MarinTrust Improver Programme: Annual milestone report template

In this document the applicant should outline progress made towards the actions listed in the Fishery Action Plan (FAP) as part of the Fishery Improvement Project (FIP). This should be aligned with the MarinTrust Assessment criteria where possible. The progress actions should be updated in the following tables, and the relevant evidence linked to. It is important that evidence documents are publicly available. This will then be verified by the peer reviewers based on evidence submitted by the applicant.

This report should include an update on all actions outlined in the Fishery Action Plan, even if no demonstrable progress has been made since the last report.

FIP name	Small Pelagics Sustainability - Ecuador

Template guidelines

To help ensure the review process can be carried out effectively and efficiently:

- Include specific citations to the evidence that substantiates it. This should include the exact page numbers and paragraph references where the evidence can be found.
- Where possible, include a hyperlink to any evidence referenced.
- Ensure that the supporting evidence documents are easily accessible and well-organised. They should be available in a format that allows for easy navigation, such as a table of contents, bookmarks, or an index.
- Use clear and concise language when referring to evidence to make it easy for readers to grasp why a particular piece of evidence supports a specific progress claim.

Note: MarinTrust will host all evidence documents on the MarinTrust FIP profiles. If there are any confidential and or draft documents that the applicant does not want made public, this should be made clear in the report.

IP Milestone report

Use the below tables to provide an update on actions in the Fishery Action Plan with links to relevant evidence documents. Additional lines may be added where necessary.

Example table

MT clause (if relevant)	Action in plan	Action update / progress made	Outstanding actions and rationale	Evidence	Status of action	Additional comments
M1.1	Provide the original action as outlined in the action plan.	Provide an update on this action since the last report.	Provide any outstanding aspects to this action and explain why they are outstanding.	Provide a url link to any evidence and summarise relevant points for actions or updates. If evidence is not publicly available, include a copy in the evidence pack.	What is the current status of this action (i.e. complete, pending, ongoing)	Provide any additional information here.
M1.2						
Add rows to each table as necessary						

M – Management Framework and Surveillance, Control and Enforcement

MT clause (if relevant)	Action in plan	Action update / progress made	Outstanding actions and rationale	Evidence	Status of action	Additional comments

A – Category A: Data Collection, Stock Assessment, Harvest Strategy and Stock Status

MT clause	Action in plan	Action update / progress made	Outstanding actions and rationale	Evidence	Status of action	Additional comments
A1	1. Strengthen the sources that input to the catch estimation	**1.1 Strengthen the Responsible Fishing participatory monitoring program** In the period from January to September 2024, 1,511 records of sets and releases have been accumulated, recorded by 19 vessels in the participatory monitoring program (PPR): 1,306 records of sets (catch composition) and 205 records of releases of marine megafauna. A total of 20,151.48 metric tons of catch corresponding to 1,306 sets have been accumulated, including geographic information, dates, sizes and stages of maturity. During 2024, the interaction and release of 736 individuals has been recorded, 53% of which were sea lions. Interactions and releases of	As part of the improvement processes to the PPR records, the catch composition form was modified, including fields such as: discard, presence of the observer on board and daily arrival date. The new form was socialized in the reinforcements developed in July 2024, it was distributed to the fleet chiefs digitally to implement its use in the records. In addition, new versions of the PPR guides and manuals were prepared: on-board sampling manual, marine fauna identification guide, small pelagic fish identification guide, marine fauna release guide and the marine fauna species poster. Likewise, the new inputs were distributed digitally and the on-board sampling manuals and the marine fauna release guide were distributed in their physical	**Evidence:** **New Forms and manuals** https://drive.google.com/drive/folders/1Fm0fYhZkkTAw9J_aZVSLe1evK_rpkDap?usp=drive_link **Responsible fishing program 2024 report** https://drive.google.com/file/d/1svJrTCUuezTc3oKhEVbaNBXZCyD07p86/view?usp=drive_link **2024 trainings report** https://drive.google.com/drive/folders/1OK_iKVioz_VQzQGbyfK	Ongoing	

		ETP species were documented, such as: 1 whale shark *Rhincodon typus*, 2 *Dermochelys coriacea*, 10 *Lepidochelys olivacea*, 13 *Chelonia mydas*. In addition, 4 reinforcement sessions were held regarding PPR record keeping for the 6 SPS-FIP companies. They were held virtually during the month of July. A total of 46 crew members from 25 vessels participated. The reinforcement sessions focused on reviewing the steps for on-board sampling, dissemination of the new PPR guides and manuals, especially the new catch composition sheet from July 2024, and the record of the release and identification sheet for sea turtles and species of the Mobulidae family was also reviewed. In particular, emphasis was placed on the correct measurement of fish sizes (use of the ichthyometer, difference between total and furcal length) and sexual stages.	version, delivering two copies per vessel belonging to the small pelagic fleet participating in the PPR. During the year, ships were also supplied with other materials for on-board recording, such as digital scales, balances and ichthyometers. These results demonstrate the commitment of FIP vessels to participatory monitoring of the fishery. The information collected was key to the discussion of the 2024 juvenile ban with the fisheries authority at the sectoral dialogue table.	Nj1IPXVVd06Bl?usp=drive_link		
A2-A4	2. Review stock assessment models	**2.2. Peer review of new assessment** Among the main comments made by the reviewer is that the stock assessment was carried out with a	Peer review concluded that the diagnosis of the goodness of fit for the results of the assessment model has considered the recommendations of previous reviews,	Peer review report. Cubillos & Cuevas (2024)	Completed	

		population approach and used the stock assessment model called MESTOCKT, which is an age-structured model that stands out for its flexibility to adapt to the available data for each resource. This allowed considering different scenarios in its performance to adjust to the observed data, based on the imposed structural restrictions. In this context, the use of selectivity blocks to explain the size composition data observed in the acoustic survey and the fishery was highlighted. The reviewer also highlighted that the possibility of penalizing the catchability of the assessment cruise has been incorporated into the new scenarios, in order to avoid interannual re-scaling in its estimation.	and given the continuous improvement of the model, this review concludes that the assessment of the pelagic fish resources of Ecuador is being carried out under a high standard. As a final point, a series of new improvements to the model are proposed in the short, medium and long term periods, which IPIAP technicians will take into consideration.	https://drive.google.com/file/d/1ZAjZWoqlMmIgjDtIrr___xzqUUK6n3pc/view?usp=drive_link		
A3	3. Strengthen the transparency of raw materials flow in the supply chain	**3.1 Implement a responsible purchasing policy for whole fisheries that includes a mechanism for verifying compliance with responsible sourcing.** A first draft of a purchasing policy has being developed and is currently under consultation period by FIP members.	The definition of this policy will be a milestone in the industry as it will be the first of its kind.	Policy draft https://docs.google.com/document/d/1EfM7u9iyDaQ8iLRygIXFZF9aqHcZK3gd/edit?usp=sharing&ouid=112572111827130877547&rtpof=true&sd=true	Ongoing	The action is still under development given the need

						for the proposal to be reviewed by the FIP member companies.
	4. Design a recovery plan for frigate tuna annexed to the fishery management plan	**4.1Strengthen closed seasons design aligned with maximum reproductive and recruitment periods.** Between July and August 2024, the ban on small pelagic juveniles was defined, using information from the monitoring of the on-board observer program, as well as complementing information with the participatory monitoring of the fleet participating in the PPR. **4.3 Implement adaptive management strategies** There is a proposal for technical assistance still under revision.	A summary of the stock status shows that on average and for the six species analyzed, the status indicator B/BMSY has increased steadily, reaching a value 1.51 higher than the target (B/BMSY=1.0), while the fishing mortality ratio F/FMSY shows that the fishery does not show evidence of overfishing in any of the species analyzed (F/FMSY=0.45). The stock assessment carried out on the frigate tuna resource were characterized by an unprecedented estimate of a sexually mature ogive whose size at first maturity was calculated to be smaller than the size used until now, which had implications in the diagnosis of the resource. The population assessment determined an estimate of adult biomass	4. Stock assessment Canales C. M., V. Jurado (2024) https://drive.google.com/file/d/1n8DKfCYtoD77VkXVVR45TOKwQsHqFCqq/view?usp=drive_link 4.1.1 MPCEIP-SRP-2024-0222-A_24jul https://drive.google.com/file/d/1weXQw1MhJCkosyKYNFJCRWa8W1MwP3JZ/view?usp=drive_link	Ongoing	Action 4.3 is still in develo

		4.4 Monitoring eggs and larvae to determine periods and zones of reproductive activity. Through the initiatives proposed by the SPS-FIP, the monthly monitoring program of fish eggs and larvae on board vessels associated with the SPS-FIP companies was implemented at nine stations along the Ecuadorian coast. This program began in October 2021, and to date, an average of 399 681 eggs/10m2 and 204 320 larvae/10m2 have been recorded. From this project, it has been possible to establish the times and areas of abundance of spawning and larval rearing of *Cetengraulis mysticetus* (Pacific anchovy), *Auxis sp.* (frigate tuna), *Scomber japonicus* (chub mackerel), *Etrumeus acuminatus* (Red-eye round herring), and *Opisthonema spp*. (Pacific thread herring). The purpose of the Project is to provide an additional measure for the analysis of the periods of reproductive and recruitment ban.	of 74 thousand tons, that is, 7% above the reference biomass, and fishing mortality levels below the reference fishing mortality. For its part, in thread herring, the adult biomass was estimated at around 86 thousand tons, and is equivalent to 49% of the virgin biomass and 23% above the target biomass. Fishing mortality is estimated to be 82% below the reference fishing mortality Fmsy. For chub mackerel, the adult biomass estimated at 352 thousand tons is equivalent to 38% of the virgin biomass, although fishing mortality is estimated to be 64% below the reference fishing mortality. The shortfin scad assessment estimated a biomass of 52 thousand tons, equivalent to 87% of the virgin biomass, and fishing mortality levels 19% below the reference fishing mortality. Pacific anchovy, the estimated adult biomass of close to 87 thousand tons is estimated to be equivalent to 90% of the virgin biomass, while the low levels of	4.1.2 MPCEIP-SRP-2024-0233-A_23Ag https://drive.google.com/file/d/1oUeG1R8tDEMX5rvbusQLm9zAnfTWpOir/view?usp=drive_link		pment, work was being done on puttin g togeth er a techni cal team and a propo sal, which took longer than expect ed.

		To date, the collections carried out have determined that: i) The main spawning areas were in the Gulf of Guayaquil, in front of Santa Clara, Engabao, Puntilla de Santa Elena and Bajo Cope. ii) The areas of abundance the larval species were located at the stations off Engabao, Puntilla de Santa Elena, Salango and Puerto Cayo. iii) The results obtained during the research period indicate that the spawning season of the small pelagic species studied, associated with the intense reproductive activity of adults, was during the "wet season" considered between November and April. iv) The larval abundance gave us indications of a good recruitment, mainly for the pacific anchovy, frigate tuna and thread herring species, which probably join the population in the following years, generating an increase in its future population biomass.	fishing mortality would be 88% below the reference fishing mortality Fmsy. For the round sardine, the estimated adult biomass of 19 thousand tons would be equivalent to 64% of the virgin biomass and 40% above the target biomass. Likewise, the average fishing mortality levels were estimated to be 90% below the reference fishing mortality.	4.4 Evidence: https://drive.google.com/file/d/1qHbktg6uiKXDYVJraCoLrzr0b-wiNtiz/view?usp=drive_link		

		4.5 Correlate presence and abundance of eggs and larvae with oceanographic conditions The study on the analysis of early-stage data obtained from monitoring fish eggs and larvae with the biological data of adult individuals of the Frigate tuna captured by the fleet also covers: - Identify the relationships of environmental conditions during the period 2021-2024 with biological parameters. - Determine the optimal environmental conditions for reproductive activity, spawning and larval development of *Auxis spp*. The analyses carried out on the Frigate tuna resource associated with environmental conditions showed that the variables most related to reproductive activity (gonadosomatic index of adults) and spawning (fish eggs and larvae) were sea surface temperature (°C), surface salinity (ups), dissolved oxygen concentration (mmol/m³) and chlorophyll-a (mg/m³). In particular, sea surface temperature and dissolved oxygen were		4.5-4.6 Evidence: https://drive.google.com/drive/u/1/folders/1a2U-M-tGJOlgpHkxZR5pY0sEGbQva6FF		

		identified as key parameters for reproductive activity and spawning, while surface salinity and chlorophyll-a were associated with larval development and survival. Through quotient analysis (Q), the optimal ranges of environmental parameters that allow the species to find its ideal habitat for reproduction and development were defined. It was observed that reproduction, spawning and development of frigate tuna larvae occur within preferential ranges of sea surface temperature between 25.5 °C and 27.0 °C, with salinities ranging from 32.5 to 33.5 ups. In addition, dissolved oxygen concentrations between 215 and 230 mmol/m³ and chlorophyll a level between 0.7 and 1.5 mg/m³ were identified as favorable conditions for its optimal habitat. **4.6 Correlate presence and abundance of eggs and larvae with the gonodasomatic index**				

		The analysis of early-stage data obtained from monitoring fish eggs and larvae with the biological data of adult individuals captured by the fleet considered: - Identifying the spatiotemporal variations in the relationship between the Gonadosomatic Index and the abundance of eggs and larvae of the Frigate tuna species (Auxis spp). - Establishing the periods of greatest intensity of reproductive and spawning activity of the Frigate tuna species (Auxis spp). - Identifying the relationships of environmental conditions during the period 2021-2024 with biological parameters. - Determine the optimal environmental conditions for reproductive activity, spawning and larval development of the Frigate tuna species (Auxis spp). The results of the distribution of the early stages of development indicate that the abundance of eggs and larvae is not homogeneous and show that, although spawning has a wide distribution, the area where the highest concentration of				

		spawning of the species (Auxis spp) was recorded was in zone 2 (northern area of the Ecuadorian coast; Santa Elena and central Manabí). Another relevant finding was the variation in the recorded larval densities, which fluctuated from the south (zone 1) to the north (zone 2). A higher larval density of the species has been observed in zone 2, which includes the northern area of the Ecuadorian coast, specifically in Santa Elena and central Manabí. This difference compared to the density recorded in the Gulf of Guayaquil suggests that zone 2 could also provide optimal conditions for the development and larval survival of this species. The results on the temporal variations of fish eggs and larvae in relation to the gonadosomatic index reveal that, throughout the period studied, the species presents two periods of reproduction and spawning. The first spawning peak occurs during				

		the first quarter of the year (January, February and March), while the second, less intense, peak occurs in the third quarter. In addition, slight variations are observed in the months in which reproductive activity takes place, these associated with the environmental conditions recorded during the study period. **4.7 Training the crew to identify reproductive activity.** During the training sessions carried out in February for the small pelagic fleet, the topics addressed included: a) reproduction and life cycles, b) determination of size and/or age of maturity and c) principles and importance of closed seasons. Likewise, in the reinforcement sessions carried out in July, emphasis was placed on the correct identification of sexual stages. Photographic material of the gonads of small pelagic species has begun to be collected, which		**4.7 Evidence:** https://drive.google.com/drive/folders/1hEJNzRENq_ZcwXGUZTEggV3npoEjUL5N?usp=drive_link		

		has served as input for the training sessions carried out and as feedback to the crew.				

B – Category B Stock Status

MT clause (if relevant)	Action in plan	Action update / progress made	Outstanding actions and rationale	Evidence	Status of action	Additional comments

C – Category C Stock Status

MT clause (if relevant)	Action in plan	Action update / progress made	Outstanding actions and rationale	Evidence	Status of action	Additional comments

D – Impacts On Species Categorised as Vulnerable by D1-D3

MT clause (if relevant)	Action in plan	Action update / progress made	Outstanding actions and rationale	Evidence	Status of action	Additional comments

F – Impacts on ETP Species, Impacts on Habitats and Ecosystem Impacts

MT clause (if relevant)	Action in plan	Action update / progress made	Outstanding actions and rationale	Evidence	Status of action	Additional comments

SOCIAL CRITERION

MT clause (if relevant)	Action in plan	Action update / progress made	Outstanding actions and rationale	Evidence	Status of action	Additional comments

Additional Information

The following section is for any information provided by the fishery in support of this Milestone Report which does not relate directly to any of the Milestones above, but which is relevant to the ongoing monitoring of fishery management status.

Amended timeline

The following section allows the applicant to explain if there are any amendments to the improvement timelines and provide the reasons and evidence for this. This should reference the specific actions as outlined in the progress report.

FIP staff is still analyzing MarinTrust v3.0 in order to determine the potential requirement of action plan amendment in the next -progress report