Work plan for the improvement of the Mexico Bahia de Los Angeles octopus fishery

Table 1: Overview of the Work Plan

Name of the fishery: Octopus	Start date: January 2018	
ject location: Bahia de Los Angeles, Baja California, Mexico Fishing gear: Trap/diver-caught/hand gathered		End date (estimated): December 2022
Project leaders (organization responsible for the Work Plan): Pronatura Noroeste A.C., SEPESCA, CONA	Improvements recommended by: Pronatura Noroeste A.C.	
Project leaders (organization responsible for the Work Plan): Pronatura Noroeste A.C., SEPESCA, CONA	NP	Improvements recommended by: Pronatura Noroeste

Summary of the action plan: This work plan will initially focus on four blocks of actions: 1) build an adequate way to determine the octopus stock and improve the information and monitoring system; 2) evaluate the impact of the fishery on secondary species and develop an ecosystem management strategy; 3) develop a specific management system for the octopus fishery that considers the aspects that address the four PI that comprise it; and 4) carry out actions on additional impacts as an incentive for the improvement of the fishery with respect to the MSC standard. It is expected that the rest of the performance indicators (PI) that resulted in red (<60) and yellow (60-79) will gradually be included (see the pre-assessment), as the FIP working group is consolidated, social conditions in the locality improve and progress is being made in this work plan.

Table 2: Details of the Work Plan

Standard requirement	Action	Action leader	Tasks	Responsible	Deadlines / goals
PI 1.1.1, SG80 - It is highly likely that the stock is above the PR The stock is at or fluctuating around a level consistent with MSY.	Determine the octopus stock status. Identify and select the appropriate indicators to determine the stock status using the most accurate information	CRIP		CRIP, CONANP, PNO CRIP, PNO	1.1. 6 months / Diagnosis of the necessary indicators to determine the state of the stock, July 2018-December 2019 2.4. 60 months / Database fed with information collected January 2018-December 2022
PI 1.1.2, SG80 There is evidence that the rebuilding strategies are rebuilding stocks, or it is likely based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe.					
PI.1.2.1, SG80 The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI.1.1.1 SG80. The harvest strategy may not have been fully tested but evidence exists that it is achieving its objectives. It is highly likely that shark finning is not taking place. There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoArelated mortality of unwanted catch of the target stock and they are implemented as appropriate.	14. Develop the harvest strategy Integrate the HCRs, information and monitoring, and the assessment of the stock to design an exploitation strategy that responds to the characteristics of the fishery	INAPESCA	the octopus fishery in BLA 14.2. Collect information to assess the operation of the strategy, in order to identify its effectiveness 14.3. Collect information on octopus catch in	INAPESCA, CONANP, PNO INAPESCA, CONANP, PNO INAPESCA, CONANP, PNO	14.1. 48 months / Strategy base (preliminary but functional), July 2018-July 2022 14.2. 24 months / Preliminary assessments, July 2020-July 2022 14.3 36 months / Socialization and incorporation in logbooks, January 2020-December 2022
PI 1.2.2, SG80 - Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs. - The HCRs are likely to be robust to the main uncertainties. - Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	14. Develop the harvest strategy Integrate the HCRs, information and monitoring, and the assessment of the stock to design an exploitation strategy that responds to the characteristics of the fishery	INAPESCA	14.4. Design a robust control rule that responds to the stock status and reduces the exploitation rate as abundance approaches the PRI 14.5. Define the mechanism that will be used to evaluate the efficiency of the control rule and perform preliminary assessments	INAPESCA, CONANP, PNO INAPESCA, CONANP, PNO	14.4. 24 months / Design and application of a preliminary but functional HCR, July 2019-July 2021 14.5. 42 months / Compilation of information and preliminary assessments, July 2019-December 2022

PI 1.2.3, SG80 - Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data are available to support	Design a standardized monitoring system with trained monitors. Have an efficient monitoring system that allow to gather transparent and accurate information	FISHERMEN	2.1. Standardize the sources of information for the assessment of the octopus fishery and implement the standardized logbook	CONANP, PNO	2.1. 6 months / Standardized logbook implemented January-June 2018
the harvest strategy. - Stock abundance and UoA removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with	дален папѕрагент апо ассолате ппогнатон		2.2. Train fishery community monitors	FISHERMEN, PNO, INAPESCA	2.2. 18 months / Evidence of training for community fishing monitors January 2018-June 2019
sufficient frequency to support the harvest control rule. - There is good information on all other fishery removals from the stock.			2.3. Establish the mechanism to record and differentiate the catch by species of octopus	FISHERMEN	2.3. 7 months / Standardized logbook with differentiation of octopus species January-July 2018
			2.4. Collect information from the logbooks, arrival notices and production notebooks for the octopus fishery of fishermen participating in the FIP	PNO	2.4. 60 months / Database fed with information collected January 2018-December 2022
			Generate studies on octopus reproduction and environmental variability	PNO	2.5. 36 months / Report of studies on reproduction and environmental variability January 2018-December 2020
			2.6. Collect historical information from fishermen's catch records	SEPESCA	2.6. 6 months / Database fed with historical record, July-December 2018
			2.7. Carry out negotiations with the governments of the States of Baja California and Sonora to improve the registration of octopus catch from BLA in Sonora localities	INAPESCA, CONANP, SEPESCA	2.7. 12 months / Trades or minutes of communications and meetings with authorities, January-December 2020
PI 1.2.4, SG80 - The assessment is appropriate for the stock and for the harvest control rule. - The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated. - The assessment takes uncertainty into account. - The assessment of stock status is subject to peer review.	15. Identify alternatives for evaluating the population status of octopus in the Gulf of California. Carry out tests with different methods of stock assessment to identify evaluation alternatives and their viability	INAPESCA	15.1. Identify methodological alternatives and perform tests for octopus stock assessment in the Gulf of California	INAPESCA, CONANP, PNO	15.1. 42 months / Report describing the feasibility of alternative methods to assess the status of the octopus fishery in BLA, January 2020-December 2022
PI 2.1.1, SG80 - Main primary species are highly likely to be above the PRI					
If the species is below the PRI, there is either evidence of recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main, to ensure that they collectively do not hinder recovery and rebuilding.					
PI 2.1.2, SG80 - There is a partial strategy in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the PRI. - There is some objective basis for confidence that the measures/ partial strategy will work, based on some information directly about the UoA and/or species involved. - There is some evidence that the measures/ partial strategy is being implemented successfully. - It is highly likely that shark finning is not taking place. - There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoArelated mortality of unwanted catch of main primary species and they are implemented as appropriate.					
PI 2.1.3, SG80 - Some quantitative information is available and is adequate to assess the impact of the UoA on the main primary species with respect to status.					
OR If RBF is used to score PI 2.1.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for main primary species. - Information is adequate to support a partial strategy to manage main					
primary species.					

P1 2.2.1, SG80 - Main secundary species are highly likely to be above biologically based limits OR If below biologically based limits, there is either evidence of recovery or a demonstrably effective partial strategy in place such that the UoA does not hinder recovery and rebuilding. AND Where catches of a main secondary species outside of biological limits are considerable, there is either evidence of recovery or a, demonstrably effective strategy in place between those MSC UoAs that have considerable catches of the species, to ensure that they collectively do not hinder recovery and rebuilding.	Evaluate the impact of the octopus fishery on secondary species. Determine the real impact of the octopus fishery on the species associated with this activity	PNO	3.1. Analyze the information generated in the logbooks of fishermen participating in the FIP on the registration of secondary species (associated with the target species, incidental, discard and that is not ETP) 3.2. Define main secondary species	PNO	3.1. 12 months / List of secondary species, January-December 2019 3.2. 12 months / Report of secondary species with percentage of catch and classification in major or minor, January-December 2019
P12.2.2, SG80 - There is a partial strategy in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species atfo levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery. - There is some objective basis for confidence that the measures/ partial strategy will work, based on some information directly about the UoA and/or species involved. - There is some evidence that the measures/ partial strategy is being implemented successfully. - It is highly likely that shark finning is not taking place. - There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoArelated mortality of unwanted cath of main secondary species and they are implemented as appropriate.					
PI 2.2.3, SG80 - Some quantitative information is available and is adequate to assess the impact of the UoA on the main secondary species with respect to status. OR If RBF is used to score PI 2.2.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for main secondary species. - Information is adequate to support a partial strategy to manage main secondary species.	Design a standardized monitoring system with trained monitors. Have an efficient monitoring system that allow to gather transparent and accurate information		2.1. Standardize the sources of information for the assessment of the octopus fishery and implement the standardized logbook 2.2. Train fishery community monitors 2.4. Collect information from the logbooks, arrival notices and production notebooks for the octopus fishery of fishermen participating in the FIP	CONANP, PNO FISHERMEN, PNO PNO	2.1. 6 months / Standardized logbook implemented January-June 2018 2.2. 18 months / Evidence of training for community fishing monitors January 2018-June 2019 2.4. 60 months / Database fed with information collected January 2018-December 2022
PI 2.3.1, SG80 - Where national and/or international requirements set limits for ETP species, the combined effects of the MSC UoAs on the population /stock are known and highly likely to be within these limits. - Direct effects of the UoA are highly likely to not hinder recovery of ETP species. - Indirect effects have been considered for the UoA and are thought to be highly likely to not create unacceptable impacts.	16. Evaluate the impact of the octopus fishery on ETP species Analyze the information generated to determine if there are ETP species in the octopus catch that could have a significant impact on their populations	PNO	16.1. Analyse the information generated on the registration of ETP species in the logbooks of those who participate in the FIP 16.2. Define if there are ETP species in the fishery whose capture may pose a risk to their populations or prevent their recovery	PNO	16.1. 48 months / Annual lists of species caught in octopus fishing operations, January 2019-December 2022 16.2. 12 months / Report of species identified as ETP and an approximation to the degree of risk, January-December 2019
PI 2.3.2, SG80 - strategy in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species There is a strategy in place that is expected to ensure the UoA does not hinder the recovery of ETP species There is an objective basis for confidence that the partial strategy/ strategy will work, based on information directly about the UoA and/or the species involved There is some evidence that the measures/strat egy is being implemented successfully There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoArelated mortality of ETP species and they are implemented as appropriate.					

PI 2.3.3, SG80 Some quantitative information is adequate to assess the UoA related mortality and impact and to determine whether the UoA may be a threat to protection and recovery of the ETP species.	Design a standardized monitoring system with trained monitors. Have an efficient monitoring system that allow to gather transparent and accurate information	2.1. Standardize the sources of information for the assessment of the octopus fishery and implement the standardized logbook	CONANP, PNO	2.1. 6 months / Standardized logbook implemented January-June 2018
OR If RBF is used to score PI 2.3.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for ETP species.		2.2. Train fishery community monitors	FISHERMEN, PNO	2.2. 18 months / Evidence of training for community fishing monitors January 2018-June 2019
Information is adequate to measure trends and support a strategy to manage impacts on ETP species.		2.4. Collect information from the logbooks, arrival notices and production notebooks for the octopus fishery of fishermen participating in the FIP	PNO	2.4. 60 months / Database fed with information collected January 2018-December 2022
PI 2.4.1, SG80 The UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.				
PI 2.4.2, SG80 - There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above. - There is some objective basis for confidence that the measures/ partial strategy will work, based on information directly about the UoA and/or habitats involved.				
There is some quantitative evidence that the measures/ partial strategy is being implemented successfully. There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/ non-MSC fisheries, where relevant.				
PI 2.4.3, SG80 The nature, distribution and vulnerability of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA.				
OR f CSA is used to score PI 2.4.1 for the UoA: Some quantitative information is available and is adequate to estimate the types and distribution of the main habitats.				
 Information is adequate to allow for identification of the main impacts of the UoA on the main habitats, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear. OR				
If CSA is used to score PI 2.4.1 for the UoA: Some quantitative information is available and is adequate to estimate the consequence and Information is adequate to allow for identification of the main impacts of the UoA on the main habitats, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear.				
OR If CSA is used to score PI 2.4.1 for the UoA: Some quantitative information is available and is adequate to estimate the consequence and spatial attributes of the main habitats Adequate information continues to be collected to detect any increase in risk to the main habitats.				
PI 2.5.1, SG80 - The UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.				

PI 2.5.2, SG80 - The is a partial strategy in place, if necessary, which takes into account available information and is expected to restrain impacts of the UoA on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance. - There is some objective basis for confidence that the measures/ partial strategy will work, based on some information directly about the UoA and/or the ecosystem involved. - There is some evidence that the measures/parti al strategy is being implemented successfully.	Develop an ecosystem-based management strategy. Design a ecosystem-based management strategy that allow the conservation of its components and the sustainability of fishing resources for the benefit of community	CONANP	4.1 Initiate the formation of an ecosystem-based management program that recognizes the value of the protected natural area as a strategy that guarantees the conservation of its components and the sustainability of fishery resources		4.1 6 months / Draft ecosystem management program, July 2018-December 2019
PI 2.5.3, SG80 - Information is adequate to broadly understand the key elements of the ecosystem Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, and some have been investigated in detail The main functions of the components (i.e., P1 target species, primary, secondary and ETP species and Habitats) in the ecosystem are known Adequate information is available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred Adequate data continue to be collected to detect any increase in risk level.					
PI 3.1.1, SG80 - There is an effective national legal system and organised and effective cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2. - The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the UoA. - The management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.					
PI 3.1.2, SG80 - Organizations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction. - The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained. - The consultation process provides opportunity for all interested and affected parties to be involved.					
PI 3.1.3, SG80 - Clear long term objectives that guide decisionmaking, consistent with MSC fisheries standard and the precautionary approach, are explicit within management policy.					
PI 3.2.1, SG80 - Short and long term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fisheryspecific management system.	Manage the formalization of the management plan for the octopus fishery. Achieve fishing authority at the federal level publishes the management plan, in which the specific objectives of the octopus fishery are set, as well as the management actions	SEPESCA	5.1. Manage the publication of the Management Plan for the octopus fishery 5.2. Manage within the Committee of "Coadyuvancia" the adoption of the guidelines of the Management Plan	SEPESCA, CONANP, PNO SEPESCA, CONANP	5.1. 24 months / Management Plan published in the Official Gazette of the Federation, January 2019-December 2020 5.2. 24 months / Agreement for the adoption of the guidelines of the Octopus Management Plan, January 2020-December 2021

	Establish a solid and permanent decision-making process.	CONANP	cooperation for fisheries management as a	FISHERMEN, CONANP, SEPESCA, PNO FISHERMEN, CONANP, SEPESCA, PNO	6.1. 60 months / Minutes of semi-annual meetings with agreements for the octopus fishery January 2018-December 2022 6.2. 12 months / Minutes of meetings where collaboration agreements are established for regional fishery re-arrangement January-December 2019
relevant management measures, strategies and/or rules. Sanctions to deal with noncompliance exist, are consistently applied and thought to provide effective deterrence. Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required,	Develop and implement an inspection and surveillance program for the octopus fishery. Strengthen the inspection and surveillance in the region to improve the octopus fishery	FISHERMEN	7.1. Conduct annual awareness campaign in each season to buyers, fishermen, organizations, institutions about the octopus fishery closed season 7.2 Improve the infrastructure for inspection and surveillance	FISHERMEN, PNO, CONANP, SF FISHERMEN, CONANP, PNO	7.1. 60 months / Meetings, workshops and material alluding to the close season, minimusize, good practices January 2018-Decembe 2022 7.2. 12 months / Installation of radio antenna expand communication coverage and improv
oroviding information of importance to the effective management of the fishery. There is no evidence of systematic noncompliance.			7.3 Generate an agreement for the development of a community system of sanctions validated by the community committee of cooperation	CONANP, PNO	vessel, January-December 2018 7.3 12 months / Sanctions system agreemer January-December 2019
			7.4. Develop a strategy to establish a culture of compliance with regulations in an effective and continuous manner	CONANP, SPESCA, PNO	7.4. 48 months / Minutes meetings, drafts o strategy and strategy implemented, January 2019-December 2022
			7.5. Support the regularization of traditional octopus fishermen to obtain fishing permits	SEPESCA, CONANP, PNO	7.5. 12 months / Probatory of management obtain permits and permits granted, January December 2018
PI 3.2.4, SG80 There are mechanisms on place to evaluate key parts of the fishery-specific management system. The fisheryspecific management system is subject to regular nternal and occasional external review.					
Access to market	8. Improve market routes	SF	8.1. Determine the volume of the catch	FISHERMEN, PNO, SF	8.1. 7 months / Report of the production vo of fishermen in the FIP, July-December 20°
			8.2. Evaluate market requirements	SF	8.2. 12 months / List of market requiremen January-December 2018
			8.3. Engage retailers	FISHERMEN, SF, PNO	8.3. 12 months / Meetings with marketers interested in the FIP, sustainable fisheries, added value, January-December 2018
			8.4. Analyze the feasibility of obtaining certification for the octopus fishery Jan 2018-Dec 2020	FISHERMEN, PNO	8.4. 36 months / Diagnostics of at least on certification, January 2018-December 2020
Infrastructure	Develop infrastructure that supports the octopus fishery	SEPESCA	9.1. Develop cold chain infrastructure for the octopus fishery	SEPESCA, SF	9.1. 30 months / Installed cold chain infrastructure, January 2018-December 20
		I		I	9.2. 12 months / Feasibility study report,

Traceability	10. Differentiate the octopus extracted by the fishermen participating in the FIP from the other local octopus fishermen and existing in the market	SF	10.1. Analyze traceability systems	SF	10.1. 12 months / Analysis report of traceability schemes, January-December, 2018
Value added	11. Design a value rescue strategy increasing the quality of the octopus	FISHERMEN	5.3. Train fishermen through workshops, programs, etc. at least once a year	SEPESCA	5.3. 60 months / Certificates of annual training, January 2018-December 2022
			11.1. Monitor fishermen's utilities	FISHERMEN, SF	11.1. 7 months / Profits report, January-July 2018
			11.2. Search and open niche markets	SF	11.2. 12 months / Agreements with new buyers January-December 2018
			11.3. Implement best practices for the management and processing of octopus catches to ensure harmlessness	FISHERMEN	11.3. 18 months / Evidence of good practices on board, January 2018 - July 2019
			11.4. Train fishermen through workshops, programs, etc. (e.g. improvement of administrative processes)	SEPESCA	11.4. 60 months / Certificates of annual training, January 2018-December 2022 months
Certification of vessels	12. Certify the vessels participating in the FIP	SEPESCA	12.1. Guidance on the application for the certification of vessels	SEPESCA, CESAIBC	12.1. 6 months / Evidence of discussion on certification of vessels certification, January-June 2019
			12.2. Request the training workshop for the certification of vessels	SEPESCA, CESAIBC	12.2. 6 months / Request of the training workshop for the certification of vessels, July-December 2019
			12.3. Workshop on good practices for fishermen	FISHERMEN, SEPESCA, CESAIBC	12.3. 6 months / Records of the workshop on good practices, July-December 2019
			12.4. Equip vessels to improve the transport of octopus and ensure its quality	FISHERMEN, SEPESCA, SF	12.4. 12 months / Equipment installed on the boats July 2018-June 2019
			12.5. Carry out vessel certification process	FISHERMEN, SEPESCA	12.5 6 months / Certified vessels, January-June 2020
Commercialization	13. Guarantee the supply of octopus to the purchasing partner (s) with the management specifications and quality standards established in the	FISHERMEN	11.3. Implement best practices for the management and processing of octopus catches to ensure harmlessness	FISHERMEN	11.3. 18 months / Evidence of good practices on board, January 2018 - July 2019
	Specifications and quality standards established in the		13.1. Evaluate the incorporation to the FIP of buyers committed to the management specifications and quality standards established in the FIP	FISHERMEN, CONANP, SF, PNO	13.1. 6 months / Meeting agreement on incorporation of buyers to the FIP, January 2018-December 2019
			13.2. Renew the fishing permits in advance	FISHERMEN, PNO	13.2. 2 months / Application duly presented to CONAPESCA, February-March 2018
			13.3. Send octopus samples at the beginning of the fishing period to buyers	FISHERMEN	13.3. 1 month / Evidence and product samples, December 2018-December 2022
			13.4. Develop a cost/benefit balance to corroborate the sale price	FISHERMEN, PNO	13.4. 1 month / Document of the balance cost/benefit with sale price, January 2019-December 2022
			13.5. Link fishermen with buyers committed to the FIP	FISHERMEN, SF, PNO	13.5. 18 months / Evidence of meetings, round tables and spaces of connection between fishermen and buyers, January 2018-June 2019