provide the minutes of the meetings signed by all the participants, which will include the discussion, analysis and agreements related to systematic acoustic research and the specific evaluation of the thread herring stock under the control rule. Also, a final technical report will be provided with the results of the evaluation of thread herring, which will include estimates of biomass with hydroacoustic.</p> <p>Expected score: 80.</p>		
Client action plan	<p>The client will actively collaborate with INAPESCA to conduct research aimed at evaluating biomass through acoustic methods. This research will be regular and focused on the analysis and consolidation of these methods so that the parameters of "target strength" used can be applied more reliably to thread herring. This will allow systematic and reliable indices of abundance independent of the fishery to be included in the catch strategy. The results obtained in this research will be announced through a technical meeting to the interested parties for its effective and systematic application in the Control Rule.</p>		
Progress on Condition [Year 1]	<p>The fishery presented minutes of a meeting indicating that the INAPESCA staff in Guaymas will meet an expert at the CICIMAR research center to review acoustic</p>		

	<p>methods to estimate thread herring abundance using acoustic techniques. The minutes indicate that this meeting will take place within a year (the meeting took place in February 2019).</p> <p>As mentioned in the background section, an estimate of abundance for thread herring was obtained for 2017 but no estimate was provided for 2018. No improvements, proposed changes, or preliminary discussions were reported. Work towards closing this condition needs to be conducted according to the Action Plan. This year the fishery did not provide evidence of progress as referred in the milestone for year 1.</p>
<p>Progress on Condition [Year 1]</p>	<p>The fishery presented minutes of a meeting indicating that the INAPESCA staff in Guaymas will meet an expert at the CICIMAR research center to review acoustic methods to estimate thread herring abundance using acoustic techniques. The minutes indicate that this meeting will take place within a year (the meeting took place in February 2019).</p> <p>As mentioned in the background section, an estimate of abundance for thread herring was obtained for 2017 but no estimate was provided for 2018. No improvements, proposed changes, or preliminary discussions were reported. Work towards closing this condition needs to be conducted according to the Action Plan. This year the fishery did not provide evidence of progress as referred in the milestone for year 1.</p>
<p>Progress on Condition [Year 2]</p>	<p>For the 2nd Annual Surveillance, three pieces of information were supplied to the audit team:</p> <ul style="list-style-type: none"> ■ A document detailing the calibration procedure of the single beam echosounder carried out in Bahia Catalina with the objective to improve the hydroacoustic estimation, addressed that the same fish density will produce the same sign independent of the range (Gonzalez-Maynez et al, 2020b). ■ A plan for a survey to measure ex situ the target force for the main small pelagic species. This is the first attempt to establish the target strength for acoustic estimation of thread herring, macarela (<i>Scomber japonicus</i>), japanese sardine (<i>Etremeus teres</i>), Pacific sardine. ■ The technical report with the stock assessment of thread herring. INAPESCA included five fishery-independent indicators, one of which is the annual relative abundance index from the acoustic surveys. The report describes the estimation in kg/h for the period 2016 – 2019. The brief time series was in line with CPUE for the same years. <p>While this evidence of progress towards this condition is sufficient to meet the milestone for the 2nd surveillance, it is important to note that the Southern Gulf of California Thread Herring fishery is in the 3rd year of a similar condition with milestones related to condition 1-6. The following is the progress from the 3rd year surveillance audit of the Southern Gulf of California Thread Herring fishery. Managers should take the remedial actions into consideration to avoid being behind target next year:</p> <p><i>From Southern Gulf of California Thread Herring fishery 3rd year surveillance report:</i></p> <p><i>The fishery continued conducting acoustic surveys to estimate biomass abundance independent from the fishery. Results from the 2019 survey reported that, on this occasion, data were analyzed using the b2 parameter for clupeids only, which is a departure from previous approaches that also used the b2 value for Sardinops. Technical support for this decision is presented in the minutes of the XXVII annual workshop on small pelagics (Anonymous 2019) where a discussion was held about the pertinence of using the surrogate parameters for Sardinops and Opistonema. Dr. Hector Villalobos indicated that it is valid to use target strengths from other species, as it is done</i></p>

worldwide, where it is common practice to use the target strength from one species to evaluate another similar one. Dr Villalobos suggested that the value available for clupeids can be used to estimate thread herring abundance. The team acknowledges Dr Villalobos as an expert in acoustic research and requests that fishery managers present a more thorough discussion about the implications of using this value. In particular, the team is interested in understanding the range of departure the thread herring could have from the general clupeid parameter and how it translates to actual biomass. The team recalls that the difference between the value for clupeids (-71.7; noting that INAPESCA is actually using -71.9) and *Sardinops ocellatus* (-70.5) led to estimates of biomass of 678,518 t and 936,616 respectively, therefore, it is apparent that small differences in the b_2 parameter values imply large differences in estimated biomass. The team also notes that a paper presented as reference for the b_2 value for clupeids (Foote 1987), reported that: For the data gathered on 46 herring and sprat in 1971, $TS = 20 \log l - 71.7$, while, for data from 60 herring measured in 1980, $TS = 20 \log l - 72.5$, which suggests that differences in the value of b_2 are present not only among different species of the same family but within the same species at different times with a range of variation that appears small but that may represent a large divergence in the final estimate of biomass. This requires a formal description of how these issues are factored in when making a final decision about what parameter value is used to obtain an estimate of abundance.

This information implies that, there was no progress relative to the proposed analysis and discussion of Target strength" parameters and how they can be applied with more strength to the thread herring. Additionally, at the second surveillance audit, three relevant aspects were required in the discussion about the reliability of the estimates, 1) fishing gear selectivity; 2) echosounder performance and 3) experiments towards specific TH signal discrimination. The report of the second surveillance audit indicates that echosounder performance testing was conducted but no information was provided about gear selectivity nor about progress on TH signal discrimination. For the third surveillance audit, the fishery presented a report on the performance of the purse seine gear used in the small pelagics fishery, however, interesting as it is, the content does not relate to the requirement of discussing selectivity of the mid-water trawl gear used to validate species identification during the acoustic survey scans. The purpose of the request was to determine if the gear was effectively selecting for the target species that is supposed to be detected by the acoustic scan and assure correct verification of the acoustic detection.

In summary, the same two issues mentioned in the results of the second surveillance audit are still unresolved with little to no progress at the third surveillance audit, therefore the fishery is behind target for this Condition. It appears, however, that the scientific staff of INAPESCA is moving towards use of the clupeid value as suggested by Dr. Villalobos. The team considers acceptable that the target strength for clupeids is finally used as the parameter in the calculation of the target strength, however, a more in-depth justification is needed with a discussion about the implications of such decision.

Remedial action: (FCP 2.1) 7.28.16.1 b

As described in the previous section, the fishery has two aspects to resolve about this condition. One referring to the selectivity of the gear utilized for verification of the detections using acoustic instruments and another to present a value for the parameter b_2 used to calculate the *Opistonema* specific target strength. The first could be satisfied if a document is prepared describing the history of success of the gear to match the catch with the detection. Other alternatives are possible as the team does not prescribe solutions, only generic possibilities to satisfy the condition. As for the *Opistonema* specific value of b_2 , as described in previous paragraphs, the fishery has the option to conduct the experiments to obtain the value for thread herring, or if so desired, to present an in-depth justification to settle for the generic approach using the value for clupeids. Again,

	<i>other options are acceptable if they are fully supported with the technical information that validates the choice.</i>
Status of condition	On target

Condition 1-7

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	1.2.4	Sle	65
Condition	By the third surveillance the assessment of stock status of thread herring has been subject to peer review.		
Milestones	<p>Surveillance 1 (2017) By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected.</p> <p>Expected Outcome: Progress can be measured in terms of the assessment presentation at the Workshop of Small Pelagic Forum. The Workshop of Small Pelagic proceedings will be providing.</p> <p>Expected score: No changes to score anticipated at this stage.</p> <p>Surveillance 2 (2018 2020) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed three years.</p> <p>Expected Outcome: Progress can be measured in terms of the assessment presentation at the Workshop of Small Pelagic Forum. The Workshop of Small Pelagic proceedings will be providing. The client will present a technical report of the fishery internal review issued by Technical Committee of Small Pelagic.</p> <p>Expected score: No changes in score are anticipated at this stage.</p> <p>Surveillance 3 (2019 2021) Condition expected to be fully met.</p> <p>Expected Outcome: At this stage, the progress may be measured by a manuscript submitted to a scientific journal for a peer reviewing.</p> <p>Expected score: 80</p>		
Client action plan	<p>The client will collaborate with INAPESCA for that the assessments be subject to peer review.</p> <p>The condition and milestones will be assessed as outlined and addressed within the stated timeframe</p>		
Progress on Condition [Year 1]	Evidence was submitted indicating that a report on stock assessment of thread herring was presented at the XXVI workshop on small pelagics in Ensenada, Baja California on June 2018. This activity is aligned with the proposed work to meet the milestone for year 1 on this Condition.		
Progress on Condition [Year 2]	INAPESCA's thread herring stock assessment report was submitted to the Comité Técnico para el Estudio de los Pelágicos Menores as part of an internal peer review process. The staff prepared a document with the critical points that achieve the objectives of the assessment or need to be improved in the upcoming years (Morales-Bojorquez & Hernandez-Rivas, 2020). It could be expected that the assessment be summarized in the same way that was done for Pacific Sardine, and submitted to an international journal.		
Status of condition	On target		

Condition 2-1

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	2.1.2	SI c	75
Condition	By the fourth annual surveillance the client shall present some evidence that the partial strategy for management of bocona sardine and chub mackerel is being implemented successfully		
Milestones	<p>Surveillance 1 (2018) By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected Expected Output: The client, in coordination with INAPESCA and the Small Pelagics Technical Committee, will initiate meetings with the purpose of proposing the most adequate mechanisms to limit, reduce or cease fishing (bocona and chub mackerel) when approaching BAC. The minutes of the meetings signed by the participants will be presented with all the agreements reached, as well as the main agreed mechanisms. Expected score: No changes to score anticipated at this stage.</p> <p>Surveillance 2 (2019 2020) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years Expected Output: Proposed mechanisms to limit, reduce or cease fishing (bocona and chub mackerel) will be announced when the permissible biological catch (BAC) of the year is achieved. A meeting will be held where INAPESCA and the client will discuss how to initiate, in a preliminary way, the tests to evaluate the mechanisms of limitation, reduction and cessation. Some test analyzes of the chosen mechanisms will be carried out to determine their feasibility when the BAC is approaching. The minutes of the meeting (or meetings), signed by the participants, will be provided with the agreements reached; A report of the selected mechanism will be submitted; And a progress report will be provided after testing the mechanisms. Expected score: No changes to score anticipated at this stage</p> <p>Surveillance 3 (2020 2021) By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years Expected Output: At this stage, the client, INAPESCA and CONAPESCA will review and discuss the mechanisms proposed and the results of the examinations carried out to evaluate them and start the procedures aimed at the publication of the Small Pelagics Management Plan in the Official Federal Official Gazette (DOF). Monitoring of catches will continue to determine when the BAC of the year is being reached. The minutes of the meeting, signed by the participants, will be provided with the agreements reached; A report will be provided of the systematic monitoring of catch levels aimed at determining when the BAC of the corresponding year is being reached; And a Small Pelagics Management Plan, document that is in the process of publication in the DOF will be presented. Expected score: No changes to score anticipated at this stage</p> <p>Surveillance 4 (2021 2022) Condition expected to be fully met Expected Output:</p>		

	<p>The mechanisms will be established, the Management Plan updated and published in the Official Federal Official Gazette (DOF).</p> <p>The mechanisms to limit, reduce or cease fishing (<i>bocona</i> and chub mackerel) will be applied explicitly, systematically and effectively when approaching the permissible biological catch of the year. On the other hand, and in case the Small Pelagics Management Plan is not yet published by this date, INAPESCA will notify CONAPESCA and the Client, in case the BAC of the corresponding year has been reached, through a Technical Opinion that Management actions should be taken to limit, reduce or cease fishing for <i>bocona</i> and/or chub mackerel, thus ensuring that the fishery does not pose a risk to the population of these two species.</p> <p>Expected score: 80</p>
<p>Client action plan</p>	<p>Explicit mechanisms to limit, reduce or cease fishing (<i>bocona</i> and chub mackerel) as it approaches the allowable biological catch (BAC) of the year, will be defined in the Management Plan, which must be published in the Official Gazette of the Federation (DOF) (As noted in condition 1-2).</p> <p>The client will actively collaborate with INAPESCA and the Small Pelagic Technical Committee to update the Management Plan, as well as to implement a systematic monitoring of catch levels to determine when the BAC of the year is being reached. INAPESCA will announce, until the Small Pelagics Management Plan is published in the DOF, these results through technical reports that will be the basis for management decision making (limit, reduce or cease fishing as it approaches the BAC of the year), ensuring that the fishery does not pose a risk to the population of sardine <i>bocona</i> and mackerel. These mechanisms will be defined in the Management Plan.</p> <p>For the formal implementation of these mechanisms, the technical reports will be disseminated through technical meetings between industry, INAPESCA and CONAPESCA for their implementation, after the effective publication of the Management Plan in the Official Federal Official Gazette (DOF).</p>
<p>Progress on Condition [Year 1]</p>	<p>The assessment team scored this PI and presented a rationale as if a partial strategy was necessary. However, the language in SIa at SG80 requires that “There is a partial strategy in place, if necessary, that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding”. The CR adds in CB3.6.1 that “Teams shall score this PI even if the fishery has no impact on this component”. For the assessment team, the two principal questions are, is it necessary to observe the existence of a partial strategy? And, if it isn’t necessary, how does this SI has to be scored?</p> <p>The CR v1.3 indicates in CB3.3.1 that teams should interpret the term “if necessary”, “to be applicable to those fisheries that have no impact on the relevant component and where no management strategy is required”. In this case, it was established in the Outcome PI for main retained species 2.1.1, that these species are “highly likely to be within biological based limits, meeting SG80”, therefore, it follows that, no partial strategy is necessary.</p> <p>For this reason, the fishery can obtain a score of 80 (see scoring table below for full rationale for final score) and no Condition has to be associated to this PI. The Condition is therefore closed.</p>
<p>Status of condition</p>	<p>Closed</p>

Condition 2-2

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	2.3.2	a & c	70
Condition	By the fourth annual surveillance the client shall present some evidence that there is a partial strategy in place that is expected to ensure the fishery does not hinder the recovery of brown pelicans and blue-footed boobies. The client shall also present evidence that the partial strategy for managing brown pelicans/ blue-footed boobies and fish and shark species is being implemented successfully .		
Milestones	<p>Surveillance 1 (2018): By this stage, the fishery shall present a proposed partial strategy. The proposed partial strategy shall clearly indicate: (1) how the measures to protect seabirds will work as part of a cohesive arrangement; (2) how the effectiveness of the measures will be monitored and assessed. Expected Output: There will be evidence of the continuity of the observer program on board the purse-seine fleet of the Gulf of California, from which information and evidence of the implementation of the mitigation measures will be generated (water curtains to avoid seabirds from entering the net), which will contribute to reduce potential impacts (if any) of the fishery on brown pelicans and blue footed boobies. Expected scoring: No changes to score anticipated at this stage</p> <p>Surveillance 2 (2019 2020): By this stage, the fishery shall present evidence that some elements of the partial strategy are being implemented. Expected Output: An analysis of the information generated from the observer program on board the purse-seine fleet of the Gulf of California will be carried out, from which a report will be generated, in which it will be documented the successful implementation of the mitigation measure for managing the impacts on seabirds (brown pelican and blue footed boobies) associated with the small pelagics fishing activities with purse seiners in the Gulf of California. Expected scoring: No changes to score anticipated at this stage</p> <p>Surveillance 3(2020 2021): By the stage the fishery shall present evidence that: (1) the partial strategy is being implemented and (2) the performance of the partial strategy is being monitored. Expected Output: The client will present report on the results of the observer program on board the smaller pelagic fleet. The report will include a quantitative analysis on mortality and impacts of the entire fleet on ETP seabird species. Expected scoring: 75</p> <p>Surveillance 4 (2021 2022): The fishery shall provide evidence that the measures have been effective in mitigating impacts of the fishery on seabirds, or if not successful that these have been assessed and modified as necessary. (Related to Milestone Surveillance 4 for Condition 2-3) Expected Output: Output related to Milestone Surveillance 4 for Condition 2-3 The client will present a report on associated impacts of the small pelagics fishery in the Gulf of California and a quantitative evaluation of the performance of the performance of the mitigation measures and how these contributed to minimize the potential mortality of birds. Expected scoring: 80</p>		
Client action plan	The client, in coordination with INAPESCA, will collect information (within the framework of a program of observers on board the purse seine fleet) on the different		

	<p>species of birds associated with the fishing work, as well as evidence of the implementation of the mitigation measure (water curtains to avoid seabirds from entering into the net). This program has been carried out by the entity Global Grupo A.C. The results of these actions, i.e. the implementation and monitoring of the mitigation measure, will be disseminated through technical meetings between the industry, INAPESCA and CONAPESCA, as well as technical reports; These evidences will be delivered to the certification body.</p>
<p>Progress on Condition [Year 1]</p>	<p>A strategy proposal has been presented to mitigate the mortality by incidental capture of seabirds and ETP species in the small pelagic fishery in the Gulf of California developed by Global GRUPO</p> <p>This proposal complies with the objectives indicated in the client's action plan:</p> <ol style="list-style-type: none"> 1) how the measures to protect seabirds will work as part of a cohesive arrangement; 2) how the effectiveness of the measures will be monitored and assessed. <p>A Technical Report on incidental catches and presence of species in the ETP category was presented in the small pelagic fishery in the Gulf of California for 2018 under the program: Technical observers aboard the largest sardine fleet in the Pacific Ocean and Gulf of California.</p> <p>This strategy includes the incidences with seabirds and the mitigation measures applied.</p>
<p>Progress on Condition [Year 2]</p>	<p>The client explained that the observer program is no longer managed by Global Grupo, who's participation ended in February 2019. In November 2019 COBI resumed management of the program. Between February and November, the program was suspended. COBI's program has 8 onboard observers, 1 coordinator, and 3 port observers.</p> <p>The client presented the audit team with two observer manuals that detail the fishery's mitigation measure for managing its impacts on seabirds (Barajas-Girón and Fernández-Rivera, 2020; INAPESCA, 2020). These measures contain various strategies to reduce the likelihood of seabird incidental catch. These include:</p> <ul style="list-style-type: none"> ■ Water curtains ■ Winch guards ■ The flapping of colourful raingear jackets ■ Horns <p>The observer manual also allows observers to determine how successfully these mitigation measures are being applied by the crew. Additionally, captains' logbooks also require that seabird mitigation measures be documented.</p> <p>Additionally, COBI presented an analysis of the information generated from the observer program on board the purse-seine fleet (within which the non-profit trained 25-30 vessel captains on bycatch reduction strategies) regarding seabird, fish, and shark species interactions, in the form of a PowerPoint presentation. The results showed low instances of fishery interaction, indicating that the mitigation measures are being implemented successfully. Catch information for elasmobranchs, finfish, blue-footed boobies, brown pelicans, in addition to other ETP species demonstrate successful implementation of bycatch strategies.</p> <p>The audit team concluded that the observer program manuals, that contain implementation strategies of the mitigation measures, and the formal presentation of the observer program's results are adequate evidence that the fishery meets the milestones for year 2 and is on target for completing this condition.</p>
<p>Status of condition</p>	<p>On target</p>

Condition 2-3

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	2.3.3		65
Condition	By the fourth annual surveillance the client shall provide evidence that there is sufficient valid information available to: 1) quantitatively estimate all fishery related mortality and the impact of the fishery for ETP seabird species and 2) measure trends and support a full strategy to manage impacts on ETP seabird species.		
Milestones	<p>Surveillance 1(2018): By this stage, the fishery shall present a proposed monitoring program. The proposed monitoring program shall include: (1) Description of the proposed monitoring protocol to quantitatively estimate all fishery related mortality for ETP seabirds (2) Identification of the information that will be required to monitor the effectiveness of the measures proposed for Condition 2-2</p> <p>Expected Output: The client, in coordination with INAPESCA and CONAPESCA, will support the activities of the observer program on board the small pelagics fleet (coverage of 10%). To ensure relevant information is collected to: (a) assess the effectiveness of the management strategy and (b) provide quantitative estimates of mortality and impacts of the fishery on seabird species for the entire fleet. It will also maintain training for fishing fleet personnel. The client will present evidence in the form of technical reports and minutes (and other evidence of:</p> <ol style="list-style-type: none"> 1. The information collected by the observer program 2. A comprehensive description of the coverage, duration, objectives, and design of the data collection protocols of observer programs. The protocol will include a clear description of how the observer program design will address issues of sea bird mortality count. 3. Requirements of observer training program and evaluation of observers. And evidence of how the observer program is trained to identify ETP species in the geographic area with which the fishery could have potential interactions. 4. Description of mechanisms to verify data collected by observer program. <p>Expected scoring: No changes to score anticipated at this stage</p> <p>Surveillance 2 (2019 2020): By this stage, the fishery shall some present evidence that information is being collected to quantitative estimates all fishery related mortality for ETP seabirds.</p> <p>Expected Output: The client will continue to support the activities of the observer program on board the purse-seine fleet; The client will also show evidence (minutes and other evidence) that the fleet staff training program is maintained. A preliminary analysis of the work associated with the mitigation measure and its operation will be carried out; The client will provide a preliminary technical report on:</p> <ol style="list-style-type: none"> 1. Operations of the mitigation measure on bird species (brown pelican and blue footed boobies) associated with the small pelagics fishery 2. Quantitative estimates of mortality and impacts of the fishery on seabird species for the entire fleet, including considerations for potential unobserved mortality 3. Evidence of verification of information collected by observer program <p>Additionally, the client will continue to support research in ecosystem models detailed in condition 2-4, to continue to assess potential indirect impacts of the fishery on sea birds.</p> <p>Expected scoring: No changes to score anticipated at this stage</p>		

	<p>Surveillance 3 (2020 2021): By this stage, the fishery shall present quantitative estimates all fishery related mortality for ETP seabirds</p> <p>Expected Output: The client will present report on the results of the observer program on board the smaller pelagic fleet. The report will include a quantitative analysis on mortality and impacts of the entire fleet on ETP seabird species.</p> <p>Expected scoring: 75</p> <p>Surveillance 4 (2021 2022): By this stage, the fishery shall present information that measures trends of impact on ETP seabird species over time with adoption of management measures (Related to Milestone 4 of Condition 2-2).</p> <p>Expected Output: The client will present a report on associated impacts of the small pelagics fishery in the Gulf of California and a quantitative evaluation of the performance of the performance of the mitigation measures and how these contributed to minimize the potential mortality of birds</p> <p>Expected scoring: 80 – Condition Closed</p>
<p>Client action plan</p>	<p>The client, together with INAPESCA and CONAPESCA, will maintain the on-board observer program, as well as training the fishing fleet crew on how to carry out the proposed mitigation measure (water curtains to avoid seabirds from entering into the net) and to address information validity issues regarding interpretation of mortality numbers and species identification.</p> <p>The client will provide evidence that the on-board observer program of the small pelagics fleet remains in effect; That information will be collected on the species of birds (brown pelican and blue footed booby) interacting during the fishing season and evidence of the application and operation of the mitigation measure, including training, will be collected. In addition, a technical report will be presented, based on information obtained from the observer program, on the impact of the entire fleet on the mortality of brown pelican and blue footed boobies.</p>
<p>Progress on Condition [Year 1]</p>	<p>In relation to milestones for the first year of surveillance, the client has presented information for each of the relevant points:</p> <ol style="list-style-type: none"> 1. The information collected by the observer program <p>Detailed information on the information gathered in the observer program is presented through the final report of 2018 and the observer bulletins on board. In them, the results of the work of the observers carried out during 2018 are synthesized.</p> <ol style="list-style-type: none"> 2. A comprehensive description of the coverage, duration, objectives, and design of the data collection protocols of observer programs. The protocol will include a clear description of how the observer program design will address issues of sea bird mortality count. <p>The observer program includes the description of coverage, duration, objectives, and design of the data collection protocols. The Observer Program in Sonora has 14 OTBs. The dynamics of the Fishing Dispatches obliges to include an OTB for all trips of a month. By the coverage of the Program, the randomness in the registration of the information is ensured, which leads to the interaction of the OTB with personnel on board the vessels, and this allows the results to present a uniform variation.</p> <p>The observer program has been designed and implemented by Global GRUPO. Global GRUPO is responsible for training observers in both technical and security aspects. In addition, it designs and improves the data collection forms. The set of forms is the following:</p> <ul style="list-style-type: none"> • Vessels information • Capture of minor pelagics • Bycatch fish • Bycatch of elasmobranchs (sharks and rays)

	<ul style="list-style-type: none"> • Incidental catch crustaceans • Seabird sighting • Seabird Mitigation • Marine Mammals sighting • Incidental catch Sea Turtles • Interaction with smaller vessels • Biological Sampling (information per individual of the associated fauna species and under protection) SEABIRDS • Biological Logbook (biological samplings target species) • Climatic logbook (climatic events) • Massive log (count of species by size interval) <p>3. Requirements of observer training program and evaluation of observers. And evidence of how the observer program is trained to identify ETP species in the geographic area with which the fishery could have potential interactions. Global GRUPO conducts continuous training for its observers. These formations have as objective that the observers can, among other skills, identify the ETP species in the area where the fishery can have interactions with these species. Evidences are presented of the training programs and courses carried out by the observers.</p> <p>On the other hand, the client has provided a copy of the interaction parts of the vessels with ETP species during the 2018 fishing season.</p> <p>4. The monitoring program is reviewed by Global GRUPO to improve information collection techniques and estimation methods.</p> <p>The main objectives of this revision are the following:</p> <ul style="list-style-type: none"> • Evaluate the On-Board Observer Program to identify data gaps and to improve the program and implement changes appropriately. • Review the data and analysis of INAPAESCA and GRUPO Global to ensure that the information contained in them is in accordance with the policies of incidental mortality reduction and its trends. • Review and update methodologies to estimate the incidental mortality of birds and ETP species to ensure that the best available scientific information is used. • Improve estimates of incidental mortality by improving the data collection of ETP species • Implementation of requirements to standardize the methodology of reporting incidental mortality. • Improve the collection of data and comply with the notification requirements of the same to the fishing authorities <p>In addition, there is a constant training of Observers, which improves the efficiency of the data collection on board.</p> <p>This information is in accordance with milestone 1 of the first year of surveillance</p>
<p style="text-align: center;">Progress on Condition [Year 2]</p>	<p>The client continues to support the activities of the onboard observer program. This was demonstrated by how it actively sought a replacement program when the government discontinued funding Global Grupo's activities. The client also provided the audit team with evidence that it supports COBI's fleet staff training program. This was provided to the audit team in the form of an extensive observer program manual.</p> <p>An analysis, in PowerPoint form, of the fishery's work associated with the mitigation measures and its operations was presented to auditors which detailed the following:</p> <ol style="list-style-type: none"> 1. Operations of the mitigation measure on bird species (brown pelican and blue footed boobies) associated with the small pelagics fishery 2. Quantitative estimates of mortality and impacts of the fishery on seabird species for the entire fleet, including considerations for potential unobserved

	<p>mortality. These estimates demonstrate the fishery’s low impacts on seabirds. Observed brown pelican deaths totalled 139 and there were no observed blue-footed booby deaths by observers.</p> <p>3. Evidence of verification by the observer program of information collected through logbooks. Evidence of verification by the program’s coordinator of information collected by onboard observers.</p> <p>Additionally, ecosystem researchers presented information to the assessment team that showed the client’s and COBI’s contribution of data, in the form of sardine fishery interactions with seabirds, that supports research in ecosystem models detailed in condition 2-4, to continue to assess potential indirect impacts of the fishery on sea birds.</p> <p>The client presented two observer manuals to the audit team that document the implementation of the mitigation measures and satisfy the formal report component of the milestones for the 2nd surveillance audit. In conclusion, the team feels that the manuals, data analysis, and results presentation demonstrate adequate evidence that the fishery meets the milestones for year 2.</p>
Status of condition	On target

Condition 2-4

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	2.5.2		75
Condition	By the fourth annual surveillance the client shall present some evidence that the measures comprising the partial strategy for ecosystem management are being implemented successfully.		
Milestones	<p>Surveillance 1 (2018): By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected. Expected Output: The client together with INAPESCA and other technical groups (for example, CICIMAR), will continue to support data collection programs and ecosystem modelling that consider the impact of removal of the target stocks on ecosystem functioning. Also see “Milestone Surveillance 1” for Condition 1-1 and 1-4. Expected scoring: No changes to score anticipated at this stage</p> <p>Surveillance 2 (2019 2020): By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years. Expected Output: The client will continue to support the activities of the observer program on board the sardine fleet and provide a preliminary report of the different taxonomic groups, including seabird species, which interact during the sardine fishing activities in the Gulf of California. The client together with INAPESCA and other technical groups (for example, CICIMAR), will continue to support data collection programs and ecosystem modelling that consider the impact of removal of the target stocks on ecosystem functioning. Also see “Milestone Surveillance 2” for Condition 1-1 and 1-4. Expected scoring: No changes to score anticipated at this stage.</p> <p>Surveillance 3 (2020 2021): By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years. Expected Output: See “Milestone Surveillance 2” for Condition 2-1 and 1-4. Expected scoring: No changes to score anticipated at this stage</p> <p>Surveillance 4 (2021 2022): Condition expected to be fully met Expected Output: The client will provide a final report on the Target Reference Point that considers the ecological role of Pacific sardine; This Target Reference Point will be included in the Management Plan (and other regulatory mechanisms) which will be formally published in the Official Gazette of the Federation (DOF). Also provide evidence that the harvest strategy for the thread herring is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. The client will provide a report on the different taxonomic groups and / or associated species during the sardine fishery in the Gulf of California, including seabird species. The client will also present advances on ecosystem modelling that show the management measure is successfully implemented, and that fishing activities do not alter or modify the ecosystem in which this activity is carried out. The ecosystem model will include functional groups of major predator groups (including seabirds), if possible important predators will be specified individually rather than being combined into broader functional groups.</p>		

	Expected scoring: 80
Client action plan	<p>The client will show evidence that small pelagics fishery in the Gulf of California does not affect the structure and function of the ecosystem, this management aspect will be defined according to what is stated in Condition 1-1 (Pacific sardine) and Condition 1-4 (Thread herring).</p> <p>The client, in coordination with INAPESCA, will continue working on models with an ecosystem management approach, aspects that will be discussed within the framework of the meetings noted in condition 1-1 and 1-4. Finally, this will be reflected in the revised Fisheries Management Plan, which should be formally published in the DOF.</p>
Progress on Condition [Year 1]	<p>The proposal of a mitigation strategy for the mortality by incidental capture of seabirds and ETP species in the smaller pelagic fishery in the Gulf of California takes into account the effects on the marine ecosystem.</p> <p>Global Grupo monitors and estimates the incidental mortality of birds and threatened species in fisheries to understand the effects of such mortality on the fishery and the ecosystem. CONAPESCA, INAPESCA and Global Grupo carry out and support research to improve assessments of incidental mortality in the population and ecosystem dynamics. A working meeting was held in La Paz, BCS, on January 29 and 30, during which different aspects of the conditions and the way in which the different research groups could intervene in each of them were discussed. As a result of these meetings, a minute of the agreements was prepared and the list of participants in the workshop was included.</p> <p>In this regard, in the workshop held in La Paz, BCS, , the following was agreed: Condition: 2-4. The revision of this topic will be carried out among INAPESCA personnel with CICIMAR personnel to continue with studies of the impact of sardine fishing on the ecosystem. This document is currently being prepared. For the Pacific sardine, a document is being prepared by INAPESCA, which is more advanced.</p>
Progress on Condition [Year 2]	<p>In the absence of Global Grupo, COBI now monitors and estimates the incidental mortality of birds and threatened species to understand the effects of such mortality on the fishery and the ecosystem. CONAPESCA, INAPESCA, and COBI carry out and support research to improve assessments of incidental mortality on population structures and on ecosystem dynamics.</p> <p>Regarding the second part of the year 2 milestone, studies estimate harvest limits related to available biomass for Pacific sardine and thread herring and other small pelagic species in terms of levels of ecosystem impacts. The studies also state that allowable catch rates for Pacific sardine and thread herring and the Pacific anchovy under an adaptability strategy might prevent undesirable effects on ecosystem sustainability.</p> <p>Aviles-Hernandez et al (2020) demonstrated evidence that the ecological role of Pacific sardine is being defined through stomach content data analysis (see condition 1-1). Furthermore, biomass data is still missing from observer data, along with mortality estimates and total catch.</p> <p>As mentioned in condition 1-1, Narvaez-Martinez et al. (2020a) use fishery-independent information to obtain five abundance indexes the Pacific sardine stock based on the proportion of sardine in the diet of seabirds. While rudimentary, the audit team considers that the work could contribute to the development of a limit reference point that includes the ecological role of the Pacific sardine.</p>

	Taken together, these studies demonstrate progress, albeit gradual, toward the processing and analysis of available information needed to construct an ecosystem model and define harvest limits for small pelagic species, currently estimated to be 36% of the available biomass.
Status of condition	On target

Condition 3-1 and 3-2

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
Condition	3.2.2		75
Milestones		<p>3-1. By the fourth surveillance, the client should present evidence that there are decision-making processes that result in measures and strategies to achieve the fishery-specific objectives for the protection of ETP species.</p> <p>3-2. By the fourth surveillance the client shall present evidence that, with regards of impacts on ETPs, the decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions</p> <p>Surveillance 1 (2018): By this stage, the fishery shall present a diagnostics or gap analysis to determine the origin of deficiencies in the decision-making process as related to the application of specific management measures to protect ETP species. Expected Output: Minutes of meetings signed by the participants will be presented with all the agreements reached. A draft that details the proposed decision-making processes to implement the use of the HCRs and a report of the analysis of deficiencies in the decision-making process as related to the application of specific management measures to protect ETP species. Expected scoring: No changes to score anticipated at this stage</p> <p>Surveillance 2 (2019 2020): By this stage, the fishery shall agree on a proposal for an established decision-making process that result in measures and strategies to achieve the fishery-specific objectives for the protection of ETP species. Expected Output: The client will provide a report with the proposed guide to the decision making process to respond to important issues affecting ETPs. Summary of agreements reached and the revisions made at the meetings should be included. Expected scoring: No changes to score anticipated at this stage</p> <p>Surveillance 3 (2020 2021): By this stage, the fishery shall formally adopt an established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives for the protection of ETP species. Expected Output: The proposed guidelines to the decision making process to respond to important issues affecting ETPs have been defined and discussed with all relevant parties. A draft document is produced and is ready for publication. The client will provide a technical report showing progress in determining formal mechanisms. Also a summary of the agreements reached and the revisions made at the meetings. Expected scoring: No changes to score anticipated at this stage.</p> <p>Surveillance 4 (2021 2022): By this stage, the fishery shall present evidence to indicate that: (1) management decision-making processes to achieve the fishery-specific objectives for the protection of ETP species have been adopted and are routinely employed (2) the decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation Expected Output: A formal document has been produced describing the decision-making process as related to the application of specific management measures to protect ETP species. Expected scoring: 80</p>	

<p>Client action plan</p>	<p>The client will actively collaborate with CONAPESCA to review and implement the necessary changes in the corresponding regulatory instruments to produce a pathway to respond to serious and important issues that arise as a consequence of fishery operations to assure that basic provisions in applicable Laws are applied.</p> <p>The client proposes that a handbook of procedures can be produced such that fishers, authorities and everyone involved in incidents is acquainted with the steps to be taken to meet the requirements of the Law. Utilization of the document could be referred to in the CNP or the NOM.</p>
<p>Progress on Condition [Year 1]</p>	<p>During the first year of certification, no concrete actions have been taken in relation to conditions 3-1 and 3-2.</p> <p>A letter from CANAINPESCA has been presented in which reference is made to the steps that will be taken by the client to resolve these two conditions.</p> <p>Thus, as a first step, it is intended to sign a memorandum of understanding and collaboration between CONAPESCA and SEMARNAT, with the aim of amending the law in relation to the bycatch of protected species and the obligation to return it to the living or dead sea.</p> <p>On the other hand, establish measures to mitigate the impact of fishing on seabirds through a protocol that sets, in the management plan, the specific objectives of protecting species ETP and so that they can be implemented throughout the fishery. In addition, this protocol should be part of the decision-making process and actions of the authorities.</p> <p>Although there is progress, it is not considered that both conditions have advanced in accordance with the provisions of Milestone Surveillance 1 (2018). Minutes of meetings or agreements reached have not been provided. Neither has it been provided by the client, a draft that details the proposed decision-making processes to implement the use of the HCRs and a report of the analysis of deficiencies in the decision-making process as related to the application of specific management measures to protect ETP species</p>
<p>Progress on Condition [Year 2]</p>	<p>The client presented evidence of a decision making process, in the form of multiple meetings with COBI, INAPESCA, and CANAINPES, that allowed participants to discuss observer program data collection strategies, human resource training, as well as its challenges and opportunities. Mitigation measures for ETP species and a strategy for their diffusion were discussed as well. This evidence of the application of specific management measures to protect ETP species by the fishery is sufficient to meet the year 1 milestone for ETP species and the audit team no longer considered the fishery to be behind target for the previous year.</p> <p>Regarding the year 2 milestone, the client presented evidence of an onboard observer program, a port observer program, and logbooks that result in measures and strategies to achieve the fishery-specific objectives for the protection of ETP species. The client also presented evidence of a draft observers manual (Barajas-Girón and Fernández-Rivera, 2020) written by COBI and a fishery monitoring manual (INAPESCA, 2020) written by INAPESCA that detail decision making process that result in measures and strategies to achieve the fishery-specific objectives for the protection of ETP species. Additionally, NOM-003 (sections 4.13.5.1 – 4.13.5.5) sets bycatch limits for individual groups of organisms including finfish, crustaceans, mollusks, elasmobranchs, and cnidarias, along with certain ETP species are contained. Furthermore, the NOM’s section 4.13.4 states that it is prohibited to deck dolphins, sea turtles and all other ETP species under protection by Mexican law.</p> <p>The NOM is a formal document that, along with the observer programs protocols and the use of logbooks, describes the decision-making process as related to the application</p>

	of specific management measures to protect ETP species, therefore fulfilling the year 4 milestone and thus representing sufficient evidence to close these conditions.
Status of condition	Closed

Condition 3-3

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
Condition	3.2.2		75
Milestones		<p>By the fourth surveillance the client shall present evidence that, with regards of implementation of the control rule, the decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.</p> <p>Surveillance 1 (2018): By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected Expected Output: The client, in coordination with INAPESCA and the Small Pelagics Technical Committee, will initiate meetings to propose and discuss the formal mechanisms for stopping fishing activities, when close to the BAC. At least one minute of the meetings signed by the participants will be presented with all the agreements reached. Expected scoring: No changes to score anticipated at this stage</p> <p>Surveillance 2 (2019 2020): By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years. Expected Output: The client will provide a technical report showing progress in determining the formal mechanisms for stopping fishing activities when close to the BAC; also a summary of the agreements reached and the revisions made at the meetings. Expected scoring: No changes to score anticipated at this stage</p> <p>Surveillance 3 (2020 2021): By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years. Expected Output: The formal mechanisms for stopping fishing activities will be determined when close to the BAC. The client, in coordination with INAPESCA and the Small Pelagics Technical Committee, will have a meeting with CONAPESCA to discuss these mechanisms, as well as their incorporation in the normative documents, including the Management Plan, before their publication in the Official Gazette of the Federation (DOF). The client will provide a technical report showing progress in determining formal mechanisms; Also a summary of the agreements reached and the revisions made at the meetings. Expected scoring: No changes to score anticipated at this stage</p> <p>Surveillance 4 (2021 2022): Condition expected to be fully met Expected Output: The client will provide a final report on the formal mechanisms for stopping fishing activities, when close to the BAC; These formal mechanisms will be included in the Management Plan (and other regulatory mechanisms) which will be formally published in the Official Gazette of the Federation (DOF). Expected scoring: 80</p>	
Client action plan		<p>The client will actively collaborate with INAPESCA and the Small Pelagics Technical Committee to review and implement the necessary changes in the Fisheries Management Plan that will allow the formal mechanisms to stop fishing activities, when close to the BAC, So that they work together to achieve the management objectives.</p>	

	<p>The activities and results will be reflected in working minutes and at least one Technical Report and, will be made known through technical meetings to the fishing industry and to CONAPESCA (Administrative Body) for its systematic and effective implementation. These changes to the Management Plan, will be documented with the publication of this in the Official Gazette of the Federation (DOF).</p>
<p>Progress on Condition [Year 1]</p>	<p>The purpose of this Condition is to provide evidence that the decision-making process in the management of the sardine fishery is efficiently utilizing the HCR as information is being produced about stock status. This Condition is also a complement of Conditions 1-2 and 1-3 that are aimed to have a responsive harvest strategy and to have a HCR that is effectively in place with clear procedures to stop the fishery as the BAC is being approached.</p> <p>The fishery presented evidence that the new NOM-003-SAG-PESC-2018 regulating small pelagics fishing in Mexico has been published in the Official Gazette. The NOM states: “The Secretariat may establish periods and closed areas for the capture of smaller pelagics to apply dynamic management of the fishery, avoid interaction with other fisheries, as well as contribute to the conservation of other biological resources and the ecosystem. Such periods and closure zones will be announced through Regulatory Agreements that will be published in the Official Gazette of the Federation, based on the technical opinion issued by INAPESCA for such purpose, prior to the socialization of the measure”. In other words, the INAPESCA conducts the stock assessment and following the guidance of the Management Plan, computes the BAC based on the estimated status of the stock; the results are communicated to other stakeholders including the fishers and the management branch of the government (CONAPESCA) and procedures can be agreed to start operations on the base of the limit established with the BAC. With this, the formal mechanism to make the HCR effectively in place has been established. Because the procedure is new, the fishery has had no opportunity to follow the steps established in the NOM, however, the team received evidence that the same members of the management system, including INAPESCA and CONAPESCA, met with fishers of another small pelagics fishery further south to follow the steps to produce a BAC, meet with fishers, agreed to stop fishing as the BAC was approached, the fishers were timely informed at 70% the BAC and actually stopped at 90% the BAC. The expectation is that the system will operate in the central/northern Gulf of California in the same way as in the south and the Surveillance Audit Team will request similar evidence. The fishery is on target towards closing this Condition in the established timeline.</p>
<p>Progress on Condition [Year 2]</p>	<p>Regarding the proposed decision-making processes to implement the use of the HCRs, the client presented evidence of the process of defining and implementing fishery closures. This demonstrates the use of HCRs to manage the exploitation of the target species’ stocks. The evidence was presented by the client in the form of meeting minutes from March 2019, June 2019, and September 2019. The fishery’s closure for 2019 and 2020 was published in the DOF which was also presented to the audit team. The new NOM includes text that allows fisheries to establish closures, minimum sizes, and the percent of the catch below the minimum size. Furthermore, the fishery’s management plan established HCRs, in addition to the percent of the catch that is permissible below the minimum size limit. Together, this evidence demonstrates a process that can be triggered for fisheries-related issues. It also demonstrates that the process has been triggered in the past and has led to decisions about sustainability in the fishery. While a HCR based on the BAC of small pelagic species is yet to be implemented for this fishery, the implementation of the HCR decision making process based on the percentage of catch below the minimum size limit is well established and has shown to result in</p>

	<p>measures and strategies to achieve the fishery-specific objectives for the use of HCRs and is sufficient to meet the year 1 and 2 milestones for these conditions.</p> <p>Specifically regarding the BAC, the client provided the audit team with stock assessments and technical reports for thread herring (Morales Bojórquez and Hernández Rivas, 2020a) and Pacific sardine (Morales Bojórquez and Hernández Rivas, 2020b) in which the BAC for these organisms is estimated. Using the assessments, confidence intervals based on the BAC can also be estimated with the objective of maintaining the fishery at sustainable harvest levels.</p> <p>The fishery also provided draft Management Plan revisions (Hernández Rivas et al., 2020), produced by the Comité Técnico para el Estudio de los Pelágicos Menores, that define catch monitoring procedures to be used to determine the percent of the season's total catch relative to the BAC, as well as estimated BAC for Pacific sardine for the 2018-2019 fishing season. The proposed revisions also include text on the procedures that managers should implement when the fleet's catch is nearing the BAC.</p> <p>The evidence presented to the audit team by the client shows progress towards the completion of the milestones within the established timeframe, and we consider the fishery's progress for this condition to be on target.</p>
Status of condition	On target

Condition 3-4

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	3.2.3		75
Condition	By the fourth annual surveillance the client shall provide evidence that there is no systematic non-compliance with current regulations.		
Milestones	<p>Surveillance 1 (2018): By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected. Expected Output: See “Client Action Plan” for Condition 3-1. Expected scoring: No changes to score anticipated at this stage.</p> <p>Surveillance 2 (2019 2020): By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years. Expected Output: See “Client Action Plan” for Condition 3-1. Expected scoring: No changes to score anticipated at this stage.</p> <p>Surveillance 3 (2020 2021): By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed four years. Expected Output: See “Client Action Plan” for Condition 3-1. Expected scoring: No changes to score anticipated at this stage.</p> <p>Surveillance 4 (2021 2022): Condition expected to be fully met Expected Output: See “Client Action Plan” for Condition 3-1. Expected scoring: 80</p>		
Client action plan	<p>See "Client Action Plan" for Condition 3-1. The review of necessary changes in the Fishery Management Plan and NOM-003-PESC-1993 discussed under Condition 3-1, will include revisions of the minimum size regulations.</p> <p>In addition, the client will actively collaborate with CONAPESCA and INAPESCA, so that the NOM-003-PESC-1993 will be published in the shortest possible time in the DOF and that its implementation will be effective. The fishery will abide by the regulations showing that there is no evidence of systematic non-compliance, for which it will present the minutes of the meetings in which it shows its participation and the inspection reports of the fishery will be presented</p>		
Progress on Condition [Year 1]	<p>As a result of the re-assessment, it was determined that the catch continuously shows a proportion of the total catch of Pacific sardines that is larger than permitted in regulations to be under the size limit. Therefore, this condition requires the fishery to present evidence that there is no systematic non-compliance with current regulations.</p> <p>The review of the progress of condition 3-1, is linked to this condition (3-4) and in accordance with the client's Action Plan. The section of the Action Plan for Condition 3-1 pertaining to Condition 3-4 proposed “to review and implement the necessary changes in the corresponding regulatory instruments to produce a pathway to respond to serious and important issues”. More specifically, it aimed to complete the process of revision of the Official Norm regulating the small pelagics fishery in Mexico. The revised NOM includes a base minimum size of 150 mm for the Pacific sardine and a limit of 20% of the catch under this size limit. However, the text of the NOM adds “percentages allowed under this size can be modified based on technical opinion produced by the INAPESCA, and will be made public through Regulatory Agreements published in the Official Gazette”. Also, the NOM indicates that the “Secretariat will establish and, if necessary, will modify for each season or period, the minimum size for the catch of the species of</p>		

	<p>small pelagics, including the percentages allowed under such size, for the exploitation of small pelagics, considering the differences by regions (ecosystems) and the population dynamics, based on the technical opinion of the INAPESCA, which will be made public through Regulatory Agreements published in the Official Gazette”.</p> <p>Such changes in the regulatory framework satisfy the intention of the Condition in its initial steps so that the progress can be considered to be on target. To close the Condition, it remains necessary that the Client provides evidence that this changes effectively facilitate the fishery to comply with the limits established before the next fishing season begins. The evidence that the surveillance audit team will be looking for include minutes of meetings informing the fishery of the limits for the season and signed by the fishery to acknowledge and commit to compliance. At the end of the fishing season, it is expected that the report of the fishery performance does not present a proportion in the catch of fish under the size limit that is larger than allowed at the beginning of the season. This will be observed through the entirety of the Certification Cycle.</p>
<p>Progress on Condition [Year 2]</p>	<p>The audit team was presented with evidence by the client in the form of meeting minutes from March 2019, June 2019, and September 2019 that detailed the decision making process designed to regulate fishing activity based on the percent of the catch that was below the minimum size limit.</p> <p>The new NOM establishes the minimum size for Pacific sardine (150mm) and percent of the catch of this species below the minimum size (33%). Additionally, it establishes the minimum sizes of thread herring (160mm) and anchovy (100mm) along with their permissible amounts of catch that can be below these sizes (38% and 46% respectively). The fishery’s closure for 2019 and 2020 was published in the DOF which was also presented to the audit team.</p> <p>Regarding the fishery’s need to demonstrate that it complies with the percentages of catch below the minimum size limits before the next season begins, the client provided a technical document with catch data that showed small pelagic catch by species length during a portion of the 2019-2020 fishing season (Martínez Zavala et al, 2020) as well as during the 2018-2019 season (Nevárez Martínez 2020). This demonstrates the presence of a data collection system that supports the fishery’s monitoring and compliance measures, specifically presenting evidence that the catch of each species was within the established minimum size regulations.</p> <p>Additionally, the team was presented with data from 2018-2019 that showed that the fishery maintained the season’s catch within permissible levels according to the NOM (i.e.: the total percentage of the catch that was bycatch and the percentages of the target catch that was below the minimum size limits), fulfilling a portion of the year 2 milestone. The milestone also states that for surveillance year 2, the client will provide a report with the proposed guide to the decision making process that responds to the proportion of undersized fish in the catch at any given time during the fishing season. This report was presented by the client to the assessment team in the form of draft revisions to the management plan that state the procedures that should be used to determine the percentage of monthly catch below the minimum size limit and how this information will be used in the process to determine fishery closures. Based on this evidence, the team considers the fishery’s progress towards completing this condition to be on target.</p>

Status of condition	On Target
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Condition 3-5

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	3.2.5		70
Condition	By the third annual surveillance the client shall provide evidence that the fishery-specific management system is subject to regular internal and occasional external review.		
Milestones	<p>Surveillance 1 (2018): By this stage, the fishery shall have demonstrated some progress toward the closure of this condition. No improvements expected. Expected Output: The client will collaborate actively with INAPESCA for the annual monitoring and evaluation of the small pelagics fishery performance in meeting the objectives laid out in the Fisheries Management Plan and corresponding Nom(s). The results of INAPESCA’s annual evaluation of the performance of the fishery will be reviewed by the Technical Committee of Small Pelagic. The client will present a technical report of the fishery internal review issued by Technical Committee of Small Pelagic. Expected scoring: No changes to score anticipated at this stage.</p> <p>Surveillance 2 (2019 2020): By this stage, the fishery shall have demonstrated further progress toward the closure of the condition, consistent with the achievement of the condition within the allowed three years. Expected Output: INAPESCA will continue to conduct an annual monitoring and evaluation of the small pelagics fishery performance in meeting the objectives laid out in the Fisheries Management Plan and corresponding Nom(s). The results of INAPESCA’s annual evaluation of the performance of the fishery will be reviewed by the Technical Committee of Small Pelagic. The client will present a technical report of the fishery internal review issued by Technical Committee of Small Pelagic. Expected scoring: No changes to score anticipated at this stage.</p> <p>Surveillance 3 (2020 2021): Condition expected to be fully met Expected Output: The Client will actively solicit and support the external reviews of the results made by INAPESCA; Present the minutes or reports of the meetings held for this purpose. Expected scoring: 80</p>		
Client action plan	The client will actively support the systematic internal reviews of the monitoring, evaluation and overall management proposals of the small pelagics fishery conducted by INAPESCA. Will present the minutes or reports of the meetings held for this purpose; In addition, it will also actively solicit and support external review by Technical Committee of Small Pelagic for the results made by INAPESCA; Present the minutes or reports of the meetings held for this purpose.		
Progress on Condition [Year 1]	A review of the evaluation carried out for the sardines Pacific and crinuda, was carried out and the opinion on these reports was delivered to the chairman of the technical committee and to Canainpesca. In March 2019, the new version of the Standard that regulates the fishery for small pelagic was published. A new version of the National Fisheries Charter (Carta Nacional Pesquera) was also published in 2018.		
Progress on Condition [Year 2]	A meeting of the Comité Técnico para el Estudio de los Pelágicos Menores was held on February 4-6, 2020 as a way of facilitating collaboration between the Sinaloa and Sonora fisheries. During the meeting the results of an internal revision and corrections of the management plan were presented by INAPESCA. The fishery is also planning to publish results of the external review of the management plan and other aspects of the management system (per client’s comments). These proposed revisions still need to be		

	<p>revised by CONAPESCA. Because of the pandemic, the fishery was unable to stage a meeting with the Comité Técnico to receive its consultation and external review of the management system.</p> <p>While the client did not present the audit team with a technical report of the fishery's external review, it did provide various documents with minutes and outcomes from the February meeting. These outcomes included the Comité's proposed revisions to the fishery's management plan. The pandemic did not allow the Comité to hold a scheduled meeting in June 2020. Despite these challenges, the audit team determined that the fishery's progress is sufficient to maintain its on target status for this condition.</p>
Status of condition	On target

Re-scoring Performance Indicators

1.1.1.1.1 Evaluation Table for PI 3.2.2 – Decision-making processes

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment.		
Scoring Issue		SG 60	SG 80	SG 100
a	Guidedpost	There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Met?	(Y)	(N) Y	
	Justificati on	<p>This Scoring Issue (SI) requires the existence of decision-making processes resulting in measures and strategies to achieve the fishery-specific objectives.</p> <p>There are established and understood processes and roles for decision-making. The process of the development of NOMs and management plans is described in SIb of PI 3.1.2. Participation of the Sub-Committee on Responsible Fishing, the National Council of Fishing and Aquaculture and the State Council of Fishing and Aquaculture have specific procedures defined by the Federal Law on Metrology and Standardization (LFMN) and the LGPAS. Management decisions are attributed to CONAPESCA with technical advice from INAPESCA.</p> <p>There is in place an overarching national policy providing protection for ETP species and requirements exist for collaboration between management organizations to produce and implement specific measures and actions for the protection of ETP species (LGPAS Article 9o clause V). Fishing violations are penalized under the terms of the LGPAS and are enforced in coordination between CONAPESCA and the Federal Attorney for Environmental Protection (PROFEPA). The implementation of some established decision-making processes that result in the development and update of fishery regulations supporting the achievement of the fishery-specific objectives meets SG60</p> <p>While the assessment team recognizes there are efforts by fishers to minimize impacts on ETPs during fishing operations, they are not considered part of an established decision-making processes. Evidence provided to the team on an incident involving the interaction of vessels in the fishery with ETP species, raised concerns that there may be deficiencies in the performance of the decision-making process when ETPs are affected by the fishery. The decision-making process for fisheries decisions regarding ETP species is not clearly established nor understood. This represents serious limitations to produce measures or strategies to ensure goals are achieved, and that the impact of the fishery on ETP species continues to meet the MSC outcome standard as outlined in PI 2.3.1.</p> <p>The limitations described in the preceding paragraphs represent an impediment for the fishery to meet the requirements at SG80 in this SI.</p> <p><u>At the fishery specific level, there exists an onboard observer program, a port observer program, and logbooks that result in measures and strategies to achieve the fishery-specific</u></p>		

		<p><u>objectives for the protection of ETP species. The client also presented evidence of a draft observers’ manual and a fishery monitoring manual that detail decision making process that result in measures and strategies to achieve the fishery-specific objectives for the protection of ETP species. Additionally, NOM-003 (sections 4.13.5.1 – 4.13.5.5) sets bycatch limits for individual groups of organisms including finfish, crustaceans, mollusks, elasmobranchs, and cnidarias, along with certain ETP species are contained. Furthermore, the NOM’s section 4.13.4 states that it is prohibited to deck dolphins, sea turtles and all other ETP species under protection by Mexican law.</u></p> <p><u>The NOM is a formal document that, along with the observer programs protocols and the use of logbooks, describes the decision-making process as related to the application of specific management measures to protect ETP species. For these reasons, there are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives and the fishery meets SG80.</u></p>		
b	Guides	Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
	Met?	(Y)	(N)	(N)
	Justification	<p>The decision-making process of the small pelagics fishery in the Gulf of California respond to serious issues identified in relevant research, monitoring, evaluation and consultation in a transparent, timely and adaptive manner (through the implementation of a web site) accounting for some of the wider implications of the decisions taken. Evidence of this decision-making process was provided to the assessment team showing how the INAPESCA conducts research cruises before the start of the fishing season and reports the results with recommendations that are adopted by the industry, including to delay the beginning of the season or to cancel fishing for Pacific sardines given the low biomass availability. The purpose of these decisions is clearly aligned with the management objectives to conserve biomass and protect recruitment.</p> <p>The team was also presented with evidence of an event in which ETP species were affected by the fishery at a scale large enough to likely trigger a response from the authorities. The evidence provided showed that the response from management authorities was limited to offering a recommendation the fishery exercise greater caution during fishing operations. Given the magnitude of the event, this type of response, appears inconsistent with the requirements in the Law for different government offices to coordinate in order to achieve conservation goals, making it difficult to take timely and appropriate action in responding to relevant issues regarding ETP impacts. This problem also prevents the fishery from meeting SG80. <u>The NOM was implemented in 2019 to, among other things, address issues of this nature. It is a formal document that, along with the observer programs protocols and the use of logbooks, describes the decision-making process as related to the</u></p>		

		<p><u>application of specific management measures designed to respond to incidences of ETP interaction.</u></p> <p>The fishery meets the standard at SG60. There are however other management mechanisms, in particular, the utilization of the control rule that are not fully implemented because after computing the applicable biologically acceptable catch of the year, there is no procedure to decide when and how the fishery must stop operations as the cumulative catch approaches the limit of the year. This problem makes the harvest strategy not fully responsible to the state of the stock as required by PI 1.2.1. SG80 cannot be met.</p>		
c	Guidepost		Decision-making processes use the precautionary approach and are based on best available information.	
	Met?		(Y)	
	Justification	The small pelagics management plan is consistent with the concept of the precautionary approach (DOF, 8th November 2012, page 12), with agreement with the FAO Code of Conduct for the Responsible Fisheries which Mexico promoted and signed.		
d	Guidepost	Some information on fishery performance and management action is generally available on request to stakeholders.	Information on fishery performance and management action is available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	Formal reporting to all interested stakeholders provides comprehensive information on fishery performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.
	Met?	(Y)	(Y)	(N)
	Justification	The assessment team was provided with evidence indicating that information on fishery performance and management action is available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. The evidence includes the minutes of technical meetings with fishers, government researchers and representatives of the academic community and NGOs attending. Reports of catch and effort, stock assessments and general fishery performance are periodically produced and a quarterly report on how the fishing season is progressing is produced and is available to the general public. The fishery meets the standard at SG80 but not at SG100 because the reports are not fully comprehensive and on occasion information may be difficult to be released. The assessment team acknowledges that issues on data accessibility have improved considerably but it is considered that there is still room for improvement on the requirements of this SI.		

e	Guidespost	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.	The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.
	Met?	(Y)	(Y)	(N)
	Justification	<p>The management system or fishery provided evidence that is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.</p> <p>Specifications about infractions, administrative sanctions, responsibilities and review processes are described and specified in Chapters I, II, III and IV of Fourteenth Title of the LGPAS (DOF 2007). The fishery does not have an extensive record of sanctions but provided official CONAPESCA records of inspection where infractions were found and resulted in temporary retention of the vessel and catch.</p> <p>The assessment team was provided with a document with the minutes of a meeting between the fishery representatives and the Secretary of SAGARPA, the Commissioner of CONAPESCA and the Director of the INAPESCA. In this meeting, the Director of Inspection and Surveillance informed that if no infraction was found in any particular inspection, no report is produced. The industry representatives requested that a report is always produced so that there is a clear record of the behavior of the fishery that, the industry informed, would let them determine areas of improvement.</p>		
References	[List any references here]			
OVERALL PERFORMANCE INDICATOR SCORE:				75
<p>CONDITION NUMBER (if relevant):</p> <p>3-1. By the fourth surveillance, the client should present evidence that there are decision-making processes that result in measures and strategies to achieve the fishery specific objectives for the protection of ETP species.</p> <p>3-2. By the fourth surveillance the client shall present evidence that, with regards of impacts on ETPs, the decision making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions</p> <p>3-3. By the fourth surveillance the client shall present evidence that, with regards of implementation of the control rule, the decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.</p>				

Appendices

Evaluation Processes and Techniques

Site Visits

Agenda de Reunión

1.1.2 Segunda Auditoría de Vigilancia MSC: Gulf of California Small Pelagics Fishery

1.1.3 Agosto 6-7 2020

1.1.4 Guaymas, Sonora (remota)

OBJETIVO: El equipo de evaluación por parte de SCS Global Services Inc. (SCS) estará llevando a cabo la segunda auditoría de vigilancia de la pesquería *Gulf of California Small Pelagics Fishery* en base al estándar de Pesquerías del MSC.

El objetivo principal de la auditoría de vigilancia es revisar el progreso de las condiciones; el objetivo secundario de la auditoría de vigilancia es una revisión general de los cambios y actualizaciones de la pesquería (FCRV2.0 7.23.12). Esto incluye:

- Cualquier cambio potencial o real en los sistemas de gestión.
- Cualquier cambio o adición o supresión de reglamentos.
- Cualquier cambio de personal en la ciencia, la gestión o la industria y su impacto en la gestión de la pesquería.
- Cualquier posible cambio en la base científica de la información, incluidas las evaluaciones de las poblaciones.
- Cualquier cambio que afecte a la trazabilidad

Tabla 1: Unidad de Evaluación - Gulf of California Small Pelagics Fishery

Stock: Golfo Norte-Central de California, México.	Área de Pesca: Sonora
Especies: Sardina Pacific (<i>Sardinops sagax</i>) y sardina crinuda (<i>Opisthonema spp.</i>)	Manejo: CONAPESCA
Método de Captura: red de cerco	Cliente: CANAINPES

Tabla 2. Asistentes Confirmados

Nombre	Institución
Ing. León Tissot	CANAINPES
Dr. Manuel Nevárez	INAPESCA
Dra. Danna Isela Arizmendi	INAPESCA
M.C. Violeta González M.	INAPESCA
M.C. Alejandro Valdez	INAPESCA
Biól. María de los Ángeles Martínez	INAPESCA
M.C. Concepción Enciso	INAPESCA
Dra. Mercedes Jacob	INAPESCA
M.C. Darío Chavez	INAPESCA
Dr. Martín Hernández	CICIMAR
Dr. Héctor Villalobos	CICIMAR
Dr. Francisco Arreguín	CICIMAR
M.C. César Saucedo	CONAPESCA
Biol. José de Jesús Dosal	CONAPESCA
Dr. Enrique Morales	CIBNOR
Gabriela Anhalzer	SCS Global Services
Dr. Enrique Morsan	SCS Global Services
Andy Bystrom	SCS Global Services
Ing. Rogelio Sanchez De La Vega	Pescaharina
Ing. Antonio De Llata Quibrera	Productos Pesqueros de Guaymas
C.P. Ariel Gastelum Villasana	Selecta de Guaymas
Lic. Carlos Zaragoza de Cima	Pesquera Siglo
C.P. Armando Coppel Azcona	Sardinas de Sonora
Ing. Pedro Garrido	Naviera Y Pesquera del Pacifico
Ing. Gerardo Barnetche Valdez	Flota Barda (Presidente Canainpesca)
Ing. Regino Angulo Rodriguez	Pacifico Industrial
Ing. Ricardo Lopez	Sardison
Ing. Jorge Guajardo	Industrial del Pacifico
Lic. Rogelio R. Bours	Maritima Intercontinental

Ing. Juan Pablo Miranda	Gobierno del Estado (Subsecretario Pesca y Acuicultura del Estado)
Ing. Oscar Caballero	Gobierno del Estado
C. Arnulfo Navarro	Jefe Pesca en Guaymas (Conapesca)
Ocean. Marco Ross	

Miercoles 6 de agosto – reunión virtual	Participantes	Plataforma
<u>Sesión 1: Reunión de Apertura</u> 09:00-10:00- Reunión de Apertura con CANAINPES	CANAINPES	Zoom
<u>Sesión 2: Evaluación del estado del stock Pacific, crinuda y temas relacionadas</u> 10:00-1:00- Reunión con Conapesca e INAPESCA (Manuel Nevárez) para revisar: <ul style="list-style-type: none"> • <i>Avances marco regulatorio en desarrollo de mecanismos para controlar el esfuerzo pesquero (implementación de la regla de control). Condiciones relacionadas: 1-2 a 1-5</i> • <i>Evaluación del estado del stock para sardina Pacific, crinuda, macarela (Scomber japonicus), anchoveta y bocona.</i> • <i>Estimación de puntos de referencia de sardina Pacific incluyen consideraciones ecológicas. Condiciones relacionadas: 1-1, 1-6, 1-7 (avance atrasado hacia el marco 1-6: monitoreo del stock sardina crinuda)</i> • <i>Avances en relación a los lineamientos de talla mínima, toma de decisiones, regla de control. Condicion relacionada: 3-3</i> 	CANAINPES INAPESCA CONAPESCA CIBNOR CICIMAR	Zoom
1:00-2:00: Almuerzo		
<u>Sesión 3: Evaluación del estado del stock Pacific, crinuda y temas relacionadas (continuada)</u> 2:00-3:00pm	CANAINPES INAPESCA CONAPESCA CIBNOR CICIMAR	Zoom
<u>Sesión 4: Marco regulatorio, sanciones, vigilancia</u> 3:00-4:30pm - Reunión con INAPESCA – Manuel Nevárez, para revisar avances en: <ul style="list-style-type: none"> • <i>Presentación de los resultados de la evaluación anual de INAPESCA del desempeño de la pesquería revisados por el Comité Técnico de Pequeños Pelágicos.</i> • <i>Impactos CONAPESCA vigilancia</i> Condiciones: 3-4, 3-5	CANAINPES INAPESCA CONAPESCA CIBNOR CICIMAR	Zoom

Viernes 7 de agosto – reunión virtual	Participantes	
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<p>Sesión 5: P2 Impactos 9:00-12:00: Reunión con Inapesca para revisar:</p> <ul style="list-style-type: none"> • <i>Avances en programa de observadores, medidas de mitigación aves marinas y mecanismos de toma de decisiones respecto a especies ETP</i> • <i>Manejo de ecosistema</i> <p>Condiciones: 2-2, 2-3, 2-4, 3-1, 3-2 (<i>avance atrasado hacia el marco 3-1 y 3-2: proceso de toma de decisiones para especies ETP</i>)</p>	<p>CANAINPES INAPESCA CONAPESCA COBI CIBNOR CICIMAR</p>	<p>Zoom</p>
<p>Sesión 6: Cierre de Auditoría 12:00-12:30pm</p>	<p>CANAINPES</p>	<p>Microsoft Teams</p>

Stakeholder Participation

An announcement of the surveillance audit remote meetings was published to the MSC website on July 2, 2020. Stakeholders were informed of the announcements through the MSC website and through email. An audit plan was provided to the client, management, scientists, and interested stakeholders by SCS before the meeting. No stakeholders requested a private meeting with the team and no stakeholder written comments were received prior to the closing of the 30-day consultation period.

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A controlled document list of MSC program documents is available on the [MSC website](http://mcs.org) (mcs.org)

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