Costa Rica large pelagics - longline and green stick
Three-Year Audit Report

Version 1.2, September 2021

Purpose

FishChoice developed the three-year audit report template. The objectives of the three-year audit report are:

1. To assess the fishery's performance indicator scores
2. To verify the results of the FIP's environmental work plans as reported on FisheryProgress
3. Optional: To provide recommendations to the FIP on environmental workplan actions that should be modified, including recommending additional actions/tasks that should be taken or suggested changes to timelines to help the IP achieve their stated objectives.

FIP Information

Target species scientific name(s) and common name(s)	Yellowfin Tuna (*Thunnus albacares*), Mahi-mahi (*Coryphaena hippurus*), and Swordfish (*Xiphias gladius*)
Fishery location	Eastern Pacific Ocean
Gear type(s)	Longline / Troll line
Estimated FIP Landings (weight in tons)	3,935 metric tons (FIP data 2019)
Vessel type(s) and size(s)	Industrial longliner vessels
Number of vessels	338
Management authority	INCOPESCA (Country level) and IATTC (RFMO level)
Auditor name(s)	Juan Manuel Garcia Caudillo, reviewed by Ivan Martinez-Tovar
Auditor Organization/Affiliation	Pesca Responsable y Comercio Justo / Ocean Outcomes
Date of report completion	February 2023

FIP Background

In Costa Rica, the primary fisheries in terms of volume and value are tuna species and different species of whitefish (FAO, 2014). Tuna species are captured by industrial and artisanal fleets, with most of the industrial capture being caught by foreign purse-seiners that operate in Costa Rica's Pacific Exclusive Economic Zone (EEZ) under licenses issued by INCOPESCA. But a decent size fleet (between 300 and 500 vessels) is part of the domestic fleet that primarily targets large pelagic species such as Mahi mahi, sharks, billfishes, and tuna species. For this reason, the fishery is considered a multi-species one. The most important species in terms of volume are yellowfin tuna (*Thunnus albacares*), swordfish (*Xiphias gladius*), and mahi-mahi (*Coryphaena hippurus*), using surface longlines as main fishing gear and also troll line ("green stick") for the yellowfin tuna.

Considering the nature of the species (highly migratory), most of the pre-assessment of the fishery relied on the information and research available at the RFMO level. Among the most important findings during the pre-assessment was the lack of more robust data on the status of Mahi mahi and swordfish populations in the northern EPO and the lack of specific management strategies for both species. In addition, although the green stick has been proven to be a relatively efficient and selective gear, the longline impacts on other species (including ETP species) and the ecosystem need to be confirmed. Finally, despite their economic importance, specific management objectives for mahi mahi and swordfish are lacking, becoming a barrier to potential fishery certification.

Stakeholder Consultation & Meetings

The review team reviewed the background and material needed to understand the current status of MSC Performance Indicators (PIs) and the level of progress on the client's action plans. The communications occurred through scheduled meetings. The list below provides information for participants on specific contacts.

Name	Affiliation	Date and Subjects Discussed
Sandra Andraka	EcoPacific+	Feb 08: General FIP progress, challenges and next steps on workplan implementation
Edwin Salazar Marcos Gonzalez Ginnette Valerín	INCOPESCA-Fiscalización (Enforcement)	Feb 09: Enforcement and compliance program

Name	Affiliation	Date and Subjects Discussed
José Miguel Carvajal **Nixon Lara Quesada** **Marilyn Granados**	INCOPESCA-Investigación (Fisheries Research)	Feb 10: Fishery research program and data analysis
Ana Salazar **Miguel Durán**	INCOPESCA-Ordenamiento (Fisheries Management)	Feb 09: Landings inspection and registry program
Sally Rojas	INCOPESCA/Registro (Vessels and License Registry)	Feb 09: Fishing licenses systems and sanctions
Rodrigo Brenes	INCOPESCA/Información Pesquera (Fisheries Statistics)	Feb 10: Fishing operations and landings formats registry and databases
Jorge Arturo López Romo	INCOPESCA/Extensión (Outreach and Training)	Feb 09: Training programs for fishing sector
Carlos Alvarado Díaz		Feb 09: Environmental cost appraisal for violations to regulatory framework
José Alfaro Rodríguez	INCOPESCA/Mercados (Markets Promotion)	Feb 09: National traceability program
José Rafael Centeno	INCOPESCA/Cooperación Internacional (International Relationships)	Feb 09: Costa Rica participation in the RFMO
Guillermo Ramírez	INCOPESCA/Jurídico (Legal office)	Feb 09: Sanctions procedure for regulatory framework violations

Name	Affiliation	Date and Subjects Discussed
Mauricio González	Cámara Nacional de la Industria Palangrera	Feb: 09: General FIP progress, challenges and next steps on workplan implementation
Gonzalo Segura	Cámara de Pescadores de Quepos	
Isaac Baldizón	CITES Fishing Sector Representative	
Florencio Soto	Muelle Azul	
Deyani Soto	Pescatuna	
Jorge Barrientos	Cámara de Pesca Artesanal de Puntarenas	
Allan Arguedas	Muelle Palmareños	
Priscilla Cortés Prendas	Inversiones Cruz	
Marina Marrari	FECOP-Costa Rica (Sport Fishing Federation)	Feb 10: Costa Rica large pelagics fishery conflicts and overlaps with other sectors.
Moisés Mug		
Damián Martinez		
Luis Fonseca	Costa Rica Por Siempre (Environmental NGO)	

Name	Affiliation	Date and Subjects Discussed
Gustavo Valverde	FRUMAR	
Rodrigo Sandoval	MarProfundo	
Helen Arroyo	Cámara Nacional de Empresas de Productos Pesqueros y Acuícolas (CANEPP)	Feb 10: General FIP progress, challenges and next steps on workplan implementation
Carlos Mario Orrego	Ministerio de Ambiente y Energía	
Heiner Mendez Barrientos	Ministerio de Pesca y Acuacultura	
Roberto Garcia P	PROCOMER	

Summary of Findings and Recommendations

- The FIP participants have invested a considerable amount of time participating in RFMO meetings, either by attending and providing technical support or even generating data to be considered on assessments and harvesting strategies for the target species at the regional level. The data gathering has involved the generation of genetic studies, https://fisheryprogress.org/sites/default/files/documents_actions/1.1.1%20Milestone%201.SAC-13-INF-P_Caracterizacion-genomica-dorado-OPO.pdf#overlay-context=node/90/actions-progress, as well as valuable information on catch structure and composition for mahi (Action 1) and swordfish (Action 3).

- The harvest strategy for the mahi (Action 2) will be based on the result of a robust stock assessment conducted at the RFMO level. Currently, efforts to improve the data used for the assessments are in place, but no significant progress exists. During the 13th SAC Meeting in 2022 (May), a stock assessment was presented and co-developed by Ecuador and Peru authorities and the organization SFP https://www.iattc.org/GetAttachment/a4d76a12-00a6-4a7d-a143-7c747bbc695d/SAC-13-PRES_Stock-assessment-of-Coryphaena-hippurus-in-the-South-East-Pacific-Ocean.pdf. The results (based mainly on the main fleets that target the species: Peru and Ecuador) showed a potential to increase production. However, the authors were cautious and suggested improving results using 2020 data and mitigating uncertainties.

- Similarly, for swordfish, the harvest strategy relies on completing the evaluation of the status of the stocks developed at the RFMO level (Action 3), presented on May 2022, https://www.iattc.org/GetAttachment/c48dae89-1e3c-4c75-8fa7-e7d2705b445b/SAC-13-09_South-EPO-swordfish-assessment-benchmark-assessment.pdf. In summary, the authors concluded that to complete the assessment, it was necessary to improve the reference models to test the four different hypotheses. And agreed to continue the analyses to consider alternative stock structure hypotheses, levels of natural mortality, and steepness of the stock-recruitment relationship. Considering that the process has been delayed and that progress has been made, but uncertainties are still leading the assessment, this action might need to be revised, and the end dates updated.

- All the most recent information generated, still needs to be incorporated into draft management legislation (i.e., the fishery management plan) as some of it is material to meet the MSC Standard.

- FIP workplan aims to address the fishery environmental impacts through a process that requires the robust documentation and assessment of the extent of such impacts in order to design and implement the mitigation measurements that might be needed. Key element for this process is the improvement on data collection and analysis. While the UoA has achieved some progress to collect not only more but also better data, with the update to catch registry formats and the databases and developed training tools for their adequate use, FIP actions 4 and 5 and their correspondent tasks need to be implemented as a general practice for the entire fleet participating in the project.

- Training on secondary and ETP species handling needs to be expanded to the entire fleet participating in the project and the progress on the handling strategies implementation documented and reported.

- While some management improvements have been implemented, including the VMS 100% coverage, the incorporation of the greenstick to the regulatory framework and some better practices have been voluntarily adopted, the UoA needs to finalize the fishery management plan development and implementation.

- Actions 1, 2, and 3 (and their associated tasks) are directly related to results generated at an RFMO level, so efforts are in place for both Mahi Mahi and swordfish. Still, these were stalled and have moved slower than anticipated (due to the need for more collaboration from several countries and the COVID pandemic factor). It is suggested that deadlines for all these actions be updated based on the most recent details and status. Also, it is recommended to add additional tasks to each action, which allows monitoring of progress towards the goals of each of them.

- The multi-species/gear combo Excel file has not been updated for the annual updates.

- Actions 4, 5, 6, 7 and 8 need to be revisited by the FIP implementation team and participants in order to define new deadlines for their completion.

- Some interviewed stakeholders from outside the fishery and the improvement project expressed concerns about the quality and reliability on the data collected by the producers and analyzed by the fisheries institute since there is not in place an observers' program that could validate the data. According to these stakeholders the absence such program affects the credibility on the data and the resulting analysis and reports. Since the FIP
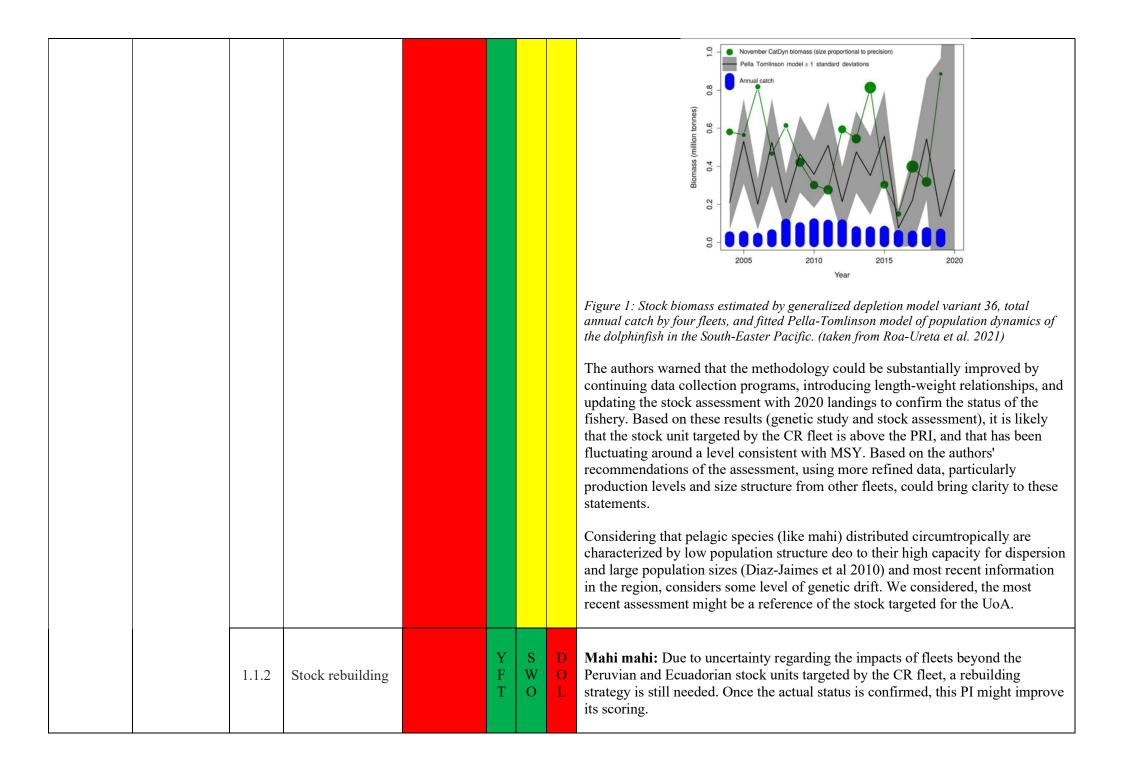
workplan considers an observers' program to cover 15% of the fishing operations, FIP participants should became a priority for the project in the next steps.

- Other external stakeholders expressed that the project needs a better communication strategy to connect its activities and achievements with the general audiences in Costa Rica, since there is a strong awareness on environmental issues where longline fishing is considered a high-risk activity for species and resources of high interest for the country.

Summary of MSC Performance Indicator Scores

Principle	Component	Performance Indicator		Previous Score	Current Score			Rationale or Key Points
1	Outcome	1.1.1	Stock status		YFT	SWO	DOL	**Yellowfin:** A stock assessment was conducted in 2019 (Minte-Vera et al. 2020) using a Stock Synthesis model. The benchmark assessment results suggested a 9% probability that the fishing mortality corresponding to the MSY (Fmsy) has been exceeded, as well as a 12% probability that the spawning stock biomass corresponding to the same (S$_{MSY}$) level has been breached (IATTC 2020). The results of the benchmark stock assessment were combined in a risk analysis to provide management advice. The risk analysis indicates that the yellowfin tuna population in the EPO was healthy. **Swordfish**: During the South EPO Swordfish benchmark assessment progress report, researchers reported on data compiled for the EPO south of 10°N that showed a dramatic increase in catches since the mid-2000s. The average catch per year from 2000 to 2009 was about 15,000 tons, while the average catch from 2010 to 2019 almost doubled to about 29,000 tons. In the last three years of the compilation (2017 - 2019), the average catch was about 34,000 tons. To understand these increments and consider the uncertainty in stock structure for swordfish in the Pacific Ocean, the authors generated three hypotheses of a stock structure consistent with the conceptual model for the stock and used for the assessment of swordfish in the south EPO. They used the hypothesis that the swordfish stock is distributed south of 10°N and east of 150°W, (meaning that tropical areas and the subtropical areas are connected) and ran a reference stock assessment model. The area of operation, gear, and origin of the fleet defined fisheries. The areas were limited using tree analyses of all available length-composition data. The model fitted well all indices of abundance and composition data. The solution found by the model to explain increasing indices with increasing catches was to increase recruitment. Considering the increases in

| | | | | | | | | abundance detected and the fact that previous assessments detected no overfishing nor the stock being overfished, this PI could remain at 60-79.

Mahi Mahi: The genetic structure study developed by Diaz-Jaime and Ortega-Garcia (2021) considered the sampling of mahi-mahi among its distribution from Northern Mexico (Cabo San Lucas) to Peru (Pucusana). The authors distinguished four different groups based on genetic material: 1) Oceanic, 2) the northern regions of Mexico, 3) the equatorial strip (Southern Mexico to Costa Rica and Ecuador), and 4) Paita-Pucusana (Peru). However, the authors recommended considering the complex pattern of gene flow, especially in the equatorial strip (southern Mexico to Ecuador), which must be taken into account for the design of management strategies for the fishery in the area. These results have yet to be officialized and used by managers.

Considering that it has been suggested that the migratory behaviors of dolphinfish are strongly related to sea surface temperature, however his relationship has not been analyzed in detail anywhere within the EPO. For this reason, these genetic results set the baseline to clarify the unit exploited by the Costa Rican fleet. Finally, Perle et al (2020) concluded that mahi movement patterns may differ not only between distant global habitats, but also within subregions of the EPO, and these differences may be indicative of stock structure and reproductive isolation, but are insufficient as proof of such, and pushed for more directed and geographically diverse studies to establish or refute reproductive connectivity of the species within and between the eleven EPO nations that economically exploit it.

On the other hand, a new stock assessment for the species was developed for the South East Pacific (Roa-Ureta et al. 2021). The authors used monthly catch, effort, and mean weight data from Peruvian and Ecuadorian fleets from 2004 to 2019. Overall, the authors reported in their assessment that the stock is not overfished and not experiencing overfishing. Still, they also indicate that the current harvest is well below the maximum sustainable harvest rates. |

Figure 1: Stock biomass estimated by generalized depletion model variant 36, total annual catch by four fleets, and fitted Pella-Tomlinson model of population dynamics of the dolphinfish in the South-Easter Pacific. (taken from Roa-Ureta et al. 2021)

The authors warned that the methodology could be substantially improved by continuing data collection programs, introducing length-weight relationships, and updating the stock assessment with 2020 landings to confirm the status of the fishery. Based on these results (genetic study and stock assessment), it is likely that the stock unit targeted by the CR fleet is above the PRI, and that has been fluctuating around a level consistent with MSY. Based on the authors' recommendations of the assessment, using more refined data, particularly production levels and size structure from other fleets, could bring clarity to these statements.

Considering that pelagic species (like mahi) distributed circumtropically are characterized by low population structure deo to their high capacity for dispersion and large population sizes (Diaz-Jaimes et al 2010) and most recent information in the region, considers some level of genetic drift. We considered, the most recent assessment might be a reference of the stock targeted for the UoA.

| | | 1.1.2 | Stock rebuilding | | YFT | SWO | DOL | **Mahi mahi:** Due to uncertainty regarding the impacts of fleets beyond the Peruvian and Ecuadorian stock units targeted by the CR fleet, a rebuilding strategy is still needed. Once the actual status is confirmed, this PI might improve its scoring. |

	Management	1.2.1	Harvest Strategy	YFT (red)	SWO (green)	DOL (red)	**Mahi mahi and Swordfish:** Although recommendations and interventions were shared by Costa Rican authorities (INCOPESCA) and FIP participants, there is still a need to complete harvest strategy elements, including appropriate control harvest rules. https://www.coremahi.org/mde-entre-coremahi-y-la-ciat/
		1.2.2	Harvest control rules and tools	YFT (red)	SWO (green)	DOL (red)	**See 1.2.1**
		1.2.3	Information and Monitoring	YFT (red)	SWO (green)	DOL (yellow)	**Mahi mahi:** During the last three years, potential reference points, as well as potential harvest control rules (HCR) for mahi mahi, have been presented to the RFMO level. INCOPESCA, as commissioner of the Costa Rican delegation to the IATTC, has had interventions to promote practices to generate information on the species, including the implementation of a sampling program for sharks and other aquatic species, including mahi, tuna, and swordfish. **Swordfish:** Similarly, for swordfish, data collection and data generation activities have been put in place by FIP participants. The information is planned to be used on status evaluations, as well as to determine the biological-fishery parameters of this species. **Fleet level:** The UoA has implemented actions to improve information regarding catch composition, in particular, secondary and ETP species information. For example, improving captures and landing registration forms and the correspondent databases (SEE ANNEX 2). Training materials were also generated and historic data from 2010-2020 has been uploaded to new databases, while the new one is uploaded when received. Overall, it is believed that there is sufficient relevant information related to stock structure, stock productivity, fleet composition and other data available to support a harvest strategy. And there is also good information on all other fishery removals from the stock, but more details and specifics are need. Finally, data on stock abundance needs to be more regularly monitored at a level of accuracy and coverage consistent with the potential harvest control rules. For these reasons, this PI scores as 60-79 for SWO and DOL.
		1.2.4	Assessment of stock status	YFT (red)	SWO (green)	DOL (yellow)	**Mahi mahi:** Work developed by the Ecuadorian and Peruvian authorities to complete a more robust assessment of the species was released in 2021 (see PI 1.1.1). However, uncertainties related to other fleets' production as well as the need to include more recent data and length structures of the catch, remain. In

					RED	GREEN	RED	YELLOW	addition, although the genetic information provided by participants of the FIP in Costa Rica was included, it remains unverified if the unit targeted by the CR fleet is considered within the assessment. **Swordfish:** The most recent exercise developed by IATTC in 2022 remains a simple exercise that does not include specific details about the status of the stock.

					Long Line	Green Stick	
2	Primary species	2.1.1	Outcome		Long Line	Green Stick	Not applicable since project does not have actions or tasks linked to this PI
		2.1.2	Management strategy		Long Line	Green Stick	Not applicable since project does not have actions or tasks linked to this PI
		2.1.3	Information		Long Line	Green stick	In the 2018 PA report the CB stated that "There are no data or statistics available for the Green stick fishery in the UoA due the fact that there are no licenses for this type of fishing gear and data has not yet begun to be collected". During the audit interviews with INCOPESCA, it was possible to confirm that, after the 2019 agreement to include the greenstick as authorized gear, the fishing operations registry formats as well as the correspondent databases were updated to register the greenstick captures (SEE ANNEX 1). Since 2020 producers and INCOPESCA has been registering the greenstick captures. This quantitative information available is considered adequate to assess the impact of the UoA on the main primary species with respect to status and support a partial strategy to manage main primary species.
	Secondary species	2.2.1	Outcome		Long Line	Green Stick	**Longline:** The UoA has improved the secondary species information collection, including the improvement of logbooks, landing registration forms, and developed training materials. However, the total adoption of new formats as well as the development and analysis of the database is still work in progress that has not delivered results yet. Also, while training curricula for secondary species management are developed, and some training has been conducted for shark release, there are no records available on the adoption, implementation, and impact of these practices.
		2.2.2	Management strategy		Long Line	Green Stick	**Longline:** The UoA has implemented actions to improve the secondary species information collection, including the improvement of logbooks, landing registration forms, and developed training materials. However, the total adoption of new formats as well as the development and analysis of the database is still work in progress that

				🟥	🟥	has not delivered results yet. Also, while training curricula for secondary species management are developed, and some training has been conducted for shark release, there are no records available on the adoption, implementation, and impact of these practices.
		2.2.3	Information	🟥	Long Line	Green Stick	The UoA has implemented actions to improve the secondary species information collection, for example improving captures and landing registration forms and the correspondent databases (SEE ANNEX 2). Training materials were also generated but comprehensive adoption of new formats and historic data from 2010-2020 is been uploaded to the new databases, while the new one is uploaded when received. Based on this data collection system, some quantitative information is available and is adequate to assess the impact of the UoA on the main secondary species with respect to status. to support a partial strategy to manage main secondary species.
	ETP species	2.3.1	Outcome	🟥	Long Line	Green Stick	**Longline:** According to the 2018 pre-assessment, five species of sea turtle -considered in critical conservation status- interact with the UoA. At that time, it was not verified if the combined effects on the populations were known, and no studies were found that confirmed if mortality rates, would indicate that it is highly probable that the UoA does not hinder the recovery of the species. The 2018 pre-assessment reports that 12 birds and two mammal species were found in the UoA area of distribution. It is not clear whether or not the UoA interacts with these species and if the impacts (direct or indirect) hinder their recovery. The FIP workplan aim to collecting and analyzing information to assess the fishery impacts of these species, as well as training crews on handling and releasing ETP species, and implementing an onboard observers' program to collect biological/fishery information of the ETP species interacting with the fishery. To date, the workplan has been focused on improving the data registry (logbooks), data processing (databases), and training on the improved formats, databases, and some ETP handling strategies. There is no information on their adoption and implementation in commercial fishing activities and whether such improvement impacts ETP species.
		2.3.2	Management strategy	🟨	Long Line	Green Stick	**Longline:** According to the 2018 pre-assessment, the IATTC has measures specifically aimed at mitigating the impact of the longline fleet on sea turtles, albatross, and petrels, which are aligned with the obligations of the countries to maintain and

			🟨	🟨 Long Line	🟩 Green Stick	protect ETP species. However, it is up to the member states to do everything possible to apply these. It is impossible to ensure that the strategies manage the impact of the UoA to comply with international protection requirements. The lack of information on fishing efforts, geographic distribution, breakdown of discards, interaction levels, and survival of released species impedes confirmation of the strategies' effectiveness. Without sufficient information and monitoring available on the longline fleet activities, it is not possible to confirm the effective implementation of existing measures for ETP turtles, birds, and mammals, to evaluate whether or not they are sufficient for complying with national and international requirements, to review their effectiveness or to assess the need for modifications to the provisions and measures adopted. To date, the workplan has been focused on improving the data registry (logbooks), data processing (databases), and training on the improved formats, databases, and some ETP handling strategies. However, there is no information on their adoption and implementation in commercial fishing activities.
		2.3.3	Information	🟥	🟨 Long Line	🟨 Green Stick	The UoA has implemented actions to improve the ETP species information collection, for example improving captures and landing registration forms and the correspondent databases (SEE ANNEX 2). Training materials were also generated but comprehensive adoption of new formats and historic data from 2010-2020 is been uploaded to the new databases, while the new one is uploaded when received. Based on this data collection system, some quantitative information is available and is adequate to assess the impact of the UoA on the main secondary species with respect to status. to support a partial strategy to manage main secondary species.
	Habitats	2.4.1	Outcome	🟩	🟩 Long Line	🟩 Green Stick	Not applicable since project does not have actions or tasks linked to this PI
		2.4.2	Management strategy	🟩	🟩 Long Line	🟩 Green Stick	Not applicable since project does not have actions or tasks linked to this PI
		2.4.3	Information	🟩	🟩 Long Line	🟩 Green Stick	Not applicable since project does not have actions or tasks linked to this PI
	Ecosystem	2.5.1	Outcome	🟨	🟨 Long Line	🟩 Green Stick	**Longline:** The UoA activity implies a direct impact on the superior elements of the pelagic ecosystem food chain. For this reason, it is estimated that the UoA may cause

			🟨	🟨	🟩	severe or irreversible harmful effects on the ecosystem, mainly due to shark capture. To date, the workplan has been focused on improving the data registry (logbooks), data processing (databases), and training on the improved formats, databases, and some Secondary and ETP handling strategies. However, there is no information on their adoption and implementation in commercial fishing activities, and it is unlikely these activities have resulted in changes to the ecosystem outcome.
		2.5.2	Management strategy	🟨 Long Line	🟩 Green Stick	**Longline:** Among the management principles and as part of the Antigua Convention, the IATTC incorporates the Ecosystem Approach within its management strategies. This implies that the management of species under its responsibility must be carried out considering the impact that the harvest of these species has on the ecosystem and its components (target and non-target species), and measures must be implemented to minimize negative impact. But the strategies do not always incorporate longline fisheries, and it is not possible to evaluate the level of implementation of these measures when applied to the longline fleet, to determine whether or not they are appropriate and the long-term effect on the populations. To date, the workplan has been focused on improving the data registry (logbooks), data processing (databases), and training on the improved formats, databases, and some Secondary and ETP handling strategies. However, there is no information on their adoption and implementation in commercial fishing activities, and it is unlikely these activities have an ecosystem management strategy in accordance with the MSC principles and performance indicators.
		2.5.3	Information	🟥 Long Line	🟨 Green Stick	The UoA has implemented actions to improve the secondary species information collection, for example improving captures and landing registration forms and the correspondent databases (SEE ANNEX 2). Training materials were also generated but comprehensive adoption of new formats and historic data from 2010-2020 is been uploaded to the new databases, while the new one is uploaded when received. Based on this data collection system, some information is been collected and can be used to broadly understand the key elements of the ecosystem. The functions of the main components can be inferred and data continues to be collected.

3	Governance and Policy	3.1.1	Legal and customary framework	🟩	🟩	Not applicable since project does not have actions or tasks linked to this PI
		3.1.2	Consultation, roles, and responsibilities	🟩	🟩	Not applicable since project does not have actions or tasks linked to this PI
		3.1.3	Long term objectives	🟩	🟩	Not applicable since project does not have actions or tasks linked to this PI
	Fishery specific management system	3.2.1	Fishery specific objectives	🟥	🟥	The FIP workplan considers the development and adoption of a fishery management plan that will include the fishery's specific short-, medium- and long-term objectives, as well as the management actions aimed at promoting sustainable development of the activity, including all PIs of the Fishery-Specific Management System component. While there are some concrete activities toward the development of the management plan, there are no substantial advances toward the development and adoption of the proposed fishery management plan.
		3.2.2	Decision making processes	🟨	🟩	In the 2018 PA report, the CB stated that "The decision--making process within the IATTC is highly participatory and each member state can vote in all decisions and rulings. However, the conservation measures are often not up to par with the recommendations made by scientific staff and may not include explanations of their actions. In Costa Rica, it is unclear whether or not decision--making is a participatory process." On these regards, the INCOPESCA's Junta Directiva (board of directors) structure, functions and participation were discussed during the audit interviews with fishing authorities and industry representatives. The Junta Directiva functioning constitutes an effective decision-making process that result in measures and strategies for the fisheries management and has an appropriate approach to actual disputes in the fishery reaching >80 score.
		3.2.3	Compliance and enforcement	🟨	🟩	In the 2018 PA report, the CB stated that "There is little information at the national level on compliance within the Costa Rican longline fleet, although there is no evidence of systematic non-compliance."

						However, the compliance and enforcement system for the large pelagics fishery in Costa Rica has substantially improved, including: • The 100% VMS coverage of the fleet • The crosscheck process to verify the declarations registered in the fishing operations formats with the VMS track records • The prosecution process includes an economic appraisal of the violations impact that is the basis for the negotiation or reparatory payments between the offenders and the authority. • The prosecution process includes precautionary penalties that includes suspension of economic incentives (fuel subsidies), fishing operations suspension. The monitoring, control and surveillance system that has been implemented in the fishery has the ability to enforce relevant management measures, strategies and rules. Based on the data shared by the management authority, sanctions to deal with non-compliance exist, and have been applied. Also, some evidence exists that demonstrate fishers comply with the management system, in particular providing information of importance to the effective management of the fishery.
			3.2.4	Management performance evaluation			In the 2018 PA report, the CB stated that: "The IATTC is subject to periodic internal reviews. In 2016, the first external audit was carried out and marked the beginning of formal monitoring of the management system. However, there is no regular external review procedure. In Costa Rica, INCOPESCA is responsible for evaluating the performance of the management system. It Is unknown if regular and ongoing reviews have been maintained for local and national topics related to longline fisheries management." According to the interviews, the condition identified in 2018 persists and it is expected that will be improved with the fishery management plan development and implementation.

Environmental Workplan Results:

The three-year evaluation report template defines a result as:

- A regulatory policy change or regulatory action to improve the fishery (e.g., a new bycatch provision) or fishing practice change (e.g., a change in fishing gear developed voluntarily and implemented by the FIP) to improve the fishery
- A publicly verifiable positive change in the water (e.g., an increase in biomass of target stock, an increase in the population of impacted protected species, a decrease in habitat or ecosystem impacted)
- An activity that led to an MSC performance indicator score change in the fishery

The following table presents the results of the Costa Rica large pelagics - longline and green stick Fishery Improvement Project

Result	Related Action on FisheryProgress	Related MSC Performance Indicator	Explanation
The INCOPESCA Board of Directors has approved a new agreement that updates the existing one regarding Green Stick fishing.	Action 4. Data collection, systematization, and analysis of information on the capture of primary, secondary and ETP species by fishing gear type	1.2.3 2.1.3 2.2.1 2.2.2 2.2.3 2.3.3 2.5.3	The LOPs and FIDs were updated to include specific fields to collect information on green stick fishing as well as secondary and ETP species. A new agreement has been approved by the INCOPESCA Board of Directors that updates the existing one regarding Green Stick fishing. The new AJDIP / 566-2019 includes the necessary adjustments to consider the actual conditions of this fishery
Agreement to release hammerhead sharks	Action 6. Establish a fishermen training program for handling and release of secondary species and ETP	2.2.1 2.2.2 2.2.3	In June 2021, the National Longline Sector publicly celebrated the voluntary commitment to release hammerhead sharks caught as bycatch. All representatives of longline fishermen's associations and chambers signed the pledge. In turn, each captain has received a line cutter for releasing these species and has committed to their proper release. Visual materials with the main mitigation measures were also distributed
Agreement to restrict the use of steel leaders			Vessels adopted the restriction of the use of steel leaders during a period of three consecutive months each year
Approximately 40% of the longline fleet is expected to use VMS	Action 8. Adopt a management plan for the Costa Rican fishery targeting	3.2.1 3.2.2	The regulation for the monitoring, control, and surveillance of the national and foreign fleets was approved. It is important to mention that several medium-scale vessels upgrade to advanced scale as part of the negotiations between the Longline

Result	Related Action on FisheryProgress	Related MSC Performance Indicator	Explanation
	YFT, SWO, and DOL caught by medium-scale and advanced longline and green stick commercial fleet	3.2.3 3.2.4	Sector and INCOPESCA. This agreement means that they must carry a satellite tracking device as indicated in the current regulations
100% of longliners in Costa Rica are using VMS			Additional progress to identify and regulate IUU fishing is reported within this activity as it will be a vital component of the future management plan: 100% of longliners in Costa Rica are using VMS, and information is publicly available on the Global Fishing Watch platform

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ANNEX 1-Updated formats to register fishing operations and landings

New Landing inspection form   Old landing inspection form

New fishing operations form page A (target and secondary species)

REGISTRO DE LANCE

No. 022520

NOMBRE EMBARCACION	DON PEDRO	
MATRÍCULA	GPC 8701	
BANDERA	CR	

PACÍFICO ☑	
CARIBE ☐	
TOTAL DE LANCES	3

FECHA DE ZARPE	29 / 07 / 2022
FECHA DE ARRIBO	06 / 08 / 22

NOMBRE CAPITAN: Gerber Baro C.
FIRMA CAPITAN PRINCIPAL: Gerber L. B.

PALANGRE	☑
GREEN STICK	☐
AMBOS	☐

BARCO PRINCIPAL: SI ☑ NO ☐

SI LA EMBARCACIÓN TRANSBORDO: SI★ ☐ NO ☐

No. DE BARCOS TRANSBORDADOS

★Pasar a la hoja de transbordo

NÚMERO DE INDIVIDUOS DE LA CATEGORÍA ESCAMA EN CADA UNO DE LOS LANCES

No. Lance	Palangre	Green Stick	Fecha	Hora Inicio Lance	Latitud	Longitud	Hora Final del lance	No. anzuelos	Si usa reinal de acero marca la casilla	DORADO Coryphaena hippurus	ESPADA Xiphias gladius	MARLIN BLANCO Makaira nigricans	MARLIN AZUL Isdiompas indica	MARLIN NEGRO Makaira indica	MARLIN ROSADO Kajika audax	VELA Istiophorus platypterus	WAHOO Acanthocybium solandri	ATÚN ALETA AMARILLA Thunnus albacares	ATÚN PATUDO (BIG EYE) Thunnus obesus	ATÚN BARRILETE Euthynnus lineatus	MARLIN PICO CORTO Tetrapturus angustirostris	CABRILLA Epinephelus sp.	CONGRIO Brotula Clarkae	PARGO DE LA MANCHA Lutjanus guttatus	PARGO SEDA Lutjanus perú	Otro
1	✓		03/08/2022	0944	8610u	1158u				45	5	1			1	3		3								
2	x		04/08/2022	0712	8610u	1158u				25	9				5	2	1	27								
3	x		05/08/2022	0719	8610u	1145u				75						2		11								
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Green Stick: en el entendido que es la acción desde que se pone el pato o pájaro con los anzuelos en el agua, hasta que se levanta o recoge todo ese equipo.
Palangre: desde que pone los anzuelos en el agua, hasta que levanta todos los anzuelos del agua.

ORIGINAL: INCOPESCA
COPIA: ARMADOR

CONTINÚA SIGUIENTE página

New fishing operations form page (Secondary species and ETP species interactions)

No. 022520

(CONTINUACIÓN)

REGISTRO DE LANCE

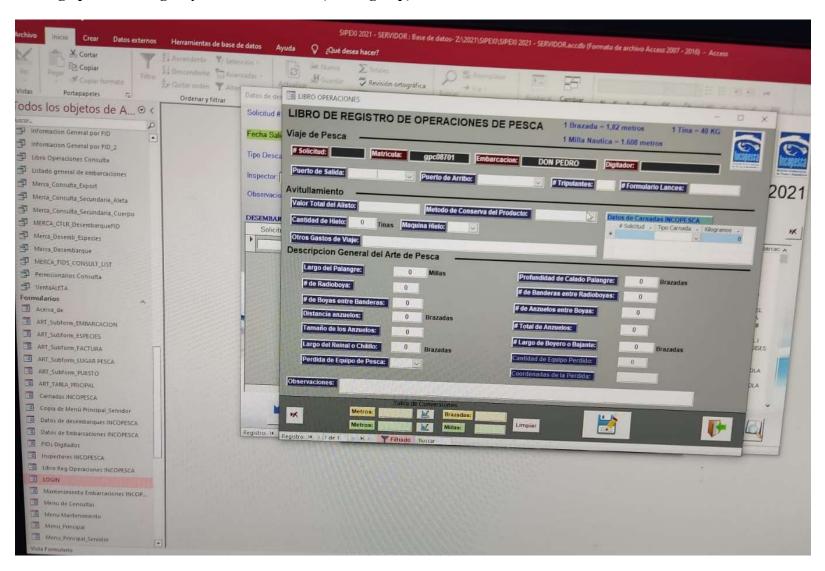| No. Lance	NUMERO DE INDIVIDUOS DE LA CATEGORÍA ESCAMA EN CADA UNO DE LOS LANCES													INTERACCIONES CON							
	AZUL Prionace glauca	GRIS Carcharhinus falciformis	PERRO Carcharhinus longimanus	PUNTA NEGRA Carcharhinus limbatus	MARTILLO ROSADO Sphyrna lewini	MARTILLO BLANCO Sphyrna zygaena	MAKO Isurus oxyrinchus	ZORRA Alopias superciliosus	ZORRO PELÁGICO Alopias pelagicus	TIGRE Galeocerdo cuvier	BAHÍA Carcharhinus galapagensis	FUCSIA Nasolamia velox	Otro	TORTUGAS		MAMÍFEROS		AVES		TIBURONES	
														VIVAS	MUERTAS	VIVOS	MUERTOS	VIVAS	MUERTAS	VIVOS	LIBERADOS
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NOMBRE DEL FUNCIONARIO

FIRMA

FECHA RECIBIDO 06-06-2011

ANNEX 2 Updated databases

Fishing operations registry book database A (Fishing trip)

Fishing operations registry book database B (Fishing sets information)

Biological sampling database