

2nd Surveillance Report v2.1

FISHERY NAME:

ARGENTINE ANCHOVY (Engraulis anchoita), BONAERENSE STOCK, SEMI-PELAGIC MID-WATER TRAWL NET FISHERY

Certificate code: F-OIA-P-0200 / MSC-F-30018

AUDITORS: Eng. Pedro A. Landa (Team Leader), MSc Juan Vilata, Lic. Gabriel Sésar and Eng. Carolina Medina Foucher (MSC Program Manager)

CLIENTS: Alleloccic S.A. / Nuevo Viento S.R.L., Catesur S.A., Delicias S.A., Disemar S.A., Industria Anchomar S.A., Mar Picado S.A., Marbetan S.A. / Marbella S.A.I.C. and Pranas S.A.

ISSUE DATE: 29 July 2019





SECOND SURVEILLANCE REPORT v2.1

Assessment against MSC Principles and Criteria for

ARGENTINE BONAERENSE ANCHOVY (Engraulis anchoita), BONAERENSE STOCK, SEMI-PELAGIC MID-WATER TRAWL NET FISHERY

29 July 2019

CLIENTS:

Alleloccic S.A. / Nuevo Viento S.R.L

Contact: Pablo Esteban Cicciolella Address: Posada 347, (7600) Mar del Plata, Buenos Aires Prov., Argentina Tel: (+54 223) 480 8565

Disemar S.A.

Contact: Juan José Di Meglio Address: Ortiz de Zárate 3378, (7600) Mar del Plata, Buenos Aires Prov., Argentina Tel: (+54 223) 480 5890

Marbetan S.A. / Marbella S.A.I.C.

Contact: Miguel Cseh Address: Av. F S/N, (7602) Estación Chapadmalal, Buenos Aires Prov., Argentina Tel: (+54 223) 464 2473

Catesur S.A.

Contact: Miguel Angel Di Costanzo Address: Pescadores 473 Floor 1 Of. A, (7600) Mar del Plata, Buenos Aires Prov., Argentina Tel: (+54 223) 464 0101

Industria Anchomar S.A.

Contact: Marcela Alejandra Seoane Address: Ortiz de Zárate 3350, (7600) Mar del Plata, Buenos Aires Prov., Argentina Tel: (+54 223) 480 0573

Delicias S.A.

Contact: Martin Di Scala Address: San Salvador 3235, (7600) Mar del Plata, Buenos Aires Prov., Argentina Tel: (+54 223) 489 2814

Mar Picado S.A.

Contact: Antonio Di Scala Address: Guanahanani 3660, (7600) Mar del Plata, Buenos Aires Prov., Argentina Tel: (+54 223) 480 1653

Pranas S.A.

Contact: Sebastián Greco Address: Pescadores 1156, (7600) Mar del Plata, Buenos Aires Prov., Argentina Tel: (+54 223) 480 5367

CERTIFICATION BODY:

Organización Internacional Agropecuaria S.A. (OIA)

Address: Av. Santa Fe 830, Acassuso (B1641ABN), Buenos Aires, Argentina Tel/Fax: (+54) 11 4793-4340 oia@oia.com.ar | www.oia.com.ar

Document: AA - Second Surveillance Report Date of issue: 29 July 2019



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2. Glossary.

ETP Endangered, Threatened and Protected

FCPv2.1 Fishery Certification Process v2.1

INIDEP Instituto Nacional de Investigación y Desarrollo Pesquero

MSC Marine Stewardship Council

OBO Observer on Board

OIA Organización Internacional Agropecuaria

PAN Plan de Acción Nacional

PCR Public Certification Report

PI Performance Indicator

RLF Resource Legacy Fund

SSPyA Subsecretaría de Pesca y Acuicultura

TAC Total Allowable Catch

UK United Kingdom

UNMDP Universidad Nacional de Mar del Plata

UoA Unit of Assessment
UoC Unit of Certification



3. Executive summary.

The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, has been certified as sustainable (against the MSC Principles and Criteria for Sustainable Fishing) in August 2011, and since then, four annual surveillances were conducted (from 2012 to 2015), where new available information was reviewed and all conditions and milestones were met. Based on the performance of this fishery during this period, the client group requested to go ahead with a recertification assessment process. The fishery passed this new process, being re-certified again in 2016.

In 2018 the Fishery Certificate was suspended due to the lack of evidence provided to the assessment team for the verification of the progress of the raised condition and the execution of milestones proposed for the first year of certification. In order to fully address the causes of suspension, the client group provided OIA a corrective action plan that was approved. After its implementation, the client group sent to OIA all evidences in order to lift the suspension status. OIA considered that evidences were sufficient to verify the progress of condition and determined to reinstate the certificate.

The purpose of the surveillance audit is to review any changes to the fishery and its management; check the fishery performance in relation to any relevant condition of certification; review any developments or changes within the fishery which may impact traceability, including the ability to segregate MSC from non-MSC products; and any other significant changes since the last surveillance audit. Results are presented in the section 5.

This report represents the second annual surveillance which includes a review of condition progress. OIA notified the client group and fishery stakeholders on 26 April 2019, where and when the on-site visit would take place. All stakeholders who had expressed interest and contributed to the reassessment process were directly contacted by email. The intention to conduct the surveillance was posted on the MSC website. All interviews with stakeholders were carried out in Mar del Plata, where the client fishery is based. All the information provided by the client and the stakeholders, including an updated fishery action plan and scientific and technical documents relevant to the Argentine anchovy fishery was reviewed by team members.

The team assessed the progress of condition related with ETP species outcomes and classified it as 'on target'. However, it was not considered closed yet, so the team kept the score of 75 for PI 3.1.1.

In consequence, OIA determines that Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery continues to meet the MSC Standards and requirements to continue with the certification. Therefore, OIA confirms that the fishery continues certified.



4. Report details.

4.1 Surveillance information

Table 1. Surveillance information.

1 Fishery name

Argentine anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic mid-trawl fishery

2 Surveillance level and type

Surveillance level 6 (*Default Surveillance*), on-site surveillance audit (*i.e.* the audit will involve face to face engagement with the client, conducting stakeholder interviews and a review of changes in management and science in the fishery).

The surveillance audit was delayed for five months according to the anniversary date of the certificate (24 December 2018) in order to ensure that preliminary evidence required to meet milestones proposed for the second year could be approved by the Argentinean Fishery Research Agency (INIDEP) and available during the on-site visit.

As it was notified on August 2018 by the client group, INIDEP and Universidad Nacional de Mar del Plata (both entities had been consulted to develop the fishery action plan), the fishing period of Argentine anchovy lasts from September to November. Data collected to fulfill condition milestones established during the recertification process was analyzed during December-March. Technical reports were internally reviewed and approved during April, when they became available for public.

Also, the surveillance audit announcement was delayed, due to OIA's request to MSC to include Eng. Pedro Landa as Fishery Team Leader complying with the requirement mentioned in the MSC General Certification Requirements v2.3 (Table 1). MSC granted the variation request on April 25th 2019.

Accordingly, the surveillance frequency will be reviewed in order to undertake the 4th surveillance audit before the 5th anniversary of the existing certificate.

3	Surveillance number	
1 st Surveillance		
2 nd Surveillance		X
3 rd Surveillance		
4 th Surveillance		
Other (expedited etc.)		
4	4 Proposed team leader	

Eng. Pedro A. Landa – Fishery team leader (on-site visit participation)

OIA has verified that Eng. Landa meets the fishery team member qualification and competency criteria specified in Annex PC1.2 of FCPv2.1, including MSC General Certification Requirements v2.3 mentioned in the Table 1:

- -has a university degree in agricultural engineering;
- -has over 5 years' experience in environmental management position;
- -he understands the MSC Fisheries Standard and relevant MSC Certification Process and Requirements, and has passed the MSC's Program Manager training course that includes new module versions (v2.1);
- -he has passed a course on auditing based upon ISO 19011 recognized by Exemplar Global;
- -he has further experience in MSC fishery assessment as technical support, including its participation as team member in the Argentine anchovy fishery recertification process (2016);

Furthermore, Eng. Landa has the qualifications and competencies required for serving as an expert on: fishery management and operations, current knowledge of the country, language and local fishery context, experience in applying different types of interviewing and facilities techniques, and understanding of the CoC



Standard and CoC Certification Requirements.

Eng. Landa has no conflicts of interest in relation to the Argentine anchovy fishery.

5 Proposed team members

MSc. Juan Vilata - Responsible for Principle 1 and 2 (remote support via Skype)

OIA verified that Mr. Vilata meets the fishery member qualification and competency criteria specified in Annex PC1.3 of FCPv2.1:

- -he has a university degree in Zoology and an MSc in Fisheries and Marine Science from the University of Aberdeen (UK), and has over 3 years' experience in the fisheries sector related to the tasks under his responsibility;
- -he understands the MSC Fisheries Standard and relevant MSC Certification Process and Requirements, and has passed the MSC's fishery team member training course that includes new module versions (v2.1);
- -Mr Vilata complies with fisheries management, ecosystem-based approach knowledge and fishery operation qualifications;
- -he is acquainted with the complexities of fishery management, having a good understanding of the tasks, responsibilities and challenges met by the fishery and its stakeholders, and has taken part in more than two assignments in the region (Argentina, Chile, Brazil and Peru) where the fishery under assessment has been based in the last 10 years;
- -Mr Vilata is familiarized with fish stock assessment methodologies, fishery data collection and analysis, stock biology/ecology, fishing impacts on vulnerable marine ecosystems and fishery-induced cascade changes in the marine trophic web;
- -he has knowledge on the different steps in the fisheries assessment process; scoring the assessment tree for each Performance Indicator; and, how conditions are set and monitored;

Mr Vilata has no conflicts of interest in relation to the Argentine anchovy fishery, Bonaerense stock.

Lic. Gabriel Sesar – Responsible for Principle 3 (on-site visit participation)

OIA has verified that Lic. Sesar meets the fishery team member qualification and competency criteria specified in Annex PC1.3 of FCPv2.1, in particular:

- -has a university degree in economic science;
- -has over 3 years' management experience in environmental position;
- -he understands the MSC Fisheries Standard and relevant MSC Certification Process and Requirements, and has passed the MSC's fishery team member training course that includes new module versions (v2.1);
- -Mr Sesar has undertaken more than 2 MSC surveillance visits as a team member in the last 5 years.

Furthermore, Lic. Sesar has the qualifications and competencies required for serving as an expert on fishery management and operations, current knowledge of the country, language and local fishery context, and understanding of the CoC Standard and CoC Certification Requirements.

Lic. Sesar has no conflicts of interest in relation to the Argentine anchovy fishery, Bonaerense stock.

Eng. Carolina Medina Foucher – OIA Technical Support (MSC Program Manager)

OIA has verified that Eng. Medina Foucher meets the fishery team member qualification and competency criteria specified in the in Annex PC1.3 of FCPv2.1, in particular:

- -has a university degree in aquaculture and science marine;
- -has over 8 years as MSC Program Manager for OIA;
- -she understands the MSC Fisheries Standard and relevant MSC Certification Process and Requirements, and has passed the MSC's fishery team leader training course that includes new module versions (v2.1);
- -has supporting as technical support in more than 2 MSC fishery assessment and surveillance audits in the last



5 years;

Furthermore, Eng. Medina Foucher has the qualification and competencies required for serving as a technical support expert on MSC Standard, current knowledge of the country, language and local fishery context, and understanding of the CoC Standard and CoC Certification Requirements.

Eng. Medina Foucher has no conflicts of interest in relation to the Argentine anchovy fishery, Bonaerense stock.

6 Audit/review time and location

Mar del Plata, Buenos Aires Prov. (Argentina) - 03 June 2019

7 Assessment and review activities

The audit will cover the condition established in the re-certification process, considering performance of client group in relation to milestones proposed for the second year and new information relating to:

- -any potential or actual changes to the fishery and/or management systems.
- -any changes or additions/deletions to regulations.
- -any personnel changes in science, management or industry and their impact on the management of the fishery.
- -any potential changes to the scientific base of information, including stock assessments.
- -any changes affecting traceability, including any developments or changes within the fishery which impact traceability and the ability to segregate MSC from non- MSC products.
- -any changes affecting harmonisation of overlapping fisheries.
- -any other significant changes in the fishery.

4.2 Background

The present surveillance involved direct consults with the official agencies SSPyA and INIDEP. Also the websites of Secretaría de Gobierno de Agroindustria (www.argentina.gob.ar/agroindustria), Consejo Federal Pesquero (CFP) (www.cfp.gob.ar) and INIDEP (www.inidep.edu.ar) were visited.

The Argentine anchovy (*Engraulis anchoita*) fishery, Bonaerense stock, continues occurring at Western South Atlantic, FAO area 41, from Southern Brazil to 41° S (within shallow waters to beyond the continental slope, including the "Zona Común de Pesca Argentino-Uruguaya" and the Argentine Exclusive Economic Zone – Argentine Sea). The mid-water trawl fishery is operated by a coastal fleet and an offshore ice-chilling fleet. The CFP establishes annually a Total Allowable Catch (TAC). In 2018 this TAC remained at 120,000 t, according to CFP Resolution N° 11/2018.

All the administrative and supervisory structures have remained as they were since the last audit, thus keeping the same missions, roles and responsibilities. Similarly, neither INIDEP nor any of the other stakeholder institutions have been modified.

It has not been detected that the fishery is incurring or has incurred in any controversy to any international treaty or systematic failures to current regulations.

In consultation with stakeholders, none of them found any new information meriting changes about the management system in any aspect of the certification.

Principle 1 – Stock status

a. Stock assessment

According to INIDEP's stock assessment (Orlando *et al.*, 2018), the TRP was set at BR_{66} = 850,000 ton, while the LRP was set as BR_{40} = 510,000 ton. In case of applying a fishing mortality rate of F_{75} , the



spawning biomass will be 970,000 ton. The spawning biomass in October 2017 was estimated in 1.4 million ton (Figure 1).

The harvest control rule proposed for the Bonaerense anchovy stock recommends to accept a value of F_{obj} = F_{66} = 0.86. The stock assessment model has some associated uncertainties regarding recruitment, actual biomass, size group composition and fishing season. Its results indicate that TAC could as high as 300,000 ton for 2018 (Figure 2). However, taking into account that the target species is considered a Low Trophic Level Species key for the marine ecosystem, a lower TAC of 240,000 ton (F_{75}) was also suggested.

Nevertheless, the stock assessment authors recommended that the TAC must be maintained in 120,000 ton in order to comply with the precautionary approach, given that no fishery-independent research has been carried out during the last years.

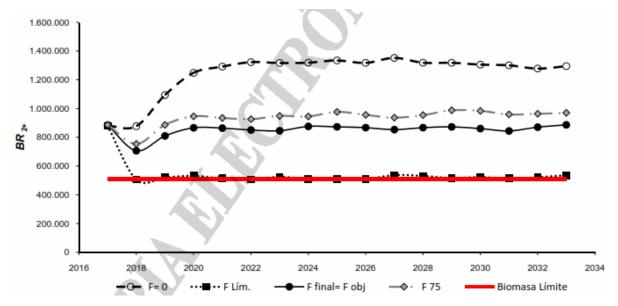


Fig. 1. Annual average spawning biomass according different intensities of fishing mortality (Source: Orlando et al., 2018)

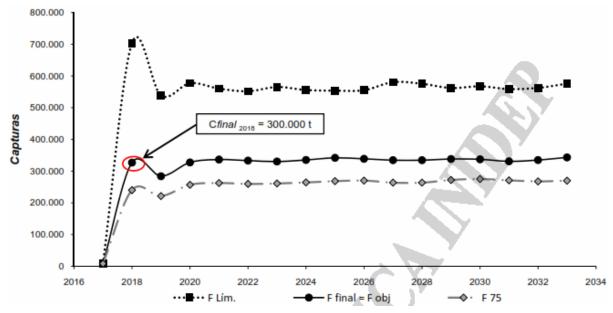


Fig. 2. Annual average catch estimated according different intensities of fishing mortality (Source: Orlando et al., 2018)



b. Fleet performance - period 2018

During 2018 the commercial fishery (including three fleets: offshore ice chilled, coastal ice chilled and 'rada ría' (inshore waters)) reported 8,524 ton of Bonaerense anchovy landings, 90% of which (7,680.80 ton) corresponded to the UoA (Garciarena *et al.*, 2019).

The fishing season lasted between September and November in Necochea's area (Figure 3). The coastal ice fleet achieved the highest yields (63%). The average size of landed anchovy was 144 mm, with 38.5% of individuals below 140 mm. Anchovies of age 1 class represented only 25% of landings.

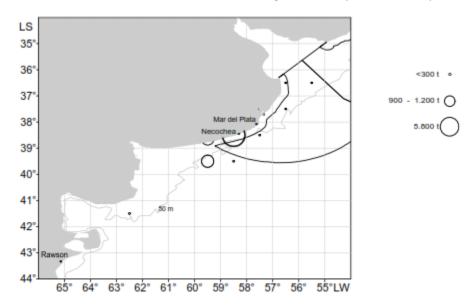


Fig. 3. Catch distribution of anchovy made by the Argentine commercial fleet during 2018 (Source: Garciarena et al., 2019)

c. Abundance and distribution

During November 2016 a fisheries survey was carried out to monitor the abundance of common hake (*Merluccius hubbsi*). This survey also aimed to study the abundance and distribution of Bonaerense anchovy. Since however the main scope of research was the common hake stock, not all the anchovy distribution area was covered (*i.e.* the coastal area where anchovy is most frequently found). Survey results indicated that, for the coastal area, the acoustic density coefficient obtained $(2,305,000 \text{ m}^2/\text{mn}^2)$ was similar to the range obtained in previous research surveys specifically addressed to anchovy during $1995-2008 (1,378,000 - 3,946,000 \text{ m}^2/\text{mn}^2)$ (Burratti *et al.*, 2018).

In the northern area (15,160 mn²), the average density of anchovy was estimated in 87.6 t/mn² and the biomass estimated was 1,366,000 t. This value is coincident with the range obtained in the anchovy's research survey (1,431,000 - 5,321,000 t).

Principle 2 – Ecosystem impacts

a. Marine mammal's interaction

The Marine Mammal Research Group at the Universidad Nacional de Mar del Plata analysed monitoring data collected by the fisheries observers enrolled in INIDEP's OBO Program in order to determine the impact of Bonaerense anchovy fishery on the identified ETP species, and whether this impact might hinder the recovery or cause irreversible damage on these populations.

Mandiola & Rodriguez (2019) concluded that there are interactions with marine mammals in 70% of the fishing hauls, the most frequent interaction consisting in animals feeding on the hauled anchovy. Observed incidental catches of South America sea lion (*Otaria flavescens*) were reduced in the last



fishing season (2018), while unwanted catch of Atlantic dolphin (*Delphinus delphis*) was increased. Due to the lack of information on Atlantic dolphin's population size, it is not possible to determine the effect of UoA on this species or the level of potential risk. In order to reduce this risk, the authors recommend to design, test and implement mitigation measures.

Principle 3 - Management system

a. Updated of relevant regulations

- -CFP Resolution N° 11/2018: CFP established the 2018 TAC for Argentine anchovy, Bonaerense stock fishery in 120,000 t, taking into account INIDEP recommendations provided in the INIDEP Technical Report N° 29/2018 (Orlando $et\ al.$, 2018).
- -CFP Resolution N° 14/2018: CFP approved the National Action Plan to reduce unwanted catch of marine turtles in Argentine fisheries (PAN-Tortugas). Details of this national action plan are provided in the Annex of CFP Act N° 31/2018.

b. Follow-up commission meetings

The annual meeting on the Bonaerense anchovy fishery took place during October 2018, participating in this instance representatives of SSPyA, CFP, INIDEP, Dirección de Planificación y Gestión de Pesquerías, Dirección de Pesca de la Provincia de Buenos Aires and representatives of Associations and fishing business chambers.

The following topics related to the anchovy fishery were addressed:

- -annual fishing statistics were presented
- -a bycatch analysis was requested to be provided in the next meeting
- -INIDEP carried out a summary of the progress related to the condition raised at the MSC certification, including the agreement to increase observer coverage to improve the collection of bycatch data. According to this agreement, it was proposed to provide a vessel list able to carry observers on board.

Changes

The background provided above is an update of information related with the 3 Principles of the MSC Standard. There is no evidence that any performance indicator required to be considered and rescored.

OIA states that there have not been any identified changes relative to the management system, regulations, personnel involved, scientific information or any other development which may impact traceability, or that may modify the certification status or the scoring of performance indicator.

4.3 Version details

The following fisheries program documents were used for this assessment:

Table 2. Fisheries program documents versions.

Document	Version number
MSC Fisheries Certification Process	Version 2.1
MSC Fisheries Standard	Version 2.01
MSC General Certification Requirements	Version 2.3
MSC Surveillance Reporting Template	Version 2.01



5. Results

5.1 Surveillance results overview

5.1.1 Summary of conditions

The following table summarizes the condition set during the re-assessment process. No new conditions were triggered.

Table 3. Summary of conditions.

Condition number	Condition	Performance Indicator (PI)	Status	PI original score	PI revised score
1	The client must provide evidence that the combination of the UoA's direct and indirect effects on ETP species is highly unlikely to hinder their recovery. The condition concerns three ETP species already identified: Atlantic dolphin (<i>Delphinus delphis</i>); Dusky dolphin (<i>Lagenorhynchus obscurus</i>); and South American sea lion (<i>Otaria flavescens</i>).	2.3.1	On target	75	75

5.1.2 Total Allowable Catch (TAC) and catch data

The following table provides Total Allowable Catch (TAC) and catch data during the most recent fishing season.

Table 4. Total Allowable Catch (TAC) and catch data.

TAC	Year	2018	Amount	120,000 t
UoA share of TAC	Year	2018	Amount	120,000 t
UoA share of total TAC	Year	2018	Amount	120,000 t
Total green weight catch by UoC	Year (most recent)	2018	Amount	2,651.5 t (total UoA catch 7,680.8 t)
Total green weight catch by UoC	Year (second most recent)	2017	Amount	3,649 t (total UoA catch 8,051)

5.1.3 Recommendations

At the moment, there are no recommendations to the client or for future assessments.



5.2 Conditions

Table 5. Condition 1.

Performance Indicator	2.3.1
Score	75
Justification	The result of RBF, using PSA methodology, stated a condition for this performance indicator.
	For the 4 th annual surveillance, the client group must provide evidence that:
	-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.
Condition	-indirect effects have been considered for the UoA and are through to be highly likely not to create unacceptable impacts.
	The client action plan proposed by the fishery must be capable of raising the score to 80, addressing all the species for which the score falls below 80 (Atlantic dolphin – Delphinus delphis; Dusky dolphin – Lagenorhynchus obscurus; and South American sea lion – Otaria flavescens), and without causing additional associated problems for other species.
	The following interim outcomes presented by the client group will allow to the team members to assess the progress of the condition proposed on the adequate timeframe:
	-By the time of the first surveillance audit, the client group/fishery must provide a plan to improve the knowledge about national and/or international requirements that set limits for the ETP species affected by the Bonaerense anchovy fishery (Atlantic dolphin – <i>Delphinus delphis</i> ; Dusky dolphin – <i>Lagenorhynchus obscurus</i> ; and South American sea lion – <i>Otaria flavescens</i>).
	Even if no rescore will be done at this point, the progress of this milestone could be considered to maintain the actual score and comply with the Action Plan as proposed.
Milestones	-By the second surveillance audit, the client group/fishery must provide results that indicate in a measurable way and reflecting a highly likely probability that the combined effects of the MSC UoAs on the population/stock of Atlantic dolphin – Delphinus delphis; Dusky dolphin – Lagenorhynchus obscurus; and South American sea lion – Otaria flavescens are within national and/or international requirements, if these are set.
	At the moment, there are no other MSC certified or under-MSC-assessment UoAs that overlap with these species, so only the Bonaerense anchovy fishery is considered.
	If the progress of this milestone is considered "on target", the team will maintain the score of 75.
	-By the third surveillance audit, the client group/fishery must provide measurable quantitative information that demonstrate a highly likely probability that direct effects of the Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-



	pelagic mid-water trawl fishery, do not hinder recovery of Atlantic dolphin – <i>Delphinus delphis</i> ; Dusky dolphin – <i>Lagenorhynchus obscurus</i> ; and South American sea lion – <i>Otaria flavescens</i> .
	If the progress of this milestone is considered "on target", the team will maintain the score of 75.
	-By the fourth surveillance audit, the client group/fishery must provide through measurable data that indirect effects have been considered for the Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-pelagic mid-water trawl fishery, and allow to quantitatively demonstrate that is highly likely to not create unacceptable impacts.
	If the progress of this milestone is considered "on target", the team will rescore this scoring issue using the default assessment tree, giving a final score at least of 80 and closing the condition established.
Consultation on	During the re-assessment process, OIA verified that the support, involvement and resources provided by other entities (INIDEP and Universidad Nacional de Mar del Plata) complies with FCRv2.1 – 7.19.8 criteria.
condition	Both entities provided two agreements (published in the PCR 2016), accepting investment of time and to undertake any arrangements or regulations, if needed, in order to achieve the condition raised within the period specified.
	During the 2 nd year Surveillance meeting held on June 3 2019 with the client group, new information concerning the status of the strategy to address the Condition set on PI 2.3.1 was presented. According to this information, progress in meeting the Condition was agreed to be "On Target" by the Surveillance team.
	The main points addressed by the new information are given below:
	1- There are as of yet no international or national mortality limits set for the three ETP species encompassed by the Condition;
	2- However, preliminary mortality limits have been estimated by the research institutions providing support to the client fishery throughout the MSC certification process;
	3- The fishery is below the above mentioned mortality limits;
Progress on Condition (Year 2)	4- The client fishery jointly with the regional fisheries management authorities and supporting research institutions (Argentinean Agency for Fisheries Research -INIDEP, and Universidad Nacional Mar del Plata, UNMP) have strengthened the already existing Fishery Observer programme. As a result of this joint effort, the current level of observer coverage in the client group's fleet (14% in 2018) is now fully compliant with the advised level (10-20%).
	5- The observers taking part in the programme collect information relevant to several aspects of the fishery, including any interactions with the three ETP species encompassed by the condition and also other ETP taxa (e.g. seabirds). Specific protocols have been developed for the collection of data concerning interactions with the ETP species (including, but not limited to the three ETP species encompassed by the Condition).
	6- However, the observer programme is a work in progress. It is acknowledged that there is still ample room for improvement. Training for observers and vessel crew members is ongoing. This training concerns potential interactions with ETP species, including the improvement of the identification skills of any ETP species, strategies to either avoid or minimise their bycatch, and techniques to minimise stress and/or

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	injuries to the bycaught ETP specimens during their release.
	7- As a result of the training being provided, it is expected that the quality and quantity of the information collected will increase in the near future, as the programme continues its progress. Some examples are already available; for instance, it was possible to identify the sex and approximate age of most of the ETP specimens whose bycatch was observed during the 2018 fishing season. Observers are encouraged to take photographic and/or video records of the bycatch events, which allow the examination of the images or footage by specialists.
	8- A further expected result which will have to be validated in future surveillance reports, is whether bycatch avoidance measures are being thoroughly implemented in the fleet, and if they are having any measurable effect in decreasing interactions with ETP species.
	9- One of the issues still pending to be fully solved is the reluctance or refusal by some skippers to take observers onboard. A recurrent reason for their refusal is the alleged lack of room onboard. Whilst the small average size of the coastal fleet will possibly preclude the embarkation of observers in the smaller vessels, this may not always necessarily be the case. Many skippers seem to share the assumption that the presence of observers would increase their risk of being fined for any eventual incompliance their vessel might engage in. Hence, there is a need for further educative efforts amongst the skippers and crew, to clarify that the role of the observers is limited to the collection of scientific data.
Status	As it is analyzed above, the condition is considered "on target".
Additional information	There is no any additional information for this condition.

5.3 Client Action Plan

The Client Action Plan provided during the re-certification process has not been updated. The timeframe to address milestones and assess progress of condition was modified according to what was notified on August 2018 by the client group and collaborating entities. As the fishing period of Argentine anchovy is carried out during September - November of each year, data collected to assess the level of achievement with milestones in the condition set are analyzed during December-March. Technical reports are internally reviewed and approved during April, when they become available for public.

Client action plan (last updated: 03/07/2019)

In order to gather evidence (as required per the audit process) that the fishery meets national and/or international requirements setting limits for ETP species, the client group has requested cooperation to government agencies and research institutions to implement a research program based on a strengthened fisheries observer program. This cooperation has been granted and as a result, the current observer program now records any observed interaction with ETP species. These interaction data will help to analyze biological limits for ETP species that are affected directly and/or indirectly by the fishery.

The research actions are being implemented by several research groups from the Universidad Nacional de Mar del Plata (UNMP), which are working with the data collected by the observers program (run by INIDEP) in vessels working with the client group.

In this instance the client group will present information regarding the established biological limits at national and / or international levels, and direct and indirect effects of the fishery on populations of marine mammals (Atlantic dolphin – *Delphinus delphis*; Dusky dolphin – *Lagenorhynchus obscurus*;



and South America sea lion – *Otaria flavescens*), as well as reports of the observers concerning these and other ETP species that might also interact with the anchovy fishery. These reports are regularly provided to the UNMP research groups and also to the collaborating INIDEP research groups.

General Objective/Actions

By the fourth year of surveillance, the client group will provide evidence that it is highly likely that the effects of the Unit of Assessment maintain the populations of ETP species such as marine mammals (Atlantic dolphin – *Delphinus delphis*; Dusky dolphin – *Lagenorhynchus obscurus*; and South America sea lion – *Otaria flavescens*) above biological limits established in national and/or international requirements. Also, evidence will be provided that the direct effects of the Unit of Assessment do not hinder their recovery, and that the indirect effects have also been considered and are not causing irreversible damage.

Deadline: 4 years.

Objective 1: May 2018

The biological limits established at national and international level will be analysed for the above mentioned ETP species. In case that limits have not been previously found, an approximate value will be estimated.

A statistical method will be used to calculate the optimum level of observer coverage required to monitor the fleet targeting Bonaerense anchovy in order to provide an adequate monitoring of the fishery interactions with the ETP species.

Once the optimum level of observer coverage has been determined, a plan will be designed to implement an adequate observer coverage level in the fleets targeting Bonaerense anchovy. Some of the main functions of the observers will be to assess the impact of catches of ETP species and monitoring the implementation of the actions defined in the National Action Plan for the conservation and management of marine mammals (PAN-Mamíferos).

A new Observer Protocol designed to cover the current needs for acquisition of basic data is being implemented, in order to monitor the catch of ETP species and evaluate a possible impact of the Bonaerense anchovy fishery on their populations.

Observers will be trained on the implementation of the Protocol, encompassing the actions set out in the framework of the PAN-Mamíferos.

There will be provided progress reports for the first year.

Objective 2: June 2019

Analyze the data collected by onboard observers. A possible impact of the Bonaerense anchovy fishery on populations of ETP marine mammal species will be assessed. If populations that interact with the fishery are below safe biological limits, monitoring will continue to analyze if there is evidence of recovery.

In addition, the direct and indirect effects of the UoA on ETP populations will be assessed and determined. Data will be collected to determine whether the effects hinder recovery or cause irreversible damage.

There will be provided progress reports for the second year of surveillance.

Objective 3: April 2020

Data acquired by the onboard observers will be analyzed.



If necessary, measures to minimize the impact of the fishery on ETP species so as not to affect the biological limits to national and/or international levels will be implemented.

The progress reports will be provided in the third year.

Objective 4: April 2021

A final analysis assessing whether the fishery affects populations of the three ETP species identified in the Condition (Atlantic dolphin – *Delphinus delphis*; Dusky dolphin – *Lagenorhynchus obscurus*; and South America sea lion – *Otaria flavescens*) according to national and international requirements and considering also the direct and indirect effects, will be completed and evaluated by the fourth year of supervision. If mitigation measures have been implemented, their effectiveness will be studied and the necessary adjustments will be made.

The client group has requested cooperation to government agencies and research institutions to implement a research program to assess the biological limits for ETP species that are affected directly and/or indirectly by the fishery. By the fourth year of the surveillance audit, it is expected that the program will present evidence that the fishery meets national requirements and/or international setting limits for ETP species.

The actions to be implemented encompass research groups from the UNMP and INIDEP. Research groups from both institutions will analyze the data gathered by the INIDEP-run observer program, which will deploy observers to the vessels from the client group.

5.4 Re-scoring Performance Indicators

In the second surveillance audit, there are no performance indicators that require re-scoring.



6. Appendices

6.1 Evaluation processes and techniques

6.1.1 Site visits

The audit process was comprised of the following parts:

- **Provision of information:** The audit program and logistical information, conditions established in the certification process and its respective Action Plan elaborated by the fishery client were provided to stakeholders previously to the meetings. Also, the notification included the 'MSC Template for Stakeholder Input v2.0'.
- **Meetings:** The individual meetings started with an interview with the Client Group in an external office and then, with INIDEP' scientists and Marine mammals group of Universidad Nacional de Mar del Plata. This meeting was held at INIDEP's Headquarters. In all the interviews, relevant information and documents regarding the second surveillance year were shared. Consultations have taken place on 3 June 2019. Meetings were conducted by the proposed assessment team (MSc Juan Vilata participated remotely via Skype), and were focused in the on-going activities associated with the conditions established on the fishery, as well as the eventual changes occurred after the last surveillance.

Timeline	Duration	Place
Opening meeting with Client Group	09:00 – 10:30	Cafetería AVGVSTVS - Alem 3570, external office
Action Plan meeting including entities involved:		
-Companies (client group)		
-Scientist of 'Programa de Pesquerías de Peces		
Pelágicos' (INIDEP) (Head program: Lic. David Garciarena) and 'Programa de Observadores a		
Bordo de Buques Comerciales' (INIDEP) (Head	11:00 – 13:00	INIDEP
program: Lic. Gabriel Blanco)		
-Researchers of 'Instituto de Investigación Marina		
y Costera' – 'Universidad Nacional de Mar del Plata' (Responsible: Dra. Agustina Mandiola)		

- **Documentation:** Relevant documents in regard to the progress of the Action Plan and related issues were provided to the assessment team by Client Group and stakeholders prior and during the meetings. After these, follow-up emails were sent to stakeholders to request additional information. All documents are detailed in the References section.

6.1.2 Stakeholder participation

OIA provided the opportunity for all stakeholders identified in the re-certification process (i.e. fisheries managers, scientists, NGOs, citizens, government agencies, others) to contribute information. The following persons were interviewed:

Stakeholders notification: surveillance visit schedule	ed 26 April 2019				
Surveillance year 2: visit on-site	Mar del Plata, 3 June 2019				
MEETING ATTENDEES AND ORGANIZATIONS					
Opening surveillance meeting with Client Group					
Name Affiliation					
Gabriela Soto	Nuevo Viento S.R.L.				

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Victoria Leuci	Disemar S.A./Mar Picado S.A.		
Cintia Pedri	Marbetan S.A./Marbella S.A.I.C.		
Laura Martínez Souto	Industria Anchomar S.A.		
Rocío González	Delicias S.A.		
María Carolina González	Catesur S.A.		
Martín Di Scala	Delicias S.A.		
Javier Freiz	Disemar S.A.		
Julian Di Constanzo	Catesur S.A.		
Miguel Cseh	Marbetan S.A./Marbella S.A.I.C.		
Daniel Damian Delicio	Industria Anchomar S.A.		
Damer Damian Denero	Action plan meeting (groupal)		
Name	Affiliation		
Dr. David Garciarena	"Pesquerías de Peces Pelágicos" Program, INIDEP		
Lic. Paula Orlando	"Pesquerías de Peces Pelágicos" Program, INIDEP		
Lic. Claudio Buratti	"Pesquerías de Peces Pelágicos" Program, INIDEP		
Lic. Gabriel Blanco	"Observadores a Bordo de Buques Comerciales" Program, INIDEP		
Lic. José Luis Flaminio	"Observadores a Bordo de Buques Comerciales" Program, INIDEP		
Lic. Agustina Mandiola	Instituto de Investigaciones Marinas y Costeras, Universidad Nacional de Mar del Plata (Mamíferos Marinos)		
Dr. Diego Rodriguez	Instituto de Investigaciones Marinas y Costeras, Universidad Nacional de Mar del Plata (Mamíferos Marinos)		
Lic. Juan Pablo Seco Pon	Instituto de Investigaciones Marinas y Costeras, Universidad Nacional de Mar del Plata (Aves Marinas)		
Guillermo Cañete	Fundación Vida Silvestre		
Verónica García	Fundación Vida Silvestre		
Laura Martinez Souto	Industria Anchomar S.A.		
María Carolina González	Catesur S.A.		
Cintia Pedri	Marbetan S.A./Marbella S.A.I.C.		
Rocío González	Delicias S.A.		
Victoria Leuci	Disemar S.A./Mar Picado S.A.		
Gabriela Soto	Nuevo Viento S.R.L.		
Martin Di Scala	Delicias S.A.		
Daniel Damian Delicio	Industria Anchomar S.A.		
Miguel Cseh	Marbetan S.A./Marbella S.A.I.C.		

Stakeholders were notified about the possibility to meet with the assessment team during the scheduled on-site visit, including also remote access to the meeting. In those cases where stakeholders did not wish to be interviewed, they could submit written information to team members.

The 'MSC Template for Stakeholder Input into Fishery Assessment v3.0' was provided to the stakeholders for them to submit any comments about the annual surveillance. Any updated information or developments in the fishery management and research, as well as evidence to assess the condition progress were sent in advance or presented during the on-site visit.

6.2 Stakeholder input

a. Meeting summaries

i. Opening surveillance meeting with Client Group

In the opening meeting, the client group declared that the number of vessels licensed to harvest anchovy decreased in 2018, and that the fishing season took place in the spring, from September to November. No fishing was carried out during winter. Also, they explained that the high operating



costs in the anchovy fishery and the comparatively higher cost-efficiency of the shrimp fishery had discouraged the participation of a greater number of vessels in the Bonaerense anchovy fishery.

The small average size of the individuals caught precluded part of the catch from being canned and forced instead to increase the production of fish paste. Besides, regardless of the catch size problems, the EU establishes a 25% custom duty on any imports of canned and filleted anchovy from non EU-origin, thus restricting the access of Argentine anchovy fillets to European markets. An eventual future certification of Peruvian anchovy might mean the end of Argentine anchovy in the EU market, given the significantly lower price of Peruvian anchovy.

In relation to the Action Plan for the second year of certification period, the stakeholder meeting highlighted the work carried out by INIDEP, UNMdP and Fundación Vida Silvestre (this last institution had facilitated extra funding to carry bycatch mitigation practice tests). Also, the meeting participants pointed that the higher level of observer coverage recently achieved increased the data collection to review incidental catch of ETP species related with UoA.

ii. Action plan progress meeting

Dra. Mandiola explained that during 2018 two bycatch training workshops were held in order to raise awareness on the importance of adequately monitor the interactions between marine mammals and fisheries. Skippers and vessel crews were invited to join these trainings in order to share knowledge. Also, several meetings were carried out between INIDEP and UNMDP researchers to schedule and coordinate action plan activities, including trainings and observer boarding.

Moreover, two technical trainings were conducted between Mandiola (UNMDP) and Lic. Flaminio (INIDEP OBO Program) to review data collection protocols.

Researcher Mandiola presented the results obtained by OBO Program in relation with the incidental catch of marine mammals and the UoA. Details are provided in the background section.

Fundación Vida Silvestre requested a grant to Resources Legacy Fund (RLF) - Sustainable Fisheries Fund Grant Proposal Worksheet - to help financially with the data analysis. Other support action was the purchase of cameras for the observers.

The client companies requested to the management authority to carry out a stock survey in order to update the data obtained in 2008. This survey would be take place in October 2019, but the authority has not decided yet.

iii. Stakeholders input template

No written stakeholder input was received in the present audit.

6.3 Revised surveillance program

As notified in the Surveillance Announcement, on August 2018, the client group, INIDEP and Universidad Nacional de Mar del Plata (both entities had been asked to provide support to develop the action plan) requested OIA to change the timing of surveillance audit, due to the fact that the fishing season of Argentine anchovy is carried out during September - November of each year. Data pertinent to the fulfillment of the condition's milestones were analyzed during December-March. Technical reports were internally reviewed and approved during April, when they became available for the public.

Hence, the timing of the surveillance was reviewed during this surveillance audit in order to undertake the 4th surveillance audit before the 5th anniversary of the existing certificate.



Table 6. Fishery surveillance program.

Surveillance level	Year 1	Year 2	Year 3	Year 4		
N/A. At the moment, there is no reduction of surveillance level.						

Table 7. Timing of surveillance audit.

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale	
2	24 December 2018 3 June 2019		The surveillance audit was delayed almost six months according the anniversary date of the certificate (24 December 2018) in order to ensure that any preliminary evidence required to meet the milestones suggested for the second year would be approved by the Argentinean Agency for Fisheries Research (INIDEP) and would be made available during the on-site visit.	
3	24 December 2019	April 2020	As was notified in August 2018 by the client group, INIDEP and the Universidad Nacional de Mar del Plata (the two entities that were consulted to develop the action plan), the fishing season of Argentine anchovy lasts from September to November. The data collected during the fishing season will be used to measure progress in meeting the condition milestones. These data are analyzed during December-March. Technical reports are internally reviewed and approved during April, after which they become available.	
4	24 December 2020	April 2021	As final results will be available in April 2021, the 4 th surveill audit and re-certification process will be performed at the same in order to ensure the period of validity of the certificate.	

Table 8. Surveillance level rationale.

Year	Surveillance activity	Number of auditors	Rationale
3	On-site audit	1 or 2 auditors on-site with remote support from 1 auditor if needed.	The surveillance level has been determined according to MSC FCR Requirements, taking into account among others, these criteria: assessment tree used, if conditions were raised on outcome PIs, number of conditions, principle level scores, client and stakeholder input, fishery reports, government documents, stock assessment reports and/or other relevant reports; information appropriate to the determination of Principle 1 and 2 information requirements, transparency of the management system, vessels, gear or other physical aspects of the fishery.
4	On-site audit	2 auditors on-site	The presence of 2 auditors on-site has been deemed necessary, due to the reasons described above and the complexity of a re-certification process.



7. References.

- Burratti, C. C., Orlando, P., Martos, P., Cabreira, A. G. & N. A. Scarlato, 2018. Distribución y abundancia de anchoita (*Engraulis anchoita*) entre 34°30′ y 41° S en Noviembre 2016 durante una campaña de evaluación de merluza. *Inf. de Invest. INIDEP N° 135/2018:* **20pp.**
- Garciarena, A. D., Orlando, P. & C. C. Buratti, 2019. Resultados de la pesca de anchoíta por la flota comercial durante 2018 y estimación de parámetros biológicos-pesqueros de interés. *Inf. Técn. Of. INIDEP N° 19/2019*: **12pp.**
- Mandiola, A. & D. Rodriguez, 2019. Informe evaluación de interacciones entre mamíferos y la pesquería de anchoita. *Universidad Nacional de Mar del Plata:* **23pp.**
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ORGANIZACIÓN INTERNACIONAL AGROPECUARIA (OIA)

Av. Santa Fe 830 - Acassuso (B1641ABN) · Buenos Aires · Argentina Tel/Fax: (+54) 11 4793-4340 · oia@oia.com.ar · www.oia.com.ar