

## MarinTrust Improver Programme: Milestone Report Template

In this document the applicant should outline the milestones that make up the Fishery Action Plan (FAP) as part of the Fishery Improvement Project (FIP). Then during each review, update the relevant year to indicate whether the milestones have been met or not. This will be verified by the peer reviewers (accredited certification body) based on evidence submitted by the applicant.

<b>Fishery Under Verification</b>	<b>Panama Small Pelagics</b>
<b>Milestone</b>	<b>Year 4</b>
<b>Date</b>	<b>26<sup>th</sup> October 2020</b>
<b>Verifier</b>	<b>Alex Caveen, RS Standards</b>

Improver Programme Details and Summary of the Milestone Verification Outcome				
<b>Name:</b>	Animal Feeds Inc			
<b>Address</b>				
<b>City/state</b>				
<b>Province/country</b>				
<b>Postal code</b>		<b>Phone</b>		<b>Fax</b>
<b>E-mail</b>	<b><u><a href="mailto:bmurtagh@animalfeeds.cl">bmurtagh@animalfeeds.cl</a></u></b>			
<b>Key contact</b>	Brian Murtagh			
Verification Body Details				
<b>Name of Verification Body:</b>	RS Standards Ltd			

<b>Assessment Period:</b>	4 <sup>th</sup> year assessment (2019 – 2020)
<b>Scope Details</b>	
<b>Management authority (Country/State)</b>	Panama (ARAP)
<b>Main species</b>	Pacific anchoveta, Pacific thread herring, Pacific bumper
<b>Date of acceptance into MarinTrust IP</b>	November 2015
<b>Original projected IP completion date</b>	November 2020
<b>Fishery location</b>	Panama EEZ, Gulf of Panama
<b>Gear type(s)</b>	Purse seine
<b>Outcome of Assessment</b>	
<b>Sections with Milestones</b>	
<b>Milestones not completed to the Fishery Action Plan</b>	
<b>Sections with Critical Milestones</b>	n/a
<b>Critical Milestones not verified</b>	n/a
<b>Recommendation</b>	Proceed to year 5
<b>Critical Milestones carried over</b>	n/a

**TABLE 1 – MARINTRUST FISHERY ASSESSMENT PROGRESS SUMMARY**

The table below summarises the initial status of the fishery, the projected Improver Timeline, and the actual changes which have taken place as verified by previous Milestone Reports.

MarinTrust Fishery Assessment Section		Initial score	Immediate (6 months)	End of Year 1	End of Year 2	End of Year 3	End of Year 4	End of Year 5	
Date									
M1	Projected	Green	Completed						
	Actual	Green	Completed						
M2	Projected	Yellow	Green						
	Actual	Yellow	Green	Yellow	Yellow	Yellow	Green		
Pacific anchoveta	A1	Projected	Yellow	Green	Green	Green	Green	Green	
		Actual	Yellow	Green	Green	Green	Green	Green	
	A2	Projected	Yellow	Green	Green	Green	Green	Green	
		Actual	Yellow	Green	Yellow	Yellow	Light Green	Light Green	
	A3	Projected	Yellow	Green	Green	Green	Green	Green	
		Actual	Yellow	Green	Yellow	Yellow	Green	Green	
	A4	Projected	Yellow	Green	Green	Green	Green	Green	
		Actual	Yellow	Green	Yellow	Yellow	Green	Green	
	Thread fin herrings	A1	Projected	Yellow	Green	Green	Green	Green	Green
			Actual	Yellow	Green	Green	Green	Green	Green
		A2	Projected	Yellow	Green	Green	Green	Green	Green
			Actual	Yellow	Green	Yellow	Yellow	Light Green	Light Green
A3		Projected	Yellow	Green	Green	Green	Green	Green	
		Actual	Yellow	Green	Yellow	Yellow	Green	Green	
A4		Projected	Yellow	Green	Green	Green	Green	Green	
		Actual	Yellow	Green	Yellow	Yellow	Green	Green	
B1		Projected	n/a						
		Actual	n/a						
C1		Projected	n/a						
		Actual	n/a						
D1	Projected	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	

		Actual					n/a	n/a	n/a
ETP species, Habitats, Ecosystem	F1	Projected							
		Actual							
	F2	Projected							
		Actual							
	F3	Projected							
		Actual							

### Table 1 Rating key

Each section of the MarinTrust Fishery Assessment is assigned a Projected and Actual rating for each milestone date, according to the table below. Projected ratings are assigned when the FIP is accepted into the IP. Actual ratings are assigned as a result of the validation assessment conducted at each milestone date. In a FIP which is progressing according to the FAP timeline, the Projected and Actual ratings will be the same.

Colour	MarinTrust Rating
	Fully Compliant with all MarinTrust Raw Material Approval Criteria within this section. For sections in categories A-D this indicates that all criteria within that section are met for all applicable species.
	Compliant with some MarinTrust Raw Material Approval Criteria within this section. For sections in categories A-D this indicates that some criteria are not met by some applicable species.
	Non-Compliant with any MarinTrust Raw Material Approval Criteria within this section. For sections in categories A-D this indicates that no criteria are met by any applicable species.
	Critical Milestone Raised against one or more criteria within this section.

### Critical Improvements

Section	Milestone date	Critical Milestone Due

## Table 1 Summary

*[Summarise outcomes of table, i.e. is the FIP on track?]*

The outstanding clause requirements from the previous milestone report (November 2018) are summarised below, and the new evidence provided:

### **M2.3 There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing**

*The fishery has established the following controls that should make IUU less likely in the vessels targeting the stock:*

- *Capture database and season effort*
- *An observer program on board Fishing and fishing support vessels, flag Panamanian. (ADM / ARAP No. 015)*
- *Plans for satellite monitoring for inshore vessels.*

*Fishing hauls have been mapped and monitored on a monthly basis (see map 1 TECHNICAL REPORT. ON-BOARD OBSERVER PROGRAMME (POB) 2019 SEASON. SMALL PELAGICS: PANAMA PREPARED by CeDePesca).*

### **Pacific Anchoveta (*Cetengraulis mysticetus*)**

#### **A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.**

*Hydroacoustic surveys carried out in February provide an estimation of the biomass and inform the maximum allowable catch (CMA) for the season. A management objective has been established to ensure that 60% of the virgin biomass is protected. The spawning biomass is estimated to be on average 77% of the virgin biomass.*

#### **A2.4 The assessment is subject to internal or external peer review.**

**Please state the process for peer-review.**

#### **A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy**

*Catches have been well within the limits defined by the stock assessment. It is estimated that the fishery could sustain catches around the RMS = 137 thousand annual tons altogether (71 thousand of anchovy and 66 thousand herring), well above the 70 thousand tons that have been landed on average of both species.*

**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**

<b>Estimación de la captura máxima admisible</b>			
	Biomasa calculada para 2019 (Tm)	Mortalidad por pesca admisible	Captura máxima admisible (Tm)
Límite superior	248,675	0.413	<b>102,732.29</b>
Promedio	135,596	0.413	<b>56,017.29</b>
Límite inferior	22,157	0.413	<b>9,302.20</b>

**A4.1 The stock is at or above the target reference point, OR IF NOT: The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT: The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.**

*Biomass spawning is estimated on average around 77% of the virgin biomass and with the exception of its decrease in 2019 due to the large landing recorded, the annual catches have varied around 45 thousand tons and below the Frms, thus explaining the favorable current condition of the population. Consequently, this translates into mortality levels per quarterly average fishing of 0.13, which is equivalent to 63% of the Frms reference value.*

**Pacific Thread Herring (*Opisthonema spp*)**

**A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.**

*Hydroacoustic surveys carried out in February provide an estimation of the biomass and inform the maximum allowable catch (CMA) for the season. Performance proxy was estimated maximum sustained a spawning biomass Brms of 68.4 thousand tons and a level of Maximum Sustained Yield of 66 thousand tons. The fishing mortality that allows this management objective has a very low value estimated at Frms = 0.06. This value is due to the fact that in the size range analyzed there is no fleet selectivity, and because immature individuals are violated. As a rule, the higher the vulnerability of immature individuals, the lower the fishing mortality should be.*

**A2.4 The assessment is subject to internal or external peer review.**

**Please state the process for peer-review.**

**A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.**

*As in anchovy, for diagnostic purposes a target was proposed as a reference management equivalent to precautionary 60% of the virgin spawning biomass, this given the ecological role that has herring in the food chain.*

**A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy**

*It is estimated that the fishery could sustain catches around the RMS = 137 thousand annual tons altogether (71 thousand of anchovy and 66 thousand herring), well above the 70 thousand tons that have been landed on average of both species.*

**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**

<b>Estimación de la captura máxima admisible</b>			
	Biomasa calculada para 2018 (Tm)	Mortalidad por pesca admisible	Captura máxima admisible (Tm)
Límite superior	297,679	0.371	<b>110,447.51</b>
Promedio	220,587	0.371	<b>81,844.15</b>
Límite Inferior	143,496	0.371	<b>53,241.16</b>

**A4.1 The stock is at or above the target reference point, OR IF NOT: The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT: The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.**

*In general, herring has not had overfishing situations in its history ( $F > Frms$ ), and no overfishing events have ever been recorded ( $B < Brms$ ). Spawning biomass is estimated on average around 86% of biomass virginal with annual catches have varied around 25 thousand tons, well below RMS (66 thousand t), thus explaining the current favorable condition of the population.*

*The lack of greater signal in the population indicators such as acoustic biomass, CPUE and size compositions, suggest that fishing does not appear to have had an effect on these populations. Indeed, the persistence of large individuals on acoustic cruises and catches, and signs of abundance that point to stability and / or growth, allow to conclude on the favorable status.*

## Further Impacts

### **F1.3 If the fishery is known to interact with ETP species, measures are in place to minimise mortality.**

*Captains and marine training in shark conservation and release, Conversation on the measures of the fishery management plan, discussion of measures to reduce turtle, shark and ray mortality, responsible raw material supply policies.*

*Some seminars in 2019 were: (Strategy 3.2):*

- Conservation of Sharks
- Fishing log

*During the discussion period on measures to reduce the mortality of sharks and turtles, it was agreed between the captains present, voluntarily and if possible, to release alive the hammerhead shark species caught in the purse seine nets.*

*To follow up on the implementation of the fishing log, I will request a meeting with Licda. Zedna Guerra Director General of Research and Development of ARAP to coordinate the design of the form and the database.*

*The release of the hammerhead shark species will be tracked through the fishing log.*

### **F3.1 The broader ecosystem within which the fishery occurs is considered during the management decision-making process.**

*The Observer Program on board in the 2019 Fishing Season collected information about the different types of habitat found in the areas traditional fishing with the purpose of carrying out an analysis on the impact generated by the fishery on the seabed. (Strategy 2.1). The Fishery Improvement Project is in conversation with representatives from the University of Panama and the Ministry of Environment to work in joint in the monitoring of seabirds that interact with the fishery activities.*

*On 26-Aug-2020 a virtual seminar was organized by the University of Panama on the subject:*

*Identification and counting of seabirds that interact with the fisheries of small pelagic in Panama. The fishery is also implementing an experimental programme of on-board cameras with the same purpose.*

### **F3.2 There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.**

*Ongoing monitoring will enable this question to be addressed.*

*The report author would suggest that in advance of the 5th year milestone report / fishery assessment, a report is put together that details monitoring of ETP impacts, mortality of ETP species, and mitigation being put in place. See recent report [TECHNICAL REPORT. ON-BOARD OBSERVER PROGRAMME \(POB\) 2019 SEASON. SMALL PELAGICS: PANAMA PREPARED by CeDePesca](#)*



**F3.3 If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals.**

*The ecological role of anchovy in the trophic chain requires a more precautionary biomass target (i.e. 60% of virgin spawning stock biomass) than other demersal species.*

### **Key References used**

ARAP-PANAMA - MAX ALLOWED CATCHES MODEL 2019

ARAP's TECHNICAL REPORT ABOUT THE HYDROACOUSTIC CRUISE ON SMALL PELAGIC FISHERIES 2019.

Evaluación de los stocks de anchoveta (*Cetengraulis mysticetus*) y arenque (*Opisthonema sp.*) en el Golfo de Panamá. CeDe Pesca. 2020

TECHNICAL REPORT. ON-BOARD OBSERVER PROGRAMME (POB) 2019 SEASON. SMALL PELAGICS: PANAMA PREPARED by CeDePesca

**TABLE 2 – FAP PROGRESS SUMMARY**

The table below summarises the progress the fishery has made in implementing the improvement actions detailed in the FAP. An ‘X’ indicates that the Improvement Action is scheduled to be completed by that milestone date, according to the FAP at the time of acceptance into the IP.

Improvement Action	6 months	End of Year 1	End of Year 2	End of Year 3	End of Year 4	End of Year 5
<i>[Insert milestone dates on this line]</i>						
<b>1. Biological Component</b>						
<b>1.1 Establish for each fishing season a Maximum Allowable Catch (CMA) range for anchovy and herring based on hydroacoustic evaluation carried out by the companies in coordination with the ARAP, at the beginning of each fishing season</b>						
<b>1.2 Only twenty (20) Industrial vessels and inshore (artisan) vessels authorized by the ARAP may fish for anchovies and herring so as not to increase, under any circumstances, the level of fishing effort.</b>						
<b>1.3 Maintain the same storage capacity, currently operational, in the eventual replacement of vessels (Maximum capacity of 188 cubic meters) and activities so as not to increase, under any circumstances, the current level of effort.</b>						
<b>1.4 Start the fishing season when the average size of the pre-season sampling of the anchovy, in April of each year, exceeds 12.5 cm. to maintain the status of good productivity of this resource, and establish a dissemination program aimed at different users to support the control of the capture of the species</b>						

1.5 Prohibit the capture of schools of herring whose average size is less than 17.0 cm in total length while carrying out more precise biological-fishery studies for the genus <i>Opisthonema</i> sp . by means of a program for the diffusion directed to different users of these fisheries to support the control						
1.6 Control catches of the <i>Centengraulis</i> species <i>mysticetus</i> when the spawning period begins or by means of the evaluation of the quarterly data provided by the companies, when this results equal to or less than 15% of the maximum CPUE observed in short tons per trip during the season, whichever occurs first						
1.7 Implement a program of education and training for fishermen on the effects of fishing for the change of vision that is intended to be generated with education for users and others involved, generating in them a greater awareness of the negative effects caused by extraction permanent juvenile						
1.8 Update the catch and effort database every 3 months to maintain the collection of information provided by the companies with the purpose of monitoring the fishery on the daily catches made during the fishing season by vessel, by fishing area and by species						
1.9 Maintain the historical data on the search time between sets to guarantee the updating of the information and with this generate maps of the fishing areas. Within the On-Board Observer Program (POB)						
1.10 Implementation of technologies by companies for the input of data in the capture zones (physical, chemical and biological parameters)						
1.11 Implement the fishing logbook to collect information on fishing activities in the sea, mainly the date of capture, time						

of capture, fishing area, catch by species.						
1.12 Follow up the structure of sizes and maturity stages of the target species by incorporating the identification of each herring species to collect information on the variation of the sizes and maturity stages of the target species throughout the fishing season.						
<b>2. Ecological component</b>						
2.1 Perform sampling of the accompanying fauna of the target species on board fishing vessels in order to monitor bycatch						
2.2 Identification and counting of the seabirds that are grouped in the sets within the framework of the (POB) in order to monitor the species and the quantities of birds that, during the sets made by the fishing vessels, are grouped with the purpose of feed.						
<b>3. Socio-economic component</b>						
3.1 Ensure compliance with the regulations in order to ensure that there is no overfishing, and, therefore, minimize risks of collapse and loss of jobs						
3.2 Training program for captains and crews to improve the professional level and to reinforce the ability of fishermen to carry out their work with application, seriousness, honesty and efficiency, preserving the sustainability of the activity						

## Report Summary

The Panama small pelagics fishery appears to have made good progress since the previous milestone report (dated March 2019), and the fishery appears to be generally on-track against the FAP. The fishery appears to be well monitored and controlled, however there are few points of consideration for the fishery to consider before moving to full MarinTrust approval:

- **Species composition data** - The latest species composition data (Table 9b of [TECHNICAL REPORT. ON-BOARD OBSERVER PROGRAMME \(POB\) 2019 SEASON. SMALL PELAGICS: PANAMA PREPARED by CeDePesca](#)) might mean there are further category D species that will need to be assessed.
- **Category D species** – Noted that these were included in the original assessment but omitted from the previous milestone report, is there a reason for this?
- **Stock assessment peer-review (A2.4)** – please state the peer-review process for the stock assessment. Will the methodology / outputs be reviewed by a technical committee for example?
- **Further impacts on ETP species (A1.3)** – it is admirable to see that training and discussion on procedures to reduce ETP species impacts is taking place, as well as a log for ongoing monitoring. For the purpose of passing the full MarinTrust assessment, documented evidence of avoidance / release procedures for ETP species would provide additional assurance.
- **Permissible fishery removals of anchovy and herring, and potential impact on predator species (A3.3)** – I'd like to see a bit more contextual evidence that species that also eat anchovy and herring in the Gulf of Panama (e.g. cetaceans and sea birds) are not likely to be significantly impacted by the catch removals from the fishery. Though I acknowledge that total Fishing Mortality estimates are comparatively low so this would be unlikely.
- **The FAP** – it was difficult to verify all the actions in the FAP. Please ensure that any outstanding activities are completed before the fishery goes for full MarinTrust approval.

To make verification more efficient I would suggest that the annual report on the fishery mirrors the key components of the MarinTrust fisheries assessment, this will hopefully save time on subsequent assessments.

## Table 2 Rating key

Each major action in the FAP is assigned a progress rating for each milestone date, according to the table below. In a FIP which is progressing according to the FAP timeline, all progress ratings will be green.

Colour	FAP Progress Rating
	This action has been completed as planned, or earlier than planned.
	This action is not scheduled to have been completed by this milestone date, and there is no evidence that progress towards completing it has fallen behind schedule.
	This action is scheduled to have been completed by this milestone date, but has not yet been completed.
	This action was scheduled to be completed by a previous milestone date and is still not completed. This represents a failure to complete a Critical Milestone.

## ADDITIONAL INFORMATION

The following section highlights 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.

Nothing identified