

Public Certification Report

Assessment against MSC Principles and Criteria for:
ARGENTINE ANCHOVY (*Engraulis anchoita*), BONAERENSE STOCK,
SEMI-PELAGIC MID-WATER TRAWL NET FISHERY

Certificate code: F-OIA-P-0200

15th December 2016

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15th December 2016

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Glossary.

AUCFZ Argentina-Uruguay Common Fishing Zone

CA Consequence Analysis

CAB Conformity Assessment Body

CAPECA Cámara de Armadores de Pesqueros y Congeladores de la Argentina

CCAMLR Convention for the Conservation of Antarctic Marine Living Resources

CFP Consejo Federal Pesquero

CoC Chain of Custody

CONICET Consejo Nacional de Investigaciones Científicas y Técnicas

CSA Consequence Spatial Analysis

CTMFM Comisión Técnica Mixta del Frente Marítimo

DINARA Dirección Nacional de Recursos Acuáticos

ETP Endangered, Threatened or Protected

FAO Food and Agriculture Organization

FCRv2.0 Fishery Certification Requirements v2.0

ICSEAF International Commission for South East Atlantic Fisheries

IIMyC Instituto de Investigaciones Marinas y Costeras

INIDEP Instituto Nacional de Investigación y Desarrollo Pesquero

IPI Inseparable or Practicably Inseparable

ISBF Introduced Species Based Fisheries

ITQ Individual Transferable Quotas

LTL Low Trophic Level

NGO Non-Governmental Organizations

OBOs Observer On Board

PSA Productivity Susceptibility Analysis

RBF Risk Based Framework

SENASA Servicio Nacional de Sanidad y Calidad Agroalimentaria

SICA Scale Intensity Consequence Analysis
SSPyA Sub Secretaría de Pesca y Acuicultura

TAC Total Allowable Catch

UNMDP Universidad Nacional de Mar del Plata

UoA Unit of Assessment
UoC Unit of Certification



VMS Vessel Monitoring System

ZCPAU Zona Común de Pesca Argentino-Uruguaya

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1. Executive summary.

This Report provides an integrated view of the Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, as a result from the First Re-certification Assessment, for the period 2016-2021.

The assessment addresses the following topics: target stock pursued (as nature, distribution and status of the stock); harvest strategy; by-catch and retained species considerations (as Primary or Secondary species), ETP species, Habitats and Ecosystems (environmental impact of fishing); and Management System of the UoA; and many other variables which affect the sustainability of a fishery, all assessed against MSC Principles and Criteria for Sustainable Fishing.

The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery occurs at Western South Atlantic, FAO area 41, from Southern Brazil to 41° S, from shallow waters to beyond the continental slope, including the Zona Común de Pesca Argentino-Uruguaya and the Argentina EEZ (Argentina Exclusive Economic Zone – Argentine Sea). The mid-water trawl fishery is operated by coastal and high-sea ice-chilling fleet, fitted out to the power and characteristics of the fishing vessels.

In 1994, the Federal Fishing Authority (Consejo Federal Pesquero) established a fishery management plan and a Total Allowable Catch (TAC) of 120.000 t was set for this fishery, and since this limit has never been reached, and a lower value has been caught every year due to current market dynamics and constraints, this has been remained during the following years, except in 2007 when it was set as 124.000 t.

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 are-certification assessment process.

Taking into account the Public Certification Report, all surveillances reports, outcomes, and evaluate progress against certification conditions, OIA decided to proceed with the re-assessment, which started on January 2016. A series of announcements were posted on the MSC website, reporting all the phases being undertaken.

For this process, the assessment team proposed is composed by: Dr. Leszek B. Prenski (Team Leader and Principle 1 and 2), Lic. Gabriel Sesar (Principle 3) and Eng. Pedro A. Landa (Principle 3). Additionally, Eng. Carolina Medina Foucher and María Laura Laco have provided technical support in regards to MSC Fisheries Certification Requirements. All the assessment steps were followed, as the proper 'Stakeholder Notification: Fishery enters full assessment' and the 'Assessment Timeline' were released at the beginning -including the site visit information-, followed by the proposal and subsequent confirmation of the assessment tree -including the use of RBF-; proposal and subsequent confirmation of peer reviewers as required in MSC Fisheries Certification Requirements v2.0.

One of the main steps when assessing a fishery against MSC Principles and Criteria for Sustainable Fishing is stakeholder consultation and information collection, in order for the assessment team to gather all relevant information and become aware of any potential issues. The site visit was



performed from February 22nd to 24th, 2016, and all stakeholders with experience and knowledge about the fishery were invited and encouraged to participate in the meetings.

After the site visit, the team discussed and analysed all data, as well as the technical, written, and anecdotal resources collected during the visit; and according to their judgement and expertise, agreed on a final score in line with the MSC Requirements.

The re-assessment has considered all available information, including relevant scientific and technical literature relating to this species and other lithodid species and fisheries, relevant Federal and Provincial legislation and regulations pertinent to this fishery and all information provided by the stakeholders, according to the requirements of the MSC Principles and Criteria for Sustainable Fisheries. Based on the analysis of such information, suiting the parameters of the assessment tree, the assessment team scored some of the performance indicators using the default assessment methodology, and RBF was applied in PIs 2.2.1, 2.3.1, 2.4.1 and 2.5.1.

On 5th July 2016, new clients were incorporated to certified group, through the signature of certificate sharing agreement. Ten companies are part of Unit of Certification: Alleloccic S.A., Catesur S.A., Centauro S.A., Delicias S.A., La Isolana S.R.L., Mar Picado S.A., Marbetan S.A., Natusur S.A., Nuevo Viento S.R.L. and Pranas S.A. The strengths and weaknesses of the fishery, in relation to the Principles and Criteria of the MSC are presented, key stakeholders identified, assessment process discussed, and appendices relevant to material, are all presented on this report and all literature consulted by the assessment team listed.

The main strength is: while the stock is sub-exploited and healthy due that the only product destination is the human consumption. There are not reduction processes (e.g. fish meal); moreover, the fishery has low environmental impact; low by-catch of commercial, non-target species and little contact with seabed; the management plan developed and implemented; and an adequate management system applied under national and international framework.

On the other hand, the main weakness is the lack of mandatory on board observation for all vessels and trips for scientific data collection about ecosystem aspects to determine the fishing impact on it. Certified vessels/companies are working together to reinforce technical and scientific information about ecosystem needs and fishery interactions. At the moment, data collection about secondary species, ETP species and habitat is deficient and there is not assessment about impact in ecosystem. As a result, the general scores for each Principle are:

Principle	Score	Result
P1 – Target species	83.3	
P2 - Ecosystem	83.5	Pass
P3 – Management system	91.9	

The minimal pass mark is 80 in each principle. Therefore, the assessment team recommends that the fishery should be certified according to the MSC Principles and Criteria for Sustainable Fisheries.

As some performance indicators do not reach 80, only one condition have been raised, which will require achievement within specified time periods in line with MSC requirements.

Condition number Associated Principle and component Principle 2 - FTP species		Performance Indicator	Related to previously raised condition? (Y/N/NA)
1	Principle 2 - ETP species	2.3.1	NO

This Public Certification Report includes the scores and weightings, the draft determination, conditions, client action plan, Peer Review process, stakeholder comments and objection process.



The fishery achieved a score of 80 or more in all MSC Principles and did not score less than 60 in any performance indicator. Following the recommendation of assessment team and reviewing stakeholder and peer reviewer comments, OIA's decision making entity concluded that the fishery has passed the re-assessment and determined that may be re-certified with one condition as sustainable against the MSC standard.



2. Authorship and peer reviewers.

a. Names, qualifications and affiliations of team members

Dr. Leszek B. Prenski – Team Leader and responsible for Principles 1 and 2

Dr. Prenski is a fishery scientist, with over thirty years of experience in policy and management fishery issues. Among many others, he has been a Technical Director of CAPECA, Demersal and Inland Fisheries Research Area Coordinator, Research at INIDEP and actively participates at ICSEAF. He has been a member of SENASA, administration council in representation of the fishery sector, external adviser in Foreign Office of CTMFM, and technical coordinator on CCAMLR. Actually, he was assistant consulter in FAO Argentina and SSPyA. Dr. Prenski has served as team member in Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, Patagonian scallop (*Zygochlamys patagonica*) and Argentine hoki (*Macruronus magellanicus*) certification processes against Principles and Criteria of the MSC and in Argentine Patagonian Toothfish (*Dissostichus eleginoides*) fishery assessment as Peer Reviewer.

OIA verified that Dr. Prenski meets the fishery team member qualification and competency criteria specific in Annex PC1 of FCRv2.0, in particular:

- -has a university degree (Ph. D.) in natural sciences and has over 5 years' experience in the fisheries sector related to the tacks under his responsibility;
- -has passed MSC team leader training, meeting competencies specified in section 2 of Table PC1;
- -has undertaken more than 2 MSC fishery assessment and surveillance visits as a team member in the last 5 years;
- -has experience in applying different types of interviewing and facilitation techniques with client and stakeholders.

Furthermore, Dr. Prenski has the qualifications and competencies required for serving as an expert on: fishery stock assessment, fish stock biology/ecology, fishing impacts on aquatic ecosystems, current knowledge of the country, language and local fishery context, understanding of the CoC Standard and CoC Certification Requirements. Also, he approved the module of use the RBF methodology v2.0.

Dr. Prenski has no conflicts of interest in relation to the Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery.

Lic. Gabriel Sesar - Responsible for Principle 3

Lic. Sesar has a degree in economics sciences and has been Consulter in many Argentinean fishery management projects. He has 29 years in fishery managements and operations. He has served as team member in Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, and Argentine hoki (*Macruronus magellanicus*) surveillance processes against Principles and Criteria of the MSC.

OIA has verified that Lic. Sesar meets the fishery team member qualification and competency criteria specific in Annex PC2 of FCRv2.0, in particular:

- -has a university degree in economic science;
- -has over 5 years' experience in the fisheries sector related to the tacks under his responsibility;
- -has passed MSC fishery team member training, meets the competencies specified in section 2 of Table PC2;



-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 (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery.

Eng. Pedro A. Landa - Responsible for Principle 3

Eng. Landa is graduated in agricultural engineer and has many studies specified in environmental, ecosystem and sustainable development, and, management techniques. He has more than 25 years of experience as Technical Director of OIA, certification assessor process with different standards related with organic food, manufacturing production and fishing sustainability. He has participated in Patagonian scallop (*Zygochlamys patagonica*), hake (*Merluccius hubbsi*) and anchovy fisheries certification process as advisor and team member against Principles and Criteria of the MSC.

OIA has verified that Eng. Landa meets the fishery team member qualification and competency criteria specific in Annex PC2 of FCRv2.0, in particular:

- -has a university degree in agricultural engineer;
- -has over 5 years' experience in environmental management position;
- -has passed MSC fishery team member training, meets the competencies specified in section 2 of Table PC2;

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, and understanding of the CoC Standard and CoC Certification Requirements.

Eng. Landa has no conflicts of interest in relation to the Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery.

b. Names of the peer reviewers

Ma. Ian Scott

Ma. Scott is an independent fisheries consultant specializing in project management, project planning and evaluation, sustainability certification, fisheries policy and management, including market, economic and financial appraisals, with over 30 years of experience. In recent years, he has advised Mexico and Morocco fisheries and has been team member in many MSC fishery assessments as Lake Waterhen, NFLD snowcrab, Louisana blue crab and Chilean crustacean fisheries. Ian has participated as lead auditor and P3 specialist on assessments of Portuguese sardine, Canadian sablefish, Scotia Fund y haddock, BC dogfish, Mexican skipjack and yellowfin, U.S. dogfish, Maldives skipjack, Maldives Yellowfin, Chilean hake, Lake Waterhen Walleye and Northern Pike, Lake Erie Commercial Fisheries.

He has completed a large number of pre-assessments in Ecuador, Mexico, the USA, Canada, Portugal, Greenland and Spain. He is an MSC certified Lead Auditor and Chain of Custody Auditor, and is trained in the use of RBF. He was a key member of the MSC field trial RBF evaluation team for Peruvian and Ecuadorian mahi mahi. He used the RBF in the BC dogfish assessment, the Maldives assessments, Lake Waterhen and Lake Erie.

OIA verified that Mr. Scott meets the fishery member qualification and competency criteria specific in Annex PC2 of FCRv2.0, in particular:



- -has a university degree (BA and MA) in economic sciences and has over 5 years' experience in the fisheries sector related to the tacks under his responsibility;
- -has knowledge of a common language spoken by clients and stakeholders, and more than two assignments in the region (Peru, Ecuador and Chile) in which fishery under assessment is based in the last 10 years.
- -Ma. Scott complies with fisheries management and operation qualifications.
- -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. Additionally, he has MSC Online Training completed.

lan has no conflicts of interest in relation to the Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery.

For more information, it is available Scott' CV in the MSC website.

Bg. Italo Campodónico

Bg. Campodónico is a marine biologist graduated from the Universidad de Chile with over years of experience in marine resources and fisheries management. Former head the Fisheries Department of Subpesca, Chile, and for many years he was Chile's representative to the oceans and fisheries related Working Group of APEC as well as the head of the Chilean scientific delegation to the South Pacific Regional Fisheries Management Organization. He is the author of many scientific (crustacean and fish biology, phytoplankton and toxic red tides, oil pollution) as well as technical reports in the field of marine commercial fisheries. Currently he is an independent fisheries consultant.

OIA verified that Mr. Campodónico meets the fishery member qualification and competency criteria specific in Annex PC2 of FCRv2.0, in particular:

- -has a university degree in marine biology and has over 5 years' experience in the fisheries sector related to the tacks under his responsibility;
- -has knowledge of a common language spoken by clients and stakeholders, and more than two assignments in the region (Peru, Ecuador and Chile) in which fishery under assessment is based in the last 10 years.
- -Campodónico complies with fish stock assessment, fish stock biology/ecology and fishing impacts on aquatics ecosystems qualifications.
- -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. Additionally, he has MSC Online Training completed.

Italo has no conflicts of interest in relation to the Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery.

For more information, it is available Campodónico' CV in the MSC website.



3. Description of the fishery.

3.1 Unit(s) of assessment (UoA) and scope of certification sought

The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, under Re-Assessment Process meets the scope requirements (FCR 7.4) for MSC fishery assessments [FCR 7.8.3.1], and so, is eligible for certification through the following determinations:

- -The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, does not target amphibians, birds, reptiles or mammals.
- -The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, does not use poison neither explosives, nor any other destructive fishing practices.
- -The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, does not operate under a controversial unilateral exemption to an international agreement.
- -The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, is not overwhelmed by dispute, and there is a mechanism for resolving disputes.
- -The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, is wild capture, and is not based on any introduced species, or enhancement.
- -No IPI stocks are caught in the Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery.
- -The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, does not overlap with another MSC certified or applicant fishery.
- -The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery does not include an entity that has been successfully prosecuted for violations against forced labour laws.

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.

Four annual surveillances were conducted (from 2012 to 2015), where new available information was reviewed in order to assess if all conditions and milestones were met.

Taking into account the previous Public Certification Report, all surveillances reports, outcomes, and evaluate progress against certification conditions, it was decided to proceed with the re-assessment process.

3.1.1 UoA and proposed unit of certification (UoC)

The Unit of Assessment (UoA) is defined as the specific aspect of the fishery, OIA and its expert team assess during an MSC fishery assessment. The UoA is set at the beginning of the assessment; anything outside this unit is not eligible to enter the certification at a later date, unless a certificate expansion is completed at that time.

The UoA was chosen as encompass with the client's assessment requirements. As it stands, only anchovy caught by vessels linked (i.e. subcontracted) to the client group can be sold as MSC (see Table 1, vessels coloured in orange). The remaining of vessels are eligible to use the certificate and sell product as certified if they have a previous agreement with the client group (i.e. Certificate Sharing Agreement). All vessels are relatively homogenous insofar as their technical characteristics



are concerned. Vessels within the UoC are included in the anchovy fleet census from the Argentine Sea.

The CAB reviewed the data available and concluded that the UoA is adapted and consistent with MSC Principles. The UoA for the mid-water trawl net of the Argentine anchovy is defined below:

- Target species(s): Argentine anchovy (Engraulis anchoita)
- Stock: Bonaerense stock, north of 41° S.
- <u>Fishing area:</u> The fishery occurs in the Zona Común de Pesca Argentino-Uruguaya (AUCFZ Argentine Uruguayan Common Fishing Zone) and Argentine Sea (Figure 1).
- Fishing method: Semi pelagic mid-water trawl.
- Fleet: Argentine coastal and high-sea ice-chilling vessels.
- <u>Management system:</u> The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semipelagic mid-water trawl fishery is managed by the Comisión Técnica Mixta del Frente Marítimo Argentino-Uruguaya and Consejo Federal Pesquero, when the fishery is carried out in Argentine Sea. The management system is based by resolutions published in CTMFM and CFP websites.
- <u>Client group</u>: It is composed by the following companies: Alleloccic S.A. (fishing company), Catesur S.A. (processor), Centauro S.A. (processor and ship owner), Delicias S.A. (processor), Disemar S.A. (processor), Industria Anchomar S.A. (processor), La Isolana S.R.L. (processor), Mar Picado S.A. (processor), Marbetan S.A. (processor), Natusur S.A. (processor), Nuevo Viento S.R.L. (ship owner), Pesquera Veraz S.A. (fishing company) and Pranas S.A. (processor). Processors are established particular agreements with fishing companies to carry out harvest activities. So, only anchovy caught by vessels linked to the client group can be sold as MSC (see in Table 1, vessels coloured in orange)
- Other eligible fishers: Vessels eligible to the certification were identified in white in the Table 1. Interested companies are invited in all times to share the certificate prior to sign an agreement with client group.



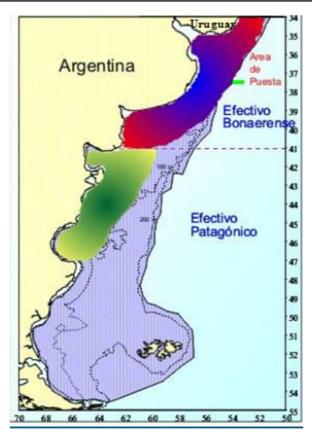


Fig. 1. Spatial distribution of Argentine anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic mid-water trawl fishery (north of 41° S)

Table 1. Vessels of UoC and UoA's companies

Company/Entity	Vessel	Fleet
ALLELOCCIC S.A.*	(0318) Mercea C	High seas ice chilled
ALONCAR S.A.	(1700) Dock Urano	Coastal ice chilled
ANCLA PESQUERA S.A.	(0483) Jupiter	Coastal ice chilled
BALDIMAR S.A.	(0369) Virgen María Inmaculada	High seas ice chilled
BARILA, LUIS POLIMENI, ANTONIO	(1902) La Cruz del Sud	Coastal ice chilled
CABO VERDE S.A.	(1219) Tozudo	High seas ice chilled
	(0407) Canal de Beagle (subcontracted)	Coastal ice chilled
	(2854) Nono Pascual (subcontracted)	Coastal ice chilled
CATESUR S.A.*	(1398) Belvedere (subcontracted)	High seas ice chilled
CATESUR S.A.	(2822) Padre Pio (subcontracted)	Coastal ice chilled
	(1541) Teson (subcontracted)	High seas ice chilled
	(0406) Jupiter II (subcontracted)	High seas ice chilled
CAYO LARGO S.A.	(1746) María Florencia	Coastal ice chilled
CENTAURO S.A.*	(0482) Centauro 2000	High seas ice chilled
COMANDANTE PIEDRABUENA S.R.L	(0767) Comandante Luis Piedrabuena	Coastal ice chilled
DAULIAS S.A.	(1733) Don Santiago	High seas ice chilled
DELICIAS S.A.*	(1401) Raffaela (subcontracted)	High seas ice chilled
DELICIAS S.A.* / DISEMAR S.A.*	(1431) Don Raimundo (subcontracted)	High seas ice chilled
DON CONRADO S.R.L.	(2687) Siempre Don Conrado	Coastal ice chilled
ISLA DE LOS ESTADOS S.A.	(1182) Tifon	Coastal ice chilled
LACHACANI S.A.	(1075) Vicente Luis	High seas ice chilled
LA ISOLANA S.R.L.* / MAR PICADO S.A.*	(0763) San Genaro (subcontracted)	High seas ice chilled



	(1320) Don Carmelo (subcontracted)	Coastal ice chilled
	(1497) Orión I (subcontracted)	Coastal ice chilled
LUIS SOLIMENO E HIJOS S.A.	(0285) Promac	High seas ice chilled
	(1089) Messina I (subcontracted)	High seas ice chilled
MARBETAN S.A.*	(0495) Franca (subcontracted)	High seas ice chilled
MAR DE MESSINA S.A.	(1073) Marbella	High seas ice chilled
MAR PURO S.A.	(0550) Virgen del Carmen	High seas ice chilled
DISEMAR S.A.* /		
INDUSTRIA ANCHOMAR S.A. *	(0195) Maria Gracia (subcontracted)	Coastal ice chilled
MARÍTIMA MDQ S.A	(2699) Porto Belo I	Coastal ice chilled
NATUSUR S.A.*	(1001) Marta S (subcontracted)	High seas ice chilled
NATUSUR S.A.* /		
INDUSTRIA ANCHOMAR S.A.*	(1568) Rocío del Mar (subcontracted)	High seas ice chilled
NUEVA ESPERANZA S.R.L.	(0801) Siempre San Salvador	Coastal ice chilled
NUEVO VIENTO S.R.L*	(1449) Nuevo Viento	Coastal ice chilled
ORTIGIA S.A.	(1538) Gran Capitán	High seas ice chilled
OTESA S.A.	(1566) Calleja	Coastal ice chilled
PEIA S.A.	(1075) Gianfranco	High seas ice chilled
PESCA NUEVA S.A.	(0266) Rigel	High seas ice chilled
PESQUERA BUENOS AIRES S.A.	(1531) Fides Fe I	Coastal ice chilled
PESQUERA CARAVON S.A.	(0910) Ciudad Feliz	High seas ice chilled
PESQUERA CONSTANZA S.A.	(0971) Constancia	Coastal ice chilled
PESQUERA FIESTA S.A.	(1446) Fiesta	Coastal ice chilled
PESQUERA HAMPON S.R.L.	(1410) Hampon	Coastal ice chilled
PESQUERA LIBERTAD S.R.L.	(0355) Libertad	Coastal ice chilled
PESQUERA MARGARITA S.A.	(0968) Don Agustín	High seas ice chilled
PESQUERA NICOLAS I S.A	(2384) Popa	Coastal ice chilled
PESQUERA PESCA COMODORO S.A.	(1526) El Santo	High seas ice chilled
PESQUERA PUCARA S.A.	(1822) Pucara	Coastal ice chilled
PESQUERA SANTA CRUZ S.A.	(1943) Orion I	Coastal ice chilled
PESQUERA TRES MARÍAS S.A.	(1324) Ambition	High seas ice chilled
	(0142) Argentino	High seas ice chilled
PESQUERA VERAZ S.A.*	(0145) Atrevido	High seas ice chilled
	(0556) Victoria II	High seas ice chilled
DECOLIEDA VIDOENI DE ITATI C D I	(0539) Don Vicente Vuoso	Coastal ice chilled
PESQUERA VIRGEN DE ITATI S.R.L.	(2654) Siempre Don Vicente	Coastal ice chilled
PEZ ESPADA S.A.	(1583) Estefany	Coastal ice chilled
DDANAC C A *	(0969) Florida Blanca (subcontracted)	High seas ice chilled
PRANAS S.A.*	(0893) Don Nicola (subcontracted)	High seas ice chilled
ROMFIOC S.R.L.	(0487) Mar del Chubut	High seas ice chilled
ROSMAR S.A.	(1384) Araucanía	High seas ice chilled
SAN JORGE S.A.	(2646) San Jorge I	Coastal ice chilled
SUEÑO REALIDAD S.A.	(1113) Sueño Real	Coastal ice chilled
URBIPEZ S.A.	(2755) Salvador R	Coastal ice chilled
VOLADOR S.A.	(2532) Vamos A Probar I	Coastal ice chilled
ZEP S.A.	(1975) San Pedro Apostol	Coastal ice chilled

^(*) companies conforming Client Group of MSC Sustainable Fishery for Argentine anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic mid-water trawl fishery (F-OIA-P-0200). Vessels have being subcontracted to carry out harvest activities to processor companies.



Processing plants of Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic midwater trawl fishery (processors):

- -ARGEN PESCA S.A
- -CATESUR S.A. (certified against MSC Fishery and CoC standards)
- -CENTAURO S.A. (certified against MSC Fishery standard. CoC certificate is suspended)
- -COOMARPES LTDA.
- -DELICIAS S.A. (certified against MSC Fishery and CoC standards)
- -DESAFIO S.A.
- -DISEMAR S.A. (certified against MSC Fishery and CoC standards)
- -ENGRAULIS S.A.
- -INDUSTRIA ANCHOMAR S.A. (certified against MSC Fishery and CoC standards)
- -INDUSTRIAS SANTA MARIA DEL MAR S.R.L
- -LA CAMPAGNOLA S.A.
- -LA ISOLANA S.R.L (certified against MSC Fishery and CoC standards)
- -MANJÚ S.R.L
- -MARBELLA S.A.
- -MARBETAN S.A. (certified against MSC Fishery and CoC standards)
- -MAR EGEO S.A.
- -MAR PICADO S.A. (certified against MSC Fishery and CoC standards)
- -MAREMIL S.A.
- -MATERA HNOS S.A.
- -NATUSUR S.A. (certified against MSC Fishery and CoC standards)
- -NUCETE JIMENA, FRANCISCO MANUEL
- -NUEVO VIENTO S.R.L. (certified against MSC Fishery and CoC standards)
- -OTESA S.A.
- -PRANAS S.A. (certified against MSC Fishery and CoC standards)
- -TERRAMARE S.R.L

3.1.2 Final UoC(s)

Species:	Argentine anchovy Engraulis anchoita		
Stock:	Bonaerense stock, north of 41° S		
Geographical area:	Zona Común de Pesca Argentino-Uruguaya and Argentine Sea – FAO 41 (Figure 1)		
Harvest method:	Semi pelagic mid-water trawl		
	Alleloccic S.A. Catesur S.A. Centauro S.A.		
	Delicias S.A. Disemar S.A. Industria Anchomar S.A. La Isolana S.R.L.		
Client group:	Mar Picado S.A. Marbetan S.A. Natusur S.A. Nuevo Viento S.R.L. Pesquera Veraz S.A. Pranas S.A. At the moment, these companies are allowed to use the fishery certificate issued. Only fish caught by those vessels linked with these		



	companies identified by reference on a valid fishery certificate by OIA shall be eligible for chain of custody certification and subsequent use of the MSC ecolabel.
Other eligible fishers:	At the moment, there are no other eligible fishers interested in share the certificate. Vessels eligible to the certification were identified in white in the Table 1.

Interested companies are invited in all times to share the certificate prior to sign an agreement with client group. If there are other eligible fishers or other potential client group members within the UoA, OIA will require the client group to:

- -prepare an publish a statement of their understanding and willingness for reasonable certificate sharing arrangements
- -inform other eligible fishers and/or other entities of the public statement and of the opportunity to share the certificate during relevant interactions with the eligible fishers and other entities as is practicable.

For more understanding, consult the FCRv2.0 – G7.4.12.

3.1.3 Total allowable catch (TAC) and catch data

The following table represents the TAC and catch data of UoA and certified vessels which are currently covered by the Fishery Certificate (F-OIA-P-0200).

Table 2. TAC and Catch Data of Bonaerense anchovy fishery

TAC	Year 2015 (CFP Resolution		Amount	120,000 t
		N° 6/2015)		
UoA share of TAC	Year	2014	Amount	11,670 t
UoC share of total TAC	Year	2014	Amount	1,718.60 t
Total green weight catch by UoC	Year (most recent)	2015 (28/12/2015)	Amount	1,403.70 t
	Year (second most recent)	2014	Amount	1,718.60 t

3.1.4 Scope of assessment in relation to enhanced fisheries

The assessed fishery is a wild catch fishery and does not correspond to the definition described in the MSC FCRv2.0. The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic midwater trawl fishery is not considered enhanced fishery.

3.1.5 Scope of assessment in relation to introduced species based fisheries (ISBF)

The assessed fishery does not correspond to the definition described in the MSC FCRv2.0, so the Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery is not considered an introduced species based fisheries (ISBF).

3.2 Overview of the fishery

3.2.1 Background of the fishery

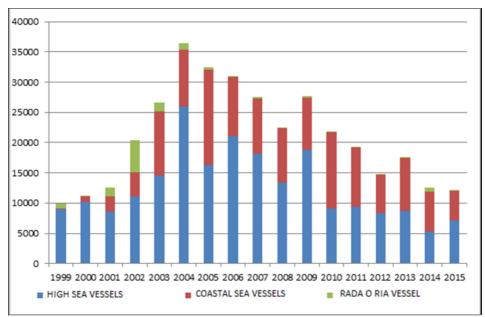
Argentine anchovy (*Engraulis anchoita*) is a small pelagic fish distributed along the Western South Atlantic sea, from northern of Rio do Janeiro (Brazil) at 22° S to Golfo San Jorge (Argentina) at about 47° S (FAO area 41). Its habitat is marine pelagic, coastal and to about 800 km or more from the shore. This species is considered the basic food for a large number of other fishing resources and its management system is in accordance of Low Trophic Level.



The mid-water trawl net, that includes coastal and high-sea vessels, is the main anchovy catching fleet in the Argentine Sea. The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semipelagic mid-water trawl fishery started at the middle of 1930's, when Argentina became a pioneer in the exploitation and manufacture of fish products for human consumption. At first, anchovies were traditionally captured by 'Yellow Fleet' or 'Rada o Ria', which was composed by small coastal purse seine vessels. In 1985, as consequence of seasonal base (changes in environmental conditions for feeding and reproduction), anchovy schools were moved to Bonaerense coast from the intermediate shelf. The Coastal and High-Sea Ice-Chilled fleet, using mid-water trawling net, became a very efficient gear for pursuing anchovies, minimising impacts in other species, habitat and the ecosystem. Most of the catch is landed in the Mar del Plata's Port, and minimum percentages in Quequén's Port. From 2007 to nowadays, there have not been significant anchovy catches recorded on Uruguay or Brazil.

Landing volumes have varied greatly over the time series, which is derived from market/economic conditions. Since 2004, landings are decreased.

The volume of anchovy landings in the Argentine Sea has been on a downward trend from over 35,000 t in 2004 to 13,000 t in 2015 (Figure 2). In value terms, coastal ice-chilling fleet increased its share of landings, representing 2.4% (in 1989-1991) to 12.8% between 1992 and 1997. From 2005 to 2015, the average landing was 40.9% of the total catch. Respectively, high sea vessels increased their share from 1992 onwards, reaching 47% of total catch. From 2005 to 2015, the average annual landing was 57.6% of the total catch.





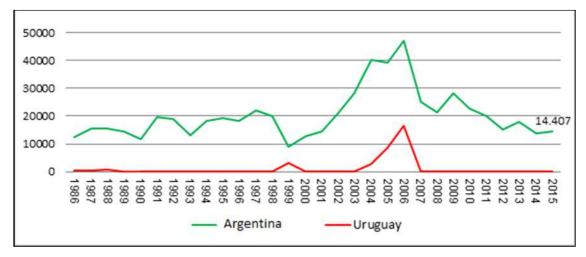


Fig. 2. A) Anchovy Bonaerense stock landings (t) in the Argentine Sea from 1999-2015. B) Argentine and Uruguayan annual catch of Bonaerense anchovy from 1986-2015 (Source: Information provided by SSPyA).

In 1994, Consejo Federal Pesquero established a fishery management plan, and a Total Allowable Catch (TAC) of 120,000 t was set for the Bonaerense stock, fishery in a conservative way and taking in account the situation of the species as a low trophic level (Angelescu, 1982 and 1986; Angelescu & Anganuzzi, 2007 and 2002, Hansen & Madirolas, 1996; Hansen *et al.*, 1984 and 1986, Brandhorst*et al.*, 1974; and Castello, 1997). Since this limit has never been reached, and a lower value has been caught every year due to current market dynamics and constraints, this has been remained during the following years, except in 2007 when it was set as 124,000 t. Therefore, in the three most recent years (2013, 2014 and 2015) analysed, the total green weight was around 17,600 t, 12,312 t and 12,130 t, representing a 14.7%, 10.3% and 10.1% of the TAC, respectively.

Table 3. Annual TACs for Bonaerense anchovy stock and total catch per fleet (Source: Data provided by CFP and SSPyA)

Year	TAC (t)	CFP Resolution N°	Catch by Coastal fleet (t)	Catch by High- sea fleet (t)	Rada o Ría fleet (t)
2010	120,000	9/2010	13,841	12,457.5	148.2
2011	120,000	3/2011	10,162.4	10,844.5	76.6
2012	120,000	17/2012	8,298.1	7,105.9	19.9
2013	120,000	6/2013	8,873.3	9,111.7	96.5
2014	120,000	4/2014	5,045.8	8,269.2	640.3
2015	120,000	6/2015	5,947.8	8,348.3	114.6

In order to maintain anchovy stock in Argentine Sea to a level permitting sustainable exploitation based on the spawning stock biomass, reference points, stock management strategy were then required to ensure stock exploitation at high yields in accordance on the basis of scientific advice, which provides the best guarantee of fishery stability, a low risk of stock collapse and profitability for the fishing sector as is practicable.

The management authority (Consejo Federal Pesquero), against CFP Resolution N° 7/2015, establishes the specific measures for pelagic fisheries and TAC for annual fishing season. Each TAC is published in the CFP website under respective resolution (Table 3).

For anchovy stock assessment in the Argentine Sea, scientific advice is based on a fishing season data collection and landing monitoring. The last stock assessment developed by INIDEP (national research organisation) estimates that the anchovy 2014 spawning stock biomass is 1.42 million t (Figure 3).



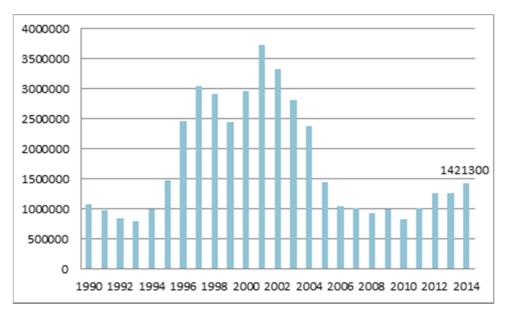


Fig. 3. Spawning stock biomass of Bonaerense anchovy (1990-2014) (Source: Hansen et al., 2015).

In the last proposal 2015 fishing season, CFP found appropriate to maintain a TAC of 120,000 for Bonaerense anchovy stock, corresponding 8% of SSB, which it is described in the INIDEP Technical Report N° 7/2015. However, captures by fishing fleets not exceed 10% of proposal TAC. This low landing is due mainly to market/economic conditions that regulate indirectly the fishery.

Moreover, the decision making authority in the ZCPAU is Comisión Técnica Mixta del Frente Marítimo (CTMFM), a bi-national entity created by the Maritime Front Treaty (1973), with powers relating to the conservation of fishing resources in the waters (setting volumes of catches by species, promoting the conduct of joint studies and research, setting standards and measures for the rational exploitation of species in the area of common interest, etc.). As Brazilian and Uruguayan fleets do not participate in the anchovy fishery exploitation, Argentine measures are adopted as base in the ZCPAU management system.

3.2.2 Fishing gear and method of the fishery

In the Argentine Sea, anchovy is fished using semi-pelagic mid-water trawl net (under assessment) and "lampara" (artisanal purse-seine net).

The semi-pelagic mid-water trawl net is fitted out according characteristics of vessels. This net has 4 mm diameter, starting with the net body of a mesh size netting of 400 mm and four smaller pieces of decreasing mesh size netting 220, 160, 130, 90 and 50 mm on the sleeve. Mesh size netting is 90 mm, decreasing to 50 mm. The total length of the net is between 60 to 70 m, and it has a 29 m superior limit with 10 m vertical and 15 m horizontal (Figure 4) with a mesh size of 35 mm. Their floatability is guaranteed by 60 buoys; and their aperture by 60 kg inferior ballast.



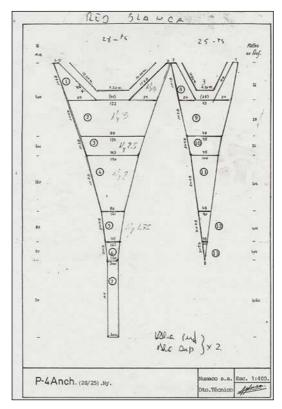


Fig. 4. Superior and inferior wings of a semi-pelagic net, used in anchovy fishery.

Mid-water trawling involves towing a net behind a boat to catch fish species. The net is connected to the boat by the warp wires and the opening to the net is spread using two large boards known as otter boards. The net is towed off the bottom in depths from just off the bottom to near the surface. Mid-water trawl nets are usually shaped like a cone or a funnel with a wide opening to catch fish and a narrow end called a cod end where fish are collected (Figure 5).

Mid-water trawl gear has minimal impact on the environment primarily because it doesn't come into contact with the seabed.

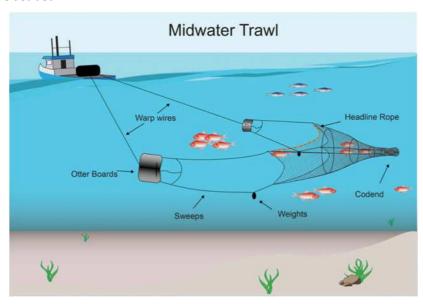


Fig. 5. Schematic representation of the deployment of mid-water trawl net.



3.2.3 Fishing area

As it is mentioned above, the anchovy mid-water trawl fishery is carried out from the north of 41° S of Argentine Sea to the ZCPAU area (34° S). In the last fishing season (2015), the fleet has been mainly localized in a small area of the ZCPAU (36° - 39°50′ S).

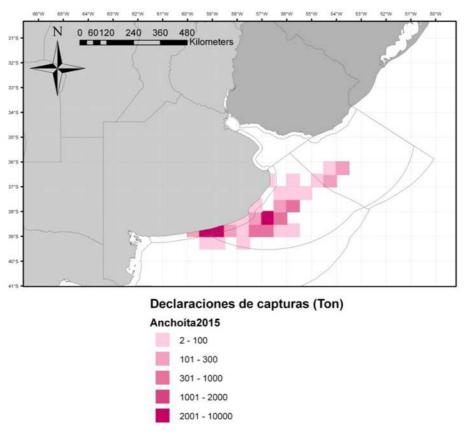


Fig. 6. Fleets distribution and total catch of Bonaerense stock in AEEZ (Argentine Exclusive Economic Zone) and ZCPAU (Argentine Uruguayan Common Fishing Zone) in 2015 (Source: CFP pers. convers.)

3.2.4 Fleets

Fleets included in the UoA are composed by coastal and high-sea ice-chilled vessels equipped with mid-water trawl net for anchovy harvest.

According to coastal fishing effort, available information indicates that this fleet performed a mean of 54 trips per vessel. The average travel time is around 3.14 days, operating approximately 170 days a year. High-sea ice-chilled vessels carried out 24.1 trips with 9.1 days each one, operating approximately 218.2 days.



Flota costera				
N° de barcos:115				
Falava (m)	mín.: 9,2			
Eslora (m)	máx:.27,0			
нР	min.:60			
HP	máx:.830			
TDD (A)	mín.: 4			
TRB (t)	máx:.107			
Bodega	min.: 5			
(m ³)	máx:.215			



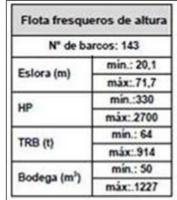




Fig. 7. Structural characterization of total coastal and high-sea ice-chilling fleets (Source: CFP Resolution N° 2/2010).

Table 4. Vessels from the total fleets harvesting anchovy for 2014.

Fleet	N° of vessels	Mean Length (m)	Mean Engine Power (HP)
COASTAL	12	21	467
HIGH-SEA	20	28	706

3.3 Principle one: target species background

a. Spawning and growth

The Argentine anchovy is distributed from southern Brazil (24° S) to Patagonian waters (48° S), and a depth from shallow waters to beyond the continental slope, included a distance of 450 miles offshore. Evidence suggests the existence 3 stocks, located on the following areas (Figure 8):

- i) "Brasilera" stock: distributed from Santa Maria Grande cape (29° S) to Vitória cape (20° S).
- ii) "Bonaerense" stock (under assessment): from Southern Brazil to 41° S.
- iii) "Patagonia" stock: from 47° S to 41° S.





Fig.8. Anchovy distribution on Argentine, Uruguayan and Brazilian coasts.

Bonaerense and Patagonian stocks described by Brandhorst *et al.* (1974), Hansen *et al.* (1984) and Sánchez & Martos (1989) are located very close to each other at the end of spring and at the beginning of summer. In winter, the adult fraction of the Bonaerense anchovy stock concentrates in the northern of ZCPAU, at the same time, when Patagonian adult schools can be recorded in Península Valdés (42°30′ S) or even higher latitudes. Both groups are separated by a distance around 500 nm. The Bonaerense anchovy population is the most abundance in the area, with total biomass estimation between 1 and over 5 million t (Ciechomski & Sánchez, 1988; Hansen & Madirolas, 1997).

Anchovies tolerate a wide rate of salinity (14–35 ups) and temperature (8-25° C). Like other pelagic species, anchovies form compact schools at different depths during the day while they disperse at night, forming layers to feed in the surface. During summer anchovy schools swim through the thermocline twice a day (Angelescu, 1982). Also, the northern population maximum size is smaller than 200 mm (total length) and the weight reaches around 43 g. By otoliths analysis, it has been estimated the average maximum age around 6 to 7 years old.

Concerning to the migrations, the northern group carries out an annual cycle (Figure 9). During the winter -and secondarily in spring-, a variable portion of the group can be found in the southern Brazilian waters, while in August and September, the schools coming from the NE arrive to the coastal waters. The presence of these is massive during the peak of the reproductive season (October-November). Between December and May, schools leave the coastal waters and move towards the intermediate and external shelf. At the end of autumn, anchovy schools move away of Buenos Aires coastal areas, reaching the external shelf and even the continental slope –between 33° S and 37° S-, where they remain during the rest of the winter. A secondary anchovy school arrives to Mar del Plata fishing area during May and July.



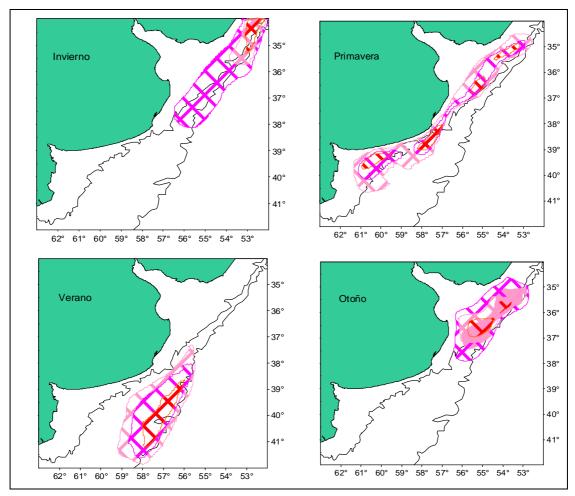


Fig. 9. Annual reproductive cycle of Bonaerense anchovy stock.

b. Stock assessment

In Argentina, research on pelagic fisheries started more than 50 years ago, with many projects that included direct and systematic biomass assessments. INIDEP updates and transfers periodically knowledge about distribution, abundance and fishing potential through its research programs as Programa de Pesquerías Pelágicas (PPEL). This scientific advice is provided to Consejo Federal Pesquero to carry out decisions about fishery management.

The Argentine anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic mid-water trawl fishery is highly monitored. There are port sampling programs to collect biological information on landings (species, weight, length, sex, maturity and otoliths) carried out by INIDEP OBO Program. This program data is available to national scientific institution and are submitted annually to INIDEP to assess sustainability of the stock. Also, the official catch statistics (logbook information) is collected by SSPyA (management authority). This last governmental institution verifies in landings the total catch to control the compliance of TACs. Discards and incidental catches are not routinely sampled, either by observers, electronic monitoring or fishers, although they are considered negligible by INIDEP and fishers for most species.

Prior 2000, assessments were carried out by research surveys designed to estimate total numbers, mortality rates, distribution of weight-at-age and biomass. Bonaerense anchovy stock was assessed using a cohort analysis modified by Mertz & Myers (1996) to accommodate seasonal catches (Hansen *et al.*, 2010). The cohort analysis is adjusted with data obtained of independent acoustic



surveys following the ADAPT method of Gavaris (1988). In 2013, the assessment model changed to an age catch statistical model.

The assessment model used by INIDEP is appropriate for the stock and harvest control rules. The model assessment is annually taking into account catch in number-at-age (samplings obtained by monitoring of commercial catch levels), yields and discards, stock abundances based on acoustic and daily eggs production methods. The process is standardized considering the seasonality of the fishery and stock distribution. A simulation process it is included considering potential uncertainties related stock abundance, age distribution, average recruitment and fishing season. However, uncertainties about the behaviour of species by climate or environmental factors are not taken into account. But, the assessment model provides the probable distribution for SSB and thus the risk of SSB falling below reference points estimated directly (INIDEP Technical Report N° 7/2015).

The data input used in the assessment are (Hansen et al., 2010):

- Total catches;
- Numbers-at-age / weight-at-age estimated from landing samples and discard records;
- Total biomass and number-at-age assessed by acoustic surveys;
- Correction factors for discards-at-age;
- Natural mortality (M= 1.02);
- Maturity-at-age in the reproductive season is fixed at 0.52 for age 1 and 1 for older individuals (ages 2+).

c. Stock status

There are biomass reference points (target and limit) estimated by INIDEP for the Bonaerense anchovy stock. Recommendations for management are not based on MSY or B_{MSY} , but are rather done by taking into account a BRL (Biological Reference Limit).

The most recent assessment report (Hansen *et al.*, 2015) shows that the Reproductive Biomass analysis (≥2 years) was estimated as [RB/R] F0= 6.05 g, in the absence of fishing, while 66% of that biomass could be maintained if F66= 0.88, and even if 40% with a rate of F40= 3.87. Absolute abundance of reproductive organisms, according to the estimations based on the last five years (except last year (132,611 million of individuals) would constitute a Target Reference Point BR66= 529,000 t desirable for this population. According to these recruitments, the Limit Reference Point was estimated in 320,000 t. Current value (October 2014) estimated by the statistic model was [RB2+]= 835,000 t, highly above from the mentioned limit, and even higher to the Target Reference Point (Hansen *et al.*, 2015).



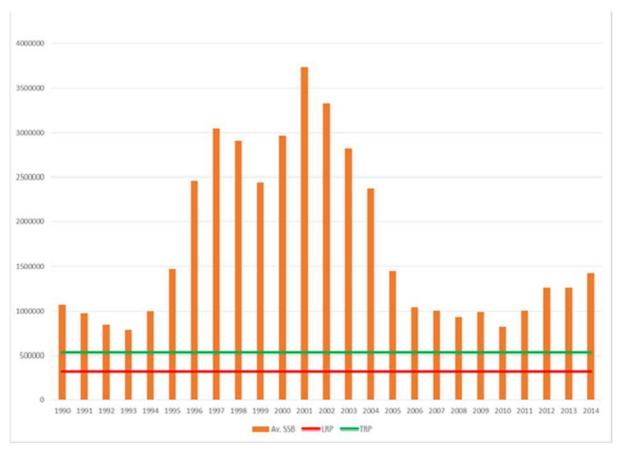


Fig. 10. Time serie of spawning stock biomass of Bonaerense stock and reference points (Source: data provided by INIDEP Technical Report N° 7/2015).

Since 2008, research surveys were not carried out, but, in the last season, direct synoptic assessments of the Bonaerense anchovy were provided by hydro acoustic and daily egg production methods. Results of the estimation are within the limits determined in previous studies. The total biomass in mid-October would have varied between 1.0 and 5.2 million t (mean = 2.19 million). Applying the two patterns of exploitation (1990-2013, and 2014) determined by the model, the exploitable biomass in spring would have averaged about 650 thousand t. Meanwhile, the magnitude of spawning stock during that season would have fluctuated between 0.79 and 3.73 million t (mean = 1.74 millions), representing 84% of RB₀ (Hansen *et al.*, 2015).

The default target level biomass consistent with ecosystem needs shall be 75% of the spawning stock level that would be expected in the absence of fishing. The situation of the default target level biomass with ecosystem needs is 1,421,300 t (68% of RB_0).

d. History of fishing and management

Argentina was the first country to develop manufacturing of salting anchovies for human consumption (FAO Technical Paper N° 518). Fifteen years ago, anchovies were traditionally caught by "Yellow Fleet", which was characterized by having small vessels up to 200 HP, denominated "Rada o Ria". This fleet has 120 purse seine vessels, harvesting in coastal areas (30 miles around Mar del Plata) during September and December. Since 1985, by market demand, the anchovy fishery was industrialized and new fleets have destined its fishing effort to anchovy. Unlike the first fishing gears used on this fishery, these last ones use mid-water trawl net, a fishing gear very efficient on the anchovy catch, and which does not generate large impacts in other species, habitat or the ecosystem, because contact with seabed is insignificant.



The anchovy fishery is seasonal, due schools move from intermediate shelf to Bonaerense coast where fishery is developed, motivated by environmental conditions favourable for feeding and reproduction. This migration in Argentine Sea is carried out in September-November.

The Federal Fishing Law N° 24.922 (articles 9° and 18) proposed the long-term management plan. This plan is formally adopted by CFP and it is used to establish annual TACs for the anchovy fishery. The plan's objective is "to conserve, protect and manage marine living resources, establishing annually TAC for different species, to avoid excessive exploitation and ensure their long-term preservation".

The management plan follows a harvest control rule (HCR) that should ensure the exploitation of the anchovy at high yields, guarantee the stability of the fishery and have a low risk of stock collapse. Also, CFP establishes the following measures to pelagic fisheries (especially anchovy and chub mackerel) (CFP Resolution N° 7/2015):

- -The only fishing gears permitted for anchovy fishery are purse seine and mid-water trawl net.
- -It is prohibited night fishing.
- -Creation of 'Comisión de Análisis y Seguimiento de las Pesquerías de Especies Pelágicas', being an advisory body that will meet at least 2 times per year and will submit to CFP their conclusions and concerns of meetings.

e. Key Low Trophic MSC Criteria

Anchovy is considered according to the MSC criteria as a low trophic species due to its life history: feeds on plankton, short lived, rapid growth, early maturing, high fecundity, small body size and forms dense schools. This species has a key position as "fodder" for his role as prey in interspecific trophic relationships of the pelagic ecosystem. Its location is in the trophic level corresponding to the general consumer herbivorous zooplankton, serving as a liaison between the consumer of primary zooplankton producers and fish-eating fish higher level.

Two species of fish consumers of zooplankton form the core of the intermediate layer of the food chain in the Argentine Sea: Fuegian sprat (*Sprattus fuegensis*) and Argentine anchovy (*Engraulis anchoita*). The anchovy is a key component in the diet of Illex squid and hake (*Merluccius hubbsi*), two of the species that are most important to the fishing industry in the Argentine Sea. Also, anchovy is preferential prey of several high level trophic predators as marine mammals (dolphins, sea lion, seals) and seabirds.

3.4 Principle two: ecosystem background

This section of the report describes the potential impacts of the fishery on the ecosystem. Five key components are considered to describe the complete range of elements in the ecosystem likely to be affected by the UoA. These are:

- -Primary species: species where management tools and measures are in place, intended to achieve stock management objectives reflected in either limit or target reference points.
- -Secondary species: large variety of species including fish and shellfish that are not managed according to reference points and out-of scope species (amphibians, reptiles, birds and mammals) that are not ETP species.
- -ETP species: endangered, threatened or protected species by national ETP legislation or listing in binding international agreements.
- -Habitat: habitats within which the fishery operates.



-Ecosystem: ecosystem elements such as trophic structure and activity, composition of the community, biodiversity.

For each of these components, the assessment team assesses 3 topics:

- -Outcome: current status of each component and whether the fishery is posing a risk of serious or irreversible harm to the component or hindering its recovery.
- -Management: arrangements in place to manage the impact that the UoA has on the P2 species.
- -Information: tracking and data available in terms of information adequacy.

Harvesting data are compiled in a database which lists the tonnage of anchovy caught and the number of bycatch species individuals brought on board during each fishing operation. The anchovy mid-water trawl fishery catches a variety of species. These species are registered in logbook reports and are provided to management/scientific authorities. In the most recent years, catches are composed of *Engraulis anchoita* with 95% of total catch and followed by chub mackerel with 3% (Table 5). No other species thus represents significant captures (all primary, secondary and ETP species represents less than 2% the total catch weight).

Table 5. Weight (%) of the total catch of all species by the UoA (Source: Information provided by SSPyA).

		Year					
Туре	Species	2011	2012	2013	2014	2015	
Target species	Anchoíta	89,7	96,8	95,7	95,8	97,6	
	FISH - Low Resilience (Fishbase.org)						
	Abadejo	0,0	0,2	0,1	0,0	0,0	
	Merluza hubbsi	0,0	0,0	0,1	0,0	0,1	
	MOLUSKS - Low Resilience (Fishbase.org)						
Primary species	Calamar Illex	0,0	0,2	0,0	0,0	0,0	
Filliury species			FISH				
	Caballa	8,8	2,4	3,2	4,1	0,9	
	Corvina Rubia	0,8	0,0	0,1	0,0	0,3	
	Pescadilla	0,2	0,0	0,2	0,0	0,2	
	Pez Palo	0,1	0,0	0,0	0,0	0,0	
	FISH - Low Resilience (Fishbase.org)						
	Chernia	0,0	0,0	0,0	0,0	0,0	
	Lenguados nep	0,0	0,0	0,0	0,0	0,0	
	Pez Gallo	0,0	0,0	0,0	0,0	0,0	
	Rubio	0,0	0,0	0,0	0,0	0,0	
	Salmón de mar	0,0	0,0	0,0	0,0	0,0	
	MOLUSKS - Low Resilience (Fishbase.org)						
	Calamar Loligo	0,0	0,0	0,0	0,0	0,0	
Secondary			FISH				
species	Anchoa de banco	0,0	0,0	0,0	0,0	0,0	
	Bacalao austral	0,0	0,0	0,0	0,0	0,0	
	Bagre	0,0	0,0	0,0	0,0	0,0	
	Besugo	0,1	0,0	0,1	0,0	0,0	
	Brótola	0,0	0,0	0,0	0,0	0,0	
	Castañeta	0,0	0,0	0,0	0,0	0,0	
	Cornalito	0,0	0,0	0,0	0,0	0,6	
	Jurel	0,0	0,0	0,0	0,0	0,0	
	Lisa	0,0	0,0	0,0	0,0	0,0	



	Mero	0,0	0,0	0,1	0,0	0,0
	Notothenia	0,0	0,0	0,0	0,0	0,0
	Palometa	0,0	0,0	0,0	0,0	0,0
	Pargo	0,0	0,0	0,0	0,0	0,0
	Pescadilla real	0,0	0,0	0,0	0,0	0,0
	Pez Sable	0,0	0,0	0,0	0,0	0,0
	Róbalo	0,0	0,0	0,0	0,0	0,0
	Salmonete	0,0	0,0	0,0	0,0	0,0
	MOLUSKS					
	Caracol	0,0	0,0	0,0	0,0	0,0
	SHARKS AND RAYS					
	Cazón	0,0	0,0	0,0	0,0	0,0
	Gatuzo	0,0	0,0	0,0	0,0	0,0
ETD species	Pez Angel	0,0	0,0	0,0	0,0	0,0
ETP species	Tiburones nep	0,0	0,0	0,0	0,0	0,0
	Raya Hocicuda	0,0	0,0	0,0	0,0	0,0
	Raya lisa	0,0	0,0	0,0	0,0	0,0
	Rayas nep	0,0	0,2	0,1	0,0	0,1
total catch (t)		21.876,01	15.330,82	18.366,67	12.449,09	12.360,65

3.4.1 Primary species

Based on the definition described above and the Decision Tree to assist teams in the designation of P2 species components (GSA3 of FCRv2.0), there is 'no main primary' species in this fishery because they do not met either of the following points:

- -The catch does not comprise ≥ 5% by weight of the total catch of all species by the UoA or,
- -The species is classified as "less resilient" and the catch of the species by the UoA comprise ≥ 2% by weight of the total catch of all species by the UoA.

Therefore, the team only considers for the assessment as minor primary species chub mackerel (*Scomber japonicus*) due the catch of other species by UoA is neglectable.

Chub mackerel (Scomber japonicus)

Chub mackerel is a pelagic species distributed in the northern of Argentine Sea with two stock identified; northern 39° S and southern 39° S. Adult individuals appear in the coast area of Mar del Plata between September-February when they migrate to breed and feed. They feed plankton organisms, fish (as anchovy, surel, 'cornalitos' and young butterfish) and small calamar.

Its growth is rapid. In the first two years of life, it reaches more than 50% of its maximum size. The maximum age observed is around 13 years, but commercial landing ages, at least in recent seasons, was between 2-4 years.

i) Outcome

The stock status for southern stock (where the mackerel fishery is mainly developed) was estimated by an age-structured production model, incorporating 1991-2014 seasonal features. The model includes: (a) abundance values for age 3 to 10 (data available in 1996, 2000 and 2013) and age 2 (2012) provided by acoustic surveys; (b) annual yields; and (c) age proportions per catches.

The abundance is estimated in mid-August of every year and it has varied around 146,000 t, while the spawning stock biomass has between 118,000 t. Recruitments averaged 260 millions of individuals, representing in the recent years a decrease trend (INIDEP Technical Report N° 18/2015).



Also, biological reference points were determined by analysis of reproductive biomass per recruit. The 60% of this value would be reached to apply a F_{60} = 0.30 (target reference point) and 33% if the rate was F_{33} = 1.055 (limit reference point). Considering a recruitment of 260 million of individuals, the references points are:

- -TRP (F_{60}) = 85,000 t
- -LRP (F_{33}) = 52,000 t

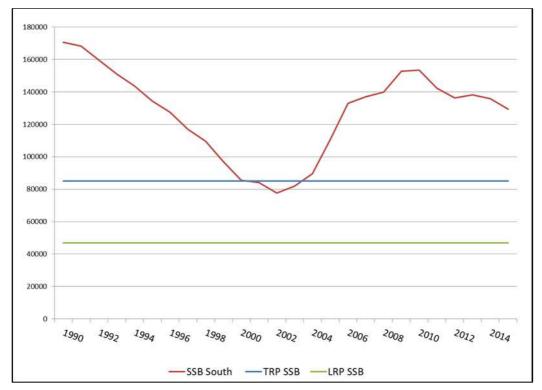


Fig. 11. Time series of spawning stock biomass of Southern stock of chub mackerel and reference points (Source: data provided by INIDEP Technical Report N° 18/2015).

The last stock assessment concludes that the mackerel of south of 39° S presents a stable condition and their current performance is below its full potential. However, due to the uncertainty associated with estimated abundance, the scientific advice considers appropriate to adopt the same precautionary approach suggested in 2014. That is, it is recommended that 2015 fishing season a TAC= 31,000 t.

For northern of 39° S, the stock assessment is very similar. Even the last stock status was estimated in 2012 and there is not updated information available, the catches in this area is very insignificant.

The total biomass was estimated at 93,845 t. Through spawning stock biomass per recruit analysis and yield per recruit, different objective reference points considered safe (F0.1, F60% and F= M) were determined. In view of the uncertainty about stock abundance, maximum extraction of 14,200 t is suggested for 2012. The recommendation was based on the annual "biologically acceptable catch" (CBA), or performance resulting from applying the highest fishing mortality in the long term, to maintain a level of average spawning stock biomass overexploitation with a risk equal to or less than 10%. The risk was defined as the decrease in the biomass under a threshold level set at 37,000 tonnes. CBA suggested value exceeds 11,300 recommended in 2010 and represents almost ten times the average landings of the last five years (INIDEP Technical Report N° 22/2012).



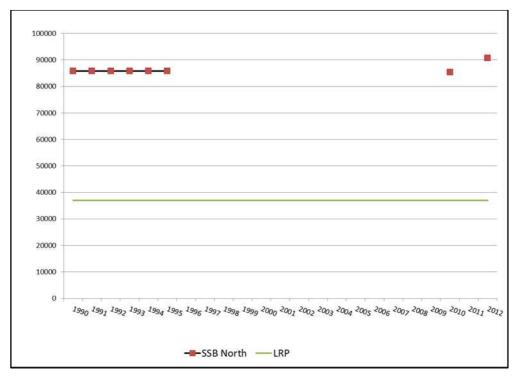


Fig. 12. Time series of spawning stock biomass of Northern stock of chub mackerel and reference points (Source: data provided by INIDEP Technical Report N° 18/2015).

ii) Management

Management of these stocks, based on the establishment of the TAC by CFP Resolution, is efficient to rule chub mackerel harvest. In 2015, it is established harvest measures for pelagic fisheries, including a commission to discuss concerns of development of management system (same mentioned for anchovy fishery) including unwanted catch of bycatch species.

Stock	TAC	CFP Resolution N°
Northern of 39° S	14,200 t	09/2015
Southern of 39° S	27,000 t*	09/2015

^{*}Reserve of management system of 4,000 t

iii) Information

Since 2008, the stock assessment is adjusted using data provided by INIDEP On Board Observer Program and landing controls carried out by the management authority. However, there is not research surveys carried out to support it. Also, stock assessment for northern stock is not updated, due landings are insignificant. Fleet sampling levels are sufficient to provide highly accurate evaluation.

Given the very limited captures of chub mackerel by the anchovy mid-water trawl fishery as it is indicated in Table 4, and considering that total catch of this species for 2015 not achieved TACs (Managements units, TACs> 18,269.80 t), the unwanted catch of this species by the fishery concerned by the certification on this stock may be considered as negligible.



3.4.2 Secondary species

As previously said no species as fish and shellfish than anchovy and chub mackerel represent significant catch for the mid-water trawl fishery.

However, studies carried out by UNMdP determine that the fishery interacts with seabirds and marine mammals.

Paz (2015) analysed the interaction of the anchovy mid-water trawl fishery with seabirds and compared it with demersal trawl fishery (i.e. hake fishery). Around 45,000 seabirds (23 species) were identified. Procellariiformes and Charadriiformes were the most abundant and frequent groups. Within the first order the most representative species were Black-browed albatross (*Thalassarche melanophris*), Shearwaters (determined or not to species, *Ardenna sp.*) and White-chinned petrels (*Procellaria aequinoctialis*), while for the second order Kelp gull (*Larus dominicanus*) and South American tern (*Sterna hirundinacea*) were the most abundant species.

Table 6. Number and type of contacts combined seabirds associated with anchovy trawlers in Argentina Continental Shelf during 2011-2013. Species in red are those species contributing more than 10% of total number of contacts and are statistical significative to determine the impact of the fishery in seabirds (Paz, 2015).

Species	Minor contacts	Serious injuries	Contacts not determined	Number of total contacts
Larus dominicanus	677	1	105	783
Larus atlanticus	31	0	8	39
Sterna hirundinacea	115	0	2	117
Catharacta spp.	33	0	10	43
Larus cirrocephalus	64	0	0	64
Thalassarche melanophris	678	5	12	695
Procellaria aequinoctialis	270	4	6	280
Ardenna spp.	951	43	47	1041
Ardenna gravis	1079	95	3	1177
Ardenna griseus	6	0	0	6
Daption capense	14	0	0	14
Macronectes halli	7	0	0	7
Macronectes giganteus	21	0	2	23
Pachyptila turtur	3	0	0	3
Thalassarche salvini	1	0	0	1
Spheniscus magellanicus	0	12	0	12
Birds no identified	9	2	0	11

Contacts occurred in 70% of all observations (n= 251). 97% these contacts were mild (without serious injuries), while the remaining contacts were severe. Also, 92% of contacts were with the trawl net. Estimated mortality rate of 0.55 birds per hour were recorded. Incidental catch species include shearwaters (n= 58), Great shearwaters (*A. gravis*, n= 43), Magellan penguins (*Spheniscus magellanicus*, n= 12) and to a lesser extent Black-browed albatross and White-chinned petrels. The number of contacts increased with discarding and during hauling of fishing gear. This study presents information relevant to the implementation of the National Action Plan to reduce bird interaction with Argentinean fisheries, as well as for the certification of the fishery that is currently underway. The contact numbers increased with the discarding and during hauling of the fishing gear.





Fig. 13. Albatrosses and petrels interacting with trawl net (photo: Mark Royo-Celano, source: CFP Resolution N° 15/2010)

Like described study before, Mandiola & Rodriguez (2015) analysed the interaction with marine mammals. Preliminary data indicate that there is interaction in the 26% monitored fishing hauls. Species identified were: Atlantic dolphin (*Delphinus delphis*), Dusky dolphin (*Lagenorhynchus obscurus*), South America fur seal (*Arctocephalus australis*) and South American sea lion (*Otaria flavescens*). Half of the contacts were recorded when animals were eating anchovies without getting caught by the trawl net. Individual catches were discarded alive and in particular cases (i.e. dolphin) were returned dead.

In 50% of fishing sets with interactions, individuals feed the catch without gilled with the trawl net. This interaction is carried out by *Arctocephalus australis*, *Otaria flavescens* and *Delphinus delphis*.

Table 7. Number associated with anchovy trawlers in Argentina Continental Shelf during 2012-2013 with marine mammals.

Year	N° fishing sets*	Sets with interaction	Sets without interaction
2012	16	4	12
2013	47	13	34

^{*}Data collected of monitoring fishing trips

Between 2012 and 2013, only 12 animals were catches incidentally. 2 *Otaria flavescens* were returned alive; and 5 *Lagenorhynchus obscurus*, 2 *Delphinus delphis* and 1 *Arctocephalus australis* died due interaction with the fishing gear.

More information is described in section 3.4.3 ETP species.

i) Outcome

As it is mentioned above and reviewing Tables 5 and 6, the team considers for the assessment as main secondary species: Great shearwaters (*Ardenna gravis*) and *Larus dominicanus* due that the catch of other species by UoA is neglectable or are classified as ETP species.



Even if the fishery interacts with seabirds but do not generate a big mortality, there are not sufficient data available to estimate that the UoA aims to maintain secondary species above biological based limits and does not hinder recovery of Great shearwaters and *Larus dominicanus* if they are below a biological based limit. There is not biological based limit estimated for both species. The team scored this PI as deficient data and use RBF to score PI 2.2.1. Information about productivity and susceptibility attributes are presented in Appendix 1.2.2.

ii) Management

As the interaction do not generate serious injuries (i.e. death of seabirds), at the moment, there is not necessary to implement a partial strategy.

In the case that the management authority determines that it is necessary to implement measures to reduce bycatch of seabirds, there is some measures tested in other fisheries as: streamer lines, night fishing, reduce fishing area, use of selective device on nets, among others. In case to reduce the interaction, it is recommended clean the net after fishing set, incorporate weights and then, bind them. Another way to reduce interactions is to retain bycatch and subsequent release it in the night.

iii) Information

The identification and quantification of secondary species are systematically carried out by INIDEP OBO Program and SSPyA authorities in the landing process. This collection data is only for certification scope species (i.e. fish, mollusc, crustacean, sharks and rays). Since certification (2010), the monitoring of interactions of fishery with seabirds and marine mammals is temporally compiled. Studies were published in 2015, so there are no other studies reinforcing or tested preliminary data. Tracking protocol is implemented (cessing by tide based on a global assessment declaration at the end of the tide).

3.4.3 ETP species

As it is mentioned above, the anchovy mid-water trawl fishery interacts with seabirds and marine mammals that are classified as ETP species by national legislation and/or binding international agreements. The categories of conservation in global scale correspond to those considered by IUCN (International Union for Conservation of Nature, 2004, 2009) and categorization made in Argentina. Global IUCN criteria are related to extinction risk and include rates of decline, population size, geographic range and degree of fragmentation of the population and distribution. Categories used are: Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD) and Not Assessed (NA).

Meanwhile, the categorization of seabirds in Argentina, conducted between Secretaría de Ambiente y Desarrollo Sustentable and Aves Argentinas, takes into account the distribution, degree of protection of species, seasonality, trophic range, reproductive potential, sensitivity, abundance, taxonomy, stocks and body size. The categories considered are: Critically Endangered, Endangered (EN), Threatened (AM), Vulnerable (VU), No Threatened (NT) and Insufficiently Known (IK).

Table 8. Classification for national and international level of seabird recorded in anchovy mid-water trawl fishery.

Common name	Scientific name	Characteristics	Global status (2009)	National status	Convention / Agreement
Black-browed albatross	Thalassarche melanophrys	Pelagic – nesting	EN	VU	CMS II y ACAP



In relation with marine mammals, the following table describes the classification of the ones interacting with the fishery against SAyDS Resolution N° 1.030/2014. The categories established by IUCN are: Least Concern (LC) and Data Deficient (DD).

Table 9. Classification for national and international level of marine mammals recorded in anchovy mid-trawl fishery.

Common name	Scientific name	IUCN Cat- Tend	CITES	CMS	SAyDS Resolution 1.030/04	National Protection Agreement
South American sea lion	Otaria flavescens	LC (stb)	No	App. II	Not threatened	Resolution N° 351/95
South American fur seal	Arctocephalus Australis	LC (inc)	App. II	App. II	Not threatened	Law N° 21.676 (Antarctic seals) y Resolution N° 351/95
Atlantic dolphin	Delphinus Delphis	LC (unk)	App. II	No	insufficiently known	Law N° 25.577 (Cetaceans)
Dusky dolphin	Lagenorhynchus obscurus	DD (unk)	App. II	App. II	Insufficiently known	Law N° 25.577 (Cetaceans)

stb= stable inc= increasing unk= unknown

3.4.3.1 Seabirds

i) Outcome

As it is mentioned in the section 3.4.2 Secondary Species, reviewing Tables 5 and 6, and taking into account Paz's study conclusions, the team only considered for the assessment as ETP species: Blackbrowed albatross (*Thalassarche melanophris*). The impact with other ETP seabirds is insignificant. Even the impact with this seabird is not harmful (i.e. it is detected only 5 individuals dead with the interaction), in the fishing season of anchovy (September-November), Paz (2015) determines that juveniles interact most frequently than adults, due that to the time of data collection as during spring-summer adults have more distribution ranges restricted to areas near the colonies (i.e. Malvinas Islands). It should be noted that a large percentage of the breeding population migrates to waters of the Continental Shelf Argentina.

Even if the fishery do not interacts with seabirds and not generate a big mortality and the UoA meets with national and international requirements for the protection of ETP species, there are not sufficient data available to estimate that the UoA does not hinder recovery of *Thalassarche melanophris* considering biological based limit. There is not biological based limit estimated for this species. The team scored this PI as deficient data and use RBF to score PI 2.3.1. Information about productivity and susceptibility attributes are presented in Appendix 1.2.2.

ii) Management

The conservation of marine mammals, sharks and birds at the national level is regulated by Law N° 22.421 that includes the conservation of wildlife. Secretaría de Ambiente y Desarrollo Sustentable de la Nación (SAyDS) is the implementing authority thereof. In its Article 4°, SAyDS has the competence to categorize wildlife according to the following order: endangered, threatened, vulnerable and non-threatened and insufficiently known species. In concordance with CFP's policies, the fishery management is subject to restrictions set and based on resource conservation to avoid excessive exploitation and to prevent harmful effects on the environment and ecological system unit.



In this way, Argentina has developed the national action plans as: to prevent, deter and eliminate illegal, unreported and unregulated (PAN-INDNR), for conservation and management of chondrichthyes (sharks, rays and chimeras) (PAN-Tiburones), to reduce interaction of birds with fisheries (PAN-Aves) (introduced in 2010) and to reduce interaction of marine mammals with fisheries (PAN-Mamíferos) (presented in 2015).

Argentina approved the Agreement on the Conservation of Albatross and Petrels in 2006 by Law N° 26.107 and in 2010 presented the PAN-Aves. There are other international instruments that relate directly to the conservation of seabirds among which include:

- -Convention Migratory Species also known as CMS or Bonn Convention.
- -Convention on International Trade in Endangered Species of Wild Fauna and Flowers (CITES).
- -Convention on Biological Diversity.
- -Convention United Nations of Law of the Sea (UNCLOS).
- -Convention International to Prevent Pollution from Vessels.
- -Convention on wetland of international importance.
- -Agreement to promote compliance with International Conservation and Management Measures by Fishing Vessels of High Seas (Compliance Agreement).

The general objective of PAN-Aves is to reduce the interaction between seabirds and fisheries in Argentina (Table 10).

iii) Information

The monitoring of incidental catch has been performed since 2001. According the CFP Resolution N° 3/2001, INIDEP instructed at OBO Program to carry out actions and methodologies required for proper quantification of bycatch of reptiles, birds and marine mammals and implement them during fishing tasks. Also, provincial jurisdictions have in place a registration system of bycatch. CFP requested at SAyDS to sign agreements with research institutions to ensure the analysis of data obtained by OBOs (CFP Act N° 22/2001).

As it is described in the section 3.4.2 Secondary Species, identification and quantification of ETP species are systematically carried out by INIDEP OBO Program and SSPyA authorities in the landing process. Since certification (2010), the monitoring of interactions of the fishery with seabirds and marine mammals is temporally compiled. Studies were published in 2015, so there are not other studies reinforcing or testing preliminary data.



Table 10. Specific objectives related with PAN-Aves (Source: http://www.cfp.gob.ar/prensa/PANAVES.pdf).

Action	Institutions involved / responsible	Deadlines
Collect reliable data by observers on fishing vessels or through other methods to determine the nat	ture and extent of seabird interactions with fisheries.	
Maintain and/or increase the existing level of coverage on incidental catch and other interactions	INIDEP, CONICET, UNMDP, UNPA and provincial	Medium
including other fisheries not studied yet.	managements	Medium
Improve and standardize protocols to evaluate incidental catch taking into account fishing effort	INIDEP, SSPyA, SAyDS, provincial managements,	Short
and fishing gears.	CONICET, UNMDP, UNPA and OSC	
Implementation of protocol	CFP	Medium
Ensure financing of OBOs Program.	CFP, SSPyA and provincial managements	Short
Minimize injuries of bycatch of seabirds using technical advances and current fishing gears, consider	ring economical implications of mitigation measures to be	adopted.
Technical assistance to Management Authority to make possible the implementation of mitigation	CONICET, UNMDP, UNPA, INIDEP and OSC	Short
measures and monitoring.	, , , ,	
Implementation of measures in accordance with the techniques developed and tested.	CFP, SSPyA and provincial managements	Medium
Promote the best fishing practices considering the use and management of fishing waste and	SAyDS and provincial managements	Medium
bycatch.		
Training of OBOs and fishery staff. Raise awareness in fishing communities and general public about	t conservation status of seabirds and threats looming over	r them.
Promote and coordinate educational programs related to species identification, samples, mortality	INIDEP, SAyDS, CFP, SSPyA and OSC	Short
rates and bird abundance.	· , · · ,	
Training of fishery staff in accordance of needed operations to use mitigation measures.	INIDEP and OSC	Short
Organize educational and outreach campaigns in the media, developing outreach brochures	OSC, Government and private organizations	Medium
addressed for community and special groups (authorities, educational community, etc.).	11.4, 11.1	
Strengthen scientific research and its coordination with community		
Promote with Ministerio de Ciencia y Tecnología, universities and other research institutions,		
research ways related to the interaction of seabirds and fisheries, monitoring of marine stocks and	SAyDS, CFP and SSPyA	Medium and long
other needed studies to implement this plan, ensuring credit lines.		
Promote project developments for the design of feasible mitigation measures applied by fisheries	SAyDS, CFP and SSPyA	Medium and long
and effectiveness analysis.		
Contribute with updating use maps (birds and human activities), risk maps (interaction), area maps	CONICET, UNMDP, UNPA and OSC	Medium
for conservation and pelagic and coastal marine environment management. Contribute with maximum acceptable levels of bycatch for each fleet. Including: i. population	CONICET, CENPAT, UNMDP, UNPA and other scientific	
trends versus time series; ii. fishing effort into various strata (time series); and iii. stock models.	institutions	Long
Ensure the transfer of scientific information to areas of government decision and fishing sector.	SAyDS and scientific institutions	Continuous
Ensure the transfer of scientific information to areas of government decision and fishing sector.	SAYDS and Scientific institutions	Continuous



3.4.3.2 Marine mammals

i) Outcome

As it is mentioned above, reviewing Tables 5 and 7, and taking into account Mandiola & Rodriguez's study conclusions, the team considered for the assessment the following ETP marine mammals: Atlantic dolphin (*Delphinus delphis*), Dusky dolphin (*Lagenorhynchus obscurus*), South American fur seal (*Arctocephalus australis*) and South American sea lion (*Otaria flavescens*). Even if 50% of fishing sets with interactions, animals feed on the catch without gilled with the trawl net and the impact with marine mammals is not harmful, it was reported 10 animals died with fishing operations of total observations.

In Quequén and Mar del Plata ports, it was detected mortality in dusky dolphins (Lagenorhynchus obscurus), common dolphin (*Delphinus delphis*) and Plata dolphins (*Pontoporia blainvillei*) in the fisheries of anchovy (*Engraulis anchoita*) and mackerel (*Scomber japonicus*) with seines (PAN-Mamífero). Both fisheries are seasonal where dolphins interact with school of anchovies, since they are one of its main foods (PAN-Mamífero). Management authority recommends updating information to carry out appropriate actions.

Dolphins are more susceptible to pelagic or mid-water trawl gear operating at night than any of the other variants of fishing gear (PAN-Mamífero).

Even if the fishery interacts with marine mammals and do not generate a big mortality and the UoA meets with national and international requirements for the protection of ETP species, there are not sufficient data available to estimate that the UoA does not hinder recovery of marine mammals mentioned considering biological based limit. There is not biological based limit estimated for this species. The team scored this PI as deficient data and use RBF to score PI 2.3.1. Information about productivity and susceptibility attributes are presented in Appendix 1.2.2.

ii) Management

The CFP Resolution N° 11/2015 approved the National Plans for marine mammals, whose overall objective is to contribute at ecosystem management of fisheries in the Argentina Sea, assess interactions and reduce harmful impacts. This agreement was signed between SAyDS and Centro Nacional Patagónico (CENPAT) for data relating to marine mammals.

While there are no explicit regulations for incidental catch, there are international and national agreements adopted for marine mammal conservation:

International conventions and treaties

- -United Nations Convention on the Law of the Sea (UNCLOS).
- -International Convention for the Regulation of Whaling (ICRW).
- -Convention on Migratory Species or Bonn Convention (CMS). Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- -Convention on Biological Diversity (CBD).
- -Convention on Wetlands (RAMSAR).
- -Convention on the Conservation of Antarctic Seals. Approved by Law N° 21.676/1997, which includes protection measures for the species of South American fur seal (*Arctocephalus australis*).



National agreements

- -Law N° 22.351 (adopted in 1980): protection of natural monuments, things, animals and plants species with historical or scientific value.
- -Law N° 23.094 (adopted in 1984): establishes that Southern right whale (*Eubalaena australis*) is protected in Argentine Sea.
- -Ex SRNyAH Resolution N° 351 (adopted in 1995): prohibits hunting, catch or transit of all species of pinnipeds and cetaceans listed in the Annex II, except to scientific or educational purposes.
- -Law N° 25.577 (adopted in 2002): prohibits whaling throughout the national territory.

The general objective of PAN-Mamíferos is described in the Table 11.

iii) Information

The fishery relationship with ecosystem components has been reflected in the CFP Act N° 26/2006 that management authority instructed to INIDEP the identification and operation of research programs to develop structured under an ecosystem approach.

As it is described in the section 3.4.2 Secondary Species, identification and quantification of ETP species are systematically carried out by INIDEP OBO Program and SSPyA authorities in the landing process. Since certification (2010), the monitoring of interactions of fishery with seabirds and marine mammals is temporally compiled. Studies were published in 2015, so there are no other studies reinforcing or tested preliminary data.



Table 11. Specific objectives related with PAN-Mamíferos (Source: Annex I – CFP Act N° 46/2015)

Action	Institutions involved / responsible	Deadline
Broaden, deepen and update the diagnosis of marine mammal interactions and fishery operation	S.	
Develop and implement monitoring interaction programs, including systematic and continuous records.	Coord. INIDEP, CENPAT, CFP and provincial managements	Short
Prioritize species taking into account the impact of interactions and its conservation status.	Coord. SAyDS, academic institutions and OSCs	Medium
From an analysis of environmental risk, assess incidental catch and fishing sustainable, considering interaction level and vulnerability degree.	Coord. SAyDS, academic institutions and OSCs	Medium
Strengthen scientific and technological research directly linked with incidental mortality issues.	CFP – MINCyT and academic institutions	Medium and long
Manage though science and technology agencies, the financing of research to meet plan objectives.	SAyDS, SSPyA, provincial managements and CFP	Short
Broaden the information base in fishery and incidental catch on artisanal and sport fisheries to estimate bycatch rates.	Provincial managements, academic institutions and OSCs	Medium
Periodical updating of use maps, risk maps (interaction), area maps for conservation and coastal marine environment management.	Coord. SAyDS, SSPyA, provincial management, academic institutions and OSCs	Short
Create identification tools of species.	Coord. Cethu and FPN, including academic institutions	Medium
Strengthen OBOs Program and technicians for data collection on interaction and incidental catch.		
Standardise protocols of data collection.	OBOs Program, academic institutions and OSCs	Short
Training of OBOs and technicians.	Academic institutions and OSCs	Short and medium
Expand OBO coverage and technicians in other jurisdictions.	Fishing managements	Short
Strengthen OBOs Program. Generate periodic recruitment of new observers as required and carry out trainings.	CFP, INIDEP and provincial fishing management authorities	Medium
Ensure financing of OBO Program	CFP and fishing management authorities	Short
Develop mitigation measures and promote their implementation, prioritizing actions on the most	vulnerable species of marine mammals.	
Design mitigation strategies for marine mammal in fisheries under an ecosystem approach and evaluate its effectiveness.	Academic institutions, OSCs and fishing sector	Medium
Assess socio-economic impact of the implementation of mitigation measures in fisheries.	CFP, fishing authorities and academic institutions	Medium and long
Facilitate the implementation of measures integrating activities of fishing communities, government agencies, academic institutions and OSCs.	Fishing management authorities and OSCs	Short and medium
To adopt good practices to minimize incidental catch of marine mammals, including mariculture practices.	CFP and fishing management authorities	Short and medium
Explore new technological developments to mitigate bycatch of marine mammals.	Academic and technological institutions and OSCs	Medium and long
Training of vessel crews, fishermen and maritime unions according fishing operations needed for	OSCs, academic institutions and fishing management	Medium



mitigation measures and implement them.	authorities					
Promote the implementation of tested measures in some fisheries and evaluate their effectiveness.						
In gillnet fisheries, assess the use of acoustic alarms and reflective nets or evaluate alternative fishing gears of less impact.	Academic institutions and OSCs	Short				
In purse seine fisheries, to promote fishing sets without presence of dolphins or other marine mammals.	Fishing management authorities	Short				
In purse seine fisheries, promote the use of fishing gear or practices that facilitate the escape of dolphins or other marine mammals.	Fishing management authorities and OSCs	Medium				
In bottom and pelagic trawl fisheries, evaluate and promote the use of exhaust devices (e.g. Turtles Excluder Devices – TED or Sea Lion Excluder Devices – SLED).	Fishing management authorities and OSCs	Short				
Continuously evaluate the effectiveness of the measures implemented.	Monitoring program created for Obj 1 – Action a)	Medium and long				



3.4.4 Habitat

The Argentine Sea integrates a big oceanic ecosystem comprising a part of the continental margin of south-western Atlantic exposed to the ecological effects of fronts generated by currents of Brazil and Malvinas. This environment has as main components: an extensive geological continental shelf, slope and abyssal plain.

Argentinean continental shelf has an exceptional environment. It has an underwater plateau of 1,000,000 km², which makes it the largest in the southern hemisphere. The platform will gradually extends from north to south, reaching 850 km wide south of 50° S and forms a large ecosystem that is distinguished from other similar by its bathymetric features and hydrography.

The exploitation of Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic midwater trawl fisherytakes place in the Bonaerense sector (34° - 41° S) of Argentine Sea. This region is composed by water bodies of Sub-Antarctic origin diluted by continental effluents. Bathymetry and changes in coastline, due continental contributions and high salinity, give the region an oceanographic and biological complexity.

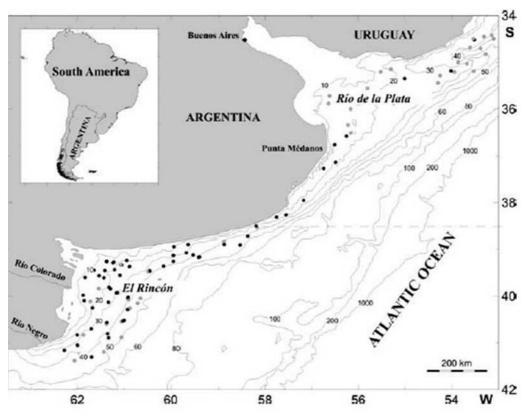


Fig. 14. Study area showing their bathymetry (m)

In the northern sector, interaction of Rio de la Plata and platform waters generates a front area characterized by a spatial variability. This front has high productivity, mainly due to the contribution of nutrients from river and stability of column waters. The southern area ('El Rincón', 39° - 41° S) presents particular hydrographic features. In the coast, Negro and Colorado rivers conform an estuarine system. Salinity concentration is distributed north-south direction, separating waters diluted at the west from maximum salinity rate at eastward.

In the Bonaerense neritic region, there are two different productive systems: coastal and platform, separated by "coastal front". The coastal system has depths generally less than 50 m and is



characterized by vertically homogeneous waters during all year due to the combined effect of winds and tides. It is recorded minimal concentrations of nitrate and chlorophyll. Sub-Antarctic waters of platform show seasonal stratification of column water and two maximum concentrations of chlorophyll recorded in spring and autumn (Figure 15).

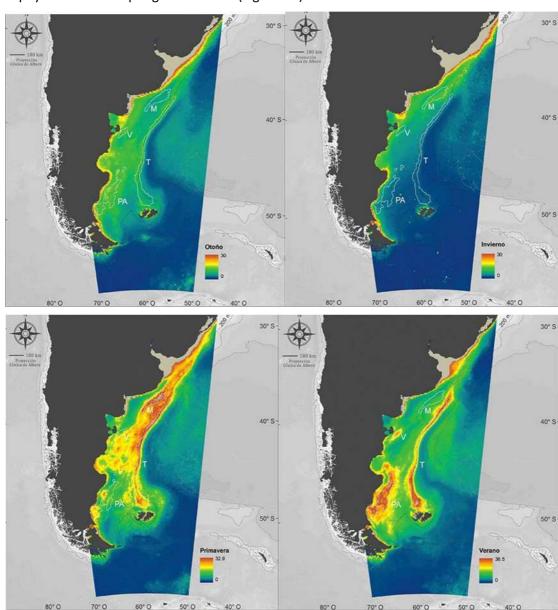


Fig. 15. Chlorophyll concentration in autumn, winter, spring and summer (Source: www.alestuariodelplata.com.ar).

Viñas *et al.*, (2013) described 3 faunistic areas in Bonaerense waters and estimated abundance of main species of copepods, cladocerans, appendicularians, chaetognaths, amphipods and euphausiids that conform zooplankton concentration in reproductive habitat of anchovy (Figures 16 and 17).



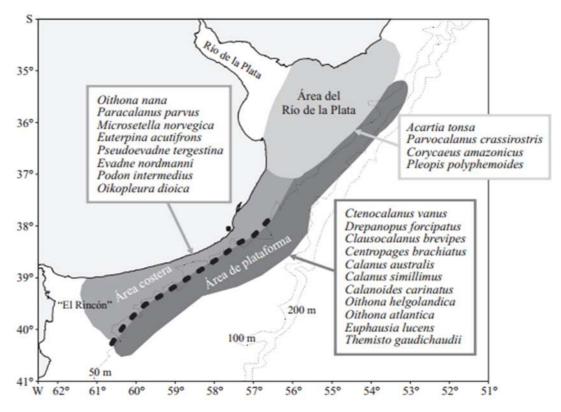


Fig. 16. Synoptic diagram that shows the location of the faunistic areas and the representative zooplanktonic species (Source: Viñas et al., 2013).

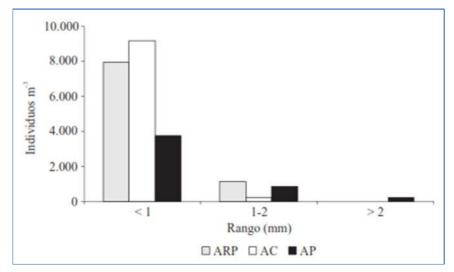


Fig. 17. Average abundance of the three size ranges of copepods in the Rio de la Plata River (ARP), coastal (AC) and shelf (AP) faunistic areas (Source: Viñas et al., 2013).

Since the fishery uses a gear designed to operate in mid-water and to catch pelagic species it is likely to have negligible impact on benthic habitats. The mid-water trawl net that is described in the section 3.2.2 rarely comes into to contact with the sea bottom as it can be damage by it, incurring significant costs for fishers. Furthermore, the fishery operates usually over the same fishing grounds, over bottoms and in offshore areas (see Figure 6), minimizing possible impacts in benthic communities. Finally, VMS data from the fishing fleet is available to the management authorities and there is no evidence that fishing occurred in protected areas.

Argentine fishing management has being established the following closed systems to protect living



resources and vulnerable marine ecosystems (Figure 18):

- -An extensive system of closed permanent and temporal areas for the protection of reproductive process and breeding areas (hake, coastal demersal species).
- -An area of permanent close area in high seas for the protection of vulnerable marine ecosystem (e.g. cold water corals).
- -A system of opening and closing of areas using an adaptive management approach for squid, shrimp, scallops and red king crabs.

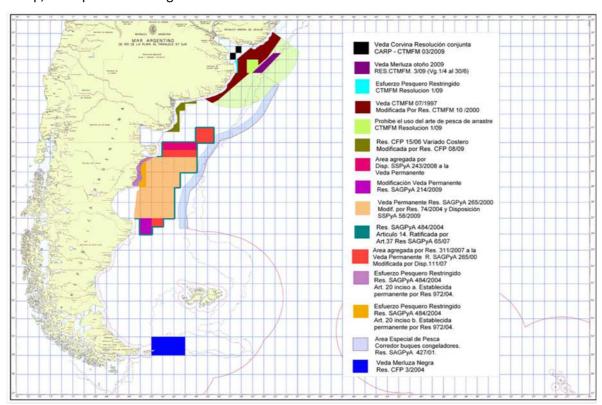


Fig. 18. Closed system areas in the Argentine sea (Source: http://obio.ambiente.gob.ar/multimedia/files/GTRA_Marino.pdf)

Even if it is rare that this fishing gear comes into to contact with the sea bottom, this impact is not tested and there is low information about areas that contain vulnerable habitats. With available information, the team cannot assess directly if the UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area(s) covered by the governance body(s) responsible for fishery management. The team scored this PI as deficient data and use RBF to score PI 2.4.1. Information about consequence spatial analysis is provided in Appendix 1.2.3.

3.4.5 Ecosystem

The aquatic ecosystem

The Ecosystem Component considers the broad ecological community and ecosystem in which the fishery operates.

The Argentine Sea biogeographic scheme has been characterised by Balech & Elrich (2008) and two major biogeographic provinces – Argentine and Magellan – were identified. The former extends from 30° S - 32° S to 41° S - 44° S; and from the coast to the 82-95 m isobaths, between 35° S - 39° S;



to 70 m depth in the North of Patagonia (Figure 19). The different physiologic characteristics allow distinguishing movable sandy bottoms in the Argentine Province and gravelling bottoms (where algae grow) in the Magellan. Climatic differences explain the prevalence of northern winds in the first, where warm and temperate-cold coastal waters alternate. The detailed analysis of faunal composition of both Provinces; Argentina is characterised by a marked heterogeneity of this components and the Magellan by its own homogeneity and own taxa.

The detailed analysis of the faunal composition of both Provinces performed using benthonic organisms (echinoderms, crustaceans and molluscs) and nektonic (fishes) resulted in subdivisions that correspond to: Uruguayan area (down to 38° S - 39° S) and Rio Negro area (south of said latitude) in the Argentine Province; and the Chubut and South Patagonian districts (north and south 47° S, respectively) in the Magellan.

The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery occurs, where warm and temperate-cold coastal waters alternate in Argentine.

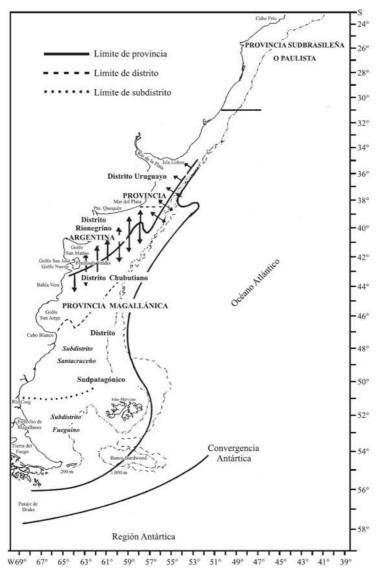


Fig. 19. Biogeographic divisions of the Argentine littoral. The arrows allow to state that a considerable number of species from the south reach 41° S and even 40° S, and others from warm waters 44° S – 45° S. (Source: Balech & Elrich, 2008)



Margaleff (1977) (cited in Balech & Elrich, 2008) noticed that there are many factors that may influence the distribution, activities and biomass of organisms, and these influences are in fact, a combination of different factors. However, there are some factors which have a preponderant importance, such as water temperature, particularly minimum average temperatures (Dana, 1853; cited in Balech & Elrich, 2008) and maximum average temperatures (Levinton, 1995; cited in Balech & Elrich, 2008). These last seem to be more important in the delimitation or the area where many species live in the Argentina Biogeographic Province. Moreover, significant quantitative changes in forage organisms may induce, frequently, trophic behavioural changes in predators (Kinne, 1970; cited in Balech & Elrich, 2008).

Argentine Sea biogeographic scheme

It is located on the continental shelf, between a northern fluctuating boundary between 30° and 32° S (in front of the Brazilian state of Rio Grande do Sul) – a limit of a highly thermophiles biological whole-; and a southern border located in northern Patagonia, which is actually a wide strip that extends between 41° S and 44° S.

Environmental features

Several major physiographic characters shall be noted in this province. First, a marked change in the general direction of the coast on the southern of the central part, with a strong deviation to the west. Further south, the typical moving bottoms (predominantly sandy) that characterize almost all this province, are replaced by resting bottoms which prevail in the rest of the Argentine coast. All these features strongly influence the biology, because only this second kind of bottom allows the entrenchment of large algae.

Moreover, also to the south, there is a marked climate change: the winds, which in almost all the coast of Buenos Aires Province coast are predominantly northern; in Patagonia they have absolute western predominance, with a great increase of its average speed. In addition, to the south also rainfall decreases; and so is the contribution of inland water to the sea.

From the hydrological point of view, the Argentina province is characterized by alternating predominance during the year, of warm-coastal waters and temperate-cold waters (with sub-Antarctic characteristics).

Given the movement of the Malvinas Current, and the euritemia of many species, there is evidence to suggest that the boundary between the two provinces is north of 43° S is around the isobath of 82 to 95 m between latitudes 35° S to 39° S; and the isobaths of 70 m in north of Patagonia. This limit is quite diffuse, valid primarily for benthic organisms. This limit is quite diffuse, and valid primarily for benthic organisms. Planktonic organisms may vary greatly seasonally -following changes in the hydrological room-; and nektonic not only follow those changes but may transgress those limits, such as anchovy and squid.

<u>Biota</u>

The Argentina province is the most explored by naturalists, and therefore, its fauna is known quite well. It is also the most exploited, from the fishing point of view, by coastal fishing boats and some greater autonomy boats of medium height. The main organisms of this province are in Figure 20.

Biologically, it is characterized by a marked heterogeneity, as a result of a mix between subtropical and sub-Antarctic elements. This result also determines a very low endemism. It is mainly neritic and it since it ends, on average, in the east before reaching the edge of the platform, it is limited by the current of Malvinas, which leads to the north not only sub-Antarctic waters but an own biome.



Celenterados	Equinodermos	Crustáceos	Moluscos	Peces
elenterados denilla reniformis dunodactis marplatensis drymactis clematis Corynactis carnea	Astropecten cingulatum Enoplopatiria marginata Luidia spp. Poraniopsis mira Arbacia dufresnei Encope emarginata Mellita platensis Amphiodia planispina Ophioplocus januari	Artemesia longinaris Pleoticus muelleri Neohelice granulata Cyrtograpsus angulatus Platyxanthus crenulatus Ovalipes trimaculatus	Moluscos Mytilus edulis platensis Glycimeris longior Adrana electa Mactra janeiroensis Aequipecten tehuelchus Amiantis purpuratus Pitar rostratus Calliostoma coppingeri Buccinanops monilifer Diodora patagonica Brachidontes rodriguezi Mactra patagonica Mesodesma mactroides Tagelus plebeius Notocochlis isabelleana Urosalpinx rushii	Peces Micropogonias furnieri Cynoscion guatucupa Macrodon ancylodon Umbrina canosai Pagrus pagrus Nemadactylus bergi Acanthistius patachonicus Percophis brasiliensis Parona signata Pseudopercis semifasciata Mustelus schmitti Engraulis anchoita Scomber japonicus Seriola lalandei
			Muricopsis necocheanus Adelomelon brasiliana Macoma uruguayensis	

Fig. 20. Organisms of the Argentine province. (Source: Balech & Elrich, 2007)

The Argentina biogeographic province is well characterized by a family of warm-temperate coastal waters fishes, the Sciaenidae (Micropogonias furnieri, Cynoscion guatucupa, Macrodon ancylodon and Umbrina canosai), where the first three are subject to an active commercial fishing. Other typical families distributed throughout this province are the Cheilodactylidae (represented by Pagrus pagrus y Nemadactylus bergi). And other commercially important fishes are Acanthistius patachonicus, Percophis brasiliensis, Parona signata, Pseudopercis semifasciata and Mustelus schmitti. Among the pelagic fishes, we can mention Engraulis anchoita, with an important biomass between 34° and 41° S, the mackerel Scomber japonicas and amberjack Seriola lalandei.

Biogeographic districts

There are arguments for a subdivision of the Argentina province, not only for reasons of distribution of species, but also because of the relative abundance of each species. Balech (1954b) (cited in Balech & Elrich, 2008) proposed a Rio Negro district at the south, and Uruguayan one to the north. The boundary between these two is rather diffuse and it would be situated at about 39° S, while but some authors proposed to locate it near the Rio de la Plata. The first proposal is supported by the northern dominance (for more than 6 months a year) of water temperatures above 14° C, which represent what the author called "coastal drift"; while the southern district is dominated by cold water. There are not just a few Magellan species that reach this latitude (39° S), but also this latitude is the approximate limit of some species arriving from the north.

Although the available information does not allow further details, it is noticed that Magellan species tend to remain most in the eastern part of the province.

Magellan biogeographic scheme

The Magellan biogeographic province is located all along the Argentine coast, from Peninsula Valdes to Southern Patagonia, including a South Brazilian and Uruguayan portion in deeper waters. It is far more extensive than the Argentina Province, but above all, has a much wider continental shelf. It is also more homogeneous by net dominance of cold water sub-Antarctic province.



<u>Biota</u>

As own and differential physiographic features of this province there are noticed: a predominance of biotope sandbar in the coastal zone, with beaches of sand and gravel; development of mud at the mouth of rivers; very large tides that generate strong currents; and strong westerly winds. Consolidated bottoms allow the "roots" of large algae that give this coastline a very special physiognomy.

Among the animals associated with these large algae we can include: anemones, barnacles, clams, hydroids, bryozoans, amphipods, isopods and some fish. Although perhaps one of the most remarkable faunal features in this province is the presence of several species of Gadiformes (such as *Macruronus magellanicus, Merluccius australis, Micromesistius australis* and *Salilota australis* as indicators of the whole province), with high biomass and subjected to an intense commercial fishing, and the development of two fish families: Nototheniidae and Zoarcidae.

When observing their respective areas of distribution (Cousseau, 1993; cited in Balech & Elrich, 2008), it is shown that this species which occur in the entire platform in the south Patagonian district, are away from the coast when going north (at about 46° S and even to 38° S in winter), occupying a narrow strip by the east of the Argentina Province, in the Malvinas current. *Merluccius hubsi*, the commonest eurioic hake, and main demersal fishing resource in the Argentine Sea occupies not only the entire Magellan province but also part of Argentina Province.

Ecological or consequential biogeography: general hydrography features

Oceanographic conditions on the platform are more difficult to study than in the open ocean, because due to its shallowest these are more sensitive to the action of the atmosphere. The continental discharges and marked seasonal variations affect the distribution of the properties, and mask the characteristics of water bodies and their origins. Because of its proximity to the mainland, its variations affect coastal weather conditions. In this region of the Southwest Atlantic, it can found two major marine currents: the Malvinas Current and the Brazil Current, which influence the dynamics of shelf waters.

The limits of the cold waters of the Malvinas Current extend over the slope and partly on the outside side of the Platform (Legeckis & Gordon, 1982; cited in Balech & Elrich, 2008). In the past decades, several studies (Piola & Rivas 1997; Saraceno *et al.*, 2005; cited in Balech & Elrich, 2008) provided data on the completion of this current in the surface, and their major shifts in an east-west direction, although it can be said that its northern end is around the edge of the platform. The other current, the Brazil Current, is opposite the first by its temperature and salinity, direction of movement and interactions. Its layout can be considered as the western part of a large anticyclone center of the South Atlantic, low speed, shallow (Fairbridge, 1966; cited in Balech & Elrich, 2008) and large mixing zones. There are good indications of marine outcrops in various parts of Brazil-Malvinas front, which may constitute centers fertilization Southwest Atlantic.

According to Piola & Rivas (1997) (cited in Balech & Elrich, 2008) general circulation on the platform it is divided into two regions: Patagonia and Buenos Aires coast; and these regions basically agree with biogeographic provinces Magellan and Argentina. The water of the continental shelf is diluted by continental sub-Antarctic origin and modified discharge from exchanges of mass and heat in the atmosphere.

The Argentina Province

The Argentina Province comprises Buenos Aires Province coast north of 41° S, and in this area, atmospheric forcing differs from the Patagonian region; because on average, wind intensity decreases to the north, and the direction has significant seasonal variations. Several authors studied



the effect of currents and their magnitudes through numerical models and, in general, it has been observed the influence of waters of the southern of Rio de la Plata to the latitude of Mar del Plata (SSW).

Warm waters reach the coast of Buenos Aires Province in October, Peninsula Valdes area in January and sporadically, until Cabo Blanco (Southern of Golfo San Jorge) in February. This flow would composed by sub-Antarctic waters which, after absorbing the heat farther north, they would be mixed with minor proportions of subtropical coastal water. Eventually, the warm waters of the southern coast of Buenos Aires Province would be associated with intrusions of the Brazil Current. Carreto *et al.* (1995) (cited in Balech & Elrich, 2008) confirmed the existence of three bio-productive systems: the coastal system, the sub-Antarctic platform waters system; and the Malvinas system.

Palma *et al.*, (2004) (cited in Balech & Elrich, 2008) concluded a flow of water to SSW in the area of "El Rincón" in summer; and this work helped to explain the theory of warm drifting over the northern half of the Argentine coast, which is, so far the only "checked" explanation for the faunal distribution (and floristic part). However, other authors have not still discarded 'surface heating' as a possible source of heating in the Buenos Aires coastal zone.

Indeed, the division of the Argentina Province into Uruguay and Rio Negro districts can be recognized in the fact that, in the Uruguay district first warm waters are predominant during 6 or more months a year, while in the second one, warm waters only predominate from 3 to 6 months a year (Balech, 1949 cited in Balech & Elrich, 2008).

Argentine anchovy distribution and ecosystem

The Argentine anchovy has a very wide distribution, ranging from southern Brazil to Patagonia at depth from shallow waters to outside the continental slope; and the highest concentrations occur where gradients marked salinity and temperature exist. It can occur in coastal waters to about 800 km or more from the shore, forming dense schools at about 30 to 90 m depth in summer, but down to 100 to 200 m during winter. They also exhibit north-south and near shore-offshore migrations; and surface-neritic feeding behavior. During the day form dense shoals variable depth; and at night climb to near the surface and disperse to feed. Within the group of pelagic fishes of Argentina, Argentine anchovy is one of the most important from the fishing activity point of view; and it is also food for most of the fish-eating organisms in the region (which many of them are also important to the fishing industry).

Within the five regional fishing sets – included in their respective ecosystem- defined by Angelescu & Prenski (1987) (cited in Balech & Elrich, 2008), Argentine anchovy mainly belongs to the "Buenos Aires coastal Set" which covers the coastal area between 34° and 41° S, to 50 m isobaths.

This set occupies two regions with different hydrographic features. On the north, it covers the outer zone of Rio de la Plata and its seafront; and to the south, an area known as "El Rincón". In the first, there are mainly waters of estuarine type due to the contribution of fresh water from the Rio de la Plata basin, while in "El Rincón", salinity is similar to the surrounding platform (or even higher due to runoff of near lagoons and salt marshes). However, in both areas there can be found the same species, adapted to living in very changing environments.

Spatial distribution of anchovy eggs

The estimate of abundance from the Acoustic Method and from the Daily Egg Production Method ranged from 1.6 to 5.4 million for the Bonaerense anchovy and between 0.4 and 2 million t for the Patagonian population (Sanchez *et al.*, 1996; Hansen, 2006; Pájaro *et al.*, 2006; cited in Balech & Elrich, 2008). Figure 21 shows the spatial distribution of anchovy eggs of Bonaerense anchovy.



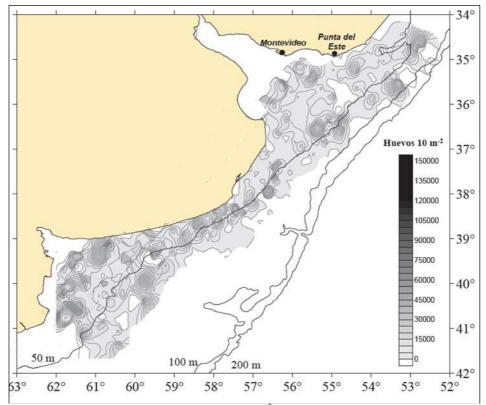


Fig. 21. Spatial distribution of anchovy eggs densities (10 m²), considering all data from the period 1996-2006.

Food chain in the Argentine Sea

An important ecologic characteristic of the demersal integrands is the trophic relationship with the pelagic community that appears during the nictemeral-rhythm vertical migration of the species (hake, squid and hoki). The most frequent identified species belong to the following communities:

- a. Benthic community: skates and flounders
- b. Demersal-benthic community: sharks, pink cuskeel, Argentine sea bass, rockfish, Argentine conger, Brazilian sandperch, wreckfish, castaneta, Patagonian cod, nototenias
- c. Demersal-pelagic community: Argentine hake, hoki, leatherjack, Parona leatherjack, silver warehoud.
- d. Pelagic community: anchovy

Step 1: zooplankton

In the pelagic food chain, zooplankton connects primary producers (phytoplankton) with different consumers (fish and invertebrates, in different stages of development). In the Argentine Sea, the production of zooplankton cycle adopts typical 'hot-cold' patterns, with a seasonal variation of biomass associated with and explosive spring phytoplankton growth, experiencing a gradual shift from the coast to the slope and north to south, according to the abundance of nutrients and stabilization of the water column.

Production varies depending on the predominance of waters of the two major participants currents: areas under the control of the Brazil Current show reduced chlorophyll and low densities of



zooplankton; while areas dominated by waters from the "Malvinas Current" are rich in nutrients, high concentration of chlorophyll and abundance of zooplankton.

Regarding the composition of the zooplankton, the fraction comprising organisms lesser than 5 mm long (mesozooplanckton) is mainly composed of copepods (89%) and occasionally ostracods, pteropods and juvenile forms of euphausiids and amphipods.

The macrozooplankton – organisms which length more than 5 mm – includes euphausiids (krill) and amphipods. The group of amphipods is practically monospecific and is represented almost exclusively by *Themistho gaudichaudii*. This species is a key for most fish species that are distributed in the area food item.

Particulate organic matter that is not eaten by zooplankton or decomposed by heterotrophic organisms in the upper layers of the water column is deposited on the seabed or becomes food for filter feeders benthic, among which stands out on shelf waters the Patagonian scallop (*Zygochlamys patagonica*).

Step 2: Intermediate users

Two species of fish as main zooplankton consumers form the core of the intermediate layer of the food chain in the Argentine Sea: Fuegian sprat (*Sprattus fuegensis*) and Argentine anchovy (*Engraulis anchoita*). The first pelagic species, mainly zooplanktonic, distributed in coastal waters in Austral Argentinean area (between 43° and 55° S) and around the Malvinas. The diet consists of copepods calanoid as the most abundant prey of juveniles and adults. In Buenos Aires and North Patagonian sectors of the platform, a similar ecological function meets the anchovy. This species is distributed from the South of Brazil to 48° S and from shallow waters to the continental slope. Spawning begins in September and runs southward to cover, in summer, the entire platform to 47° S.

Competition action has also a bigger interspecific extension in the coastal trophic habitat and with a bigger impact too, for the populations of anchovy's post-larvae and juveniles. However, on October to February, during a long spawning period with consecutive litters, the pressure of the trophic competition decreases, because the competitor species have shorter spawning-periods in this region and the ability of spawn outside the main spawning area of this species.

In the offshore trophic habitat, on the other hand, trophic competition is smaller according to the lesser competitor species. Among these it can be mentioned: hake juveniles, several Myctiophidae spp. near the continental slope, adults and juveniles of migratory pelagic fishes and squids. All these are permanent, temporary or occasional consumers of the meso and macrozooplankton, interfering like this with adult anchovies during their seasonal feeding period.

Step 3: predators

Argentine anchovy is a major incidence prey for ichthyophagi predators distributed in the Bonaerense and northern Patagonian waters, while it is also clear the predation impact over the different stages of its vital cycle.

Despite anchovy's particular development, predator's action is intense due to the high concentration of the prey schools in the common trophic space. Along the year, two dynamic-cycles are distinguished: marked by its periodicity, width and migration routes on the horizontal plain of each of the both anchovy units (Bonaerense and Patagonian), and also its stay time on the shared area with the hake schools (Angelescu & Anganuzzi, 1981; Cousseau *et al.*, 1981; cited in Balech & Elrich, 2008).

Argentine anchovy, mainly planktonic, is a key component in the diet of squid (*Illex sp.*) and hake (*Merluccius hubbsi*), two of the most important species to the Argentine Sea fishing industry.



The main consumer of *E. anchoita* is *Merluccius hubbsi* (hake). Hake is a demersal-pelagic or midwater species, widely distributed on the continental shelf and slope, up to 800 m depth. Three main stocks are recognized: two in shelf waters (north and south 41° S respectively), and one restricted to Golfo San Matías. While north population is confined to the edge of the shelf and slope, spawns in winter between 35° and 37° S, southern population stays on the platform and spawning occurs in spring. Both stocks have a seasonal migration pattern and feeding and reproductive behaviour. Hake is a carnivorous, predatory and opportunistic species and its diet is composed by meso and macrozooplankton species, squids, anchovies and other fishes.

Among invertebrates, the most important resource, especially for its abundance, is the Argentine squid (*Illex argentinus*), a neritic-oceanic species which is concentrated in areas under the influence of the sub-Antarctic waters, mainly from the Malvinas Current. Associated with the edge of the continental shelf and slope, squids can be found between 23° and 54° S, at depths comprised between 80 and 400 m.

Occasional predators also include other elements of the zooplankton (Angelescu & Anganuzzi, 1981) such asctenophores, hydro jellyfish and chaetognats.

Several times its been recorded the cannibalism on eggs and possibly on larvae. Intraspecific predation is common between *Engraullidae* species, and was also recorded in *Anchoa mitchilli* from the coastal Mexican Gulf, and *Engraulis mordax* and *E. ringens* from the Pacific coasts.

Pájaro (1998) (cited in Balech & Elrich, 2008) has recorded different estimations on egg cannibalism, depending on the population (bigger at the north) and the studied time (bigger during the day than the night). Cannibalism on eggs would operate in a compensatory way, mainly on the Bonaerense region, when egg densities in plankton are high. The contribution of the cannibalism on eggs in the necessary energy for the spawning wouldn't be very significant, but in some places where this is very intense, it could be enough for not requiring another additional food (Hansen, 2004; cited in Balech & Elrich, 2008).

Step 4: top predators

Top predators identified in the Argentine Sea belong to different taxonomic groups, including sharks and rays, coastal and pelagic seabirds, and marine mammals (cetaceans and pinnipeds). A dozen of these species are included as species with high conservation value, including: the Magellan penguin (Sphenicus magellanicus), Southern right whale (Eubalaena australis), Southern elephant seal (Mirounga leonina), South American sea lion (Otaria flavescens), South American fur seal (Arctocephalus australis), black-browed albatross (Thalassarche melanophrys) and Southern giant petrels (Macronectes giganteus). In addition, because of its uniqueness as top predator cannot fail to mention the killer whale (Orcinus orca).

Trophic cycle

In conclusion, according to the position that occupies the specie on the marine trophic cycle, anchovy food chain corresponds to a simple disposition, commonly extended between levels L1 and L3. It's located from the lowest trophic levels (L2-3: herbivores and primary carnivores) in the primary juvenile stage, connected with the primary production through herbivore zooplankton, and this sequence remains on the next stages of the vital cycle (Figure 22). Herbivore zooplankton is the biggest volume and most eaten food on the diet of secondary juveniles, pre-adults and adults (L3: secondary carnivores). When these are fed by zoophagous organisms (L3) such as larvae and post-larvae, carnivore copepods, amphipods, etc., locates in the fourth trophic level (L4: secondary carnivores), and in this case, the chain approaches to a ramified trophic kind.



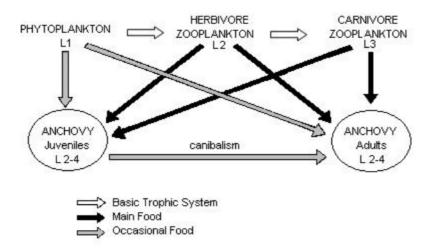


Fig. 22. Anchovy Food Chain for the Bonaerense sector, with the trophic level changes between L2 and L4. Herbivore zooplankton (L2) is composed by copepods, chalanids and euphasiids; and carnivore zooplankton (L3) is formed by amphipodes hyperiids, larvae and post-larvae stages of some crustaceans.

Generally, on the coastal region where are concentrated at the same time schools of juveniles and adults, the chain is more diversify and prolongs to L4 trophic level. On the other hand, offshore, during the adults most intense feeding time, the chain is shorter for being the main food copepods and euphasiids from the second trophic level.

The changes in the trophic level are related with the development stages, modality of food ingest and seasonal migration rhythms in the horizontal plain. The same variations exist too in the diurnal vertical migrations, by the fact that schools look for their food at different depths and temperature, and so different specific composition and main food availability.

Therefore, Argentine anchovy food chain is quite similar to pelagic fishes of the planktivores and small carnivores group from upwelling waters, characterizing by a higher trophic efficiency in the autumn and the region offshore.

Seasonality in productivity system

Plankton production in the Argentine Sea describes a bimodal annual cycle of rise and subsequent decline, typical of ecosystem of template-cold waters with seasonal thermocline. The maximum production of phytoplankton occurs in spring, with the start – in northern platform – explosive growth in October and November in shallow coastal waters. Wave production gradually expands to the south and away from the coast as it enters the summer. A secondary maximum of primary production is observed in early autumn.

In the south of the continental shelf, the entry of cold water rich in nutrients of the west branch of the Malvinas Current occurs throughout the year. There, the main regulator of phytoplankton growth factor is the penetration of light, associated with the stability of the water column.

Overall distribution of the fishing activity

As is mentioned in the background for Principle 1, catches took place mainly in the ZCPAU, by coastal vessels and long range chilled vessel, operating from the port of Mar del Plata (Figure 6).



3.5 Principle three: management system background

3.5.1 Fishery area of operation

The fishery area of operation is from 41° S in Argentina managed waters (AEEZ) to the Zona Común de Pesca Argentino-Uruguaya (ZCPAU - 34° S), with only Argentina and Uruguay allowed to catch this species in these areas.

As it is described by FAO (http://www.fao.org/docrep/003/t3740e/T3740E03.htm#ch3.10), UNCLOS does not use the term "straddling stocks", but Article 63°, clause 2 refers to: "the same stock or stocks of associated species [which] occur both within the exclusive economic zone and in an area beyond and adjacent to the zone", and this will be taken as a working definition of the concept of straddling stock in this document. The Fish Stock Agreement, while using the term extensively, does not specifically define it although the above definition ("stocks occurring both within and beyond the exclusive economic zone") is used in explaining the meaning of straddling stocks when using some of the other official languages of the Organization.

The concept of straddling fish stock can cover a continuum from most of the fish being inside the areas of the EEZs under national jurisdiction to most of the fish being in an area beyond and adjacent to it, that is outside EEZs (in the high seas). No minimum portion outside or inside has been defined, but usage seems to indicate that as long as there is some directed fishing effort at catching the stock on either side of the EEZ line, it is considered to be straddling.

Bonaerense anchovy stock is shared between Argentina and Uruguay in the ZCPAU due that both EEZ are overlapping in this area. This stock is under binational jurisdiction.

As well as the relevant fishery organisations and associations, the main group for this fishery are Argentina and Uruguay governments. At the moment, there are not Uruguayan companies that target anchovy in described area, but management in the ZPCAU is shared. The Ministerio de Agroindustria through Consejo Federal Pesquero is responsable for managing fishing activity in Argentina. The last one is responsible for carrying out this task.

a. Bilateral management in ZCPAU fishing area

The Zona Común de Pesca Argentina-Uruguaya (ZCPAU) was created by The Tratado del Río de la Plata y su Frente Marítimo. This area delineated by two curve lines traced at 200 nautical miles from both parts of Rio de la Plata mouth, excluding 12 nautical miles from the coast in each country (territorial sea) (Figure 23). The decision making authority for this marine area is Comisión Técnica Mixta del Frente Marítimo (CTMFM), while enforcement authorities are the national administration offices of each country, DINARA and CFP (fishing, navigation, contamination, trade, among others).



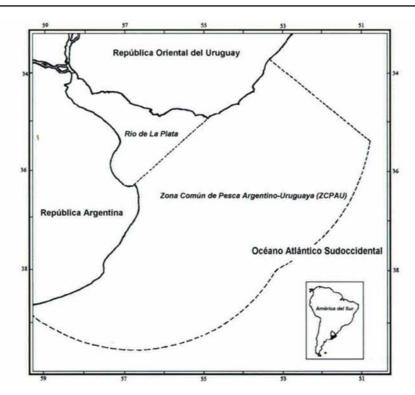


Fig. 23. ZCPAU's area (Source: http://ctmfm.org)

The CTMFM is responsible to establish all fishing regulation in the ZCPAU and it is integrated by 5 members and 3 advisor of each country. Argentinean members are composed by representative of Ministerio de Relaciones Exteriores y Culto and Consejo Federal Pesquero (CFP). Also, it includes a representative of private fishing sector. The CTMFM has the following functions:

- -Set periodically TACs by species and distribute them among the parties;
- -To promote joint participation in scientific studies and researches, particularly within the area of common interest, that includes: stock assessments, conservation and preservation of the marine living resources, rational exploitation, prevention and elimination of pollution and other harmful effects that may result from the use, and exploration and exploitation of the marine ecosystem;
- -To carry out recommendations and present projects aimed to ensure bioecological systems;
- -To perform plans of preservation, conservation and development of the living resources, which will be submit for consideration by both Governments;
- -Promote studies and submit projects about harmonization laws;
- -To strengthen communications, consultations and information interchange;
- -Meet other functions that the parties assigned or by an official exchange statements and/or agreements.

The CTMFM has additional functions as:

- -To designate administrative and technical secretaries and to review internal rules.
- -To conform technical/administrative secretariat under responsibility of both country parties.
- -To approve annual budget and working plan.
- -Adopt internal rules and procedure.
- -Carry out other functions by common agreement with parties.



In accordance with Bonaerense anchovy fishery, Technical Group's recommendations are primarily concerned of the establishment of management measures, such as the determination of the total allowable catch, restricted areas of fishing activities, minimum landing sizes, regulations on fishing gear, measures to prevent pollution, etc.

Functions of Anchovy Technical Group are:

- -To participate in the layout of the joint scientific research including bycatch species.
- -To analyse stock status in ZCPAU and establish TAC's recommendation.
- -To recommend appropriate management measures for this species.

b. National management in Argentine Sea

The Ministerio de Agroindustrial organization chart is shown below:



Fig. 24. Updated of organizational chart of Ministerio de Agroindustria (Source: www.agroindustria.gob.ar)

Ministerio de Agroindustria (MA)

Ministerio de Agroindustria (MA) is the national fishing agency of Argentine Government and is responsible for the implementation of the national fishing legislation and resolutions emitted by Consejo Federal Pesquero (CFP). Some of its responsibilities are specified in the Law N° 24.922 and are:

- -Conduct and execute the national fishing policy, regulating exploitation, control and research;
- -Conduct and execute objectives respecting technical and scientific investigation of fishing resources;
- -Control the maximum licensed catch established by CFP and issue annual quotas of catch per vessel, species, fishing zone and fleet;
- -Issue fishing licenses, prior approval of CFP;
- -Calculate the available surplus and establish, prior approval of CFP, restrictions for closed areas or seasons;
- -Establish, prior approval of CFP, requirements or conditions that vessels and fishing companies must fulfil in order to conduct the fishing activity;
- -Establish catch methods and techniques, and specification of prohibited equipment and nets, etc., with the advice of INIDEP and in concordance by CFP policies;
- -Impose sanctions in conformance of rules, record them and inform to CFP;
- -Develop statistical systems for the fishing activity;
- -Intervene in bilateral or multilateral international negotiations related to the fishing activity in



conformance with the national fishing policy;

- -Establish regulations of the fishing record;
- -Coordinate payment of catch fees established by CFP;
- -Intervene in benefit granting for fishing sector;
- -Intervene in investment plans that require or count on specific international/national financing entities;
- -Establish and implement necessary and sufficient control systems to monitor the catch in the territorial sea and EEZ and check the fulfilment and truthfulness of the affidavits of catching;

Secretaría de Agricultura, Ganadería y Pesca (SAGyP)

SAGyP, through its Subsecretaría de Pesca y Acuicultura (SSPyA), is responsible for conducting and executing national fisheries policy established by CFP. SAGyP conducts and executes scientific and technical research objectives and needs, control total allowable catches (TAC) by species, issue quotas according to the guidelines set by the Council, collect royalties, establish and implement control systems to determine catches in the territorial sea (AEEZ), monitor landings in authorized ports, carry out sanction regime, check the accuracy of fishing reports and promote the consumption of national seafood products both domestically and internationally.

Subsecretaría de Pesca y Acuicultura (SSPyA)

Main objectives of SSPyA are:

- -Propose and implement, within the Law N° 24.922 frameworks, its amendments and supplementary national policies for the effective protection of national interests related to wild capture and the fishing sustainability against the rational use of living marine resources.
- -Propose and implement policies to manage continental fisheries.
- -Coordinate management actions for protection and cultivation of living aquatic resources, aimed at their conservation in the long term with national and provincial authorities.
- -Assist in benefit provisions from sectorial promotion or grant awarded to fisheries and aquaculture.
- -Intervene in all fish health matters.
- -Participate in negotiations on setting the tax and customs policies and foreign trade linked to the fisheries sector, in coordination with relevant agencies.
- -Coordinate work relating to fishery records.
- -Attend in granting fishery allocation prior approval of CFP and assist in approval transferring licenses for fishing vessels.
- -Provide, as appropriate, the immediately suspension of fishing permits when vessel arrives to port and any other needed action, when there is a serious violation and penalty, resulting from infringement of current regulations.
- -Propose closed areas, fishing seasons and/or reservations and delimitation of fishing areas based on specific technical reports, prior approval of CFP.
- -Propose requirements and conditions to develop marine fisheries, including capture methods and forbidden and permitted techniques with the advice of INIDEP.
- -To control TACs and the issuing of annual catch quotas per vessels, prior approval of CFP.



- -Attend to SAGyP in international negotiations, working on efforts related to the expansion of activity areas for the national fishing fleet and improved management of species.
- -Propose measures to regulate the exploitation activities, culture, monitoring and research in areas under national jurisdiction and in adjacent waters to EEZ.
- -Review industrial development in accordance with environment.
- -Propose and implement measures to regulate transport of fish products.
- -Review the policy requirements on fisheries and aquaculture.
- -Approve scientific and technical information dissemination through means deemed appropriate.
- -To support relationships between Ministerio de Agroindustria, INIDEP and federal administration.

Dirección Nacional de Coordinación Pesquera

Its primary responsibility is to understand the control and management of fishing activities within the framework of current legislation.

Dirección Nacional de Planificación Pesquera

Its responsibility is to integrate scientific and technical information to facilitate decision-making for management measures, management and expansion of the sector, to implement in the short, medium and long term, developing permanent fishing statistical systems.

Consejo Federal Pesquero (CFP)

CFP is composed of representatives of the Nation and Provinces seaboard. Its main functions are: national fisheries development plan and establish its national fisheries policy and research; set the Total Allowable Catch (TAC) by species; approve fishing permits; establish mining rights; set fees for the exercise of fishing as well as to regulate and set the rules for the system of resource management by catch quotas. CFP minutes and its decisions (through resolutions and proceedings) are published on its website (www.cfp.gob.ar).

Responsibilities are described in the Law N° 24.922 – Article 9°:

- -Establish national fishing policies and fishery research.
- -Set TACs by species, taking into account maximum sustainable yield according data provided by INIDEP. Also, establish annual catch quotas per vessel and species, fishing area and fleet.
- -To approve permits to carry out experimental and commercial fishing.
- -Advise to Application Authority in international negotiations.
- -To plan national fisheries development.
- -Establish guidelines of co-participation in Fondo Nacional Pesquero (FO.NA.PE).
- -To develop rules on experimental fishing.
- -Establish exploitation rights and set fees for fishing activities.
- -To regulate artisanal fishing activities, establishing a reserve fishing quota for species.
- -Establish issues considered by CFP requiring qualified voting of members.
- -Establish own operational rules with approval of members.



INIDEP

Its missions and functions are to formulate, implement and monitor research projects in exploration, assessment and development of fisheries, aquaculture technologies, fishing gears, processes and economy, according guidelines and priorities established by enforcement authority.

In the scientific institution that advises CFP in determining TACs per species, experimental fishing, stock status, plan design or application of management measures and coordinate scientific and technical activities in the assessment and conservation of national marine living resources. Institutional activity and technical documentation produced serve as a basis for decisions of the enforcement authority. Technical reports are provided in the website (www.inidep.edu.ar).

There is implemented the On Board Observers Program, whose general objective is the coverage of fishing activities on board vessels in order to obtain scientific data to assess for ecological system in operation to assist the development of sustainable fishing.

According SSPyA Regulation N° 9/2008, INIDEP provides technical accreditation to individuals who meet the qualification and training necessary to perform the following tasks:

- -Monitoring and measurement of fishing gears.
- -Collect sample data and observations during fishing operations.
- -Any additional task that INIDEP can determine to improve fishing activities.

Ministerio de Relaciones Exteriores y Culto

It is responsible of foreign policy aspects in fisheries and environmental issues related with this activity and represents Argentina in international forums. It also understands the negotiation, interpretation and implementation of international instruments regulating fishing activities and those related to environmental issues. Moreover, promotes in international trade of fish products and exportations linked to the national fisheries.

Secretaría de Ambiente y Desarrollo Sustentable (SAyDS)

In relation with environmental issues, Secretaría de Ambiente y Desarrollo Sustentable (SAyDS) de la Nación is enforcement authority of the General Environmental Law N° 25.675, whose objectives are: to ensure the preservation, conservation, recovery and improvement of the quality natural and cultural of environmental resources; promote balance and dynamics of ecological systems; ensure the conservation of biological diversity; and establish a federal system of interjurisdictional coordination for the implementation of environmental policies at national and regional level. This law provides a framework for the preservation and conservation of natural resources and involves society in activities of prevention of deterioration, preservation and restoration of the environment.

Servicio Nacional de Sanidad y Calidad Agroalimenticia (SENASA)

SENASA is a health agency whose main objective is the inspection and certification of products and by-products of animal and vegetable origin. Also, performs tasks of prevention, eradication and control of animal diseases, including those transmissible to humans. Develops standards and compliance controls, ensuring the implementation of the Argentine Food Code, within the international standards required. SENASA carries out the monitoring of factory vessels and processing plants and packaging, transport and marketing of fishery and aquaculture products, in addition to controlling the federal traffic, imports and exports of products, by-products and derivatives fishing origin or culture.



Prefectura Naval Argentina (PNA)

The national fishing authority coordinates with Prefectura Naval Argentina (PNA), under Ministerio del Interior, the adoption of all needed measures to ensure control and surveillance of fisheries. In line with current legislation, PNA exerts patrol tasks related to fishing activity as auxiliary police. It is also the agency responsible for granting of number of registration assigned to fishing vessels that have national flag and controls technical aspects related to the safety of human life at sea, safety and pollution prevention caused by the activity.

3.5.2 Consultation and decision-making processes

The management system includes consultation processes to obtain decision-making and regularly seeks and accepts relevant information, from the main affected parties, including local knowledge, to inform the management system by Comisión de Análisis y Seguimiento de las Pesquerías de Especies Pelágicas created in May, 2015 through the CFP Resolution N° 7/2015. The management system demonstrates consideration of the information and explains how it is used or not used.

Comisión de Análisis y Seguimiento de las Pesquerías de Especies Pelágicas is integrated by representatives from the application authority, INIDEP, Buenos Aires Province, Chubut Province and a representative of each of the cameras that gather companies that have authorized the capture of pelagic species and have an effective participation. This committee will meet at least twice a year and shall submit to CFP its summary meetings with the issues and respective conclusions.

The consultation process provides opportunity for all interested and affected parties to be involved, and facilitates their effective engagement. Comisión de Análisis y Seguimiento de Pesquerías de Especies Pelágicas and Comisión Técnica Mixta del Frente Marítima, which are consulted by respective application authorities of Argentina and Uruguay prior to take any decision on the fishery. Interested stakeholders have the opportunity to be involved in the consultation process and facilitate their effective engagement. The industry is able to respond quickly to all serious and other important issues identified in the previous Commission. All consultative commissions and stakeholders are called by CFP or SSPyA, when required. Any stakeholder may request a hearing with the administration bodies and is heard prior to decision is taken.

Explanations are provided for any actions (or lack of actions) associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. These are released in INIDEP Technical Reports. These reports are referred to CFP and its reception published in its meetings' records.

The management decisions taken in the Zona Común de Pesca Argentino-Uruguaya (ZCPAU) by Comisión Técnica Mixta del Frente Marítimo (CTMFM), since November 1993, are consistent with the provisions of Rio de la Plata's Treaty and its Maritime Front (TRPFM) and other international standards, as well as with the recommendations of its technical bodies, composed of researchers from the fisheries research institutes of both countries.

First, the decision process is discussed among researchers of both countries independently, then by the anchovy working group of Comisión de Seguimiento and finally set out in CTMFM, where advisory members of the private sector of both involved countries.

The fishing fleets operating in the ZCPAU over shared resources must respect both regulations of the flag state and those emanating from CTMFM. The main rule of CTMFM concerning anchovy fisheries is the CTMFM Resolution N° 14/2014, which lays down minimum catch size of 120 mm, prohibits night fishing, requires the use of pelagic trawl mid-water net or purse, ordered joint research between the technical bodies of both countries, and finally, it establishes the penalties for noncompliance.



On CTMFM website it can be read that the 'Argentine anchovy Working Group" advises the Comisión Técnica Mixta del Frente Marítimo (CTMFM) in: analyse the situation of the species in the area of Treaty; participate in the planning of joint research campaigns about anchovy and its bycatch, both on its assessment and to determine potential areas of restricted fishing to protect this species; conduct studies aimed at determining the stock status for the purpose of recommending to the Commission management measures which are considered appropriate; and, conduct studies aimed to determine the total allowable catch (TAC). Moreover, the CMTFM Resolution N° 14/2014 sets management measures for anchovy in the Common Fishing Zone.

Therefore, it can be consider that the assessment done by Argentina is reviewed and considered by Uruguay and stakeholders due to their lack of anchovy fishing on the past years.

3.5.3 Objectives for the fishery

The Federal Fishing Law N° 24.922 (Article 1°) establishes that Argentina will foment the practice of maritime fishing in function of a maximum development compatible with the rational exploitation of living marine resources, will promote the effective protection of national interests related with fishing and the sustainability of the fishing activities, the long-term conservation of the resources, the development of industrial processes environmentally appropriate to reach the maximum added value and the maximum Argentinean employment. These minimal premises must be complied by all fisheries in Argentine waters, due mandatory statement for the whole fishery system, and particularly, for the administration system, which task is to design management policies in order to achieve the Law objectives.

The concept of Maximum Sustainable Yield (MSY) included in the mentioned Law is expressed in its Article 8° of its Regulatory Federal Decree N° 748/99: 'It must be understood as Maximum Sustainable Yield (MSY) of a desired species, the maximum biomass that can be captured annually without affecting its conservation'.

Additionally, other sections of the Federal Fisheries are related with preventing excesses on exploitation and the sustainable utilization fishery resources:

- -Article 17°, by prescribing that fishing in the whole Argentine maritime jurisdiction will be subjected to restrictions established with the objective of avoiding exploitation excesses.
- -Article 21°, by banning every method, technique, equipment and fishing gear that may cause damage on the live aquatic resources.
- -Article 22°, by referring to the organization and maintenance of a fishing regulation within the Economic Exclusive Zone, establishing measures for organization and conservation directed to the rationalization of the exploitation and insurance of the conservation of resources.
- -Article 37°, related to the access to fishing activity in the maritime areas under Argentine jurisdiction to fishing vessels with foreign flat. This articles indicates that determination of the capture fishing capacity by the Argentine fleet in order to estimate the available biomass for foreign fleets, could only be done considering biologic features of the exploited resource, and not considering normal cyclic reductions on fleet common in fishing activity nor due to specific situations or extraordinary events that could have affected the operation of a particular fleet.

Incorporating an adaptive criterion, both operational and long-term measures were implemented both in AEEZ and in ZCPAU. The first are in connection with annual survey assessment, like establishment of a Total Allowable Catch, while others are long-term measures:

- -Minimum legal size was set at 120 cm of total length.
- -TAC, harvest rate fixed considering long term biomass and reproductive biomass objectives.



- -Sets out a fishing closed area of 12 nautical miles wide from Uruguayan Continental Sea.
- -Prohibits night fishing.
- -Requires private fishing companies to allocate funds to recourse research plan aimed at the protection of the species.
- -Establishes the penalties for noncompliance.
- -Whole fishing trip catch report.
- -Creation of a government private Technical Fisheries Advisor Commission.
- -VMS required.
- -Vessel and gear marking requirements.
- -Fishing gear and method restrictions.
- -Compulsory shipment of on board Inspector and Observer.
- -Control of landings (e.g. requirement to land only to licensed fish receivers).

Long-term political objective on rational exploitation, stocks productivity protection, social and inter generation equity and species conservation, are explicit referenced in all relevant legislation and same precautionary approach is included in technical recommendations.

The precautionary approach is established by the Argentine fisheries legislation by means of the prescriptions present in Article 17° of the Federal Fisheries Law N° 24.922, which establishes that "Fishing activity throughout all maritime areas under Argentine jurisdiction, will be subjected to restrictions set by the Federal Fisheries Council for the conservation of resources, in order to avoid excesses of exploitation and prevent damages over the environment and the ecological system unit". Issues related with the conservation of fisheries resources can be also found in Articles 1°, 21° and 27° of the Federal Fisheries Law 24.922 and in Articles 1° and 12° of its Regulatory Decree N° 748/99.

The precautionary approach is also present in the stock assessment models and in the technical recommendations of biologically acceptable capture, as a result of the uncertainty surrounding recruitment of new individuals. TACs are established considering biomass and reproductive biomass recovery in the long term.

Data collection of environmental aspects of the fishery during fishing operations is in charge of on board observers program. The data analysis and conclusions are on charge of the INIDEP Marine Environment Program, which estates the objectives and associated species research objectives.

Objectives for marine bird's protection are established in the National Action Plan for birds (CFP Resolution N° 15/2010).

Objectives for chondrichthyes protection are established in the National Action Plan for chondrichthyes (CFP Resolution N° 6/2009) and N° 4/2013).

Objectives for marine mammal protection are established in the National Action Plan for mammals (CFP Resolution N° 11/2015).

The Federal Law N° 25.577 protects cetaceans from any kind of intentional catch. Federal Law N° 25.052 and its complementary Decree N° 598/2003 prohibit catch and commercialization of killer whale ($Orcinus\ orca$).

Consejo Federal Pesquero also regulated by means of its Resolution N° 3/2001, the data collection and analysis of birds, reptiles and mammals bycatch during fishing activities.



3.5.4 Monitoring, control and surveillance and enforcement

With regard to the control of the operation on the fleet, SSPyA has implemented the Sistema Integrado de Control de Actividades Pesqueras (SICAP), consisting of: a) Satellite Positioning System of the National Fishing Fleet; b) satellite information of the whole area where foreign fishing vessels outside the AEEZ by Comisión Nacional de Actividades Espaciales; and c) activity monitoring and surveillance by PNA, Navy and Air Force which have surface units (guard coast and corvettes) and air units (planes and helicopters) to control illegal fishing. This information is supplemented with control from downloads and on board information. It also features the incorporation of electronic fish and control of activity by cameras on board.

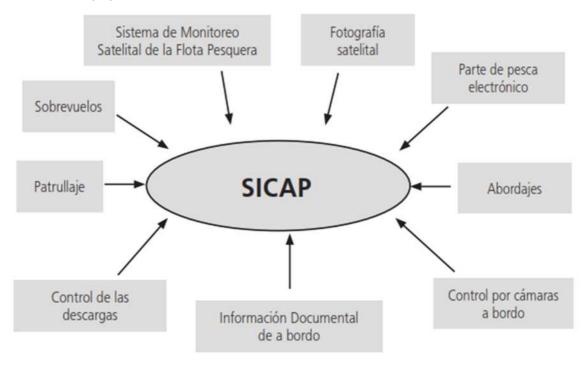


Fig. 25. Sistema Integrado de Control de Actividades Pesqueras (Source: PAN-Tiburones)

The organizations responsible for the control and monitoring of international trade in food products in Argentina are SENASA and Dirección General de Aduanas (DGA).

SENASA is responsible for the inspection and certification of products and by-products of animal and plant health agency, monitoring, control processors vessels, processing plants, on land conditioning, transport and marketing of fishery products and aquaculture, besides controlling the federal traffic as well as imports and exports of products, fisheries products and derivatives of origin or culture.

DGA is an organ that is part of Administración Federal de Ingresos Públicos (AFIP) and is responsible for implementing the legislation on the import and export of goods, as well as the traffic control goods entering or leaving in the customs territory. Its main function is to assess, classify, monitor and control the entry and exit of goods, as well as media that are transported, ensuring compliance with regulations.

This institutional framework and tools generated, allow to set the following control in relation to the extracting and marketing of fishery products:

- a) Prior to leaving boat:
- 1. <u>Release for fishing:</u> control of the leaving boat by PNA, through the document entitled "Declaración de Salida" which contains date and time of vessel departure, all characteristics, validity



of certificates, the role of the crew, the vessel does not count with any impediment to start the trip, that has corresponding fishing permit and target species, the satellite monitoring equipment is in good working order and that the Fisheries inspector is enabled to meet this function by the competent authority.

- b) During the fishing trip:
- 2. <u>Satellite monitoring during trip:</u> as set out in the SSPyA Regulation N° 2/2003, all fishing vessels must have equipment on board satellite monitoring, in perfect working order. The system must inform the ship's position every hour. In the event that the ship stops emitting its signal for more than two hours space is immediately order to return port. Regardless, SSPyA office control can perform special individual queries ("polling") at any time with any questions regarding the position of the vessel. Currently all commercial fleet of more than 13 m in length, operating in national waters, has satellite monitoring system. This makes a total of 570 fishing vessels with equipment on board, with an average daily operation of between 225 and 300 ships in about navigation. Twice a day the system information on the SAGyP website is updated.
- 3. <u>Inspections on board:</u> the inspector prepares "Informe de Control de Marea" and "Actas" if applicable.
- 4. Fishing acts: the system consists of several affidavits of catches by species and fishing area signed by the master of the vessel. Moreover, the captain prepares a statement with the summary information ("Parte Final de Marea"), in which the catch is declared by fishing zone across the tide. This portion is scanned by accessing the database and this information is taken into account for the control of tariffs and quotas. In addition, the captain made a statement with the information for each set ("Parte Lance por Lance"). All documents are delivered in the delegations of Dirección Nacional de Pesca operating in the port where the discharge process is carried out.
- c) During the trip:
- 5. <u>Declaration input: control of port entrance documented by PNA.</u>
- 6. Monitoring and verification act of discharge: made by dock inspectors in permission by SSPyA.
- 7. <u>Audit of books plant:</u> each plant recorded in "libros foliados" income and expenses of goods to be processed. Plant books are audited by a veterinarian of the Municipality or SENASA as appropriate.
- 8. <u>Exit control plant: for plant outflow of goods should prepare a</u> "Guía de Tránsito" which according to the destination it will have restricted or federal character. It should also be authorized by SENASA drawing up a detailed guide to the origin and destination of goods between authorized institutions ("Permiso de Tránsito Restringido").
- 9. Export control: the goods for export must be accompanied by "Certificado Sanitario de Exportación" issued by SENASA and a "Manifiesto de Exportación (Permiso de Embarque)" issued by AFIP. By providing SSPyA Disposition N° 174/2015, Sistema de Control de Carga was implemented, also known as Legal Capture Certificate, which is mandatory before DNCP request, prior to export requirement, the issuance of a certificate for a large number of species (hake, toothfish, hoki, Southern blue whiting, scallops, haddock and rays) as a requirement for export. The lack of demand for issuance of Load Control Certificate is conditional on the legality of the entire catch of each fishing trip linked to the export check.



4. Evaluation procedure.

4.1 Harmonised fishery assessment

At the moment, harmonisation process is not required for this UoA.

4.2 Previous assessments

a. A summary of any previous assessments of the client operations and conclusions reached from that previous assessments

The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, was certified in August 2011 for first time as sustainable against Principles and Criteria of MSC by Organización Internacional Agropecuaria (OIA), therefore it is well managed and a sustainable fishery.

The full-assessment was conducted following the MSC Certification Requirements v1.2 and Fisheries Certification Methodology v6.1; using the Default Assessment Tree without adjustments. Risk Based Framework methodology was undertaken for the Performance Indicators: 2.1.1 (Retained Species Outcome), 2.2.1 (By-catch Species Outcome), 2.4.1 (Habitat Outcome) and 2.5.1 (Ecosystem Outcome). Pls were scored using Scale Intensity Consequence Analysis (SICA) and Productivity Susceptibility Analysis (PSA), when it is applicable.

The assessment team set 7 conditions. The client group elaborated an Action Plan to address satisfactorily the conditions for a period of 4 years during each surveillance process. This plan was appended in to Final Report.

Actions were examined as part of four surveillances that were completed in September 2012, November 2013, January 2015 and January 2016, respectively.

In the first surveillance audit, progress of milestones related with PIs 1.2.1 and 1.2.2 were identified by the assessment team as AHEAD OF TARGET; PIs 1.2.4, 2.2.3, 2.3.1, 2.3.2 and 2.3.3 were classified as ON TARGET. In the second surveillance audit, all conditions maintain its status as ON TARGET, except PIs 1.2.4 that is identified BEHIND TARGET. However, in the third surveillance audit, this condition comes back to ON TARGET. In the last surveillance, the progresses of all conditions established in the certification process were sufficient to comply with the action plan proposed. As consequence, the assessment team classified these progresses as adequate and it was concluded that all conditions were CLOSED. No non-conformities were found.

It is concluded that the Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic midwater trawl fishery, continues to meet the standards of the MSC and complies with the requirements for continued certification. Therefore, it is recommended that certificate holders maintain the certification to the MSC standard. Therefore, the fishery may apply for a re-certification process.

Since the fourth surveillance, there are 6 companies interested in share the MSC Sustainable Fishery certificate and on July 5th, 2016, the client group decides to share the current certificate with other eligibility companies described in the Table 1. Additionally, it was reported by the client group a change in the certified vessels. The vessel's updated list was published in the MSC website on March 15th, 2016.



b. Details of any conditions that were closed at or between the previous surveillance audits

Condition	PI(s)	Year closed	Justification
Condition 1: the client group must provide evidence that: -the harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points, and -the harvest strategy may not have been fully tested but monitoring is in place and evidence exists that it is achieving its objectives.	1.2.1	Year 4 (2016)	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. The harvest strategy has been applied since 1990's (with adjustments introduces through the years), and it is based on monitoring, stock assessment, harvest control rules and management actions. As the harvest strategy has been practically based on availability of the resource, demand and access to market dynamics and competitive costs, which have been so far resulting in catch levels well below the current TAC, it can be said that it has been precautionary and responsive to management objectives. The current harvest strategy (including its formal and customary aspects) is at safe levels and working successfully as the removals over the last 21 years have ranged from 0.5% to 3.5% stock total biomass. There is no evidence that these harvest rates has had any detrimental effect on the stock or either on the ecological role of the anchovy as a prey species. The resultant management measures for pelagic fisheries were formally expressed in CFP Resolution N° 7/2015, which states that: -the only fishing gears accepted to catch Argentine anchovy are: purse-seine and semi-pelagic mid-water trawl net. (Note: purse-seine is not used by coastal and high-sea fleets). -night fishing is prohibited. -a Commission for analysis and monitoring of pelagic fisheries is created, with the participation of representatives of the Enforcement Authority, INIDEP, Buenos Aires Province, Chubut Province and chambers that gather companies vessels authorized for the capture of pelagic species, which have an effective participation in these fisheries. -it defines the Commission created as an advisory body, and states that meetings should be done at least twice a year, with the obligation to provide to Consejo Federal Pesquero both the minutes and the conclusions of those meetings. Then, harvest strategy could be considered robust

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			The harvest strategy may not have been fully tested but monitoring is in place and evidence exists that it is achieving its objectives. While the harvest strategy may not have been fully tested due to intrinsic issues of the fishery (natural fluctuations, low volumes of catch, market/commercial trends, etc), the assessment team concluded that there is a clear knowledge (by years of repetition) of the key species concept, and since the harvest is continuously monitored, there is evidence that a re-assessment of the situation would be immediately done if the catches exceed 60,000 t a week, and so, there is evidence of a clear objective of maintaining a constant supply of anchovy to the foreign market is met.
Condition 2: the client group must provide evidence that the well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.	1.2.2	Year 4 (2016)	Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached. Harvest control rules in place are well defined and are consistent with the harvest strategy, such as TAC, minimum fish size, gear allowed, night fishing prohibition, legal mesh size, consistent with the harvest strategy, and considered appropriate for current fishing levels, as no detrimental effect has been detected. The vessel licensing scheme has been working as an input control which demonstrates no increase in fishing effort. The vessels that pursue anchovy target this stock during only four months per year and shift then to other target species during the rest of the year. All licensed vessels must report their capture through a fishing report. An integrated control system applying information recorded on real time on board has been applied as well as remote monitoring through vessel monitoring system. Technical controls include minimum fish size (120 mm with a tolerance of 10% in number to the smaller size of the total discharge per trip) and night fishing is prohibited for midwater trawlers to avoid by-catch impact. Legal mesh size is controlled by inspectors (both on board and at landings) and by Prefectura Naval Argentina.
			There are different mechanisms or procedures for the reduction of the exploitation rate, as long as landings are approaching to the TAC. To begin, Dirección Nacional de Planificación Pesquera provides weekly reports to Consejo Federal Pesquero (CFP) detailing the level of consumption of the TAC (of every species with a TAC assigned). If any concerning issue is identified or if it is detected that landings are approaching to the TAC, CFP intervenes by closing the fishery through a resolution, act or suspension of the fishing activity. Up to date, all these mechanisms have been used when needed (in other fisheries). In the whole history of the Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-pelagic mid-water trawl fishery, the TAC of 120,000 t has never been reached, moreover on the past recent years annual catches have been fluctuating around 16,000 t (± 2,000 t), which represents about 18% of the TAC.



Condition 3: the client group must provide evidence that:			The assessment is appropriate for the stock and for the harvest control rule, and is evaluating stock status relative to reference points
-the assessment is appropriate for the stock and for the harvest control rule, and is evaluating stock status			The assessment team fully understand the whole stock ssessment process, its sequence, reasons and definitions of reference points, the available time series, data used for tuning. The uncertainties associated with the data, as many details, are described in INIDEP Technical Report N° 7/2015. There were included egg-production methods and acoustic even if the last survey was done in 2008 and there are uncertainties associated with that.
relative to reference points, -the assessment takes uncertainty into account, and			The stock status is reported in the stock assessment document as the evaluation relative to reference point is included. Also there is a mention to current historical trends of fishing mortality. Estimated trends of the different parameters are reported in annual stock assessment.
-the assessment of stock status is subject to peer review.			The results of this estimate are within the limits defined in previous studies: the total biomass in mid-October would have varied between 1.0 and 5.2 million t, according to year (mean= 2.19 million). Therefore, there is enough evidence to support that the assessment is appropriate for the stock and for the harvest control rule, and is evaluating stock status relative to reference points.
		Voor 4	The assessment takes uncertainties into account
	1.2.4 Year 4 (2016)	The assessment takes into account the main uncertainties, as harvest control rules are flexible and responsive to the state of the stock as advised by regular and frequent assessments. In most recent stock assessment, as relevant as the recommendations to the management authority, uncertainties were included into the projections, considering current biomass, composition by age groups, future recruitments and seasonality of exploitation.	
		The variability associated with the results (current abundance, population composition by age, average recruitment, seasonality of the exploitation) was added to a simulation process: the evolution of the stock was projected assuming different values of fishing mortality (F) constant in subsequent years, to determine the maximum value compatible with the harvest control rule proposed for this fishery (INIDEP Technical Report N° 7/2015).	
			The assessment takes uncertainty into account. The main uncertainty for this species is the recruitment variability which is taken into account in the future projection, and uncertainty around the numbers-at-age from the previous years is also taken into account.
			The assessment of stock status is subject to peer review
			The assessment identifies major sources of uncertainty through the INIDEP reports, and these reports are audited and subjected to approval by the National Director of Research, so there is a system identified in which the assessment of stock status is subject to peer review.



Condition 4: the client group must provide evidence that sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectively of the strategy).	2.2.3	Year 4 (2016)	Moreover, CMTFM analyses the situation of the species in the area of the Treaty, and through Resolution N° 14/2014 sets management measures for Argentine anchovy species (<i>Engraulis anchoita</i>) in the Common Fishing Zone. Therefore, the assessment done by Argentina is reviewed by the Uruguayan scientists. Sufficient data continue to be collected to detect any increase in risk to main by-catch species (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectively of the strategy) The information is collected periodically by: INIDEP On Board Observers Program, INIDEP Dock Sampling, INIDEP Research Surveys, fishing electronic records (daily and final, per vessel) and in-port inspections. Additionally, all Argentinean fleet are satellite monitored. Sufficient data continue to be collected to detect any increase in risk to main by-catch species, but for some species detail to assess on-going mortalities it is improving. The weight of by-catch species continues to be recorded by observers. Samples of by-catch continue to be taken by OBO and biomass surveys.
Condition 5: the client group must provide evidence that the effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.	2.3.1	Year 4 (2016)	The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species. There are plenty or national programs or regulations implemented to reduce the interaction between ETP species and Argentinean fisheries, and various international treaties to which Argentina is a member, or has ratified, which through its correspondent research teams, to know the effects and to determine the impacts of the fishery (see rationale at PI 2.3.1 for details). Vulnerability of seabirds has been widely analysed and evaluated at national and international level. There are many independent stakeholders (both governmental and NGOs) working on this issue, such as Fundación Vida Silvestre Argentina, Aves Argentinas, CONICET, Universidad Nacional de Mar del Plata and INIDEP On board Observers Program, which worked together in the project to reduce the impact of Argentinean fisheries on Albatross and Petrels (CPF Act N° 2/2012) Due to the reduced fishing effort, the UNMdP Birds group considers that, for recent years, it can be inferred that the timely effect of the (Argentine anchovy) fleet in terms of mortality is minor, especially compared with other fleets and target species. The "Biology, Ecology and Conservation of Marine Mammals Group", which belongs to the CONICET-UNMdP Institute of Marine and Coastal Research, has been following the interaction between marine mammals and the Argentine anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic mid-water trawl fishery for the last four



			years (since its creation in 2012), gathering information from vessels captains and personnel involved; and also have been also training OBOs in the identification and types of interactions with marine mammals. In the conclusion at the report that considered 2012 and 2013 fishing seasons, only a total of 12 individuals in certified vessels were recorded as entangled, which were eating the catch at the moment of the harvest; and no interactions with cables or propeller were observed.
Condition 6: the client group must provide evidence that: -there is a strategy in place for managing the fishery's impact on ETP species, including measures to minimize mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species, -there is an objective basis for confidence that the strategy will work, based on information directly about the fishery and/or the species involved, and -there is evidence that the strategy is being implemented successfully.	2.3.2	Year 4 (2016)	There is a strategy in place for managing the fishery's impact on ETP species, including measures to minimize mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species. There are many precautionary management strategies in place for managing the fishery's impact on ETP species, designed to meet national and international requirements, in order to ensure that the fishery does not pose risks or serious harm to ETP species, such as the National Plan of Action for the Conservation and Management of Birds of Argentina (PAN-Aves), National Plan to reduce the interaction of Marine Mammals with Argentine fisheries (PAN-Mamiferos), National Plan of Action for the Conservation and Management of Sharks of Argentina (PAN-Tiburones) and other specific measures for Chondrichtyes. Moreover, Argentina is part of various intergovernmental treaties such as the Agreement on the Conservation of Albatrosses and Petrels (by Federal Law N° 26.107), Convention on Migratory Species, also known as CMS or Bonn Convention (through Federal Law N° 23.918/1991), Convention on International Trade in Endangered Species of Fauna and Flora (CITES) (through Federal Law N° 22.344/1982), Convention on Biological Diversity (approved by Federal Law N° 24.375/1994). In order to minimize the effects that fishing may have on the most vulnerable populations of wild birds, as well as prevent this interaction also affects international trade in fisheries products in question, CFP approved in 2014 (CFP Act N° 31/2014) a pilot project to reduce the impact and interaction between birds and Argentinean fisheries, through the use of streamer lines designed and provided by the "Argentina Albatross Task Force Project" from "Aves Argentina Foundation". According to the results, it became a mandatory measure for every trawl vessel. In all cases through many days of testing and experimentation it has shown that the use of streamer lines reduces albatross interactions with fishing vessels



			involved.
			Due to the reduced fishing effort, the UNMdP Birds group considers that, for recent years, it can be inferred that the timely effect of the (Argentine anchovy) fleet in terms of mortality is minor, especially compared with other fleets and target species. However, at the moment, due to the limited number of fishing days and diversity of vessels, the cumulative effect in mortality levels detected it is not yet reliable (see Seabird Conservation in Fisheries: Current State of Knowledge and Conservation Needs for Argentine High-Seas Fleets. In "Seabirds and Songbirds: Habitat Preferences, Conservation and Migratory Behavior", Nova Science Publishers, New York. 978-1-63463-496-0).
			About mammals, based on the "Biology, Ecology and Conservation of Marine Mammals Group" report, a low number of marine mammals (12) were recorded as entangled during 2012-2013, (while no records from 2014 and information about 2015 is still on preparation) which were eating the catch at the moment of the harvest; and no interactions with cables or propeller were observed.
			There is evidence that the strategy is being implemented successfully
			Both the UNMdP Bird group and the "Biology, Ecology and Conservation of Marine Mammals Group" (CONICET-UNMdP) provided evidence that both National Plan for the Conservation of Birds (PAN-Aves), Mammals (PAN-Mamífero) are showing effectiveness and evidence to support that the strategy is being implemented successfully and achieving its objective.
Condition 7: the client group must provide evidence that:			Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species, and if so, to measure trends and support a full strategy to manage impacts, and
-information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species, and if so, to measure trends and support a full	2.3.3	Year 4 (2016)	All information is collected by: INIDEP (and other provincial organizations) On Board Observers Program, INIDEP (and other federal and provincial organizations) Dock Sampling, INIDEP Research Surveys, Scientific independent researches, NGOs, fishing electronic records (daily and final, per vessel) and in port inspections. Additionally, all Argentinean fleet are satellite monitored and a video control system is to be implemented soon. As well, environmental variability is also monitored by the Comisión Nacional de Actividades Espaciales (CONAE) and Servicio de Hidrografía Naval (SHN).
strategy to manage impacts, and -sufficient data are available to allow fishery related			Information is analysed by INIDEP and presented as Advice and Transference Report (confidential) or Technical Report (public information). Dockside monitoring records on 100% of landings provide the amounts of all landed species in this fishery. Information on directed and other incidental species is also available from commercial logbooks.
mortality and the impact of fishing to be quantitatively			From above, and what discussed in the previous related conditions, and also through the rationales for ETP species, it is considered that information is sufficient to determine whether the fishery may be a threat to protection and



estimated for ETP species.	recovery of the ETP species, and if is measuring trends that support a full strategy to manage impacts.
	Sufficient data are available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.
	All information is collected by: INIDEP (and other provincial organizations) On Board Observers Program, INIDEP (and other federal and provincial organizations) Dock Sampling, INIDEP Research Surveys, Scientific independent researches, NGOs, fishing electronic records (daily and final, per vessel) and import inspections. Additionally, all Argentinean fleet are satellite monitored and a video control system is to be implemented soon. As well, environmental variability is also monitored by Comisión Nacional de Actividades Espaciales (CONAE) and Servicio de Hidrografía Naval (SHN).
	The CFP Resolution N° 3/2001 establishes that the INIDEP On Board Observers Program will also monitor birds, mammals and chondrichthyes. On Board Observers are periodically trained by INIDEP researchers.
	Information on INIDEP is analysed by and presented as Advice and Transference Report (confidential) or Technical Report (public information). Dockside monitoring records on 100% of landings provide the amounts of all landed species in this fishery. Information on directed and other incidental species is also available from commercial logbooks.
	From above, and what discussed in the previous related conditions, and also through the rationales for ETP species, it is considered that there are sufficient data available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.



4.3 Assessment methodologies

a. The version number of the FCR used to assess the fishery

The MSC Fishery Certification Requirements v2.0 was used to assess the fishery.

b. The version number of the 'MSC Full Assessment Reporting Template' used to produce this report

The MSC Full Assessment Reporting Template v2.0 was used to produce this report.

The Default Assessment Tree was used without adjustments. For PIs 2.2.1, 2.3.1, 2.4.1 and 2.5.1, it is used the RBF methodology v2.0 (for more information see Appendix 1.2 Risk based framework (RBF) outputs).

Stakeholder comments and OIA responses are included in Appendix 3.

4.4 Evaluation processes and techniques

4.4.1 Site visits

In consultation with the client group, OIA started the re-assessment process in December 2015. Completing the formal documentation, including Client Document Checklist, OIA announced to the client group and stakeholders on January 19th, 2016, the beginning of re-certification assessment, the proposed assessment team, the use of RBF (PIs 2.2.1, 2.3.1, 2.4.1 and 2.5.1), and where and when the on-site visit would take place. All stakeholders who had expressed interest and contributed to the full-assessment and surveillances were directly contacted by email and later by telephone. There was not received comment about the proposed team members and the use of RBF.

All interviews with stakeholders (client group, scientist and NGOs) were carried out in Mar del Plata from 22 to 24 February 2016, where the fishery client is based. All meeting minutes are presented in Appendix 3. All information received is based on update of relevant scientific-technical documents of Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery. The last date of site visit was dedicated to carry out the RBF's workshop.

The assessment team reviewed the fishery status and whether the fishery complies with the scoring issues of the default assessment tree and its performance of the fishery in regard to the MSC Standard.

The site visit was comprised of the following parts:

- -**Provision of information:** The site visit program and logistical information, including RBF methodologies and review of team members about secondary and ETP species, habitat and ecosystems were provided to stakeholders previous to the meetings. Also, the notification included the links of "Stakeholder Guide to the MSC" and the "Template for Stakeholder Input".
- -Meetings: The individual meetings started with an interview with the Client Group in Alleloccic & Nuevo Viento's office and then with INIDEP scientists and Aves Argentinas' expert. The second day, meetings were continued with marine mammals and birds experts of Universidad Nacional de Mar del Plata (UNMdP). In all interviews, relevant information and documents regarding the reassessment process were exchanged. Consultations have taken place on February 22nd and 23rd, 2016. Meetings were conducted by the proposed assessment team and were focused in the ongoing activities associated with the new process on the fishery as well as the eventual changes occurred after the last surveillance.



-Documentation: Relevant documents related to the process were provided to the assessment team by Client Group and stakeholders prior and also during meetings. After these, follow up emails were sent to stakeholders to request additional information. All documents received by team members during audit activities were reviewed and detailed in Reference section.

OIA give the opportunity that all stakeholders identified in the certification process to provide information (e.g. fisheries and fishery managers, scientist, NGOs, citizens, government agencies, others). The assessment team inspected the following issues:

- -Any potential or actual changes in management systems.
- -Any changes or additions/deletions to regulations.
- -Any personnel changes in science, management and 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.

4.4.2 Consultations

Details of people interviewed as local residents, representatives of stakeholder organisations, including contacts with any regional MSC representative are provided in the following table.

Table 12. Outline of surveillance activities

Stakeholders notification: visit scheduled January 19 th ,						
Re-assessment process: vi	sit on- site	Mar del Plata, February 22 nd to 24 th , 2016				
	MEETING ATTENDEES AND ORGANIZATIONS					
	Opening meeting with C	lient Group				
Name	R	ole/Organization				
Carlos Rodríguez	Director of CENTAURO S.A.					
Laura Martínez Souto	Quality Manager of CENTAURO	S.A.				
Martín Discala	President of DELICIAS S.A.					
Pablo Esteban Ciccolella	Manager Partner of NUEVO VIE	NTO S.R.L. & ALLELOCCIC S.A.				
Rocío González	Quality Manager of DELICIAS S.A	4.				
Silvia Barañano	Quality Manager of PRANAS S.A	l.				
	Scientist group me	eting				
Name	R	ole/Organization				
Dr. David Garciarena	Head of "Pesquerías de Peces Pe	elágicos" Program, INIDEP				
Dr. Marcelo Pájaro	Responsible of "Dirección de Pes	squerías Pelágicas y Ambiente Marino", INIDEP				
Lic. Claudio Buratti	Researcher of "Pesquerías de Pe	eces Pelágicos" Program, INIDEP				
Lic. Gabriel Blanco		de Buques Comerciales" Program, INIDEP				
Lic. Jorge Colonello	Researcher of "Pesquerías de Co	ondrictios" Program, INIDEP				
Lic. José Luis Flaminio	Researcher of "Observadores a	Bordo de Buques Comerciales" Program, INIDEP				
Lic. Paula Orlando	Researcher of "Pesquerías de Pe	eces Pelágicos" Program, INIDEP				
	NGO meeting					
Name	R	ole/Organization				
Lic. Leandro Tamini	Instructor of Albatross Task Ford	ce and Coordinator of Marine Program, AVES				
Lic. Leanuro Turriiri	ARGENTINAS/BIRDLIFE INTERNA	ATIONAL				
	Scientist meetir	ng				
Name	R	ole/Organization				
Dr. Agustina Mandiola	Marine Mammals Researcher o	f IIMyC-CONICET-UNMDP				
Dr. Diego Rodriguez	Marine Mammals Researcher o	f IIMyC-CONICET-UNMDP				



	Scientist meeting
Name	Role/Organization
Dr. Sofía Copello	Seabird Researcher of IIMyC-CONICET-UNMDP
, ,	Stakeholder attended the RBF Workshop
Name	Role/Organization
Carlos Rodríguez	Director of CENTAURO S.A.
Carolina González	Quality Control of CATESUR S.A.
Dr. Agustina Mandiola	Marine Mammals Researcher of IMMyC-UNMDP
Dr. David Garciarena	Head of "Pesquerías de Peces Pelágicos" Program, INIDEP
Dr. Diego Rodriguez	Marine Mammals Researcher of UNMDP
Dr. Marcelo Pájaro	Responsible of "Dirección de Pesquerías Pelágicas y Ambiente Marino", INIDEP
Dr. Sofía Copello	Seabird Researcher of IMMyC-CONICET-UNMDP
Gabriela Soto	Quality Manager of NUEVO VIENTO S.R.L.
Jorge Di Costanzo	Quality Manager of CATESUR S.A.
Jorge Scroggie	Apoderado of MARBELLA S.A.
Laura Martínez Souto	Quality Manager of CENTAURO S.A.
Lic. Ana Massa	Head of "Pesquerías de Condrictios" Program, INIDEP
Lic. Claudio Buratti	Researcher of "Pesquerías de Peces Pelágicos" Program, INIDEP
Lic. Gabriel Blanco	Head of "Observadores a Bordo de Buques Comerciales" Program, INIDEP
Lic. Jorge Colonello	Researcher of "Pesquerías de Condrictios" Program, INIDEP
Lic. José Luis Flaminio	Researcher of "Observadores a Bordo de Buques Comerciales" Program, INIDEP
Lic. Paula Orlando	Researcher of "Pesquerías de Peces Pelágicos" Program, INIDEP
Lic. Verónica García	Researcher of Marine Program of FUNDACIÓN VIDA SILVESTRE ARGENTINA
Martín Discala	President of DELICIAS S.A.
Rocío González	Quality Manager of DELICIAS S.A.
Silvia Barañano	Quality Manager of PRANAS S.A.

A summary of the information obtained from the stakeholder meetings including the range of opinions are provided in the Appendix 3. The following topics have been discussed:

- -Implications of re-certification process
- -Primary, secondary and ETP species related with the fishery and potential impact.
- -Documents related to collect data
- -Execution of INIDEP OBO Program
- -Activities carried out by Comisión de Seguimiento
- -Sharing harvest with Uruguay in ZCPAU
- -Unwanted catch in the fishery
- -Measures carried out to control unwanted catch
- -Lack of scientific information
- -Internal/external peer review process in stock assessment/decision

Also, the full list of activities and components that have been discussed or evaluated in the assessment, regardless of the final risk-based outcome are detailed in the Appendix 3

4.4.3 Evaluation techniques

Site visits to the fishery were performed by OIA and the assessment team, and consultations were done with interested stakeholders. Performance indicators and the pertaining scoring systems were



evaluated, and it was judged if the fishery meets the requirements for MSC certification. In order to fulfil the requirements for certification the following minimum scores are required:

- -The fishery must obtain a score of 80 or more for each of the three MSC Principles, based on the weighted aggregate scores for all Performance Indicators under each Criterion in each Principle.
- -The fishery must obtain a score of 60 or more for each Performance Indicator under each Criterion in each Principle.

Even though a fishery fulfils the criteria for certification, there may still be some important potential risks to future sustainability that are revealed during assessment. These are performance indicators that score less than 80, but more than 60. In order to be granted a MSC fishery certificate, the client group must agree to further improvements to raise the score to 80. OIA sets a timescale for the fishery to improve the relevant areas, so that the certification process can continue.

The first proposal to use RBF was notified to all stakeholders. This consultation advised that the RBF could be used in the assessment of PIs 2.2.1, 2.3.1, 2.4.1 and 2.5.1.

All stakeholders were invited to RBF workshop and to form part of the site visit via email, newsletter or any other way of contact. The RBF workshop was attended by a range of fisheries and environmental experts. These experts provided advice on the Components and Sub-Components of the marine environment that were most likely to be affected by the fishery, and also the aspects of the fishing activity that were most likely to have an adverse effect on these elements. Scores were agreed during the workshop and then, reviewed by assessment team.



5. Traceability.

5.1 Eligibility date

Expiration date for the current certificate is 17th August 2016. The target eligibility date for this fishery is therefore the date of recertification. This means that any fish caught by the certified fleet following that date will be eligible to enter the chain of custody as certified product.

However, due to delay of Re-certification process, OIA requested to MSC a certificate extension. MSC granted it and the current certificate will expire on **December 20th**, **2016**. More information is available in MSC website.

It is important to mention that this date is related with the strong seasonality of this resource allied with the main captures in the spring season. Measures taken by the client to account for risks within the traceability of the fishery – and therefore generating confidence in the use of this date for target eligibility – are detailed in the rest of this section.

5.2 Traceability within the fishery

The fleet assessed usually catches in the spring, when anchovy schools coming from the NE arrive to the coastal waters, at the same time as the ones offshore move to the Argentine intermediate shelf. The presence of these is massive during the peak of the reproductive season (October-November). The fishing trip usually is carried out between 3 to 4 days then vessels return to landing points and is started the unloading process.

Fishes are placed and separated by species in plastic bins of 30-40 kg and are unloaded in port supervised by company staff and an SSPyA's inspector that weighs and recounts fish boxes to verify catches previously declared by captain through a form ("PARTE FINAL DE PESCA") that includes quantities caught by species and catch aspects (vessel name, annual trip, fishing gear used and harvest area – latitude and longitude). This checking is registered in the "ACTA DE DESCARGA" that includes quantities caught by species and vessel name and SSPyA staff ensures the anchovy weighing complies with the regulation.

As the product is fresh, fish is transported very quickly after unload onto the client facilities for further processing. Goods are transported by subcontracted/owner company in sealed containers to clients or processing plants with a WAYBILL. Waybill is completed by the fishing company (ownership of vessels) and information used is in accordance of Parte Final de Pesca and Declaración Legal de Captura (vessel name, quantities caught by species, annual trip and client data). All products sold provided are registered in "DECLARACIÓN LEGAL DE CAPTURA", including species, total weight, number of bins and the receiving company.

All information provided above must be completed by each vessel and company. So, there is not risk to mix non-certified fish with certified fish in the unloading and transportation processes (or prior to entering in the chain of custody). Even in this stage there are not a lot number established, fishes can be traced from their origin using mentioned documents and traceability is maintained. This process is deemed robust enough to allow tracing of fish products back to the area and day of catch, through a series of Argentinean required documents and dispatches records provided by the company.

All Bonaerense anchovy stock (north of 41° S) caught by coastal and high-sea fleets using mid-water trawl net (see Table 1) can be considered to be MSC certified under re-assessment, according UoA definition. However, as it is mentioned, only vessels linked to the client group can sell this anchovy as MSC. The landing process is monitored in all time by SSPyA, Aduana, SENASA and company staff.



Skips are placed in sealed containers and directly transported to processing plants. So, there will be no risk of mixing MSC and non-MSC anchovy in the unload process, due that this activity is actively monitored by SSPyA that is charge to sign the document 'DECLARACIÓN LEGAL DE CAPTURA', corroborating that fish is linked by the respective vessel. Tracking and tracing of certified anchovy will be guaranteed via the following system:

- -Logbooks and Vessel Monitoring System (VMS) will allow the tracing of catch back to the location and date of landing;
- -Outgoing documentation (waybills, Parte Final de Pesca, Acta de Descarga and Declaración Legal de Captura) states species and origin.

Table 13. Traceability factors within the fishery

Traceability Factor	Description of risk factor if present. Where applicable, a description of relevant mitigation measures or traceability systems (this can include the role of existing regulatory or fishery management controls)	
Potential for non-certified gear/s to be used within the fishery	There are vessels using purse-seine net catching Bonaerense anchovy. This fleet is called 'Rada o Ría'. The enforcement authority has implemented in the traceability system the document 'PARTE FINAL DE PESCA' that includes a declaration of fishing gear used to catch species and marine area that it is harvested. This official form shall be completed by captain in every fishing trip and must be presented in landing port. This document is used by management authority to monitor TACs and assess stock status of species.	
	However, vessels not use two fishing gears at the same time in a determined fishing trip. If the intension is to change the gears to target a specific species, the vessels must return to port and change it. This change must be specified in the 'PARTE FINAL DE PESCA'.	
	According above mentioned, there is no risk to mix anchovies catch by other fishing gear.	
Potential for vessels from the UoC to fish outside the UoC or in different geographical areas (on the same trips or different trips)	There is no risk of Rada Ría, Coastal and High-sea fleets fishing outside of the UoA or in different geographical areas. Bonaerense and Patagonian anchovy stocks are managed separated by enforcement authority. Mid-water trawlers not fish in the same trip Bonaerense and Patagonian stocks. If ir the case, mid-water trawlers catch Patagonian stock, this harvest must be declared in official document, mentioning specific fishing area. Also, it is mandatory the use of GPS for all vessels by fishing management authority. This requirement is part of VMS or SICAP (see section 3.5.4 Monitoring, control and surveillance and enforcement) and all fishing trips are tracked and landings are recorded.	
Potential for vessels outside of the UoC or client group fishing the same stock	There are other vessels outside the client group fishing the same stock. These vessels are identified in white in the Table 1. These vessels are eligible to use the certificate and sell product as certified.	
	Argentine legislation requires the keeping of logbooks, which	



	are verified by SICAP (VMS) scheme. The fishery records the location and landings, including vessel name, which accompany landing documentation, allowing the fishery product to be traced.	
	In the case, that these vessels are interested to enter in the actual client group, it is necessary to sign a certificate sharing agreement.	
Risks of mixing between certified and non- certified catch during storage, transport, or handling activities (including transport at sea	The client group only fishes for anchovy in MSC certified waters (Bonaerense stock, North of 41° S) and therefore there is not non-certified anchovy on board. The fishery lands fresh product, which is clearly identified with the landing documentation until change of ownership occurs and then, separate Chain of Custody certification is required.	
and on land, points of landing, and sales at auction)	In the case that Patagonian anchovy and purse seine anchovy landing at the same time, both fishes are separated and documented adequately with the supervision of control authority (SSPyA's inspector). A registration of this surveillance is recorded in the "ACTA DE DESCARGA". There is no risk of mixing.	
Risks of mixing between certified and non-certified catch during processing activities (atsea and/or before subsequent Chain of Custody)	As mentioned above, the client group only fishes in MSC certified waters. There is not on board processing and the fish is landed fresh and entire. There is therefore no risk of mixing certified and non-certified at sea.	
Custody)	Also, the transhipment at sea is forbidden in Argentine waters (see below).	
Risks of mixing between certified and non-certified catch during transhipment	Transhipment at sea is forbidden in Argentine waters, but under exceptional circumstances (described under Federal Fishing Law N° 24.922 and Decree N° 748/99). Authorization must be sought and can only occur in ports of places close to the shore. It does not occur in this fishery.	
	There is no risk of substitution at the landing process between vessels outside UoC due fish is placed in open skips that contain only species. Fish are weighted and recounted by management authorities to verify previous fishing declaration of captain ('PARTE FINAL DE PESCA'). This reduces the opportunity for mixing or substitution with non-certified product. As the product is fresh, transportation of sold product from the port occurs very quickly for further processing. Parte Final de Pesca clearly identifies the fish eligible to be	
Any other risks of substitution between fish from the UoC (certified catch) and fish from outside this unit (non-certified catch) before subsequent Chain of Custody is required	certified as MSC. This document supports the origin of the fish stating if the fish belong to UoA. The document provides data of the fishing area (latitude and longitude), including fishing gear used. Non-certified can not commingle with certified fish.	
	Documents accompanying the skips are waybill and Declaración Legal de Captura. Information detailed on them is described in the report, allowing cross checking of what is sold with what is delivered.	
	The system in place to ensure that any non-certified product does not enter certified supply chains is the monitoring by management authority that controls the landing process and transportation. The opened skips are placed in sealed	

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containers. A container can not have skips from other vessels.
This activity is reflected in the waybill.

5.3 Eligibility to enter further chain of custody

- **-Ports of landing**: There are two eligible points of landing for anchovy to enter into further Chains of Custody: Mar del Plata and Necochea, Buenos Aires Province.
- -Point of intended change of ownership of product: For anchovies landed at Mar del Plata and Necochea (Buenos Aires Province) products will be sold directly to clients, which are the intended change of ownership under that situation, or to be conducted to processing plant of the same company. The change of ownership will occur upon purchase of the fish. If anchovies are sold directly to clients, its transportation shall be completed by an approved sub-contractor and this shall be covered within the scope of the fishery certificate.
- -Point from which Chain of Custody is required: Separate Chain of Custody Certification will be required from the first point of sale (when fish changed of ownership) or when fresh product arrives at the processing plant (processors included in the client group). So, all processing plants require carry out Chain of Custody's certification.
- -Conclusion for product eligibility to be sold as MSC certified: Catch location in MSC certified areas is verifiable through VMS data. Traceability documentation allows tracing of the products back to the area, day and method of capture. Waybill, 'Parte Final de Pesca' and 'Declaración Legal de Captura' provides clear identification of product into further chains of custody. The conclusion of the team is that only anchovy caught by vessels linked to the client group can be sold as MSC. The rest of vessels described in the Table 1 are eligible to use the certificate and sell produc as certified, previously agreement with the client group (i.e. Certificate sharing agreement).
- 5.4 Eligibility of inseparable or practicably inseparable (IPI) stock(s) to enter further chain of custody

There are no IPI stocks included in the re-assessment process.



6. Evaluation results.

6.1 Principle level scores

The PIs were re-assessed according the Fishery Certification Requirements FCRv2.0.

All references cited in rationale texts are presented in the background of re-certification report.

Table 14. Final principle scores

Final Principle Scores				
Principle	Score			
Principle 1 – Target Species	83.3			
Principle 2 – Ecosystem	83.5			
Principle 3 – Management System	91.9			

6.2 Summary of PI level scores

Table 15. Summarize of scores.

Principle	Component	Wt	Performance Indicator (PI)	Wt	Score
	Outcome	0.333	1.1.1 Stock status	1.0	80
		0.667	1.2.1 Harvest strategy	0.25	90
One	Managamant		1.2.2 Harvest control rules & tools	0.25	85
	Management		1.2.3 Information & monitoring	0.25	80
			1.2.4 Assessment of stock status	0.25	85
			2.1.1 Outcome	0.333	100
	Primary species	0.2	2.1.2 Management	0.333	85
			2.1.3 Information	0.333	95
	Cacandani		2.2.1 Outcome	0.333	80
	Secondary	0.2	2.2.2 Management	0.333	80
	species		2.2.3 Information	0.333	85
			2.3.1 Outcome	0.333	75
Two	ETP species	0.2	2.3.2 Management	0.333	80
			2.3.3 Information	0.333	80
		0.2	2.4.1 Outcome	0.333	93
	Habitat		2.4.2 Management	0.333	80
			2.4.3 Information	0.333	80
	Ecosystem	0.2	2.5.1 Outcome	0.333	80
			2.5.2 Management	0.333	80
			2.5.3 Information	0.333	80
		0.5	3.1.1 Legal & customary	0.333	100
	Governance and policy		framework	0.555	100
			3.1.2 Consultation, roles &	0.333	100
	policy		responsibilities		
Three			3.1.3 Long term objectives	0.333	100
Tillee			3.2.1 Fishery specific objectives	0.25	80
	Fishery specific	0.5	3.2.2 Decision making processes	0.25	95
	management		3.2.3 Compliance & enforcement	0.25	80
	system		3.2.4 Monitoring & management performance evaluation	0.25	80



6.3 Summary of conditions

In the re-assessment process, there is only one condition assigned for the Bonaerense anchovy mid-trawl fishery.

Table 16. Summary of conditions

Condition number	Condition	Performance Indicator	Related to previously raised condition? (Y/N/NA)
1	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. -indirect effects have been considered for the UoA and are thought to be highly likely to not create	2.3.1	NO
	and are thought to be <u>highly likely</u> to not create unacceptable impacts.		

6.4 Recommendations

There is not recommendation proposed by the assessment team.

6.5 Determination, formal conclusion and agreement

The Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery achieved a score of 80 or more in all MSC Principles and did not score less than 60. Only one condition was set by assessment team and the client group must comply it in a timeframe of 4 years, according Action Plan.

Following the recommendation of assessment team and reviewing stakeholder and peer reviewer comments, OIA's decision making entity concluded that the fishery has passed the re-assessment and determined that may be re-certified with one condition as sustainable against the MSC standard.

6.6 Changes in the fishery prior to and since pre-assessment

(OPTIONAL)

Identify any work conducted by the client (or the management agency) specifically targeted at bringing the fishery to the MSC standard, either prior to or since any pre-assessment report that was prepared. This information is particularly valuable for MSC's reporting on the impacts of its programme.



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Appendices.

Appendix 1. Scoring and rationales

Appendix 1.1 Performance indicator scores and rationale

-Principle 1

Evaluation Table for PI 1.1.1A – key LTL

PI 1.1.1 A		The stock is at a level which has a low probability of serious ecosystem impacts					
Scoring	g Issue	SG 60	SG 80	SG 100			
Α	Stock sta	atus relative to ecosystem impairment					
	Guidep ost	It is likely that the stock is above the point where serious ecosystem impacts could occur.	It is highly likely that the stock is above the point where serious ecosystem impacts could occur.	There is a high degree of certainty that the stock is above the point where serious ecosystem impacts could occur.			
	Met?	YES	YES	NO			
	Justifica tion	_	ssment (INIDEP Technical Repo here serious ecosystem impact	rt N° 7/2015), it is highly likely that s could occur.			
		of the fishing operation from yields, catches per age group	1990 to 2014. Observations p	nes by age and the seasonal nature provided information about annual assessments (including acoustic and			
		In spring, when anchovies have their greatest reproductive activity, the total biomass estimated (B_0) was between 1.0 and 5.2 million t (average = 2.2 million t), and abundance of spawning biomass (BR) was found between 0.79 and 3.73 million t (average = 1.74 million t). However, the default target biomass consistent with ecosystem is 1,421,300 t representing the 68% of Spawning Stock Biomass Virginal.					
		Total biomass (B_0) at the beginning of last year fishing was estimated at 2.3 million t, and the abundance of spawners 2 years or more (BR_{2+}) in spring would be clearly superior to the values determined as target reference points ($BRO = BR_{66}$) and limit ($BRL = BR_{40}$) by analysis of reproductive biomass produced per recruit. The Argentine anchovy, stock bonaerense, is considered "healthy".					
		According references points available, where TRP= 529,000 t and LRP= 320,000 t, and the abundance of spawners of two years or more in the spring (October 2014) was estimated by the statistical model was $[BR_{2+}] = 835,000$ t, there is sufficient evidence to support that it is highly likely that the stock is above the point where serious ecosystem impacts could occur, considering values of BR_{2014} for all year and not only for fishing season, and so the Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-pelagic mid-water trawl fishery meets with SG80 of performance for this SI.					
В	Stock sta	tus in relation to ecosystem nee	eds				
	Guidep ost		The stock is at or fluctuating around a level consistent with ecosystem needs.	There is a high degree of certainty that the stock has been fluctuating around a level consistent with ecosystem needs or has been above this level over recent years.			
	Met?		YES	NO			
	Justifica	The most recent assessment report (2014) indicates that the stock is at or fluctuating around a					



tion level consistent with ecosystem needs or has been above this level over recent years. The INIDEP Technical Report N° 7/2015 considers data of 1990-2014. Even if the target level is lower than the default biomass target level proposed by MSC (75%), the target level applied for Bonaerense anchovy fishery is consistent with ecosystem needs according robust empirical data for the UoA assessed. In consultation with Dr. Marcelo Pájaro, responsible of Dirección Pesquerías de Invertebrados, Peces Pelágicos y Ambiente Marino of INIDEP (see Appendix 3), the level adopted is the same applied in other pelagic fisheries (i.e. Chilean herring fishery) with not impact on the abundance levels of more than 15% of the other species and trophic groups by more than 40% due the fishery is subexploited and not reduce its abundance level. It was estimated that trophic groups of marine mammals were increased in 3% in the last years. Also, birds groups were increased due to indirectly effects of the fishery. The study carried out by Silva Rodriguez et al., (2015) describes the situation in Buenos Aires coasts about birds. There is detected a directly relationship between birds analysed and the availability of resources generated by the fishing industry. In the case of seabirds that feed mainly pelagic fish such as anchovies and herrings, the feeding is composed by anchovies sizes that are caught by the commercial fleet (140 - 190 mm), overlapping this interaction by predators and coastal fisheries. While anchovy currently is a very abundant and is commercially underexploited (total catch < TAC established), at the moment there is not a conflict detected. The abundance of anchovy allows maintaining the needed of ecosystem, but there is not high degree of certainty due that this level is not tested by credible ecosystem model. Absolute abundance of reproductive individuals, according to the estimations based on the last five years would constitute a Target Reference Point BR₆₆= 529,000 t desirable for this population. According to these recruitments, the Limit Reference Point was estimated in 320,000 t. Current values estimated by the statistic model were highly above from the mentioned limit, and even higher to the Target Reference Point (Figure 10 of the background). Therefore, the fishery met with SG80 level of performance for this SI. INIDEP Technical Report N° 7/2015 Silva Rodriguez, M. P., Favero, M., Berón, M. P., Mariano-Jelicich, R. & L. Mauco, 2005. Ecología References y conservación de aves marinas que utilizan el litoral bonaerense como área de invernada. Hornero v.20 n.1 Buenos Aires ene./ago. 2005. http://www.scielo.org.ar/scielo.php?script=sci arttext&pid=S0073-34072005000100008 Stock Status relative to Reference Points Current stock status relative to Type of reference point Value of reference point reference point Reference point Limit reference point 320,000 οf The total biomass at the beginning of t total used in scoring (BR_{40}) reproductive stock last year was estimated at 2.3 fishing stock relative to biomass million t (CV = 33%) and the abundance ecosystem of adults of two years or more in the impairment spring (October 2014) was estimated as (Sla) 835,000 t. As a result, the quotient between Abundance BR_{2+}/BR_{40} is 2.61. Reference point Target reference point 529,000 The total biomass at the beginning of t total used in scoring (BR_{66}) reproductive last year was estimated at 2.3 fishing stock stock relative to biomass million t (CV = 33%) and the abundance ecosystem of spawners of two years or more in the needs (SIb) spring (October 2014) was estimated by

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		the statistical model w 835,000 t. As a result, the quoti Abundance BR ₂₊ / BR ₆₆ is 1	ient between
OVERALL PERFOR	MANCE INDICATOR SCORE:		80

Evaluation Table for PI 1.1.2 – Stock rebuilding

PI 1.1	1.2 Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe			
Scoring	Scoring Issue SG 60		SG 80	SG 100
а	Rebuildin	g timeframes		
	Guidep ost	A rebuilding timeframe is specified for the stock that is the shorter of 20 years or 2 times its generation time. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.		The shortest practicable rebuilding timeframe is specified which does not exceed one generation time for the stock.
	Met?			
	Justifica tion	SI not assessed as PI 1.1.1 scored	180 or more (MSC FCR v2.0, SA	2.3.1).
b	Rebuildin	g evaluation		
	Guidep ost	Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe.	There is evidence that the rebuilding strategies are rebuilding stocks, or it is likely based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe.	There is strong evidence that the rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe.
	Met?			
	Justifica tion	SI not assessed as PI 1.1.1 scored	d 80 or more (MSC FCR v2.0, SA	2.3.1).
Refere	References N/A			
OVERA	LL PERFOR	MANCE INDICATOR SCORE:		N/A

Evaluation Table for PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place			
Scoring Iss	g Issue		SG 100		
a Ha	arvest st	rategy design			
Gu os	uidep st	The harvest strategy is expected to achieve stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in PI 1.1.1 SG80.	
М	1et?	YES	YES	YES	



Justifica tion

The harvest strategy is not only expected to achieve but responsive to the state of the stock, but also designed to achieve stock management objectives reflected in PI 1.1.1 SG80. The elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 (stock status) SG80.

The harvest strategy has been applied since 1990's (with adjustments introduces through the years), and it is based on monitoring, stock assessment, harvest control rules and management actions. As the harvest strategy has been practically based on availability of the stock, demand and access to market dynamics and competitive costs, which have been so far resulting in catch levels well below the current TAC, it can be said that it has been precautionary and responsive to management objectives. Then, the harvest strategy has been working on the plausible argument that the fishing impact have not been consider a threat, since fishing mortality has been low during the last 18 years.

Anchovy production is intended for human consumption and it is forbidden for industrial use/reduction according the SSAP Resolution N° 9/2004, in its Article 1°. This element is part along with others (as it is explained in this report) of the current harvest strategy (including its formal and customary aspects) and it is designed to achieve stock management objectives.

The harvest strategy is at safe levels and working successfully as the removals over the last 21 years have ranged from 0.5% to 3.5% stock total biomass. There is no evidence that these harvest rates has had any detrimental effect on the stock or either on the ecological role of the anchovy as a prey species. The average fishing mortality in the fishery for 25 years is F= 0.04 and, natural mortality has been considered as 1.01.

In order to continue monitoring the use of TAC (CMP in Spanish) assigned to each species by CFP, based on the information generated by the Directorate of Fisheries Administration, which has among its functions to make the monitoring compliance with the assigned TAC (MINAGRI Resolution N° 1091/2012), raises CFP weekly reports detailing the level of compliance of total TAC by species, counting all the fishery fleet.

Since 2013, the landings were 18,000 t and in 2014 and 2015 landings were below (12,539 and 12,130 t, respectively), constituting a fishing below historical levels. In the whole history of the Argentine anchovy ($Engraulis\ anchoita$), Bonaerense stock, semi-pelagic mid-water trawl fishery, moreover on the past recent years annual catches have been fluctuating around 16,000 t (\pm 2,000 t), which represents about 18% of the TAC. Then, there is evidence that there would have sufficient safe actions for the stock based just on this reference point, especially in case that the population would experience poor recruitments such as in the early 90's.

In the CTMFM, through Resolution N° 14/2014, the harvest strategy for the Argentine anchovy considers a minimum legal size as 120 mm; forbids night fishing with mid-water trawling net; and establishes that every project aiming to the exploitation of the anchovies species should be composed with a counterpart of a biological research in fisheries research pointing to the conservation of the species.

Following with the previous surveillance assessment, where it was mentioned the management measures set by the CTMFM Resolution N° 14/2014, the Dirección Nacional Argentina de Planificación Pesquera, together with INIDEP, made a report entitled "contributions to the creation of the Commission for analysis and monitoring of pelagic fisheries" (released as Report N° 16/2014).

The resultant management measures for pelagic fisheries were formally expressed in the CFP Resolution N° 7/2015, which states that:

- -the only fishing gears accepted to catch Argentine anchovy are: purse-seine and semi-pelagic mid-water trawl net. (Note: purse-seine is not used by coastal and high-sea fleets).
- -night fishing is prohibited.
- -a Commission for analysis and monitoring of pelagic fisheries is created, with the participation



		of representatives of the E	nforcement Authority. INIDEP	, Buenos Aires Province, Chubut		
		Province and chambers that	-	thorized for the capture of pelagic		
		-it defines the Commission created as an advisory body, and states that meetings should be done at least twice a year, with the obligation to provide to Consejo Federal Pesquero both the minutes and conclusions of those meetings.				
		strategy is responsive to stoc	k status and is designed to ach	dence to support that the harvest lieve stock management objectives 00 level of performance of this SI.		
b	Harvest s	trategy evaluation				
	Guidep	The harvest strategy is likely	The harvest strategy may	The performance of the harvest		
	ost	to work based on prior experience or plausible argument.	not have been fully tested but evidence exists that it is achieving its objectives.	strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.		
	Met?	YES	YES	NO		
	Justifica					
	tion	The harvest strategy may no exists that it is achieving its ob-		nonitoring is in place and evidence		
		While the harvest strategy may not have been fully tested due to intrinsic issues of the fishery (natural fluctuations, low volumes of catch, market/commercial trends, etc), the assessment team concluded that there is a clear knowledge (by annual repetitions) of the key species concept, and the harvest is continuously monitored by INIDEP and checked by CFP. As stated in the previous SI, the Commission for the fishery was set as assessor body for CFP. This has strengthened the monitoring of the whole harvest strategy and the fishery itself. Then, although monitoring is in place and evidence exists that the harvest strategy is achieving its objectives, including being clearly able to maintain stocks at target levels, there is not enough evidence to support that the performance of the harvest strategy has been fully evaluated. Therefore, the fishery scores 80 for this SI.				
С	Harvest s	trategy monitoring				
	Guidep	Monitoring is in place that is				
	ost	expected to determine				
		whether the harvest				
	14.12	strategy is working.				
	Met?	YES				
	Justifica tion	Monitoring is in place that is expected to determine whether the harvest strategy is working. The INIDEP On Board Observer Program monitors and collects information about environmental and operational conditions, every year from every fishery, describing the methodology or statistical methods applied to analyse and estimate the impact. Periodical reports are presented and available to the scientific community.				
		Also, there are formal documents (e.g. 'PARTE FINAL DE CAPTURA') completed by fishers were catches volumes per species, location, number of fishing sets and fishing gear used are declared and then, this is used by entities to control the harvest strategy. This information declared is review and monitored by an inspector of Subsecretaría de Pesca in unloaded process in port.				
		So, the fishery complies with S	GG60 for this scoring issue.			
d	Harvest s	trategy review				
	Guidep			The harvest strategy is		
	ost			periodically reviewed and improved as necessary.		

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	Met?			NO	
	Justifica tion	Although the INIDEP On Board Observer Program monitors and collects information about environmental and operational conditions, every year from every fishery, describing the methodology or statistical methods applied to analyse and estimate the impact, and the performance of the harvest strategy, there is no clear evidence that the harvest strategy is periodically reviewed and improved if necessary. Therefore, the fishery does not comply with this SI.			
е	Shark fini	-			
	Guidep ost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high certainty that shark taking place.	n degree of k finning is not
	Met?	NOT RELEVANT	NOT RELEVANT	NOT RELEVANT	
	Justifica tion	Not relevant. The target specie	es is a not a shark species.		
f		f alternative measures			
	Guidep ost	There has been a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a biannual potential effecti practicality of measures to mirelated mortality of unwanted catch stock, and they are as appropriate.	veness and alternative inimise UoA- f of the target
	Met?	YES	YES	YES	
	Justifica tion	There is more than a biannual review of the potential effectiveness and practicality alternative measures to minimise UoA-related mortality of unwanted catch of target spe and they are implemented as appropriate. The practices most used as alternative measure has shown to be effective in minimizing unwanted catch; it is to move themselves from fishing area or to target other species after immediately returning to port and gear changes it is mentioned in Act Meeting N° 2 (December 2015) of the Commission.			
			ng (May 2016), it is proposed to tween two different fishing		
		•	unwanted catch of target spec unwanted catch is identified, it		
		effectiveness and practicality	meetings are established to be of the harvest strategy and al n), two annual were set. The 23 May 2016.	ternative measures.	Since 28 May
		Therefore, the fishery meets v	vith SG100 level of performance	e of this scoring issue	ı.
	SSAP Resolution N° 9/2004; MINAGRI Resolution N° 1091/2012; CTMFM Resolution N° 14/2014 INIDEP Technical Report N° 7/2015 and CFP Resolution N° 7/2015.				
UVEKA	RALL PERFORMANCE INDICATOR SCORE: 90				

Evaluation Table for PI 1.2.2 – Harvest control rules and tools

PI 1.2.2 There are well defined and effective harvest control rules (HCRs) in place

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Scoring	Issue	SG 60	SG 80	SG 100
а		ign and application		
	Guidep ost	Generally understood HCRs are in place or available that are expected to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.	Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock fluctuating at or above a target level consistent with MSY, or another more appropriate level taking into account the ecological role of the stock, most of the time.
	Met?	YES	YES	YES
	Justifica tion	Report N° 7/2015) most of th for the last 21 years.		reference points (INIDEP Technical aphic presented in the background for this SI.
b	HCRs rob	ustness to uncertainty		
	Guidep ost	·	The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a wide range of uncertainties including the ecological role of the stock, and there is evidence that the HCRs are robust to the main uncertainties.
	Met?		YES	NO
	Justifica tion	flexible and responsive to st INIDEP technical reports, as a uncertainties were incorporat by age groups, future recruitm However, there are others Bonaerense stock, semi-pela- location of the spawning area	ock status as advised by regular relevant as the recommendation ed into the projections, consider nents and seasonality of exploit uncertainties in the Argentic gic mid-water trawl fishery, so a and environmental fluctuation of a wide range of uncertainties	ant the main uncertainties, as it is ular and frequent assessments. In ons to the management authority, ering current biomass, composition ation. The anchovy (Engraulis anchoita), uch as the stock distribution, the ns that are not taken into account. It is and the fishery meets with SG80
		·		
С	HCRs eval	uation There is some evidence that	Available evidence indicates	Evidence clearly shows that the
	Guidep ost	tools used or available to implement HCRs are appropriate and effective in controlling exploitation.	that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the HCRs.
	Met?	YES	YES	NO
	Justifica tion	exploitation levels required un The TAC was assigned by CFI Pesquera, based on the infor- level in order to control the	nder the HCRs. P according respective resolution mation of landings, raises CFP	oriate and effective in achieving the ons and Dirección de Planificación weekly reports detailing the catch e in achieving exploitation levels. e by the fleet.



		Annually, INIDEP as technical advisor of CFP, review stock assessment and according it, the respectively TAC.	d recommend		
		However, due to the low volume of catches and lack of research surveys, there is not enough clear evidence that shows that the tools in use are effective in achieving the exploitation levels required under the harvest control rules, and so the fishery complies with SG80 of performance for this SI.			
References INIDEP Technical Report N° 7/2015.					
OVERA	LL PERFOR	MANCE INDICATOR SCORE:	85		

Evaluation Table for PI 1.2.3 – Information and monitoring

PI 1.2	.3	Relevant information is collected to support the harvest strategy			
Scoring		SG 60	SG 80	SG 100	
a		information Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.	A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.	
	Met?	YES	YES	NO	
	Justifica tion			ock productivity, fleet composition, available to support the harvest	
		Stock structure			
		Data is provided by landings a	nd surveys sampling (size and a	ge) and then, analized by INIDEP.	
		The historical coverage of landing sampling started before of 1970 where the data were obtained in the IBM (ex Instituto de Biologia Marina, current INIDEP). There is a considerable scientific knowledge about the anchovy throughout its whole area of distribution generated mainly by CTMFM between Argentina and Uruguay. The project was designed to fill in the knowledge gaps and was driven particularly by the low SSB and recruitment observed during the 1990's. As result there is relevant information on stock structure spatially, oceanographic influences on population and spawning areas.			
		Stock productivity			
		Information on growth is available based on otolith studies. The maturity of individuals was estimated for several years (this component is used in the stock assessment) and there is a good understanding of the reproductive biology of anchovy and natural mortality estimates. This value was assumed in the assessment (Hansen, 2004) results from ad hoc procedure of Pauly (1980). Annually, stock assessment is adjusted and reviewed by INIDEP, including stock productivity and references points.			
		Fleet composition			
		The fleet is registered by fisher vessel size, catch capacity, din		database, including information of	
		Stock abundance			



		Stock abundance is estimated by INIDEP based on acoustic and egg surveys. Even these assessments are not updated; INIDEP adjusted this information with landing samplings and OBOs data. UoA removals The fisheries removals are detailed in: (1) landings declaration, (2) landings control, (3) landing sampling. Discards at age have been estimated on board commercial vessels by INIDEP's researchers.			
		Fishing grounds All vessels have a satellite more	nitoring system and their locati	on and speed is known on real time	
		by the management authority		,	
		comprehensive range of info	rmation, including some that i	described above; there is not a may not be directly related to the a SG80 level of performance for this	
b	Monitorii	ng			
	Guidep ost	Stock abundance and UoA removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule.	Stock abundance and UoA removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.	All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.	
	Met?	YES	YES	NO	
	Justifica tion	consistent with the harvest monitored with sufficient free the background information, Fishing Law. Indicators become is collected and monitored with Plata. Landings are monitored data are used for the annual points. Positions of harvesting verification of vessel catches allows precision on the UoA relation of verification of the UoA relation o	control rule, and one or mule of the decision rules for this fix the mandatory. All information rule th high frequency by INIDEP and by SSPyA. Harvest levels are all stock assessment, estimating are monitored in real time by and position of all tows comes emovals. In information to support a high uncertainties in the information management to this uncertain	at a level of accuracy and coverage nore indicators are available and ontrol rule. As it was mentioned in shery are included in the Federal equired by the harvest control rule and Universidad Nacional de Mar del reported and monitored daily and g stock abundance and reference satellite position tracking. Further is from daily observer records. This degree of certainty, since there is a are well understood, and also the ty, and so this issue is not fully met	
С	Compreh Guidep	ensiveness of information	There is good information		
	ost		on all other fishery removals from the stock.		
	Met?		YES		
	Justifica	There is good information on	all other fishery removal from t	the stock by vessels outside of UoA	



tion	(Rada-Ria vessels). These vessels also comply with the Federal Fishing Law. So, all harvest information is gattered as mandatory. Landings are monitored by SSPyA. Fish discarding are registered by OBO Program (INIDEP Inf. Asesor y Transf. 2013 and 2014 'Análisis de los datos de las mareas registradas por observadores a bordo durante el año 2013 y 2014 como parte del proceso de auditoria de seguimiento anual en la certificación de pesca	
	sustentable de anchoíta argentina bonaerense (Engraulis anchoita)'). Therefore, it is considered that the fishery meets with SG80 for this scoring issue.	
References INIDEP Inf. Ases. Transf. Reports N° 6/2013 and N° 3/2014.		
OVERALL PERFOR	MANCE INDICATOR SCORE:	80

Evaluation Table for PI 1.2.4 – Assessment of stock status

PI 1.2	.4	There is an adequate assessme	ent of the stock status		
Scoring	g Issue	SG 60	SG 80	SG 100	
а	Appropri	ateness of assessment to stock	under consideration		
	Guidep		The assessment is	The assessment takes into	
	ost		appropriate for the stock	account the major features	
			and for the harvest control	relevant to the biology of the	
			rule.	species and the nature of the	
	Mata		VEC	NO	
	Met? Justifica		YES	NO	
	tion			vest control rule. According to the	
	tion			et al., 2015), the assessment is done	
				plings obtained by monitoring of	
			-	dances based on acoustic and daily	
				lering the seasonality of the fishery considering potential uncertainties	
			distribution, average recruitme		
				•	
			=	e assessment is appropriate for the	
			· ·	about the behaviour of the species	
				shery, it cannot be assured that the nature of the fishery are taken into	
			s with SG80 level of performanc		
b	Assassma	ent approach			
D	Guidep	The assessment estimates	The assessment estimates		
	ost	stock status relative to	stock status relative to		
	030	generic reference points	reference points that are		
		appropriate to the species	appropriate to the stock and		
		category.	can be estimated.		
	Met?	YES	YES		
	Justifica	The assessment estimates ste	ack status relative to reference	points that are appropriate to the	
	tion				
		species category and stock, and can be estimated. The fishery is managed using a fixed harvest rate and a TAC is estimated annually based on survey information.			
		A certain observations on the	stock and Bonaerense anchor	yy fishery between 1990 and 2014	
	were adjusted statistical catch at age model who contemplated the seasonal natu operation, and in this case the particular development of fisheries.				
		Observations provide informa	tion on yields (and discards) a	year in tonnes, catches in numbers	
		·	, , ,	e, for acoustics and the method of	
		. 223			



		Target reference points (BR ₆₆) and limit reference points (BR ₄₀) are determined by analysis of the reproductive biomass produced per recruit. The variability associated with the results (current abundance, composition of the population by age, average recruitment, seasonality of the holding) was added to a simulation process, and the evolution of the stock was projected assuming different values of fishing mortality (F) constant in subsequent years, to determine the maximum value compatible with the harvest control rule proposed for this fishery. The anchovy population north of 41° S be considered "healthy", but there are reasons that lead to maintain a precautionary approach, and therefore it is recommended to maintain a TAC of 120 thousand t. Therefore, the fishery meets with the SG80 level of performance for this SI.			
С	Uncertair	nty in the assessment			
	Guidep ost	The assessment identifies major sources of uncertainty.	The assessment takes uncertainty into account.	The assessment account uncertain evaluating stock stareference points in way.	itus relative to
	Met?	YES	YES	YES	
	Justifica tion	As it is mentioned in SI a), uncertainties related with stock abundance, age distribution, average recruitment and fishing season are taken into account in the assessment. INIDEP estimation reviewed in the Technical Report N° 7/2015, about the stock status is provided with 90% confidence, adopting a Fishing Objective Mortality considering a risk below 10% of SSB if it cross below the LRP an F(sec) it is applied. Also, the reference points are evaluated in a probabilistic way. So, the assessment is taken into consideration uncertainties and the fishery complies with the SG100 level.			
d	Evaluatio	n of assessment			
	Guidep ost				be robust. otheses and oaches have
	Met?			NO	
	Justifica tion	Even when the direct estimation of biomass or SSB shows that the harvest strategy would maintain the population at a stable sustainable level, there is no evidence that supports that the assessment has been tested and shown to be robust nor alternative hypotheses and assessment approaches have been rigorously explored. Therefore, the fishery does not meet with SG100 level of performance for this SI.			
е	Peer revie	ew of assessment			
	Guidep ost		The assessment of stock status is subject to peer review.	The assessment internally and exreviewed.	has been sternally peer
	Met?		YES	NO	
	Justifica tion	Internal INIDEP Internal Resolution audited to be approved by Commission. However, there	s is subject to formal peer revie lution N° 75/2008 in the Article the National Director of Re is not enough evidence to supp , the fishery only complies with	e 3°. All INIDEP repo search and the CTI ort that assessments	rts have to be MFM anchovy are externally
Refere			75/2008 and INIDEP Technical I	Report N° 7/2015.	
OVERA	OVERALL PERFORMANCE INDICATOR SCORE: 85				



-Principle 2: Evaluation Table for PI 2.1.1 – Primary species outcome

PI 2.1	PI 2.1.1 The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.			
Scoring	Issue	SG 60	SG 80	SG 100
а		mary species stock status		33 233
a	Guidep ost	Main primary species are likely to be above the PRI OR If the species is below the PRI, the UoA has measures in place that are expected to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are highly likely to be above the PRI OR If the species is below the PRI, there is either evidence of recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main, to ensure that they collectively do not hinder	There is a high degree of certainty that main primary species are above the PRI and are fluctuating around a level consistent with MSY.
	Met?	YES	recovery and rebuilding. YES	YES
	Justification	The primary species for MSC at to achieve stock management. The assessment team reviews (Engraulis anchoita), Bonaer secondary and ETP species repart According Table 5 described in v2.0), Argentine anchovy repart and there are no main primare—the catch does not comprise or—the species is classified as "leading to the total catch of the total catch of the catch of this syears and the resilient is medical."	are where management tools a cobjectives reflected in either liked the available information or ense stock, semi-pelagic mid present less than 1% the total conthe background and following resents more than 93% of the syspecies identified due are not 5% or more by weight of the total context and the catch of the the cat	nd measures are in place, intended mit or target reference points. If P2 species for Argentine anchovy-water trawl fishery. All primary, atch weight. If Decision Tree (Figure GSA3 of FCR total catches in tons of the fishery met the following points: Intelligible total catch of all species by the UoA, The species by UoA comprise 2% or Intelligible total catch in the last 5 species identified for the Argentine
		has not impact on this particular for this SI.		c mid-water trawl fishery. The UoA meets with SG100 of performance
b	•	mary species stock status		
	Guidep ost			For minor species that are below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species
	Met?			YES



Justifica tion	As it is detailed above, the only minor primary species identified in the Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-pelagic mid-water trawl fishery is chub mackerel (<i>Scomber japonicas</i> , 'caballa').		
	In the last stock assessment of chub mackerel of North of 39 $^{\circ}$ S (northern stock), carried out in 2012 (INIDEP Technical Report N $^{\circ}$ 24/2012), the following reference points were set:		
	$TRP_1 = F_{0,1} = 14,800 t$		
	$TRP_2 = F_{60\%} = 13,000 \text{ t}$		
	$TRP_3 = F = M = 13,500 t$		
	LRP = 37,000 t		
	The total biomass estimated in 2012 was 93,845 t, considering the 90 th %ile, and the spawning biomass is 90,723 t (Figure 12).		
	Respect, the stock of chub mackerel of South of 39° S (southern stock), the last stock assessment (INIDEP Technical Report N° $18/2015$) was established two references points:		
	$TRP = BR_{60} = 85,000 t$		
	LRP = BR ₃₃ = 47,000 t		
	While the spawning biomass estimated was 139,000 t for period 2014, and a small decrease was observed over the previous year, there is a high degree of certainty that, in both stocks, chub mackerel is above the PRI (Figure 11).		
	As both stocks of chub mackerel represent 1.6-2.2% of total catch in the last 5 years and both stock are above PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species; and the fishery meets with SG100 level of this scoring issue.		
References	References INIDEP Technical Reports N° 24/2012 and N° 18/2015.		
OVERALL PERFOR	MANCE INDICATOR SCORE: 100		

Evaluation Table for PI 2.1.2 – Primary species management strategy

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.				
Scoring	g Issue	SG 60	SG 80	SG 100		
а	Managen	nent strategy in place				
	Guidep	There are measures in place	There is a partial strategy in	There is a strategy in place for		
	ost	for the UoA, if necessary,	place for the UoA, if	the UoA for managing main and		
		that are expected to	necessary, that is expected	minor primary species.		
		maintain or to not hinder	to maintain or to not hinder			
		rebuilding of the main	rebuilding of the main			
		primary species at/to levels	primary species at/to levels			
		which are likely to above	which are highly likely to be			
		the point where recruitment	above the point where			
		would be impaired.	recruitment would be			
			impaired.			
	Met?	YES	YES	YES		
	Justifica	Even as the LIOA has not into	eraction with main primary spe	cies, due low percentages of catch		
I TION I						
		(Table 5), there is a strategy in place as precautionary framework to manage chub mackerel fishery.				
		History.				
		According the Federal Fishing	According the Federal Fishing Law N° 24.922 Article 9°, the strategy is described and i			



		TACs (set for several species a sizes and reference points esta		mn and spring), minimum landings	
		In the case of chub mackerel, it is considered the following TACs for each stock (CFP Resolution N° 9/2015): 14,200 t for northern stock (north of 39° S) and 27,000 t for southern stock (south of 39° S). In the last stock, there is an administrative reserve of 4,000 t additionally. For the northern stock, this TAC is maintained since 2012 due that catches are significantly below of it.			
		captured for each set on ad-h	oc form that it is reviewed in th	w noted the number of individuals ne landing process by management ssible the composition of catches.	
				ted to estimate quantitatively and he catchs monitoring is carried out	
		Therefore, the fishery meets S	G100 level of performance of t	his SI.	
b	Managen	nent strategy evaluation			
	Guidep ost	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the fishery and/or species involved.	
	Met?	YES	YES	NO	
	Justifica tion	primary species, there is par between others. There is som for managing chub mackere plausible arguments and inform. The TACs are estimated accadjusted with landings inform both stock, TAC has been maken the recent years due to economic thousand the stock of the stock.	tial strategy in place, consider ne objective basis for confidence of fishery (northern and south mation directly about the fisher ording data collected as part nation (INIDEP Technical Report nationing in the recent years al/commercial aspects.	eded to be considered as a main ring reference points and TACs, in the that the partial strategy in place mern stocks) will work, based on ry and/or species involved. of research project targeted and is N° 24/2012 and N° 18/2015). For its Fishing mortality is decreased in ent, since 2012 for north stock that rk, and so, te fishery only complies	
		with SG80 level of performance		.,,,,	
С		nent strategy implementation			
	Guidep ost		There is some evidence that the measures/partial strategy is being implemented successfully.	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its overall objective as set out in scoring issue (a).	
	Met?		YES	NO	
	Justifica tion	information collected by man		mplemented successfully. There is throught landing samples, and that ation when occurs.	
		and, even the stock is underex no research surveys for chub i	sploited and there is not necess	Program and management system ary a partial strategy in place, were erall objective set out in the scoring ce for this SI.	



d	Shark fini	ning			
	Guidep	It is likely that shark finning	It is highly likely that shark	There is a high	n degree of
	ost	is not taking place.	finning is not taking place.	certainty that sharl	_
				taking place.	
	Met?	NOT RELEVANT	NOT RELEVANT	NOT RELEVANT	
	Justifica tion	Not relevant. There are not sh	arks identified as primary speci	es.	
е	Review of	f alternative measures			
	Guidep ost	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species and they are implemented as appropriate.	There is a biennial potential effecti practicality of measures to mirelated mortality catch of all primar they are impleappropriate.	veness and alternative inimise UoA- of unwanted
	Met?	NOT RELEVANT	NOT RELEVANT	NOT RELEVANT	
	Justifica tion	· · · · · · · · · · · · · · · · · · ·	hub mackerel is retained and ecies and this SI is not scored b		
Refere	References Federal Fishing Law N° 24.922 – Article 9°; CFP Resolution N° 9/2015 and INIDEP Technica Reports N° 24/2012 and 18/2015			IDEP Technical	
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			85

Evaluation Table for PI 2.1.3 – Primary species information

PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species		
Scoring		SG 60	SG 80	SG 100
а	Informati	on adequacy for assessment of	impact on main species	
	Guidep	Qualitative information is	Some quantitative	Quantitative information is
	ost	adequate to estimate the	information is available and	available and is adequate to
		impact of the UoA on the	is adequate to assess the	assess with a high degree of
		main primary species with	impact of the UoA on the	certainty the impact of the UoA
		respect to status.	main primary species with	on main primary species with
			respect to status.	respect to status.
		OR		
			OR	
		If RBF is used to score PI		
		2.1.1 for the UoA:	If RBF is used to score PI	
		Qualitative information is	2.1.1 for the UoA:	
		adequate to estimate	Some quantitative	
		productivity and	information is adequate to	
		susceptibility attributes for	assess productivity and	
		main primary species.	susceptibility attributes for	
			main primary species.	
	Met?	YES	YES	YES
	Justifica	A - : : :		
	tion			ecies identified for the Argentine
		anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic mid-water trawl fishery. Even if,		
		there is not a robust systematic quantification of catches (primary, secondary and ETP species),		
		T	ormation show that primary spe	cies catches are neglectable (Table
		5).		



		The team considered that information are adequate to assess with high degree of certainty the impact of the UoA as non-existent. The UoA has not impact on main primary species with respect to status; so, the fishery meets with SG100 of performance for this SI.			
b	Information adequacy for assessment of impact on minor species				
	Guidep ost			Some quantitative information adequate to estimate the impof the UoA on minor prim species with respect to status.	act
	Met?			YES	
	Justifica tion	mackerel with respect to st samplings collected in landir 6/2013). These data are use sustainability of the stocks annually TACs for chub macke	ratus. Information is available ng process (INIDEP Inf. Ases. T ed by INIDEP Pelagic Fisheries (estimation of abundance an	ate the impact of the UoA on character the impact of the UoA on character the due the observer program at a same and a same and a same and established for this scoring issue.	and N° the
С	Informati	on adequacy for management s	strategy		
	Guidep ost	Information is adequate to support measures to manage main primary species.	Information is adequate to support a partial strategy to manage main Primary species.	Information is adequate support a strategy to manage primary species, and evalu with a high degree of certai whether the strategy is achievits objective.	iate inty
	Met?	YES	YES	NO	
	Justifica tion				
Refere	nces	INIDEP Inf. Ases. Transf. Repor	rts N° 6/2013 and N° 3/2014.		
OVERA	LL PERFOR	MANCE INDICATOR SCORE:		95	

Evaluation Table for PI 2.2.1 – Secondary species outcome

PI 2.2.1		The UoA aims to maintain secondary species above a biological based limit and does not hinder recovery of secondary species if they are below a biological based limit.		
		recovery of secondary species	if they are below a biological b	ased limit.
Scoring	g Issue	SG 60	SG 80	SG 100
а	Main sec	ondary species stock status		
	Guidep	Main secondary species are	Main secondary species are	There is a high degree of
	ost	likely to be within	highly likely to be above	certainty that main secondary
		biologically based limits.	biologically based limits.	species are within biologically
				based limits.
		OR	OR	
		If below biologically based	If below biologically based	
		limits, there are measures	limits, there is either	



		in place expected to ensure that the UoA does not hinder recovery and rebuilding.	evidence of recovery or a demonstrably effective partial strategy in place such that UoA does not hinder recovery and rebuilding. AND Where catches of a main secondary species outside of biological limits are considerable, there is either evidence of recovery or a, demonstrably effective strategy in place between those MSC UoAs that also have considerable catches of the species, to ensure that they collectively do not hinder recovery and rebuilding.	
	Met?	RBF	RBF	RBF
h	Justification	(Engraulis anchoita), Bonaered and 6 described in the backg fishery has not a significant in species is neglectable. The last research surveys carrihas an interaction with seal ('Pardela de Cabeza Negra') as surveys were classified as ET scoring elements of PI 2.2.1, of the impact of the fishery on the impact of the fishery of of the fish	round and following Decision I round and second fied by UNMdP Bird Group from birds. Main secondary species and Kelp gull ('Gaviota Cocinera' P species (Paz, 2015). Other so due that these species are not shem (Table 6). available to estimate that the field limit and does not hinder resimit. So, the assessment team sets of stakeholders who attended.	methodology. During the site visit d (see 4.4.2 Consultations section) e a score. All information available d in Appendix 1.2.2.
b	Minor sec	condary species stock status		
	Guidep ost			For minor species that are below biologically based limits, there is evidence that the UoA does not hinder the recovery and rebuilding of secondary species
	Met?			RBF
	Justifica tion	See Appendix 1.2.2 – PSA met	hodology.	
Refere	nces			ía de arrastre pelágico dirigida a la optar por el título de Licenciada en



	Ciencias Biológicas, Universidad Nacional de Mar del Plata, Facultad de Cienc Naturales: 50pp.	ias Exactas y	
	Specific references used to assess PSA are cited in the Appendix 1.2.2		
OVERALL PER	OVERALL PERFORMANCE INDICATOR SCORE: 80		

Evaluation Table for PI 2.2.2 – Secondary species management strategy

There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements				
11 2.2	.2	_	minimise the mortality of unwa	
Scoring	Issue	SG 60	SG 80	SG 100
а	Managen	nent strategy in place		
	Guidep ost	There are measures in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a partial strategy in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a strategy in place for the UoA for managing main and minor secondary species.
	Met?	YES	YES	NO
Justifica		In studies carried out by Paz (2015), sheawaters and Kelp gull were 2 of 23 species identified that UoA has interaction. However, data showed that the impact is negiglible; due that 97% of interaction observed was classified as direct contact with the gear causing no serious injuries (no death of individuals or contact with the fishing gear by birds to feed). Also, this interaction was minor compared with other experiences carried out in other fisheries (i.e. demersal trawl fishery). Moreover, greater sheawater has very broad distribution ranges, including that some species make trans-equatorial migrations moving from the North to South Atlantic, including Argentine waters. In the case of Kelp gull breeds on coasts and islands through much of the southern hemisphere. It is found on a number of subantarctic islands, on the Antarctic peninsula, on the southern coast of Australia and all of New Zealand, on the southern cost of Africa and Madagascar, and on the coast of South America as far north as Ecuador and southern Brazil. This reinforce that the impact of the UoA with this species at this point is neglectable. From all exposed above, at the moment, it is not necessary a partial strategy in place to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.		
b	Managen	nent strategy evaluation		
	Guidep ost	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/species).	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the UoA and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or species involved.
	Met?	YES	YES	NO
	Justifica tion	As it is mentioned above, th	e volume of secondary specie	s is unsignificant and that 97% of



		interaction observed not cause serious injuries to the seabirds. Based on information directly about the UoA obtained by monitoring of INIDEP OBO Program, at the moment, it is not necessary to implement measures or a partial strategy for greater sheawater, the fishery meets with SG80 level of performance for this SI.						
С	Management strategy implementation							
	Guidep ost	υ, .	There is some evidence that the measures/partial strategy is being implemented successfully.	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a).				
	Met?		YES	NO				
	Justifica tion	As it is mentioned in SI b), interaction data registered indicate that, at the moment, it is not necessary to implement measures or a partial strategy for both seabird species. However, the data is not used to estimate abundances that indicate biomass status or impacts of secondary species due to fishing mortality, so there is not clear evidence that can reinforce the negiglible impact of UoA in the overall objective set out in scoring issue (a). Therefore, this scoring issue meets with SG80 level.						
d	Shark fin	l ning						
u	Guidep ost	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.				
	Met?	NOT RELEVANT	NOT RELEVANT	NOT RELEVANT				
	Justifica tion	Not applicable. There are not sharks identified as secondary species.						
е		f alternative measures to minim						
	Justifica tion	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main secondary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main secondary species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of all secondary species, and they are implemented, as appropriate.				
	Met?	NOT RELEVANT	NOT RELEVANT	NOT RELEVANT				
	Guidep ost	As it is mentioned in the SI a) and b) there is a negligible unwanted catch of seabirds (i.e. Paz (2015) estimated that 97% of interaction observed not cause serious injuries to the seabirds). Also, as it is described in the background, there is a national program to monitor and assess the implementation of alternative measures for seabirds in Argentine fisheries and decrease the unwanted catch. A surveillance workshop about PAN-Aves was carried out in June 2012. Main objective of this workshop was to review performance development of action plan proposed (for more information: http://www.agroindustria.gob.ar/site/pesca/pesca maritima/01=plan%20de%20accion%20nacional/03-PAN-AVES/index.php).						
		So, the assessment team determined not scored this PI.						
References		Paz, J., 2015. Interacciones entre aves marinas y la pesquería de arrastre pelágico dirigida a la anchoita (Engraulis anchoita) en el Mar Argentino. Tesis para optar por el título de Licenciada en Ciencias Biológicas, Universidad Nacional de Mar del Plata, Facultad de Ciencias Exactas y Naturales: 50pp.						
		Taller de Seg	uimiento PAN	AVES Junio 2012:				



	http://www.agroindustria.gob.ar/site/pesca/pesca_maritima/01=plan%20de%20aonal/03-PAN-AVES/index.php.	ccion%20naci	
OVERALL PERFORMANCE INDICATOR SCORE:			

Evaluation Table for PI 2.2.3 – Secondary species information

PI 2.2.3		Information on the nature and amount of secondary species taken is adequate to determine the					
			e effectiveness of the strategy to				
		SG 60 on adequacy for assessment of	impacts on main secondary sne	SG 100			
	Guidep ost	Qualitative information is adequate to estimate the impact of the UoA on the main secondary species with respect to status. OR If RBF is used to score PI	Some quantitative information is available and adequate to assess the impact of the UoA on main secondary species with respect to status. OR	Quantitative information is available and adequate to assess with a high degree of certainty the impact of the UoA on main secondary species with respect to status.			
		2.2.1 for the UoA: Qualitative information is adequate to estimate productivity and susceptibility attributes for main secondary species.	If RBF is used to score PI 2.2.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for main secondary species.				
	Met?	YES	YES	NO			
	Justifica tion	are some quantitative information butes for greater sheawater (see oth sampling or program and results thnical scientific reports. Observers MdP Bird Group, including species samplings (i.e. organic material) to					
		Information is collected on a haul basis. Each observer produces an on board report, follow specific protocols developed by the INIDEP On Board Observers Program and record electronically all the information, which is immediately presented to the INIDEP and/or NGOs the arrival.					
		Given the low number of trips and catch during the past few years, it is considered that there is not enough evidence to support that quantitative information is available and adequate to assess with a high degree of certainty the impact of the UoA on main secondary species with respect to status. So, the fishery does not meet the SG100 level of performance for this SI, and score of 80 is given.					
b	Information adequacy for assessment of impacts on minor secondary species						
	Guidep ost			Some quantitative information is adequate to estimate the impact of the UoA on minor secondary species with respect to status.			
	Met?			YES			
	Justifica tion	As it is mentioned above, there are not minor secondary species identified for the Argentine					



		anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic mid-water trawl fishery. Even if, there was not a robust systematic quantification of catches (primary, secondary and ETP species), the available quantitative information show that secondary species catches are neglectable (see Tables 5 and 6). The team considered that information are adequate to assess the impact of the UoA as non-existent. The UoA has not impact on minor secondary species with respect to status; so, the fishery meets with SG100 of performance for this SI.				
С		ion adequacy for management s				
	Guidep ost	Information is adequate to support measures to manage main secondary species.	Information is adequate to support a partial strategy to manage main secondary species.	Information is adequate to support a strategy to manage a secondary species, and evaluate with a high degree of certains whether the strategy is achieving its objective.	ite ity	
	Met?	YES	YES	NO		
	Justifica tion		ary a partial strategy in place,	nanage main secondary species. A		
		However, given the low number of trips and catch during the past few years, it is considered that there is not enough evidence to support that accurate and verifiable information is available on the amount of secondary species as seabirds and the consequences for the status of affected populations, so the strategy cannot be evaluated. Therefore, the fishery meets with the SG80 level of performance for this SI.				
Refere	Paz, J., 2015. Interacciones entre aves marinas y la pesquería de arrastre pelágico dirigida a la anchoita (Engraulis anchoita) en el Mar Argentino. Tesis para optar por el título de Licenciada en Ciencias Biológicas, Universidad Nacional de Mar del Plata, Facultad de Ciencias Exactas y Naturales: 50pp.				en	
OVERA	LL PERFOR	MANCE INDICATOR SCORE:		85		

Evaluation Table for PI 2.3.1 – ETP species outcome

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species. The UoA does not hinder recovery of ETP species			
Scoring Is	ssue	SG 60	SG 80	SG 100	
a E	ffects of	the UoA on population/stock w	within national or international limits, where applicable		
	Guidep ost	Where national and/or international requirements set limits for ETP species, the effects of the UoA on the population/stock are known and likely to be within these limits.	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.	Where national and/or international requirements set limits for ETP species, there is a high degree of certainty that the combined effects of the MSC UoAs are within these limits.	
N	Met?	RBF	RBF	RBF	
	ustifica ion	(Engraulis anchoita), Bonaerer Paz (2015) identified the followed albatross classified as considered as Vulnerable. As	wed the available information of P2 species for Argentine anchovy ense stock, semi-pelagic mid-water trawl fishery. Dowing seabird ETP species that has interaction with the UoA: Blacks Endangered species, White-chinned petrel and Olrog's gull, both is it is mentioned in PI 2.2.1, the 97% of observations refer that rawl net without serious injuries (i.e. death). Also, within birds dead		



in research surveys (from 2011 to 2013), Black-browed albatross and White-chinned petrel were the minor group reported. According Table 6, the team only considered *Thalassarche melanophris* as ETP seabird for the assessment due that this species is the only ETP species that contributes more than 10% of total number of contacts and is statistical significative to determine the impact of the fishery in seabirds (Paz, 2015). Other seabird species are not assessed as scoring element of PI 2.3.1, due that these species are not statistical significative (Table 6).

Respecting to marine mammals, Mandiola & Rodriguez (2015) observed in research surveys that the UoA interacts with 4 ETPs marine mammals: Atlantic dolphin and Dusky dolphin, both catalogues as Insufficent Known, and South American fur seal and South American sea lion, both as Not Threatened. These species are classified as ETPs species by national requirements of protection. Even, animals could be gilled with the gear, there are neglectable serious injuries reported.

There are rays and sharks considered Vulnerable and Endangered by international and national requirements of protection. Incidental catches of these species in the Argentine anchovy are reported in the landing surveys. As it is mentioned in the site visit consultations (see Appendix 3), the catches of this species is unsignificantly in the fishery and this is reinforced with weight of the total catch of all species by the UoA presented in Tables 5 and 7.

Using above information presented, the team decided to consider in the assessment seabirds and marine mammals species detected in the fishery due that last monitoring surveys not cover sufficient fishing trips to strengthen the conclusion that the UoA not hinder rebuilding and recovery on seabirds and marine mammals. As there are not sufficient data available to estimate that the UoA does not hinder recovery of ETP species, the assessment team scored this PI using RBF.

The team has triggered the RBF for this PI undertaking PSA methodology. During the site visit consultation the broad range of stakeholders who attended (see 4.4.2 Consultations section) were able to give good information for the team to generate a score. All information available to score productivity and susceptibility attributes is presented in Appendix 1.2.2.

The final score for PI 2.3.1 is 75 and the team set a condition according FCRv2.0-PF6.1.2. The client action plan proposed by the fishery must be capable of raise the score to 80, addressing all the species for which the score falls below 80, and without causing additional associated problems for other species.

b	Direct eff	ects			
	Guidep	Known direct effects of the	Known direct effects of the	There is a high degree of	
	ost	UoA are likely to not hinder	UoA highly likely to not	confidence that there are no	
		recovery of ETP species.	hinder recovery of ETP	significant detrimental direct	
			species.	effects of the UoA on ETP	
				species.	
	Met?	RBF	RBF	RBF	
	Justifica Con Amendia 1.2.2 PSA months de loga.				
	tion	See Appendix 1.2.2 – PSA met	illouology.		
С	Indirect e	effects			
	Guidep		Indirect effects have been	There is a high degree of	
	ost		considered and are thought	confidence that there are no	
			to be highly likely to not	significant detrimental indirect	
			create unacceptable	effects of the fishery on ETP	
			impacts.	species.	
	Met?		RBF	RBF	
	Justifica	See Appendix 1.2.2 – PSA methodology.			
	tion	See Appendix 1.2.2 13A methodology.			
Refere	nces	Paz, J., 2015. Interacciones e	ntre aves marinas y la pesquer	ía de arrastre pelágico dirigida a la	



anchoita (Engraulis anchoita) en el Mar Argentino. Tesis para optar por el título de Licenciada en Ciencias Biológicas, Universidad Nacional de Mar del Plata, Facultad de Ciencias Exactas y Naturales: 50pp.

Mandiola, M. A. & D. Rodriguez, 2015. Evaluación de las interacciones Mamíferos Marinos — Pesquerías en la pesquería de anchoíta (*Engraulis anchoita*) certificadas bajo estándares del Marine Stewardship Council (MSC). *Grupo de Mamíferos Marinos, Instituto de Investigaciones Marinas y Costeras, Facultad de Ciencias Exactas y Naturales, Universidad Nacional de Mar del Plata — CONICET:* 9pp.

Specific references used to assess PSA are cited in the Appendix 1.2.2

OVERALL PERFORMANCE INDICATOR SCORE:			
CONDITION NUMBER (If relevant):		1	

Evaluation Table for PI 2.3.2 - ETP species management strategy

 The UoA has in place precautionary management strategies of meet national and international requirements; PI 2.3.2 ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures mortality of ETP species. 			
Scoring Issue	SG 60	SG 80	SG 100
a Manage	ment strategy in place (national	and international requirements	3)
Guidep ost	There are measures in place that minimise the UoA-related mortality of ETP species, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.	There is a strategy in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP	There is a comprehensive strategy in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to achieve above national and international requirements for the protection of ETP species.
Met?	VEC	·	NO
Justifica	ETP species that interact with provided through national ETP Plans (PAN-Aves, PAN-Tiburor As it is mentioned in PI 2.3.3 impact, as it is indicated in product in seabirds, contacts occur differs from the ones four capturability; in this case, more than the differences could be discovered during haul. This maneur is on the surface for a longer than the case of marine mamma most instances, they return lift However, national requirements place to the protection of Expressions.	yes yes. Yes No ETP species that interact with anchovy fishery have requirements for protection or rebuilding provided through national ETP legislation based on international agreements as National Action Plans (PAN-Aves, PAN-Tiburones and PAN-Mamíferos). As it is mentioned in PI 2.3.1, the UoA interacts with seabirds and marine mammals, but the impact, as it is indicated in preliminary studies, is unsignificant for this species. In surveys carried out in seabirds, contacts occurred mostly with the net while birds are trying to feed. This result differs from the ones found in Merluccius hubbsi trawl fishery where there is a high capturability; in this case, most interactions occurred with the trawl warp and sensor cable. These differences could be due to anchovy fishing vessels that may differ in net size, length of warps, presence or absence of sensor cable, duration of trawl activity, as well as the operation used during haul. This maneuver is performed with trawl warps not too tight though fishing net is on the surface for a longer time, so collisions and/or contact of seabirds may be lower. In the case of marine mammals, animals are gilled by the gear when they feed the catch, but in most instances, they return live at sea. However, national requirements establish precautionary policy statements and regulation in place to the protection of ETP species. These strategies are designed to meet international requirements, in order to ensure that the fishery does not pose risks or serious harm, such as	



		Mamíferos). Also, Argentina is part of various intergovernmental treaties as is described in the section "Ecosystem Background".				
		Moreover, the CFP Resolution N° 3/2001 establishes that the INIDEP OBOs Program will also monitor birds, mammals and chondrichthyes. With regard to non-binding international instruments, Argentina endorsed the Code of Responsible Fisheries Conduct and adopted a National Action Plan to prevent, deter and eliminate the illegal, unreported and unregulated catch (PAN-IUU).				
		to minimise mortality, which i requirements for the protecti	s designed to be highly likely to on of ETP species. These strate t, as consultations to NGOs a	on ETP species, including measures achieve national and international egies are considered likely to work nd international consensus (IUCN,		
			nagement measures and respor	ested strategy made up of linked nse, so the fishery meets with SG80		
b	Managen	nent strategy in place (alternativ	ve)			
	Guidep ost	There are measures in place that are expected to ensure the UoA does not hinder the recovery of ETP species.	There is a strategy in place that is expected to ensure the UoA does not hinder the recovery of ETP species.	There is a comprehensive strategy in place for managing ETP species, to ensure the UoA does not hinder the recovery of ETP species		
	Met?	NOT RELEVANT	NOT RELEVANT	NOT RELEVANT		
	Justifica tion	See rationale mentioned in SI	a).			
С	Managen	nent strategy evaluation				
	Guidep ost	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is an objective basis for confidence that the measures/strategy will work, based on information directly about the fishery and/or the species involved.	The strategy/comprehensive strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work.		
	Met?	YES	YES	NO		
	Justifica tion	General experience indicates	that the strategy is considered that the strategy will work, be	ed likely to work, and there is an ased on information directly about		
		Since 2014, fishing operations directed to anchovy are decreased due to market conditions involved (high cost of oil, fall in product demand). As harvest was very low compared with TAC for fishery, this situation impacted positively to ETP species, but meant that data obtained by observation not support a quantitative analyse with high confidence that the strategy will work. The preliminary processing of the collected information indicates a mortality of about 0.70 birds per day of fishing. Due to the reduced fishing effort, the UNMdP Birds group considered that, for recent years, it can be inferred that the timely effect of the (Argentine anchovy) fleet in terms of mortality is minor, especially compared with other fleets and target species.				
		number of marine mammals records from 2014 and inform catch at the moment of the harine mammals, interaction, The biggest occurrence records	(12) were recorded as entan mation about 2015 is still on p arvest. In tows directed exclusi /tow during 2013 (0.23 ± 0.15) ded (50% of the tows with inte	e Mammals Group" report, a low igled during 2012-2013, (while no ireparation) which were eating the ve to evaluate the interaction with was lower than 2012 (0.36 \pm 0.05). eraction) belonged to animals that its were: interactions with the net		



		without entangling, fed from the harvest with entanglement, fed from the by-catch without entanglement.					
		While all South American fur seals were released by the crew or escaped unharmed, dolphins and the sea lion died as a result of the interaction. In all situations, interactions were registered during the tacking maneuver; and no interactions with cables or propeller were observed.					
		An indirect strategy to minimise mortality in marine mammals and seabird is the decreased fishing effort as it is reviewed in the Principle 1. Therefore, although there is an objective basis for confidence that the strategy will work, based on information directly about the fishery and/or the species involved, due to the limited data available, there is no evidence of a quantitative analysis that supports high confidence that the strategy will work, and so the fishery meets with SG80 level for this SI.					
d	Managen	nent strategy implementation					
	Guidep ost		There is some evidence that the measures/strategy is being implemented successfully.	There is clear evidence that the strategy/comprehensive strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a) or (b).			
	Met?		YES	NO			
	Justifica tion	become successful and is achi		vidence that the strategy in place cially because volume of unwanted gh.			
		rebuilding and recovery on implemented and executed, i	seabirds and marine mammal t cannot be assured that the c curring, and the fishery does no	o conclude that the UoA not hinder s. So, even all plans are recently evidence is clear enough to detect t comply with SG100 for this SI, but			
е	Review o	f alternative measures to minim	ize mortality of ETP species				
	Guidep ost	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality ETP species, and they are implemented, as appropriate.			
	Met?	NOT RELEVANT	NOT RELEVANT	NOT RELEVANT			
	Justifica tion	As it is mentioned in the studies performed by Paz (2015) and Mandiola & Rodriguez (2015), the need to monitor ETP species was subject in the framework of first certification process of Argentine anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic mid-water trawl fishery. The coordination of monitoring is raised at meetings of Commission and implemented by the management authority (CFP). Also, there is no evidence provided to the assessment team that interaction of Argentine anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic midwater trawl fishery could cause serious injuries in ETP species population, decreasing it. As it is formally communicated by INIDEP (see Appendix 3), ETP marine mammal populations related with anchovy species are increased in the last years. Also, as it is described in the background, there is a national program to monitor and assess the implementation of alternative measures for seabirds and marine mammals in Argentine fisheries and decrease unwanted catch. At the moment of re-certification process, Paz (2015) determined that the fishery not impact					
			The state of the s	ved was classified as direct contact			



with the gear causing no serious injuries (no death of individuals or contact with the fishiby birds to feed). Also, this interaction was minor compared with other experiences carrinother fisheries (i.e. demersal trawl fishery). About marine mammals, Mandiola & Ro (2015) detected that 8 individuals are death gilled by the interaction during 2012 an However, Mandiola and Rodriguez indicated in stakeholder meetings the need to composite the interaction with this species to quantify the impact and review of alternations to minimize mortality of ETP species. The Client Action Plan provides conactions to minimize mortality (i.e. 'If necessary, measures to minimize the impact of the on ETP species so as not to affect the biological limits to national and / or international implemented.' – see Appendix 1.3)				
		As it is stated above, the assessment team decided not scored this SI e). If in survare provided new information related, the assessment team will be following Certification Requirement - 7.23.12.5.		
		Mandiola, M. A. & D. Rodriguez, 2015. Evaluación de las interacciones Mamífe Pesquerías en la pesquería de anchoíta (<i>Engraulis anchoita</i>) certificadas bajo e Marine Stewardship Council (MSC). <i>Grupo de Mamíferos Marinos, Instituto de I. Marinas y Costeras, Facultad de Ciencias Exactas y Naturales, Universidad Nacion Plata – CONICET:</i> 9pp.	estándares del nvestigaciones	
		CFP Resolution N° 3/2001		
References		Taller de Seguimiento PAN AVES Junio http://www.agroindustria.gob.ar/site/pesca/pesca maritima/01=plan%20de%20aonal/03-PAN-AVES/index.php .	2012: accion%20naci	
		Paz, J., 2015. Interacciones entre aves marinas y la pesquería de arrastre pelágicanchoita (Engraulis anchoita) en el Mar Argentino. Tesis para optar por el título de Ciencias Biológicas, Universidad Nacional de Mar del Plata, Facultad de Ciencias Sopp.	: Licenciada en	
OVERAI	LL PERFOR	MANCE INDICATOR SCORE:	80	

Evaluation Table for PI 2.3.3 - ETP species information

		Relevant information is collecting including:	cted to support the manageme	ent of UoA impacts on ETP species,
PI 2.3	2		levelopment of the managemer	at stratogy:
F1 2.3				
			s the effectiveness of the manag	•
			mine the outcome status of ETP	
Scoring	g Issue	SG 60	SG 80	SG 100
а	Informati	on adequacy for assessment of	impacts	
	Guidep	Qualitative information is	Some quantitative	Quantitative information is
	ost	adequate to estimate the	information is adequate to	available to assess with a high
		UoA related mortality on	assess the UoA related	degree of certainty the
		ETP species.	mortality and impact and to	magnitude of UoA-related
			determine whether the UoA	impacts, mortalities and
		OR	may be a threat to	injuriesand theconsequences for
			protection and recovery of	the status of ETP species.
		If RBF is used to score PI	the ETP species.	·
		2.3.1 for the UoA:		
			OR	
		Qualitative information is		
		adequate to estimate	If RBF is used to score PI	
		productivity and	2.3.1 for the UoA:	
		susceptibility attributes for	Some quantitative	



		ETP species.	information is adequate to assess productivity and susceptibility attributes for ETP species.			
	Met?	YES	YES	NO		
	Justifica tion		-	are some quantitative information es for all ETP species (see Appendix		
		Sampling, INIDEP Research Su	rveys, fishing electronic records sperts in research sampling or p	organizations) OBO Program, Dock s (daily and final, per vessel) and in- program and results are available in		
		protocol designed by the resespecially trained in birds' remammal's identification. Both Lic. Gabriel Blanco is tightly comonitoring records on 100%	search project, including speci ecognition by Dr. Marcos Fav n experts are part of UNMDP's collaborating with bird research of landings provide the amo	according to the INIDEP sampling es recognition. Some of them are vero and Dr. Diego Rodriguez for staff. The OBO Program headed by ners (Favero et al., 2010). Dockside bunts of all landed species in this is also available from commercial		
		supported by assessments ca studies indicate that the im- assessments carried out in or serious injuries and marine m National Action Plans for Bi	prized out by Paz (2015) and Note to the UoA on ETP spectifier fisheries. In the case of seammals are gilled by trawl net light and Marine Mammals all specific protocols to identify described.	pact on ETP species. This further Mandiola & Rodriguez (2015). Both ies is negiglible considering other eabirds 97% of contacts not cause but they are back live to the water. low a significant improvement of amage and implement, if necessary,		
		not enough evidence to sup assess with a high degree of (port that quantitative informa certainty the impact of the UoA	years, it is considered that there is ation is available and adequate to a on main ETP species with respect erformance for this SI, and score of		
b	Informati	on adequacy for management s	strategy			
	Guidep	Information is adequate to support measures to manage the impacts on ETP species.	Information is adequate to measure trends and support a strategy to manage impacts on ETP species.	Information is adequate to support a comprehensive strategy to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.		
	Met?	YES	YES	NO		
	Justifica tion	As it is mentioned above, accurate and verifiable information is available in two specific studies on the fishery's impacts on seabirds and marine mammals ETP species (i.e. assessment of survival rate, ETP species recording sheets, etc). Information is adequated to measures trends and support strategy to manage impacts on ETP species. As stated above, this information is available by INIDEP OBOs Program, INIDEP Pelagic Fisheries and Marine Environmental Program, experts and NGOs.				
		I nowever, given the low hum	bei oi trips and catch during t	he past few years, it is considered		



	that there is not enough evidence to support with high degree of certainty wheth achieving its objectives as is defined in the Ecosystem Background for each group (seabirds and mammals) and the consequences for the status of affected popu strategy cannot be evaluated. So, the fishery meets the SG80 level of performance	of ETP species lations, so the			
	Paz, J., 2015. Interacciones entre aves marinas y la pesquería de arrastre pelágica anchoita (Engraulis anchoita) en el Mar Argentino. Tesis para optar por el título de Ciencias Biológicas, Universidad Nacional de Mar del Plata, Facultad de Ciencias Sopp.	e Licenciada en			
References	Mandiola, M. A. & D. Rodriguez, 2015. Evaluación de las interacciones Mamíferos Marinos – Pesquerías en la pesquería de anchoíta (<i>Engraulis anchoita</i>) certificadas bajo estándares del Marine Stewardship Council (MSC). <i>Grupo de Mamíferos Marinos, Instituto de Investigaciones Marinas y Costeras, Facultad de Ciencias Exactas y Naturales, Universidad Nacional de Mar del Plata – CONICET:</i> 9pp.				
OVERALL PERFOR	OVERALL PERFORMANCE INDICATOR SCORE: 80				

Evaluation Table for PI 2.4.1 – Habitats outcome

PI 2.4.1 considered				o habitat structure and function, overnance body(s) responsible for	
Scoring		SG 60	SG 80	SG 100	
а	Common	ly encountered habitat status			
	Guidep	The UoA is unlikely to	The UoA is highly unlikely to	There is evidence that the UoA is	
	ost	reduce structure and	reduce structure and	highly unlikely to reduce	
		function of the commonly	function of the commonly	structure and function of the	
		encountered habitats to a	encountered habitats to a	commonly encountered habitats	
		point where there would be serious or irreversible harm.	point where there would be serious or irreversible harm.	to a point where there would be serious or irreversible harm.	
-	Met?	RBF	RBF	RBF	
-	Justifica			1	
	tion	The assessment team reviewed the available information of habitats for Bonaerense anchovy mid-trawl fishery. As it is mentioned in the background section, even if it is rarely that this fishing gear comes into to contact with the sea bottom, this impact is not tested and there is not adequate information about areas that contain vulnerable habitats. With available information, the team can not assess directly if the UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area(s) covered by the governance body(s) responsible for fishery management. The team scored this PI as deficient data and use RBF to score PI 2.4.1. The team has triggered the RBF for this PI undertaking CSA (Consequence Spatial Analysis) methodology. During the site visit consultation the broad range of stakeholders who attended were able to give good proxy for the team to generate a score. All information available to score impact of UoA in the habitat structure and function is presented in Appendix 1.2.3.			
	The fishing gear under assessment is not provided in Tables PF14 and PF15 of FCRv2.0 and assessment team considered 'Danish seine' as the most similar and precautory gear in ter extent of bottom contact. FAO indicates that this fishing technique is particularly appli where there are areas with flat seabed but no large trawlable bottom. Even if the mid-traw operates generally the column water, rarely this fishing gear comes into to contact with the bottom, the team decides to use this similar gear to estimate the impact on the function structure of bottom.				
	The final score for PI 2.4.1 is 93 and this PI pass as unconditional.				
b	VME habi	itat status			



Guider ost	The UoA is unlikely to reduce structure and function of the VME habitats to a point where would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where would be serious or irreversible harm.	
Met?	RBF	RBF	RBF	
Justific tion	See Appendix 1.2.3 – CSA met	thodology.		
c Minor	nabitat status			
Guider ost			There is evidence that the UoA is highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm.	
Met?			RBF	
Justific tion	See Appendix 1.2.3 – CSA met	See Appendix 1.2.3 – CSA methodology.		
References Fishing techniques, 'Danish seining': http://www.fao.org/fishery/fishtech/1003/en References are described in the main text and Appendix 1.2.3.				
OVERALL PERF	DRMANCE INDICATOR SCORE:		93	

Evaluation Table for PI 2.4.2 – Habitats management strategy

PI 2.4	2.4.2 There is a strategy in place that is designed to ensure the UoA does not pose a risk of serior irreversible harm to the habitats.			A does not pose a risk of serious or	
Scoring	g Issue	SG 60	SG 80	SG 100	
а	Managen	nent strategy in place			
	Guidep ost	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a strategy in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.	
	Met?	YES	YES	NO	
As the Bonaerense anchovy mid-trawl fishery is perceiv fishing gear operates in the water column and rarely column it is not necessary, at the moment, a partial strategy system enforced using a Vessel Monitoring System (VM habitat and the whole ecosystem. CSA results for PI 2.4.1 have shown that direct imparts the bit to the strategy and for this partial strategy.			ater column and rarely comes in oment, a partial strategy in pl el Monitoring System (VMS), wh tem.	nto to contact with the sea bottom, ace. Also, mandatory closed areas nich act as protection of the benthic	
		In addition, the fishing operation in itself is also considered to be a strategy the impact fishery on habitat types. The mid-water trawl only rarely comes into to contact with sea to as it can be damage incurring significant costs for the fishers, which is a powerful incential minimize contact with the bottom. Also, the fishing operations are concentrated in a sarea, contribute to minimize impacts. Therefore, evidences show that the fishery meets with SG80 level of performance.			
b	Managen	nent strategy evaluation			
	Guidep	The measures are	There is some objective	Testing supports high confidence	



As it is mentioned in the SI a), of UoA in VME habitats involv However, no testing has bee	ed. en conducted in order to neit	ther estimate the outcome of the
· ·	tats involved. So, the fishery sco	ores 80 for this SI.
ment strategy implementation	There is some quantitative evidence that the measures/partial strategy is being implemented successfully.	There is clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a).
of UoA in VME habitats involv	ed.	NO trategy in place due that the impact
nce with management requirem	ents and other MSC UoAs'/non-	-MSC fisheries' measures to protect
There is qualitative evidence that the UoA complies with its management requirements to protect VMEs.	There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.	There is clear quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.
YES	YES	NO
As it is mentioned above, the its management requirement UoAs/non-MSC fisheries, whe In Argentina, management fis that could be restricted for so authorities, CFP and CTMFM, vessel monitoring system (VM nets, the management author As it is presented in the Figure the use of bottom trawl net. N° 01/09. The mid-trawl net reprohibition for Bonaerense ar negiglible impact detected.	re is some quantitative evidences and with protection measure re relevant. There is integrated for all fisheric ome specific fishery. Statemente and published in their websited in their websited in their websited in the respective requests its return to port and are some contact with seabed arely come contact with seabed achovy fishery in these areas defined.	tee that the UoA complies with both es afforded to VMEs by other MSC es, including close/protection areas its is determinated by management es. Monitoring control is applied by in a close area using bottom trawled applies respective sanctions. The provided areas restricted for the CTMFM Resolutions N° 10/00 and the sand at the moment there is not a use to seasonality of the fishery and
2	based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/habitats). YES As it is mentioned in the SI a), of UoA in VME habitats involved However, no testing has been strategy nor support high composite the fishery and/or habitate involved the fishery complies increased in the SI a), of UoA in VME habitats involved the fishery complies increased in the SI a), of UoA in VME habitats involved the fishery complies with its management requirement in the UoA complies with its management requirements to protect vishes. YES As it is mentioned above, the its management requirements to protect vishes. YES As it is mentioned above, the its management requirement its management requirement UoAs/non-MSC fisheries, wheelight in the could be restricted for some authorities, CFP and CTMFM, vessel monitoring system (VM nets, the management authorities, the management authorities, the management authorities, the management authorities is presented in the Figure the use of bottom trawl net in prohibition for Bonaerense and negiglible impact detected.	based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/habitats). YES As it is mentioned in the SI a), there is not needed a partial strategy in about the fishery and/or habitats involved. However, no testing has been conducted in order to neit strategy nor support high confidence that the strategy will a about the fishery and/or habitats involved. So, the fishery social experience, where is some quantitative evidence that the measures/partial strategy is being implemented successfully. YES As it is mentioned in the SI a), there is not needed a partial strategy in plementation There is some quantitative evidence that the measures/partial strategy is being implemented successfully. YES As it is mentioned in the SI a), there is not needed a partial strategy is being implemented successfully. YES As it is management requirements and other MSC UoAs'/non ance with management requirements and other MSC UoAs'/non with its management requirements and with protection measures afforded to VMEs. YES As it is mentioned above, there is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant. YES As it is mentioned above, there is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant. In Argentina, management fishery is integrated for all fisherithat could be restricted for some specific fishery. Statement authorities, CFP and CTMFM, and published in their website vessel monitoring system (VMS) using GPS. If a vessel enters nets, the management authority requests its return to port as it is presented in the Figures 6 and 18, the fishery overlathe use of bottom trawl net. Sanctions are established in the prohibition for Bonaerense anchovy fishery in these areas disprohibition for Bonaerense anchovy fishery in these area



References	CTMFM Resolutions N° 10/2000 and N° 1/2009.	
OVERALL PERFORMANCE INDICATOR SCORE: 80		

Evaluation Table for PI 2.4.3 – Habitats information

PI 2.4	2.4.3 Information is adequate to determine the risk posed to the habitat by the UoA and the		-	
		effectiveness of the strategy t SG 60	o manage impacts on the habit	at. SG 100
Scoring			36 80	3G 100
а	Guidep ost	on quality The types and distribution of the main habitats are broadly understood. OR If CSA is used to score PI 2.4.1 for the UoA: Qualitative information is adequate to estimate the types and distribution of the main habitats.	The nature, distribution and vulnerability of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. OR If CSA is used to score PI 2.4.1 for the UoA: Some quantitative information is available and is adequate to estimate the types and distribution of the	The distribution of all habitats is known over their range, with particular attention to the occurrence of vulnerable habitats.
	Met?	YES	main habitats.	NO
	Justifica tion	As is reviewed in the RBF wor are some quantitative information habitats (see Appendix 1.2.3 at The fishing area is characterize solitary sedentary/sessile epiffsea bottom. As shown in Figure determined for coastal demen	rkshop with stakeholders and out on adequated to estimate the land Figure 18). The deed by fine sediments as mud a faune. Habitat is homogenous a	described in the main report, there e types and distribution of the main and sand, unrippled flat and benthic and it is expanded in all Bonaerense it in a small area than closed area ion N° 01/09).
b	Informati Guidep ost	on adequacy for assessment of Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear. OR If CSA is used to score PI 2.4.1 for the UoA: Qualitative information is adequate to estimate the consequence and spatial	Information is adequate to allow for identification of	The physical impacts of the gear on all habitats have been quantified fully.



attributes of the main information is available and is adequate to estimate the consequence and spatial attributes of the main habitats. Met? YES YES YES NO There is some quantitative information available and is adequate to estimate the consequence and spatial attributes of the main habitats. There is sufficient data on the fishing operations as effort, time and area fished, though VMS and catch data, to determine the impacts of the fishery on the habitat. There is information on seabed habitats where the fishing takes place. However, the impact of the fishery has not been fully quantified. Vessels are satellite monitored and records on timing and locations of use of the fishing gear exist. Enough information is recorded by the INIDEP OBO Program, on species of both benthonic and pelagic habitats to determine impacts and risks on habitats though biological indicators. As it is mentioned, the fishing operations are carried out in water column, rarely comes contact with the seabed and negative consequences in spatial attribute of the main habitats is unsignificant. Therefore, the fishery meets with the SG80 level for this SI. C Monitoring Guidep ost Met? Justifica at is mentioned in the SI c), the adequate information (number and type of vessels using satellite monitoring) continues to be collected to detect any increase in risk to the main habitats. Data continue to be collected in the fishery to establish that it has negigible impact on the distribution and abundance of the habitat and associated fauna and these data are supplemented by data gathered independently of the fishery in annual biomass surveys. As an OBO Program is in place, covering well enough the fishery, the information collected may both be useful as indicators of changes in the habitat or as cause of these changes. Therefore, the fishery meets with the SG80 level of performance for this SI.			and the state of the state of	:-f		
Consequence and spatial attributes of the main habitats.			attributes of the main	information is available and		
Met? YES YES NO			habitats.	•		
Met? YES YES YES NO Justifica tion There is some quantitative information available and is adequate to estimate the consequence and spatial attributes of the main habitats. There is sufficient data on the fishing operations as effort, time and area fished, though VMS and catch data, to determine the impacts of the fishery on the habitat. There is information on seabed habitats where the fishing takes place. However, the impact of the fishery has not been fully quantified. Vessels are satellite monitored and records on timing and locations of use of the fishing gear exist. Enough information is recorded by the INIDEP OBO Program, on species of both benthonic and pelagic habitats to determine impacts and risks on habitats though biological indicators. As it is mentioned, the fishing operations are carried out in water column, rarely comes contact with the seabed and negative consequences in spatial attribute of the main habitats is unsignificant. Therefore, the fishery meets with the SG80 level for this SI. C Monitoring Adequate information continues to be collected to detect any increase in risk to the main habitats. Met? As it is mentioned in the SI c), the adequate information (number and type of vessels using satellite monitoring) continues to be collected to detect any increase in risk to the main habitats. Data continue to be collected in the fishery to establish that it has negiglible impact on the distribution and abundance of the habitat and associated fauna and these data are supplemented by data gathered independently of the fishery in annual biomass surveys. As an OBO Program is in place, covering well enough the fishery, the information collected may both be useful as indicators of changes in the habitat or as cause of these changes. Therefore, the fishery meets with the SG80 level of performance for this SI.						
Met? YES YES YES NO						
There is some quantitative information available and is adequate to estimate the consequence and spatial attributes of the main habitats. There is sufficient data on the fishing operations as effort, time and area fished, though VMS and catch data, to determine the impacts of the fishery on the habitat. There is information on seabed habitats where the fishing takes place. However, the impact of the fishery has not been fully quantified. Vessels are satellite monitored and records on timing and locations of use of the fishing gear exist. Enough information is recorded by the INIDEP OBO Program, on species of both benthonic and pelagic habitats to determine impacts and risks on habitats though biological indicators. As it is mentioned, the fishing operations are carried out in water column, rarely comes contact with the seabed and negative consequences in spatial attribute of the main habitats is unsignificant. Therefore, the fishery meets with the SG80 level for this SI. C Monitoring Guidep ost Adequate information continues to be collected to detect any increase in risk to the main habitats. Met? YES NO As it is mentioned in the SI c), the adequate information (number and type of vessels using satellite monitoring) continues to be collected to detect any increase in risk to the main habitats. Data continue to be collected in the fishery to establish that it has negligible impact on the distribution and abundance of the habitat and associated fauna and these data are supplemented by data gathered independently of the fishery in annual biomass surveys. As an OBO Program is in place, covering well enough the fishery, the information collected may both be useful as indicators of changes in the habitat or as cause of these changes. Therefore, the fishery meets with the SG80 level of performance for this SI.				habitats.		
There is some quantitative information available and is adequate to estimate the consequence and spatial attributes of the main habitats. There is sufficient data on the fishing operations as effort, time and area fished, though VMS and catch data, to determine the impacts of the fishery on the habitat. There is information on seabed habitats where the fishing takes place. However, the impact of the fishery has not been fully quantified. Vessels are satellite monitored and records on timing and locations of use of the fishing gear exist. Enough information is recorded by the INIDEP OBO Program, on species of both benthonic and pelagic habitats to determine impacts and risks on habitats though biological indicators. As it is mentioned, the fishing operations are carried out in water column, rarely comes contact with the seabed and negative consequences in spatial attribute of the main habitats is unsignificant. Therefore, the fishery meets with the SG80 level for this SI. C Monitoring Guidep ost Adequate information continues to be collected to detect any increase in habitat distributions over time are measured. Met? Justification As it is mentioned in the SI c), the adequate information (number and type of vessels using satellite monitoring) continues to be collected to detect any increase in risk to the main habitats. Data continue to be collected in the fishery to establish that it has negigible impact on the distribution and abundance of the habitat and associated fauna and these data are supplemented by data gathered independently of the fishery in annual biomass surveys. As an OBO Program is in place, covering well enough the fishery, the information collected may both be useful as indicators of changes in the habitat or as cause of these changes. Therefore, the fishery meets with the SG80 level of performance for this SI.		Met?	YES	YES	NO	
Guidep ost Adequate information continues to be collected to detect any increase in risk to the main habitats. Met? Justifica tion As it is mentioned in the SI c), the adequate information (number and type of vessels using satellite monitoring) continues to be collected to detect any increase in risk to the main habitats. Data continue to be collected in the fishery to establish that it has negiglible impact on the distribution and abundance of the habitat and associated fauna and these data are supplemented by data gathered independently of the fishery in annual biomass surveys. As an OBO Program is in place, covering well enough the fishery, the information collected may both be useful as indicators of changes in the habitat or as cause of these changes. Therefore, the fishery meets with the SG80 level of performance for this SI. References CTMFM Resolution N° 1/2009.			and spatial attributes of the reffort, time and area fished, fishery on the habitat. There However, the impact of the fist Vessels are satellite monitore exist. Enough information is reand pelagic habitats to determ As it is mentioned, the fishing with the seabed and negations unsignificant.	main habitats. There is sufficient though VMS and catch data, is information on seabed habits hery has not been fully quantified and records on timing and lecorded by the INIDEP OBO Pronine impacts and risks on habits operations are carried out in vive consequences in spatial	to data on the fishing to determine the itats where the fishing ied. ocations of use of the gram, on species of the state though biological water column, rarely	g operations as mpacts of the ng takes place. The fishing gear both benthonic indicators.
Guidep ost Adequate information continues to be collected to detect any increase in risk to the main habitats. Met? Justifica tion As it is mentioned in the SI c), the adequate information (number and type of vessels using satellite monitoring) continues to be collected to detect any increase in risk to the main habitats. Data continue to be collected in the fishery to establish that it has negiglible impact on the distribution and abundance of the habitat and associated fauna and these data are supplemented by data gathered independently of the fishery in annual biomass surveys. As an OBO Program is in place, covering well enough the fishery, the information collected may both be useful as indicators of changes in the habitat or as cause of these changes. Therefore, the fishery meets with the SG80 level of performance for this SI. References CTMFM Resolution N° 1/2009.	С	Monitori	ng			
ost Continues to be collected to detect any increase in risk to the main habitats.				Adequate information	Changes in habita	t distributions
detect any increase in risk to the main habitats. Met? Justifica tion As it is mentioned in the SI c), the adequate information (number and type of vessels using satellite monitoring) continues to be collected to detect any increase in risk to the main habitats. Data continue to be collected in the fishery to establish that it has negiglible impact on the distribution and abundance of the habitat and associated fauna and these data are supplemented by data gathered independently of the fishery in annual biomass surveys. As an OBO Program is in place, covering well enough the fishery, the information collected may both be useful as indicators of changes in the habitat or as cause of these changes. Therefore, the fishery meets with the SG80 level of performance for this SI. References CTMFM Resolution N° 1/2009.		•		•		
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As it is mentioned in the SI c), the adequate information (number and type of vessels using satellite monitoring) continues to be collected to detect any increase in risk to the main habitats. Data continue to be collected in the fishery to establish that it has negiglible impact on the distribution and abundance of the habitat and associated fauna and these data are supplemented by data gathered independently of the fishery in annual biomass surveys. As an OBO Program is in place, covering well enough the fishery, the information collected may both be useful as indicators of changes in the habitat or as cause of these changes. Therefore, the fishery meets with the SG80 level of performance for this SI. References CTMFM Resolution N° 1/2009.				-		
both be useful as indicators of changes in the habitat or as cause of these changes. Therefore, the fishery meets with the SG80 level of performance for this SI. References CTMFM Resolution N° 1/2009.			As it is mentioned in the SI c), the adequate information (number and type of vessels using satellite monitoring) continues to be collected to detect any increase in risk to the main habitats. Data continue to be collected in the fishery to establish that it has negiglible impact of the distribution and abundance of the habitat and associated fauna and these data are			to the main lible impact on nese data are
References CTMFM Resolution N° 1/2009.						
· · · · · · · · · · · · · · · · · · ·			Therefore, the fishery meets with the SG80 level of performance for this SI.			
OVERALL PERFORMANCE INDICATOR SCORE: 80	Refere	nces	CTMFM Resolution N° 1/2009			
	OVERA	LL PERFOR	MANCE INDICATOR SCORE:			80

Evaluation Table for PI 2.5.1 – Ecosystem outcome

PI 2.5.1 The UoA does not ca and function.			us or irreversible harm to the ke	ey elements of ecosystem structure
Scoring	g Issue	SG 60	SG 80	SG 100
а	Ecosyster	n status		
	Guidep ost	The UoA is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is evidence that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
	Met?	RBF	RBF	RBF



	Justifica tion	The assessment team considered that information is not enough therefore it is not support analysis of the impact of the fishery on the ecosystem, and thus this PI was RBF against SICA methodology. The final score for PI 2.5.1 was 80 and this PI pass as unconditional. For more information see Appendix 1.2.4.	•
References N/A		N/A	
OVERA	OVERALL PERFORMANCE INDICATOR SCORE: 80		

Evaluation Table for PI 2.5.2 – Ecosystem management strategy

P /5/		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function.		
Scoring	g Issue	SG 60	SG 80	SG 100
а		nent strategy in place		
	Guidep	There are measures in place, if necessary which take into account the potential impacts of the fishery on key elements of the ecosystem.	There is a partial strategy in place, if necessary, which takes into account available information and is expected to restrain impacts of the UoA on the ecosystem so as to achieve the Ecosystem	There is a strategy that consists of a plan, in place which contains measures to address all main impacts of the UoA on the ecosystem, and at least some of these measures are in place.
			Outcome 80 level of	
			performance.	
	Met?	YES	YES	NO
	Justifica tion	Principle 2 indicator. The Fis		res the successful outcome of this mented in Principle 1 ensures the ture and function.
		habitats, comprising of limite limitation on fishing operation any other impacts from the fis	ed discards, closed areas, minings area, representing also and eathery that would affect ecosystems.	
		on incidental catch species ar and a partial strategy as a sp	nd ecosystem component have ecific "ecosystem strategy" is r	Performance Indicators, the impact a negiglible impact on this fishery, not considered to be required. The y reached through RBF process.
		So the fishery complies with S	G80 level for this SI.	
b	Managen	nent strategy evaluation		
	Guidep ost	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar	There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the UoA and/or the	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the UoA and/or ecosystem involved
		fisheries/ ecosystems).	ecosystem involved	
	Met?	YES	YES	NO
	Justifica tion	I =	for confidence that the measur about the UoA and/or the ecosy	es/partial strategy will work, based ystem involved
		The key elements are fishes	and squids, belonging mainly	to the benthonic and demersal-



		benthonic communities (68%). An important ecologic characteristic of the demersal integrants is the trophic relationship with the pelagic community that appears during the nictemeral-rhythm vertical migration of the species (hake, squid and hoki). There is no need to apply measures as no relevant ecosystem changes have been detected. Environmental and jellyfishes changes are being taken into account by the INIDEP (INIDEP Technical Report N° 12/2008). The INIDEP Observers Program records enough data on species to detect any relevant variation on the species composition. INIDEP Research surveys allow determining variations on species composition, functional groups, trophic structure and distribution of the community. As a result, it is considered that there is enough evidence to support that the measures are considered likely to work based on prior experience, plausible argument or information directly from the fishery/ecosystems involved; and so the fishery meets the SG 80 level for this SI.			
С		nent strategy implementation	There is some a distance that	There is also as as is	
	Guidep ost		There is some evidence that the measures/partial	There is clear evice partial strategy/str	
	OSC		strategy is being implemented successfully.	implemented succ achieving its object in scoring issue (a).	essfully and is tive as set out
	Met?		YES	NO	
	Justifica tion	There is some evidence that the measures/partial strategy is being implemented successfully. Vessels are satellite monitored, which together with OBO records show the un-fished areas remain undisturbed by fishing. Limit fishing efforts and closed areas is implemented successfully. As is not necessary to implement a partial strategy that takes into account available information and is expected to restrain impacts of the UoA on the ecosystem, there is no clear evidence that the partial strategy is implemented successfully and is achieving its objective as set out in scoring issue a), and therefore, the fishery meets with the SG80 level of performance for this SI.			
		INIDEP Technical Report N° 12	2/2008.		
Refere	nces	Balech & Elrich, 2008.			
OVERA	ALL PERFOR	MANCE INDICATOR SCORE:			80

Evaluation Table for PI 2.5.3 – Ecosystem information

PI 2.5	.3	There is adequate knowledge of the impacts of the UoA on the ecosystem.		
Scoring Issue		SG 60	SG 80	SG 100
а	Informati	on quality		
	Guidep	Information is adequate to	Information is adequate to	
	ost	identify the key elements of	broadly understand the key	
		the ecosystem.	elements of the ecosystem.	
	Met?	YES	YES	
	Justifica tion	Information is adequate to broadly understand the key elements of the ecosystem. The Bonaerense District of the Argentine Zoogeographic Province (with the indirect influence of the Current of Brazil) Ecosystem is huge, but the key elements can be identified from the extensive investigations of its structure and productivity. Direct information on the impact of this fishery on the ecosystem community was considered to be limited because of the absence of On Board Observers (OBOs) in the certification assessment and has triggered use of the Risk Based Framework (RBF) for PI 2.5.1. However, during the risk-based assessment, it raised that the level of total chub mackerel catch indicates that the potential risk of impacts of target and non-target species removal on ecosystem structure and function is deemed insignificant in terms of the scale and intensity of the fishery.		



		While there is currently no updated information on the predator-prey relationships and interdependencies among commercial species within the unit of certification; <i>Lycengraulis olidus</i> , <i>Anchoa marinii</i> , <i>Trachurus picturatus australis</i> (syn. <i>Trachurus lathami</i>), <i>Paronasignata</i> and <i>Austroatherina incise</i> , which occur —with minimal variations- in the same trophic niche of the anchovy, are the main competitors during all life history of anchovy. From all species predating on anchovy, <i>Illex argentinus</i> , <i>Merluccius hubbsi</i> , <i>Arctocephalus australis</i> and coastal species are known to be the main predators on anchovy; but also other cephalopods (3 spp.), marine birds (5 spp.) and marine mammals (5 spp.) are relatively important. <i>Illex argentinus</i> , <i>Merluccius hubbsi</i> and coastal species also predate on other abundant species; while stock of anchovy is widely large in comparison to fishing captures of this species. The INIDEP OBO Program records enough data on species to detect any relevant variation on the species composition. The INIDEP Research surveys allow determining variations on species composition, functional groups, trophic structure and distribution of the community. Evidences presented above, the fishery complies with SG80 level of performance for this PI.			
b	Investigat	tion of UoA impacts			
~	Guidep	Main impacts of the UoA on	Main impacts of the UoA on	Main interactions between the	
	ost	these key ecosystem	these key ecosystem	UoA and these ecosystem	
	OSL	elements can be inferred from existing information, but have not been investigated in detail.	elements can be inferred from existing information, and some have been investigated in detail.	elements can be inferred from existing information, and have been investigated in detail.	
	Met?	YES	YES	NO	
	Justifica tion	information and some have be evidence that main interaction inferred from existing information. There is currently no update	peen investigated in detail (see ions between the UoA and the ation, and have been investigated ted information on the prede ercial species within the unit of	ents can be inferred from existing e rationale of SI a), but there is no hese ecosystem elements can be ed in detail. ator-prey relationships and interassessment. So, the fishery meets	
С	Understa	nding of component functions			
	Guidep ost	numb or component functions	The main functions of the components (i.e., P1 target species, primary, secondary and ETP species and Habitats) in the ecosystem are known.	The impacts of the UoA on P1 target species, primary, secondary and ETP species and Habitats are identified and the main functions of these components in the ecosystem are understood.	
	Met?		YES	NO	
	Justifica tion	catch, Retained and ETP speci been provided to the assessm a whole are identified and t understood. Therefore, the fishery meets v	rious Pls, the main functions of ies and Habitats) in the ecosyst ient team that the impacts of the	of the components (i.e. target, Byen are known but no evidence has ne fishery on these components, as components in the ecosystem are for this SI.	
d	Informati	on relevance			
	Guidep ost		Adequate information is available on the impacts of the UoA on these components to allow some of the main consequences	Adequate information is available on the impacts of the UoA on the components and elements to allow the main consequences for the ecosystem to be inferred.	



			for the ecosystem to be inferred.			
	Met?		YES	NO		
	Justifica tion	Argentinean Sea; and adequa	the ecosystem, sectors and reacter information is available on the main consequences for the	the impacts of the	UoA on these	
		Sufficient data continue to be collected to detect any increase in risk level, as main predator species are continually been monitored either by management authorities or research institutions. INIDEP has a sampling program on port for the fishery under assessment, in addition to landing controls and fishing reports ("partes de pesca").				
		The main functions of the components (i.e., P1 target species, primary, secondary and ETI species and Habitats) in the ecosystem are known; and INIDEP On Board Observers' Program and INIDEP Research surveys record and analyse all relevant data on species, in order to detect any relevant variation on the species composition, functional groups, trophic structure and distribution of the community.				
		Therefore, while sufficient information is available on the impacts of the fishery on the components in the ecosystem to allow some of the main consequences for the ecosystem to be inferred, it is considered that there is not enough evidence to support that information is sufficient to support that adequate information is available on the impacts of the UoA on the components and elements to allow the main consequences for the ecosystem to be inferred; and so the fishery meets with the SG80 level of performance for this SI.				
е	Monitorii	าg				
	Guidep ost		Adequate data continue to be collected to detect any increase in risk level.	Information is support the devine strategies to manaimpacts.		
	Met?		YES	NO		
	Justifica tion	Adequate data continue to be collected to detect any increase in risk level, like the monitoring program of the fishery and top predators, environmental research, and the records of any change in scale and intensity of the fishery. However, there is still some lack of data on information about the fishery, such as impacts on unwanted catch on ETP species (i.e. marine mammals), which is considered by the AT to be insufficient to support the development of strategies to manage ecosystem impacts. So, the fishery meets with SG80 level of performance for this SI.				
Doforo	ncoc	INIDEP Internal Resolution N°	133/2010.			
References Balech & Elrich, 2008.						
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			80	

-Principle 3

Evaluation Table for PI 3.1.1 – Legal and/or customary framework

PI 3.1.1 The management system exists within an appropriate legal and/or customary frame ensures that it: Is capable of delivering sustainability in the UoA(s); and Observes the legal rights created explicitly or established by custom of people on fishing for food or livelihood; and Incorporates an appropriate dispute resolution framework.		ed by custom of people dependent		
Scoring Issue SC		SG 60	SG 80	SG 100
а	Compatib	patibility of laws or standards with effective management		



	Guidep ost Met?	There is an effective national legal system and a framework for cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2	There is an effective national legal system and organised and effective cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and binding procedures governing cooperation with other parties which delivers management outcomes consistent with MSC Principles 1 and 2.	
	Justifica tion	other parties which delivers r the case of Argentine anchov trawl fishery, there is a nati	management outcomes consistory (<i>Engraulis anchoita</i>), Bonaero	edures governing cooperation with ent with MSC Principles 1 and 2. In ense stock, semi-pelagic mid-water icies governing the actions of the aging the UoA.	
		Argentino-Uruguaya (ZCPAU) whose administrative author integrated by political bodies	under Rio de la Plata's Treaty rity is Comisión Técnica Mixt s and technicians from each co shing the management measur	place in the Zona Común de Pesca y and its Maritime Front (TRPFM), a del Frente Maritimo (CTMFM), ountry (Chapter XII of the Treaty). es to be enforced for each country,	
		standards, as well as with		oned Treaty and other international stechnical bodies, composed of intries.	
		The fishing fleets operating in the ZCPAU over shared resources must respect both regulations of the flag state and those emanating from CTMFM. The main rule of CTMFM concerning anchovy fisheries is CTMFM Resolution N° 14/2014, which establishes the harvest control rules and penalties for non-compliance.			
		In the national fishing area, the management system is consistent with the Federal Fishing Law N° 24.922/1998 (Regulatory Decree N° 748/1999) which creates Consejo Federal Pesquero (CFP) as the management authority, which fixes the general fishing and research policies.			
		The Articles 1° and 17° from the Federal Fisheries Law N° 24.922/1998 are aimed at achieving sustainable fisheries in accordance with MSC Principles 1 and 2. The Article 1° promotes the exercise of fishing according the rational use of marine living resources, the effective protection of national interests related to fisheries and the sustainability of fishing activity for encouraging long-term resource conservation. The Article 17° establishes the restrictions for the conservation of resources, with the object of avoiding excesses of exploitation and to prevent harmful effects on the environment and the unity of the ecological system.			
		Argentina approved other binding and non-binding international instruments relating indirectly to conservation as it is reviewed in the background.			
		I =		raulis anchoita), Bonaerense stock, vel of performance for this scoring	
b		n of disputes			
	Guidep ost	The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be	



		most issues and that is appropriate to the context of the UoA.	effective.	
Met?	YES	YES	YES	
Justifica tion	legal disputes (i.e. issues ar	nd dispute involving allocation	t mechanism for the resolution of n of quota and access to marine and has been tested and proven to	
	request from a stakeholde www.cfp.gob.ar as transpare Additionally, verbatim transcr	er. Decisions are written in ncy system and efficacy has be	when a legal dispute arises, under minutes that are published in the tested during years of practice. The doesn't which can be consulted by the spirit of its decisions.	
It provides a mechanism for parties to challenges decisions of administrative bodies civilian disputes against administration decisions, the Administrative Procedure Law and its Regulatory Federal Decree N° 1759/1972, which establish, <i>inter alia</i> , mechanged dispute resolutions. Fisheries regulations (Laws N° 24.922, N° 25.470 and Federal 748/1999) repeat the same recursive procedures than Law N° 19.549.				
	So, the Argentine anchovy (Er fishery, meets the SG100 leve		stock, semi-pelagic mid-water trawl	
c Respect	for rights			
Guidep ost Met?	The management system has a mechanism to generally respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to observethe legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to formally commit to the legal rights created explicitly or established by custom ofpeople dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	
	YES	YES	YES	
Justifica tion	livehood, it is not necessary commit to the legal rights cr	develop a management system eated explicity or established by a manner consistent with the	dependent on fishing for food or that has a mechanism to formally by custom of people dependent on objectives of MSC Principles 1 and	
References	References Federal Fishing Law N° 24.922 – Regulatory Decree N° 748/1999; Laws N° 25.470 and 19.549 – Regulatory Decree N° 1759/1972; CTMFM Resolution N° 14/2014.			
OVERALL PERFO	RMANCE INDICATOR SCORE:		100	

Evaluation Table for PI 3.1.2 – Consultation, roles and responsibilities

PI 3.1	The management system has effective consultation processes that are open to interested affected parties. The roles and responsibilities of organisations and individuals who are involved management process are clear and understood by all relevant parties			viduals who are involved in the
Scoring	g Issue	SG 60	SG 80	SG 100
а	Roles and responsibilities			
	Guidep	Organisations and	Organisations and	Organisations and individuals



ost	individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood.	individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.	involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction.	
Met?	YES	YES	YES	
Justif tion	fishery, identifies all organ including implementing agen	isations and individuals involv cies, fisheries business groups, r Function, roles and responsibil	cock, semi-pelagic mid-water trawl wed in the management process, national and provincial government ities are explicitly defined and well	
	by the parties within the fra legal nature, its lease, inte organizational structures, an which sets out the functions	mework of Articles 80° and 84 gration and authorities, functi nong others. CTMFM also has a	o de la Plata and a statute approved of the treaty. The statute sets its ons of the commission and their set of internal rules of operation, nctioning and decision-making, the ww.ctmfm.org).	
	roles and responsibilities are	explicitly defined in the Federal ecree N° 373/2007 establishes s	have been identified and functions, Fishing Law N° 24.922 and Federal pecific functions, Federal Decree N°	
	Resolution is approved the A		cientific authority. Annually, INIDEP dependent research, operative and able in its website.	
	foreign vessels fishing, naviga	ation safety, amongst other fun anidad y Calidad Agroalimentari	he control of closed areas, illegal ctions. Sanitary control is in charge a (SENASA), who acts in accordance	
	responsible for developing for regions of Argentina, promo	reign policy in the Exclusive Eco	y roles in the fishery area. It is nomic Zone (EEZ) and the adjacent ernational markets, represents the onal Agreements.	
		All of these public agencies have missions and functions perfectly well defined and established by laws, while respecting manuals and instructions specific to procedure on each particula situation.		
		chovy (<i>Engraulis anchoita</i>), Bo is SI at the SG100 level of perfor	naerense stock, semi-pelagic mid- mance.	
	tation processes	I = 1	-	
Guide ost	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used.	



	Met?	YES	YES	YES		
	Justifica tion	The management system includes consultation processes that regularly seek and accept relevant information, from the stakeholders, including local knowledge, to inform the management system by Comisión de Análisis y Seguimiento de las Pesquerías de Especies Pelágicas created in May, 2015 through the CFP Resolution N° 7/2015. The management system demonstrates consideration of the information and explains how it is used or not used.				
		The process is reflected in (www.cfp.gob.ar).	n INIDEP (<u>www.inidep.edu.ar</u>)	and Consejo Federal Pesquero		
		Secretaría de Política Ambiental Cambio Climático Ambiente y Desarrollo Sustentable regu organizes different workshops, where stakeholders, environmental institutions and NGOs able to discuss the impact of fishing on birds, chondrichthyes and marine mammals. information about management system is open to stakeholders, considering its views in process to make a decision. Representative at CFP from the Ministerio de Ambiente y Desar Sustentable provides the conclusions from these workshops to be carried out by CFP where responsible for the approval of the action plans aimed to mitigate interactions between fisheries y mentioned species. Actions from CFP include dispositions and resolutions which mandatory for all fishers operating in Argentine waters.				
		In the case of CTMFM, the development and implementation of Plan of Ecosystem Approach to Fisheries represents strict procedure steps that are closely and feed between them in compliance with transparent process of consultation and consensus with stakeholders, and based on the use of the best available knowledge (scientific, local and traditional). The above process steps are based on: an initial preparatory phase, comprising in to obtain basic information, to define objectives (i.e. economic, social and environmental) and scope (including limits of ecosystem; the relevant scale as appropriate; fishery; ecosystem; geographic area as local, regional, national, global, etc; identification of all problems and their prioritization and identification of stakeholders and the general topics to be covered). The next steps of the process are the fixation of general and operational objectives. In this step, it preceeds the development of indicators and performance measures for each relevant problem identified. The policy making, implementation and compliance with the plan, monitoring and evaluation of short, medium and long term. It is noted that all these actions, including the definition of indicators, should be made in consultation and with the approval of stakeholders.				
		knowledge when available; an is used or not used. So, the	nd there is evidence that the pro	evant information including local occess explains how the information anchoita), Bonaerense stock, semi-formance for this scoring issue.		
С	Participat	ion				
	Guidep ost		The consultation process provides opportunity for all interested and affected parties to be involved.	The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.		
	Met?		YES	YES		
	Justifica tion	affected parties to be involve Comisión de Análisis y Seguin Mixta del Frente Marítima, Argentina and Uruguay prior the opportunity to be invo	d, and facilitates their effective niento de Pesquerías de Especi which are consulted by res to take any decision on the fis lved in the consultation pro-	uragement for all interested and e engagement. As it is mentioned, ies Pelágicas and Comisión Técnica pective application authorities of hery. Interested stakeholders have cess and facilitate their effective linisterio de Ambiente y Desarrollo		



Sustentable. In the Article 1° of the CFP Resolution N° 21/2014 establishes: "At Enforcement N° 24.922 to conduct invitations to monitoring commi and they could settle in the future with a minimum frequency of		arious fisheries		
	According this article, in the case of Argentine anchovy (<i>Engraulis anchoita</i>), Bon semi-pelagic mid-water trawl fishery, it is established that the Comisión Seguimiento de Pesquerías de Especies Pelágicas will meet at least twice a year ar to CFP its minutes of meetings with the issues and respective conclusions.	aerense stock, de Análisis y nd shall submit		
	Therefore, the fishery meets with SG100 level of performance for this scoring issue.			
References Federal Fishing Law N° 24.922; Federal Decrees N° 214/99, N° 373/07, N° 21.673; SAGPyA Resolution N° 552/2006; CFP Resolutions N° 7/2015 and N°				
OVERALL PERFO	OVERALL PERFORMANCE INDICATOR SCORE: 100			

Evaluation Table for PI 3.1.3 – Long term objectives

PI 3.1.3 The management policy has clear long-term objectives to guide decision-mak consistent with MSC fisheries standard, and incorporates the precautionary approach.				
				· · · · · · · · · · · · · · · · · · ·
Scoring	1	SG 60	SG 80	SG 100
a	Objective			
	Guidep	Long-term objectives to	Clear long-term objectives	Clear long-term objectives that
	ost	guide decision-making,	that guide decision-making,	guide decision-making, consistent
		consistent with the MSC	consistent with MSC	with MSC fisheries standard and
		fisheries standard and the	fisheries standard and the	the precautionary approach, are
		precautionary approach, are	precautionary approach are	explicit within and required by
		implicit within management	explicit within management	management policy.
		policy.	policy.	
	Met?	YES	YES	YES
	Justifica tion	term objective that guide dec	cision-making it is consistent w	oundation through the clear long- ith MSC Principles and Criteria and I Law N° 24.922 and required by
		The Federal Fishing Law N° 24.922 (Article 1°) establishes that Argentina will foster the practice of maritime fishing in function of a maximum development compatible with the rational exploitation of living marine resources, will promote the effective protection of national interests related with fishing and will encourage the sustainability of the fishing activity, the long-term conservation of the resources, the development of industrial processes environmentally appropriate to reach the maximum added value and the maximum employment.		
		Long-term political objective on rational exploitation, stocks productivity protection social and inter generation equinity and species conservation approach is included in technical recommendations.		
	This objectives is also address by Comisión Técnica Mixta del Frente Marítimo (CTM in its Resolution N° 14/2014. Additionally, the national fishery administration banned whole anchovy for the preparation of fish meal (SAP Resolution N° 9/2004). Both me seen as limiting the extractive activity and, to some extent, could promote the inst long-term goals, particularly since, according to comments received from the indus and Government Officials, there is coincidence that it cannot be expected a significa in the world demand for anchovy filets, even in case of collapse of competing species that can incentive an increase of actual fishing effort.		y administration banned the use of cion N° 9/2004). Both measures are could promote the installation of received from the industrial sector to be expected a significant increase	
		The precautionary approach is	s also present in the stock asses	ssment models and in the technical



	recommendations of biologically acceptable capture. This is included in the Law N° 24 expressed in its Article 8° of its Regulatory Federal Decree N° 748/99: "It must be understood Maximum Sustainable Yield (MSY) of a species, the maximum biomass that can be capt annually without affecting its conservation". Additionally, other sections of the Federal Fishing Law N° 24.922 are related with preventions of the sustainable utilization fishery resources.		understood as n be captured	
		Therefore, evidence supports that the Argentine anchovy (Engraulis anchoita), Bonaerens stock, semi-pelagic mid-water trawl fishery fully meet this SI at the SG100 level of performance		
References Federal Fishing Law N° 24.922; CTMFM Resolution N° 14/2014; SAP Resolution Regulatory Federal Decree N° 748/1999.		N° 9/2004 and		
OVERAI	OVERALL PERFORMANCE INDICATOR SCORE: 100			

Evaluation Table for PI 3.2.1 – Fishery-specific objectives

		The fishery-specific managem	nent system has clear specific	objectives designed to achieve the
PI 3.2	2.1	outcomes expressed by MSC's		objectives designed to define te the
Scoring Issue		SG 60	SG 80	SG 100
а	Objective	25		
	Guidep ost	Objectives, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery-specific management system.	Short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery-specific management system.	Well defined and measurable short and long-term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery-specific management system.
	Met?	YES	YES	NO
Justifica tion There are short and long-term objectives, which are consistent with achievin expressed by MSC's Principles 1 and 2, and are explicitly within fishery-species system. The anchovy fishery shares the general objectives stipulated in Law N° 24.922 normative related to the exploitation of fisheries resources in Argentina. T system is based on fishing licenses allowing the access to the exploitation of fishersestablishing closures, obligatory discard of bycatch species immediately and damage as possible, for marine birds, chondrichthyan, cetaceans protection, denvironmental aspects of the fishery during fishing operations is the response			d in Law N° 24.922 and other legalles in Argentina. The management exploitation of fisheries resources, s immediately and with the least ceans protection, data collection of	
research objectives (INIDEP Resolution N° 133/2010). In relation to achieve the outcomes expressed by the MSC's P at level consistent with the ecosystem needs, is expressed in respective TAC. In the recent resolution (CFP Resolution N° 6 purpose of conservation, protection and management of established annually the TAC for different species in accordar Law N° 24.922, to avoid excessed of exploitation and ensure look Anchovy is an abundant resource and commercially sub-exploit overlap between the sizes caught by fleet and by some top protection the existence of conflicts and is not foreseen in the future indicators on the ecosystem, there are mechanisms establish would allow minimize any potential unwanted effect. This is Action Plans (specific objectives are described in the background		in CFP resolutions to establish the 6 6/2015) it is mentioned: "for the 6 marine living resources shall be ance with the Articles 9° and 8° of long-term preservation". Ioited. Even if there is a significant predators, it has not demonstrated re. In the case to present impact shed by follow-up commission that is clearly framed in the National		



In the last INIDEP Technical Report N° 7/2015, it is described that the anchow north of parallel 41° S is considered below its maximum potential for exploitation, but in response to the trend of population size, recruitments in recent years and particularities evidenced in the fishing season 2015, should apply the precautionary approach of 120,000 t as TAC for Bonaerense anchovy stock.

Juvenile's protection objective, in order to preserve recruitment, is reflected by the prohibition of catching more than 10%. Also, the CFP Resolution N° 7/2015 establishes the following measures:

- The fishing gears permitted for fishing anchovy are the purse-seine and mid-water trawl net.
- It is prohibited the nocturnal fishing
- It is created the analysis and monitoring committee

Additionally, the TAC is recommended by INIDEP considering a Biological Reference Limit (BRL) established as 33% of the maximum historical stock spawning biomass (SSB). The catches are set such as there is a 10% risk of decreasing the SSB below the BRL over the long term (16 years).

The management system also plans research cruises to obtain relevant data, including density index and stocks identification (INIDEP Resolution N° 133/2010).

Explicit objectives for marine birds' protection are established in the National Action Plan for Birds (CFP Resolution N° 3 and 15/2010).

Explicit objectives for chondrichthyes protection are established in the National Action Plan for Chondrichthyes (CFP Resolution N° 6/2009).

Explicit objectives for marine mammal protection are established in the National Action Plan for Marine Mammals (CFP Resolution N° 11/2015).

All objectives are described in the main text.

The Federal Law N° 25.577 protects Cetaceans from any kind of intentional catch. Federal Law N° 25.052 and its complementary Decree N° 598/2003 prohibit catch and commercialization of Killer Whale (*Orcinus orca*).

Consejo Federal Pesquero also regulated by means of its Resolution N° 3/2001, the data collection and analysis of birds, reptiles and mammals by-catch during fishing activities.

In the last year, CFP establishes in its Resolution N° 11/2015 the approval of PAN-Mamíferos that the main objective is to reduce marine mammal interactions with fisheries. In the CFP Act N° 46/2015 (Annex I) is described that interaction of marine mammals with fishing operations in Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery. In Quequén and Mar del Plata Ports, there is detected a mortality of dusky dolphin (*Lagenorhynchus obscurus*), short-beaked common dolphin (*Delphinus delphis*) and Franciscana (*Pontoporia blainvillei*) in Argentine anchovy (*Engraulis anchoita*) and chub mackerel (*Scomber japonicus*) fisheries. In both cases, it is a seasonal fishery in which dolphins interact with schools of anchovies; due they are one of its main food. An update of this interaction is necessary to take appropriate measures.

Therefore, evidences support that Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery fully meet this SI at the SG 80 level of performance.

References

Laws N° 24.922, N° 25.052 and N° 25.577; Decree N° 598/2003; CFP Resolutions N° 3/2001; N° 6/2009; N° 3/2010; N° 15/2010; N° 6/2015; N° 7/2015 and N° 11/2015; CFP Act N° 46/2015 and INIDEP Resolutions N° 133/2010 and N° 7/2015.

OVERALL PERFORMANCE INDICATOR SCORE:

80



Evaluation Table for PI 3.2.2 – Decision-making processes

		The fishery-specific manager	ment system includes effectiv	e decision-making processes that
PI 3.2	.2	result in measures and strategies to achieve the objectives, and has an appropriate approach to		
		actual disputes in the fishery.		
Scoring	g Issue	SG 60	SG 80	SG 100
а		making processes		
	Guidep ost	There are some decision- making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Met?	YES	YES	
	Justifica tion	achieve the fishery-specific outlined in the Federal Fishing legal documents. Consejo Fe based on scientific biological aspects. CFP has the responsitaking into account before male in the case of meetings carried de Especies Pelágicas, staked determine measure or strategicatch anchovy in the closure Acts N° 33/2015 and N° 20/20 concern taken into account by research survey in the Argent mid-water trawl fishery.	objectives. Decision-making page Law N° 24.922, the Federal Decision Pesquero is the main and recommendations issue by INII ibility to ensure that it is providing any decisions. If out by the Comisión de Análi holders concerns are exposed gy. In the first meeting, fishing area for <i>M. hubbsi</i> . This requestable, previous recommendation by management authority is the ine anchovy (Engraulis anchoite graulis anchoite), Bonaerense segraulis anchoites.	alt in measures and strategies to processes are formal and clearly ecree N° 1030/2014, amongst other athority, who established the TAC DEP and other social and economic ided with carefully alternatives for sis y Seguimiento de las Pesquerías II and, if necessary, the CFP may goompanies request the access to st is taked to account by CFP in its by INIDEP. In the last CFP Act, other ne importance to carry out annual ta), Bonaerense stock, semi-pelagic stock, semi-pelagic mid-water trawl
1-	D			
b	Guidep ost	Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
	Met?	YES	YES	YES
	Justifica tion	Decision-making processes re evaluation and consultation, i the wider implications of decision-making process integrating the scientific known processes of the interested Commission meeting reports decisions on fisheries mana accepted after scientific revi	n a transparent, timely and ada sions. can be considered to respond owledge, the monitoring, the parties through the use of The outcomes of these active gement. The TAC decisions are	I in relevant research monitoring, aptive manner, and take account of to requirements for this indicator, evaluation, and the consultation of INIDEP Technical Reports and vities are considered when taking and fishing measures have been lable in the CFP website through 7/2015 and Acts N° 33/2015 and N°



		20/2016). In the case of annual TAC, INIDEP reccomendations (INIDEP Technical Report with scientific data) are cited in the CFP Resolution respective. This mechanism ensures the transparency of the decision-making process. So, the Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-pelagic mid-water trawl fishery meets with SG100 of this performance issue.										
С	Use of pr	ecautionary approach										
	Guidep		Decision-making processes									
	ost		use the precautionary									
			approach and are based on									
	NA-+2		best available information.									
	Met? Justifica		YES									
Decision-making processes use the precautionary approach in the exploitation resources based on best available information and is legislatively enshrined in Fisheries Law N° 24.922 and the Federal Decree N° 1030/2015, amongst other legal Consejo Federal Pesquero that obligation is detailed in the sustainable fisheries fra fishery decision-making framework incorporating the precautionary approach to ensprecautionary approach is built into fisheries management decisions. See rational issue a). Therefore, it is considered that decision-making processes use the precautionary a												
		Bonaerense stock, semi-pelagissue.	ric mid-water trawl fishery me	ets with SG80 of this performance								
d		bility and transparency of mana										
	Guidep ost	Some information on the fishery's performance and management action is generally available on request to stakeholders.	activity.	·								
	Met?	YES	YES	NO								
	Justifica tion	Explanations are provided for relevant recommendations en These are released in INIDE reception published in its notation (www.cfp.gob.ar). Once published in a copy on INIDEP's we CFP's and SSPyA's websites, at a day (www.minagri.gob.ar). On the other hand, CFP mailegal advice taken into accounts.	or any actions (or lack of action or any actions (or lack of action or any actions (or lack of action or any action or action	nt action is available on request. ons) associated with findings and ring, evaluation and review activity. ports are referred to CFP and its urn are published on its website vailable for anyone who wants to hery statistics are also published in ling vessels, which is updated twice by considerations and technical and as the concerns being submitted or								
		exposed for any stakeholders										
				rting to all interested stakeholders ags and relevant recommendations								



		emerging from research, monitoring, evaluation and review activity, it is considered that the										
			s with SG100 level, and a score	• •								
е		to disputes	The management system or	The managemen								
	Guidep ost	Although the management authority or fishery may be subject to continuing court	t system or cively to avoid or rapidly									
		challenges, it is not	comply in a timely fashion with judicial decisions	legal disputes implements judio	• •							
		indicating a disrespect or	arising from any legal	arising from legal c								
		defiance of the law by	challenges.									
		repeatedly violating the										
		same law or regulation										
		necessary for the										
	Met?	sustainability for the fishery. YES	YES	YES								
	Justifica											
	tion	The management system o implements judicial decisions	r fishery acts proactively to arising from legal challenges.	avoid legal disput	tes or rapidly							
			nas not records that the Arger ic mid-water trawl fishery has r the sustainability issue.									
			Acuicultura acts proactively to fishery activities and regulatio		es and its staff							
		parties requires a control and	ng, any decision of the administer legal opinion prior to its sanction agency that promotes the sance	on. Such control is c	_							
		authority from the fisheries ac	cion establishes that judicial dministrative system and they r vill incur in civilian disobedience	must be implemente								
		Therefore, the fishery meets v	vith the SG100 level of perform	ance for this SI.								
References Federal Fishing Law N° 24.922; Federal Decree N° 1030/2014; CFP Acts N° 33/20 20/2016; CFP Resolutions N° 6/2015 and 7/2015.												
OVERA	LL PERFOR	MANCE INDICATOR SCORE:			95							

Evaluation Table for PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.									
Scoring Is	ssue	SG 60	SG 80	SG 100							
a N	MCS impl	ementation									
	Guidep ost	Monitoring, control and surveillance mechanisms exist, and are implemented in the fishery and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance system has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	A comprehensive monitoring, control and surveillance system has been implemented in the fishery and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.							
1	Met?	YES	YES	NO							
	ustifica	There is a monitoring, control and surveillance system that has been implemented in the fishery under assessment, that includes electronic vessel monitoring systems (VMS) on each vessel, at-									



sea observations by patrol vessels and fixed-wing aircraft, 100% dockside monitoring of landings, catch and effort data, on-board observer coverage only in certified vessels with protocols to monitor fishing operations and mandatory submission of fishing vessel log books.

The system has not only demonstrated a reasonable expectation that is effective, but it also has demonstrated a consistent ability to enforce relevant management measures, strategies and rules. Argentina endeavors to deter fisheries-related offenses through a successful prosecution and deterrent penalties. Penalties for fisheries-related offenses include fines and forfeiture of fish, vessels, other property and quota (Law N° 25.470, Federal Fisheries Law N° 24.922 and Federal Decree N° 748/1999)

A number of monitoring, control and surveillance tools are used in order to control the activities of vessels fishing within Argentine fisheries waters. There are described in the Certification Report of the anchovy fishery.

All this control tools are well implemented and seems to be extremely efficient, to the point there are not systematic non-compliance with in force regulations, as a consequence of a very strict control system, proving its ability to enforce relevant management measures, strategies and/or rules. The main rules to control in the fishery are TAC, juvenile catch and forbidden night fishing and all of them are conscientiously controlled by means of landing control system and VMS system. The VMS system is called SICAP and allows know the location of each vessel in real time and rebuild its course. This works very well and is mandatory used by the fleet.

Except for occasionally INIDEP researchers shipment, the fishery does not log the regular shipment of on board observers, because it is not being considered a matter of priority, compared to other Argentinean fisheries. The shipment of observers in some fishing trips would have better records on the interaction of the fishery with the environment. The implementation of observation on board for all fleets of anchovy fishery was discussed in the first meeting of mentioned Committee (July, 2015).

Therefore, evidence indicates even there is not a comprehensive monitoring to obtain data and then, carry out the respective measures or strategy, there is a monitoring, control and surveillance system that has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules; as is reflected in the low number of infractions over a long period. And so, the Argentine anchovy (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery meets the SG80 level of performance for this SI.

thought to comply with the | demonstrate fishers comply | confidence that fishers comply

b	Sanctions	ns	
	Guidep ost	compliance exist and there compliance exist, are compliance is some evidence that they consistently applied and applied a	o deal with non- exist, are consistently nd demonstrably tive deterrence.
	Met?	YES YES NO	
	Justifica tion	Sanctions to deal with non-compliance exist and there is evidence that to applied and thought to provide effective deterrence, in case that an unactifishery occurs. If it is the case, sanctions are applied through the administ through a court-based system, where there are many instances of neunderstanding of the rights of the fishers and even legal recourses if required However, there is no clear evidence on how consistently these measures demonstrably provide with the effective deterrence. So such, the anchow SG80 for this SI.	ceptable issue in the tration of the fishery gotiation to resolve ed. are applied and how
С	Complian	nnce	
	Guidep	Fishers are generally Some evidence exists to There is a	high degree of



Mat2	management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.	with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery. YES	importance to management of the	t, including, mation of the effective										
Met?	YES	YES	NO											
Justific tion	There is some evidence to der assessment, including when r management of the fishery. During the certification proc Coordinación Pesquera and D	There is some evidence to demonstrate that fishers comply with the management system under assessment, including when required, providing information of the importance to the effective management of the fishery. During the certification process, the assessment team interview the Dirección Nacional de Coordinación Pesquera and Dirección Nacional de Planificación Pesquera. They commented that												
	from the beginning of the fis comply with the management to be related to a negative in to the effectiveness of the sylvishers provide information to	there have not been non-compliance sanctions during last years, and there have not been much from the beginning of the fishery either. The very low rate of violations indicates that fishers comply with the management system under assessment. Nevertheless, if any exist, it is unlikely to be related to a negative impact on fishing recourses or to the stock's detriment. This attests to the effectiveness of the system as well as attitude of the harvesters toward the resource. Fishers provide information through mandatory reporting as well as voluntarily through such												
	However, while some evidence confidence that fishers comproviding information of important the Argentine anchovy (Engi	programs as on-board and port sampling. Industry programs attest to responsible stewardship. However, while some evidence exists, there is no strong evidence that supports a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery; and therefore, the Argentine anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic mid-water trawl fishery meets with SG80 for this SI.												
d System	atic non-compliance													
Guidep		There is no evidence of												
ost		systematic non-compliance.												
Met?		YES												
Justific tion	Although sanctions with non- there is no evidence of system	compliance exist and are thoug	tht to provide effecti	ve deterrence,										
	The fishery meets the SG80 le	•												
References	Laws N° 24.922 and N° 25.470	; Federal Decree N° 748/1999.												
OVERALL PERFO	DRMANCE INDICATOR SCORE:			80										

Evaluation Table for PI 3.2.4 – Monitoring and management performance evaluation

PI 3.2	.4	There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives. There is effective and timely review of the fishery-specific management system.								
Scoring	g Issue	SG 60	SG 80	SG 100						
а	Evaluatio	n coverage								
	Guidep	There are mechanisms in	There are mechanisms in	There are mechanisms in place to						
	ost	place to evaluate some	place to evaluate key parts	evaluate all parts of the fishery-						
	parts of the fishery-specific of the	of the fishery-specific	specific management system.							
		management system.	management system							
	Met?	YES	YES	NO						
	Justifica tion	As it is shown in same section of this report, the fishing administration system has in place permanent mechanisms to review the evolution of any fishery and to introduce corrective actions, if necessary.								



The performance of the management system against the stated objectives is constantly monitored through the fishing season by the industry and INIDEP in the follow-up commission.

Key parts of the management system are subject to regular internal review from the Ministerio de Agroindustria – Internal Audit Unit and occasional external reviews from the Sindicatura General de la Nación and the Auditoria General de la Nación. Also, any decision of the administration affecting the rights of third parties requires a control and legal opinion prior to its sanction. Such control is carried out by a statutory body external to the agency that promotes the sanction of the rule. All this procedures are established by an Administrative Procedure Law N° 19.549 and its Regulatory Federal Decree N° 1.759/1972.

The fishery has in place mechanisms to evaluate key parts of the management system composed by a full internal review of the performance of the fishery against stated goals takes place more than an annual year meeting that is attended by the interested parties as mention above and some meetings at INIDEP with the enterprises. Presentations are made on the status of the stock, management measures used and operational issues, as well as on an overview of the monitoring of the fishery by the surveillance program for the previous year; adjustments are made subsequently to the management system as required.

On board inspectors produce a report forwarded to Buenos Aires and reviewed by a specific department from the Application Authority, in order to assess the performance of the inspector.

Frequently workshops are conducted with all interested parties to participate the issues prior to the decision-making, even when there is no so much record reporting the use of such methodology in anchovy fishery. However, the same is of current use of both the administration and research systems, so it can be used if necessary.

Fishery statistics are also published in the websites of CFP and the Subsecretaría de Pesca y Acuicultura (SSPyA), like the positioning of fishing vessels, which is updated twice a day (www.minagri.gob.ar).

The way in which CFP publishes its sessions and decisions, like the Publishing of the INIDEP reports, imply the opportunity for all the stakeholders to assess the system (www.cfp.gob.ar).

A research system is discussed with researchers from Uruguay, and so must be revised periodically.

Therefore, the fishery complies with the SG 80 level of performance for this SI.

b	Internal a	nd/or external review												
	Guidep	The fishery-specific	The fishery-specific	The fishery-specific management										
	ost	management system is	management system is	system is subject to regular										
		subject to occasional	subject to regular internal	internal and external review.										
		internal review.	and occasional external											
			review.											
	Met?	YES	YES	NO										
	Justifica	As it was said in DL2.2.4 a) th	a fishary specific management	system is subject to regular internal										
	tion	**		nat Argentine is a republic, so the										
		Auditoria General de la Nación (Constitution Organization) and Auditoria General de la Nación (depending on the Congress), are considered instances out of the management system												
		(Directive GSA4.10.1).	s), are considered instances	out of the management system										
		(Directive d3A4.10.1).												
		Therefore, the fishery complie	es with the SG 80 level of perfor	mance for this SI.										
Refere	nces	Law N° 19.549 and Regulatory Federal Decree N° 1.759/1972.												
OVERA	LL PERFOR	OVERALL PERFORMANCE INDICATOR SCORE: 80												



Appendix 1.2 Risk based framework (RBF) outputs

Appendix 1.2.1 Consequence analysis (CA) for Principle 1

There is not used RBF methodologie for Principle 1.

Appendix 1.2.2 Productivity-susceptibility analysis (PSA)

1.2.2.1 MSC PSA Worksheet for RBF for PI 2.2.1

Only	main species	s scored? Yes						P	roducti	vity sc	ores				Susce	ptibilit	y score	!S		Cuma	lative	only				
Scoring element	First of each scoring element	Family name	Scientific name Common name	Species type	Fishery descriptor	Average age at maturity	Average maximum age	Fecundity	Average maximum size	Average size at maturity	Reproductive strategy	Trophic level	Total productivity	Availability	Encounterability	Selectivity	Post-capture mortality	Totlal (multiplicative)	PSA Score	Catch (tons)	Weighting	Weighted total	Weigthed PSA score	MSC PSA-derived score	Risk Category name	MSC scoring name
1	First	Procellariidae	Ardenna gravis Great shearwater, 'pardela de cabeza negra'	vertebrate	-pelagic ater trawl net	2	2	3	2	2	3	3	2.43	1	1	2	1	1.03	2.64	0.01	1	2.64	2.64	83	Low	≥80
2	First	Charadriformes	Larus dominicanus Kelp gull, 'gaviota cocinera'	Non-in	Semi-p mid-wat	1	1	3	2	2	3	3	2.14	1	1	2	1	1.03	2.38	0.01	1	2.38	2.38	89	Low	≥80
	MSC SCORE										80															
												Unc	ondition	al Pass												

The following tables describe PSA rationales for secondary species:

MAIN:

1. Pardela de Cabeza Negra (Ardenna gravis)

PI number	2.2.1
A. Productivity	
Scoring element (species)	Great shearwater; 'pardela de cabeza negra' (Ardenna gravis)



Attribute	Rationale	Score
Average age at maturity.	Age at maturity is unknown fot this species, so this attribute has been assessed by stakeholders according to similar species.	2
Average maximum age	Average maximum age is unknown fot this species, so this attribute has been assessed by stakeholders according to similar species.	2
Fecundity	A single egg is laid in a small burrow or in a hole on the grass.	3
Average maximum size	Shearwaters are 43-51 cm in lenght, with a 105-122 cm wingspan.	2
Average size at maturity	Average size at maturity is unknown, so it will be considered average of maximum size.	2
Reproductive strategy	While it is an oviparous species, these birds built a nest to incubate the egg. Once the egg has hatched, both parents care for nestlings and fledglings, and so the risk was considered to be high.	3
Trophic level	High trophic level.	3
B. Susceptibility		
Fishery only where the		
scoring element is scored	Classified as 'Least Concern' (LC) (iucnredlist.org)	
cumulatively		
Attribute	Rationale	Score
Areal Overlap	This species breeds at three main sites: Nightingale and Inaccessible Islands in the Tristan da Cunha group, and Gough Island, Tristan da Cunha (to UK). Birds also breed in small numbers in the Malvinas Islands, where the only confirmed site is Kidney Island (no more than 15 pairs recorded in 1987), though there is a slight possibilty of breeding near Wineglass Hill, East Malvinas, where one has been caught. Distribution size (breeding/resident): 60,000,000 km² (<10 % overlap of the fishing effort with a species concentration of the stock)	1
Encounterability	In the study carried out by Paz (2015), it is estimated the interaction of anchovy mid-water trawl fishery with seabirds. 90% of contacts with shearwaters do not generate serious injuries, due the fishing maneuver is performed with trawl warps not too tight though fishing net is on the surface for a longer time, so collisions and/or contact of seabirds may be lower.	1
Selectivity of gear type	In the fishing season of anchovy (September-November), Paz (2015) determines that adults interact most frequently than juveniles, due to the low ability of juveniles to take advantage of discards compared with adults.	2
Post capture mortality	It is identified that the 90% of interaction of fishery will not generate serious injuries (i.e. death of individuals).	1
Catch (weight) only where the scoring element is scored cumulatively	The size of the captured population and their cumulative impact is unknown. Estimated the global population to number at least 15,000,000 individuals. A minimum of 5,000,000 pairs are thought to breed at Tristan da Cunha, and 600,000 to 3,000,000 pairs at Gough. Estimated annually catch is is 0.01 t (in 2011-2013 only 140 individuals are death in the anchovy mid-water trawl fishery).	0.01 t

2. Gaviota cocinera (Larus dominicanus)

PI number	2.2.1
A. Productivity	
Scoring element (species)	Kelp gull; 'gaviota cocinera' (Larus dominicanus)



Attribute	Rationale	Score
Average age at maturity.	Average size at maturity begins at 4 years old, like most of marine birds (Berón, 2003).	1
Average maximum age	Average maximum age is unknown, so it will be considered the same value as age at maturity.	1
Fecundity	Between 2 to 3 eggs per year (avesdechile.cl).	3
Average maximum size	Kelp gull has are 60-62 cm, with a 128 cm wingspan (avesdechile.cl).	2
Average size at maturity	Average size at maturity is unknown, so it will be considered the same value as average maximum size.	2
Reproductive strategy	While it is an oviparous species, these birds built a nest to incubate the egg.	3
Trophic level	High trophic level	3
B. Susceptibility		
Fishery only where the		
scoring element is scored	Classified as 'Least Concern' (LC) (iucnredlist.org)	
cumulatively		
Attribute		Score
Areal Overlap	The Kelp Gull breeds on coasts and islands through much of the southern hemisphere. It is found on a number of subantarctic islands, on the Antarctic peninsula, on the southern coast of Australia and all of New Zealand, on the southern cost of Africa and Madagascar, and on the coast of South America as far north as Ecuador and southern Brazil (birdlife.org) Distribution size (breeding/resident): 3,620,000 km² (<10 %overlap of the fishing effort with a species concentration of the stock)	1
Encounterability	In the study carried out by Paz (2015), it is estimated the interaction of anchovy mid-water trawl fishery with seabirds. 85% of contacts with Kelp gulls do not generate serious injuries, due the fishing maneuver is performed with trawl warps not too tight though fishing net is on the surface for a longer time, so collisions and/or contact of seabirds may be lower.	1
Selectivity of gear type	In the fishing season of anchovy (September-November), Paz (2015) determines that adults interact most frequently than juveniles, due to the low ability of juveniles to take advantage of discards compared with adults.	2
Post capture mortality	It is identified that the 85% of interaction of fishery will not generate serious injuries (i.e. death of individuals).	1
Catch (weight) only where the scoring element is scored cumulatively	The size of the captured population and their cumulative impact is unknown. The population is estimated to number 3,300,000-4,300,000 individuals; and it is estimated that the number of individuals captured annually is 0.01 t.	0.01



1.2.2.2 MSC PSA Worksheet for RBF for PI 2.3.1 (ETP species)

						Pı	roducti	vity sco	ores				Susce	ptibilit	y score	S				
Scoring element	Family name	Scientific name Common name	Species type	Average age at maturity	Average maximum age	Fecundity	Average maximum size	Average size at maturity	Reproductive strategy	Trophic level	Total productivity	Availability	Encounterability	Selectivity	Post-capture mortality	Totlal (multiplicative)	PSA Score	MSC PSA-derived score	Risk Category name	MSC scoring name
1	Diomedeidae	<i>Thalassarche melanophris</i> 'Black-browed albatross, 'albatros de ceja negra'		2	2	3	2	2	3	3	2.43	1	1	3	1	1.05	2.65	80	Low	≥80
2	Delphinidae	<i>Delphinus delphis</i> 'Atlantic dolphin, 'delfín del Atlántico'	ertebrate	2	3	3	2	2	3	3	2.57	2	2	2	3	1.58	3.02	67	Med	60-79
3	Delphinidae	<i>Lagenorhynchus obscurus</i> Dusky dolphin, 'delfín oscuro'	inverte	1	2	3	2	2	3	3	2.29	2	2	2	3	1.58	2.78	76	Med	60-79
4	Otariidae	Arctocephalus australis South American fur seal, 'lobo marino de dos pelos'	Non- i	1	2	3	2	2	3	3	2.29	3	1	2	1	1.13	2.55	83	Low	≥80
5	Otariidae	Otaria flavescens South American sea lion, 'lobo marino de un pelo'		2	2	3	2	3	3	3	2.57	2	1	2	1	1.08	2.79	75	Med	60-79
MSC SCORE										CORE		75								
STATUS										Pass	with co	ndition								

The following tables describe PSA rationales for ETP species:

1. Albatro de ceja negra (Thalassarche melanophris)

PI number	2.3.1	
A. Productivity		
Scoring element (species)	Black-browed albatross; 'albatro de ceja negra' (Thalassarche melanophris)	
Attribute	Rationale	Score
Average age at maturity.	Average age at first nesting is at 10 years (range between 8-13 years) (acap.aq).	2
Average maximum age	Average maximum age is unknown, so it has been considered the same value as age at maturity.	2
Fecundity	One single egg is laid by the ends of September (acap.aq).	3
A	The black-browed albatross is a medium-sized albatross, at 80 to 90 cm long with a 225 to 240 cm wingspan and an average weight of	2
Average maximum size	3 to 5 kg (mma.gob.cl)	



Average size at maturity	Average size at maturity is unknown, so it will be considered an average of maximum size.	2
Reproductive strategy	While it is an oviparous species, these birds built a nest to incubate the egg. Once the egg has hatched, both parents care for nestlings	3
Reproductive strategy	and fledglings, and so the risk was considered to be high.	3
Trophic level	High trophic level.	3
B. Susceptibility		
Fishery only where the scoring	Listed in ACAP list, Annex 1 (Agreement for the Conservation of Albatross and Petrels - acap.aq); also classified as 'Near Threatened' (NT) at IUCN
element is scored cumulatively	(iucnredlist.org), and cited on CMS Appendix II.	
Attribute	Rationale	Score
Areal Overlap	Thalassarche melanophris has a circumpolar distribution ranging from subtropical to polar waters, breeding in Malvinas Islands, Islas Diego Ramirez, Ildefonso, Diego de Almagro and Isla Evangelistas (Chile), South Georgia, Crozet and Kerguelen Islands (French Southern Territories), Heard and McDonald Islands and Macquarie Island (Australia), and Campbell and Antipodes Islands, New Zealand (Croxall and Gales 1998). Two breeding sites are also found in southern Chile on islets in Tierra del Fuego and in the Mallaganes region. One colony was also recorded on Snares Island in 1986. The total breeding population was estimated at c.700,000 pairs in 2010, c.72% at the Malvinas Islands, 19% in Chile and 8% at South Georgia. Numbers in the Malvinas apparently increased substantially during the 1980s, and were thought to have since declined, however aerial and ground-based surveys conducted in 2010 revealed an increase of at least 4% per annum between 2005 and 2010. The small population on Heard Island (c.600 pairs) appears to have increased over the past 50 years. Trends are still uncertain for the populations in Chile. Adult survival on South Georgia decreased from 93% pre-1970 to 89% in 1987, and breeding success also decreased over the same period from 36% to 18%. Distribution size (breeding/resident):108,000,000 km² (<10 % overlap of the fishing effort with a species concentration of the stock)	1
Encounterability	In the study carried out by Paz (2015), it is estimated the interaction of anchovy mid-water trawl fishery with seabirds. 95% of contacts with <i>Thalassarche melanophris</i> do not generate serious injuries, due the fishing maneuver is performed with trawl warps not too tight though fishing net is on the surface for a longer time, so collisions and/or contact of seabirds may be lower.	1
Selectivity of gear type	In the fishing season of anchovy (September-November), Paz (2015) determines that juveniles interact most frequently than adults, due that to the time of data collection as during spring-summer adults have more distribution ranges restricted to areas near the colonies (i.e. Malvinas Islands). It should be noted that a large percentage of the breeding population migrates to waters of the Continental Shelf Argentina.	3
Post capture mortality	It is identified that the 95% of interaction of fishery will not generate serious injuries (i.e. death of individuals).	1
Catch (weight) only where the scoring element is scored cumulatively	N/A	N/A

2. Delfín del Atlántico (Delphinus delphis)

PI number	2.3.1
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Atlantic dolphin; 'delfín del Atlántico' (Delphinus delphis)	
Rationale	Score
Average age at maturity is about 3-12 years in males, and between 2-7 years in females (Shirihai y Jarrett, 2006).	2
Average maximum age is 35 years old (delfinweb.org).	3
The main mating season for common dolphins on European and South American waters is during the months of June and July (and until September in the Black Sea), and gestation lasts about 10 months (delfinweb.org). Females give birth to one offspring which at birth is between 0.8-0.9 m long. Estimated breeding cycle ranges between 1-3 years (Shirihai and Jarrett, 2006)	3
Adults vary in length from 2.6m-2.7 m, and weight between 75kg y 150 kg (Bastida et al., 2007).	2
Average size at maturity is unknown, so it has been considered the same value as maximum size.	2
Viviparous.	3
High trophic level	3
Classified as 'Least Concern' (LC) at IUCN Redlist (iucnredlist.org); cited on CMS Appendix I (2005) and Appendix II (1988), include instruments: ASCOBANS, ACCOBAMS, Western African Aquatic Mammals and Pacific Islands Cetaceans	ling CMS
	Score
The short-beaked common dolphin is an oceanic species that is widely distributed in tropical to cool temperate waters of the Atlantic and Pacific Oceans, from nearshore waters to thousands of kilometers offshore. They regularly occur in some enclosed seas, such as the Okhotsk Sea and Sea of Japan, and separate subpopulations exist in the Mediterranean and Black seas. Short-beaked common dolphins may occur in parts of the Indian Ocean around southeastern Africa and southern Australia, but previous records of this species in other parts of the Indian Ocean and in waters of Taiwan are now thought to have been of long-beaked common dolphins. This is a very abundant species, with many available estimates for the various areas where it occurs. In the Pacific, 2,963,000 was estimated for the eastern tropical Pacific, and an average of 352.000 was estimated for the US west coast based on surveys between 1991 and 2005. Off California, common dolphins show seasonal and inter-annual changes in abundance due to shifts in distribution. In the Atlantic, abundance in European continental shelf waters was estimated at 63,400 in 2005. Offshore, abundance in a block bounded by 53-57° N and 18-29° W was estimated at 273,000 in 1995. West of the Bay of Biscay, 62,000 common dolphins were estimated in the fishing grounds of the albacore tuna driftnet fishery in 1993. In the western North Atlantic, 121,000 were estimated to occur.	2
	Rationale Average age at maturity is about 3-12 years in males, and between 2-7 years in females (Shirihai y Jarrett, 2006). Average maximum age is 35 years old (delfinweb.org). The main mating season for common dolphins on European and South American waters is during the months of June and July (and until September in the Black Sea), and gestation lasts about 10 months (delfinweb.org). Females give birth to one offspring which at birth is between 0.8-0.9 m long. Estimated breeding cycle ranges between 1-3 years (Shirihai and Jarrett, 2006) Adults vary in length from 2.6m-2.7 m, and weight between 75kg y 150 kg (Bastida et al., 2007). Average size at maturity is unknown, so it has been considered the same value as maximum size. Viviparous. High trophic level Classified as 'Least Concern' (LC) at IUCN Redlist (iucnredlist.org); cited on CMS Appendix I (2005) and Appendix II (1988), including instruments: ASCOBANS, ACCOBAMS, Western African Aquatic Mammals and Pacific Islands Cetaceans Rationale The short-beaked common dolphin is an oceanic species that is widely distributed in tropical to cool temperate waters of the Atlantic and Pacific Oceans, from nearshore waters to thousands of kilometers offshore. They regularly occur in some enclosed seas, such as the Okhotsk Sea and Sea of Japan, and separate subpopulations exist in the Mediterranean and Black seas. Short-beaked common dolphins may occur in parts of the Indian Ocean around southeastern Africa and southern Australia, but previous records of this species in other parts of the Indian Ocean and in waters of Taiwan are now thought to have been of long-beaked common dolphins. This is a very abundant species, with many available estimates for the various areas where it occurs. In the Pacific, 2,963,000 was estimated for the eastern tropical Pacific, and an average of 352.000 was estimated for the US west coast based on surveys between 1991 and 2005. Off Solf California, common dolphins show seasonal and inter-annual changes in abundance due to shifts



	the species is predominantly coastal) and western (where it is predominantly pelagic) portions of the basin. Genetic exchange between short-beaked common dolphins from the Mediterranean Sea and the Atlantic Ocean, to the extent that it occurs, appears to involve predominantly animals from the Alborán Sea.	
	The population size in the Black Sea is unknown. Line transect surveys have been conducted recently to estimate common dolphin abundance in a few parts of the range. The survey areas are small relative to the total range of the subspecies. Results suggest that current population size is at least several 10,000, and possibly 100,000 or more. By the mid 1960s, the Black Sea subpopulation collapsed due to long-running overexploitation, and a reduction of 70% was inferred. However, directed takes continued until 1983 when cetacean hunting finally ceased. The population has not recovered (Birkun 2006).	
	In the study carried out by Mandiola & Rodriguez (2015), it is estimated the interaction of anchovy mid-water trawl fishery with marine	
Encounterability	mammals. 50% of contacts with marine mammals do not generate serious injuries; animals interact with the fishing gear without gilled. However, there are observations that two dolphins trapped were returned dead.	2
Selectivity of gear type	There is no selectivity study in the Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-pelagic mid-water trawl fishery for this species. Even there is two animals returned dead, as a precautionary approach, stakeholders agreed a risk value of 2, and so immature individuals are regularly captured or can avoid the gear.	2
Post capture mortality	When dolphins are captured, they generally die as a result of interaction.	3
Catch (weight) only where		
the scoring element is scored cumulatively	N/A	N/A

3. Delfín Oscuro (Lagenorhynchus obscurus)

PI number	2.3.1	
A. Productivity		
Scoring element (species)	Dusky dolphin; 'delfín oscuro' (Lagenorhynchus obscurus)	
Attribute	Rationale	Score
Average age at maturity.	Average age at maturity is estimated at 4.3 - 5 years for females, and at about 3.8-4.7 years for males (cms.int). In Argentina, dolphins	1
Average age at maturity.	first reproduce at about six to seven years old.	1
Average maximum age	Average maximum age is unknown, so it was considered an average agreement.	2
Fecundity	Pregnancies last about a year, and births have place between spring and summer. Mother-baby relationship may extend for more than	2
reculaity	a year, and to a reproductive cycle may last around two years (Bastida et al., 2007)	3
Average maximum size	The dusky dolphin is small to medium in length compared with other species in the family. The largest dusky dolphin males and	2
Average maximum size	females reach 211 and 205 cm, respectively, attaining a body mass of rarely higher than 100 kg (cms.int).	
Average size at maturity	Average size at maturity in Argentina is unknown, but in Peru, for example, both males and females reach maturity from 175cm lenght.	2
Average size at maturity	(Bastida et al, 2007)	



Reproductive strategy	Viviparous.	3
Trophic level	High trophic level	3
B. Susceptibility		•
Fishery only where the scoring element is scored cumulatively	Classified as 'Data Deficient' (DD) at IUCN Redlist(iucnredlist.org); cited on CMS Appendix II (1979), including CMS instruments: Wester Aquatic Mammals and Pacific Islands Cetaceans.	rn African
Attribute	Rationale	Score
Areal Overlap	Dusky dolphins are widespread in the southern Hemisphere. They occur in apparently disjunct subpopulations in the waters off Tasmania, southern Australia, New Zealand (including the Chatham and Campbell Islands), central and southern South America (including the Malvinas Islands), and southwestern Africa. They also occur around some oceanic island groups (e.g., Tristan da Cunha, Prince Edward, Amsterdam, and St. Paul Islands).	2
Encounterability	In the study carried out by Mandiola & Rodriguez (2015), it is estimated the interaction of anchovy mid-water trawl fishery with marine mammals. 50% of contacts with marine mammals do not generate serious injuries; animals interact with the fishing gear without gilled. However, there are observations that five dolphins trapped were returned dead.	2
Selectivity of gear type	There is no selectivity study in the Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-pelagic mid-water trawl fishery for this species. Even there is two animals returned dead, as a precautionary approach, stakeholders agreed a risk value of 2, and so immature individuals are regularly captured or can avoid the gear.	2
Post capture mortality	When dolphins are captured, they generally die as a result of interaction.	3
Catch (weight) only where the scoring element is scored cumulatively	N/A	N/A

4. Lobo Marino de Dos Pelo (Arctocephalus australis)

PI number	2.3.1	
A. Productivity		
Scoring element (species)	South American fur seal; 'lobo marino de dos pelos' (Arctocephalus australis)	
Attribute	Rationale	Score
Average age at maturity.	According to registers obtained from 'Isla de Lobos' (Uruguay), females would reach sexual maturity between 2 and 4 years old, and males between 5 and 7 years old (Bastida <i>et al.</i> , 2007; INAPE, 2000).	1
Average maximum age	Batallés <i>et al.</i> (1990) found that, from a sample of 1000 individuals (500 malesand 500 females) of south American fur seal at'Isla de Lobos', average maximum age was 15.5 years for males, and 16.5 years for females. According to the LC of the upper canines' teeth methodology, the eldest individuals were between 21 and 23 years old (Páez, Ponce de León & Arim, unpublished; Lima y Páez, 1995).	2
Fecundity	The gestation period of the fur seal is approximately 11,5months, getting to have one brood per year (INAPE, 2000) (Ponce de León,	3



	2000; Bastida et al., 2007).	
Average maximum size	Adult males can weigh up to 140 kg and reach a length of about 2 m, while females do not exceed 1.2 m long and 50-60 kg. Newborns are about 60 cm and weigh about 4 kg (Bastida et al., 2007)	2
Average size at maturity	Ximénez et al. (1984) found that, at minimum size at maturity (104 cm), about a 70% from a sample of 581 females was pregnant. Batallés et al. (1985) also determined that the minimum size of pregnancy (sampled in 122 females) was also 104cm, while most pregnant females were between 112 y 140 cm length.	2
Reproductive strategy	Viviparous.	3
Trophic level	High trophic level.	3
B. Susceptibility		
Fishery only where the scoring element is scored cumulatively	Classified as 'Least Concern' (LC) (iucnredlist.org))	
Attribute	Rationale	Score
Areal Overlap	Arctocephalus australis inhabits the island and mainland coasts of South America, distributed from southern Brazil to the Paracas Peninsula, Peru, although this species is absent from the region Antofagasta (23° 51'S, 70°31' W) and Guafo Island (43° 36'S, 74° 43'W) off the coast of Chile. On the Atlantic colonies of this species they are distributed over a coastal area of 5,000 km from Ilha dos Lobos das Torres in Recife, Brazil (29° 20'S, 49° 42'W) to Tierra del Fuego (47° S, 64° 32'W) and MalvinasIslands, Argentina (52° 10'S, 60° 56'W). Most of the population is concentrated in the breeding colonies of Uruguay. This species is characterized by very swimmer and is widely distributed throughout the oceanic front of Uruguay-Argentina and certain times in remote areas of the island breeding areas. There are visual records of groups of fur seals swimming in search of food, in watersbeyond 100 nautical miles from the breeding grounds. These large displacements, it is thought, that very possibly have a trophic purpose (INAPE, 2000).	3
Encounterability	In the study carried out by Mandiola & Rodriguez (2015), it is estimated the interaction of anchovy mid-water trawl fishery with marine mammals. 50% of contacts with marine mammals do not generate serious injuries; animals interact with the fishing gear without gilled. However, there are observations that two <i>Arctocephalus australis</i> trapped were returned alive.	1
Selectivity of gear type	There is no selectivity study in the Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-pelagic mid-water trawl fishery for this species. Even there is no animals returned dead, as a precautionary approach, stakeholders agreed a risk value of 2, and so immature individuals are regularly captured or can avoid the gear.	2
Post capture mortality	The rate of bycatch of marine fur seal within the anchovy fishery is very low. In cases where individuals are captured, they are released into the sea by the crew or escape on their own, without suffering any damage.	1
Catch (weight) only where the scoring element is scored cumulatively	N/A	N/A

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5. Lobo Marino de Un Pelo (Otaria flavescens)

PI number	2.3.1						
A. Productivity							
Scoring element (species)	South American sea lion; 'lobo marino de dos pelos' (Otaria flavescens)						
Attribute	Rationale	Score					
Average age at maturity.	The sexual maturity of females is reached at about 4 years of age, while in males is 5-6 years, although experience to hold harems is not reached until the age of 8 years (Bastida et al., 2007).	2					
Average maximum age	According to age records of specimens kept in captivity (Zoo Villa Dolores in Uruguay, Oceanographic Museum of Rio Grande de Brasil) and studies of cutting canine teeth and reading and interpreting rings, sea lions reach ages between 18 and 20 years, although it is believed that they can really get to live a few more years (Dept. of Marine Mammal INAPE, unpublished). The average age is between 15 and 20 years (Perrin et al, 2009; INAPE, 2000).	2					
Fecundity	South American Sea Lions have an annual breeding season from mid-December to mid-February (faunaargentina.org). Females give birth to a single offspring, after about a year of gestation. Breastfeeding ranges between 8 and 12 months (Campagna and Le Boeuf, 1988; Cappozzo, 2000).						
Average maximum size	Otaria flavescens is a species with sexual dimorphism. Adult males are between 260-270 cm lengths, weighing approximately 300-400 kg; while adult females reach an average length of 200 cm, with an average weight close to 144 kg. Puppies measured at one month of age are between 72 and 89 cm in length and weigh between 10 and 17 kg (INAPE., 2000; Reeves et al, 1992; Bastida et al., 2007).						
Average size at maturity	Average size at maturity Adult males (sexually mature) are between 260-270 cm in length, while adult females reach an average length of 200 cm (Bastida et al., 2007)						
Reproductive strategy	Viviparous.	3					
Trophic level	High trophic level.	3					
B. Susceptibility							
Fishery only where the scoring element is scored cumulatively	Classified as 'Least Concern' (LC) (iucnredlist.org)						
Attribute	Rationale	Score					
Areal Overlap	The sea lion has a wide distribution in South America from Tierra del Fuego to the north of Rio de Janeiro, Brazil (23° S) and Malvinas Islands in the Atlantic Ocean (Pinedo, 1990); and from Tierra del Fuego to the town of Zorritos in Peru (4° S) (Vaz Ferreira, 1982) in the Pacific Ocean. Solitary specimens or small non-reproductive rookeries can be found further north in Ecuadorian waters (Felix et al., 1994). The geographical distribution of colonies is almost continuous, having registered six colonies in Uruguay, 70 in continental Argentina, 65 in the Malvinas Islands, 50 in Chile and 27 in Peru (Schiavini et al., 2004).	2					
Encounterability	In the study carried out by Mandiola & Rodriguez (2015), it is estimated the interaction of anchovy mid-water trawl fishery with marine	1					



	mammals. 50% of contacts with marine mammals do not generate serious injuries; animals interact with the fishing gear without gilled. However, there are observations that one <i>Otaria flavescens</i> trapped were returned dead.	
Selectivity of gear type	There is no selectivity study in the Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-pelagic mid-water trawl fishery for this species. Even there is one animal returned dead, as a precautionary approach, stakeholders agreed a risk value of 2, and so immature individuals are regularly captured or can avoid the gear.	2
Post capture mortality	The rate of bycatch of sea lions within the anchovy fishery is very low. In cases where individuals are captured, they are released into the sea by the crew or escape on their own, without suffering any damage.	1
Catch (weight) only where the scoring element is scored cumulatively	N/A	N/A

Appendix 1.2.3 Consequence spatial analysis (CSA)

1.2.3.1 MSC CSA Worksheet for RBF for PI 2.4.1

Only main	nly main habitats scored? YES								Conse	quence	score					Spati	al score					
							Habit produ	at ictivity	Gear-	habitat	intera	ection								ē		
Scoring element	UoA/Gear type	Biome	Sub- biome	Feature	Habitat type	Depth (m)	Regeneration of biota	Natural disturbance	Removability of biota	Removability of substratum	Substratum hardness	Substratum ruggedness	Seabed slope	Consequence score	Gear footprint	Spatial overlap	En counterability	Spatial score	PSA Score	MSC PSA-derived score	Risk Category name	MSC scoring name
1	Mid-water trawl net (Danish seine)	Shelf (25- 200 m)	Inner Shelf (25- 100 m)	Sediment plains	FINE-FLAT-LARGE ERECT	25-100	2	2	1	2	3	3	1	2.00	2	0.5	0.5	0.79	2.15	93	Low	≥80
																	1	MSC SC	CORE		93	
	_				_	•	•	•	•					•	•	•		STA	ATUS	Unco	ndition	al Pass



Table 1.2.3 CSA Rationale Table

PI number	2.4.1	Habitat	Habitat FINE-FLAT-LARGE ERECT characterized by mud and sand, unrippled flat and benthic solitary sedentary/s epifauna (e.g. ascidians and bryozoans).						
Conseque	nce		Rationale	Score					
Regeneration of biota Using surrogate information when data are not available for this fishing gear.									
Natural disturbance		In absence of information	, deep inner shelf (60-200 m).	2					
Removability of bio	ta	Danish seine: Low, robust	Danish seine: Low, robust small (<5 cm), smooth, or flexible biota OR robust, deep-burrowing biota						
Removability of sub	stratum	Danish seine: <6 cm (transferable)							
Substratum hardnes	SS	Danish seine: Sediments (u	Danish seine: Sediments (unconsolidated)						
Substratum ruggedness Danish seine: Fla			seine: Flat, simple surface structure (mounds, undulations, ripples), current rippled, wave rippled, or irregular						
Seabed slope		Danish seine: Low degree (<1): plains in coastal margin, inner or outer shelf or mid-slope OR terraces in mid-slope OR rocky banks / fringing reefs in coastal margin, inner or outer shelf, or upper or mid-slope							
Spatial		Rationale							
Gear footprint		Danish seine							
Spatial overlap		UoA overlap with a habitat is ≤15%							
Encounterability Likelihood of encounterability is ≤15%									

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Appendix 1.2.4 Scale intensity consequence analysis (SICA)

Table 1.2.4.a. SICA scoring template for PI 2.5.1 ecosystem

	Spatial scale of fishing activity	Temporal scale of fishing activity	Intensity fishing activity	Relevant subcomponents	Consequence score					
PRINCIPLE TWO:				Species composition						
Ecosystem outcome	3	4	3	Functional group composition						
		7		Distribution of the community						
				Trophic size/structure	80					
Rationale for spatial scale of fishing activity	Argentine anchovy (<i>Engraulis anchoita</i>), Bonaerense stock, semi-pelagic mid-water trawl fishery, capture with semi-pelagic mid trawling net fishing activity takes place within 16 to 30% of the overall distribution of the ecosystem, then the spatial scale is scored as 3 (see figures 6 and 21 in the									
Rationale for temporal scale of fishing activity	Background section) According to the number of boats, the number of trips, and the number of days that each trip/ activity occurs, in the light of the average length of the fishing season (September to December, and sometimes during May - while actually the number of days on the last past years that were less than 100), with a precautionary approach, it was estimated a temporal scale of about 101-200 days per year.									
Rationale for intensity of fishing activity	Overall intensity was scored according to the overall intensity of the fishing activity, upon the distribution and dynamics of the stock being exploited. Direct impacts of the fishing activity to the ecosystem under evaluation were considered, and both spatial scale and temporal scale were considered to be low, due to the low number of fishing trips. This combination of scale scores indicates that the intensity of the fishery is also low. Because this, but the existence of some local detectability, it was considered with a precautionary approach, that fishing activity has a moderate detectability at broader spatial scale.									
Rationale for consequence score	The subcomponent of the ecosystem identified as the most vulnerable was trophic/size structure, because of the potential changes that may occur in mean trophic level and biomass/ number in each size class, up to 5%, considering the low trophic level of <i>Engraulis anchoita</i> . The team has worked with all stakeholders at the SICA workshop to select the subcomponent on which the fishing activity is having the most impact, and the general agreement (or consensus) based on information provided by all stakeholders and the expert judgement of the team, was to select this subcomponent to be "trophic/size structure". This choice was based on the agreement that "the effect of the fishery on the different components of the ecosystem is low or negligible, especially when compared to the effect of fishing activity on the target species", not affecting other species composition, internal dynamics or distribution of communities". When assessing the consequence score, the consensus was that a consequence category of 80 would apply, as a precautionary approach, because there is not enough evidence that changes that affect the internal dynamics are unlikely to be detectable against natural variation (SG100), but definitely there are no changes in the trophic level and biomass/number in each class up to 10%. Then, it was considered that "change in the mean trophic level and biomass/number in each size/class up to 5% (SG80).									



Appendix 1.3 Conditions

In relation to the previous assessment, no conditions are being carried over, and all the seven conditions set, were closed by the fourth surveillance. For further information, see section 4.2.b.

In this new assessment, although the fishery achieved the minimum pass mark of 60 in all performance indicators, some of them did not reach 80 and so, only one condition has been raised for PI 2.3.1 (ETP species outcome). None of them are related to any previously raised condition.

Table A1.3: Condition 1

Performance Indicator	2.3.1 – ETP species outcome
Score	75
Rationale	The result of RBF, using PSA methodology, states a condition for this performance indicator.
Condition	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. -indirect effects have been considered for the UoA and are through to be highly likely to not create unacceptable impacts. The client action plan proposed by the fishery must be capable of raise 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 America sea lion – Otaria flavescens), and without causing additional associated problems for other species.
Milestones	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 adequated timeframe: -By 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 – Delphinus delphis; Dusky dolphin – Lagenorhynchus obscurus; and South America sea lion – Otaria flavescens). Even if no rescore will be done at this point, the progress of this milestone could be considered to maintain the actual score ad comply with the Action Plan as proposed. -By the second surveillance audit, the client group/fishery must provide results that indicate in 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 America sea lion – Otaria flavescens are within national and/or international requirements, if there are set. At the moment, there are not other MSC certified or under-MSC-assessment UoAs that overlap with these marine mammals, so it is could be considered only the Bonaerense anchovy fishery. 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 (*Engraulis anchoita*), Bonaerense stock, semi-pelagic midwater trawl fishery, not hinder recovery of Atlantic dolphin – *Delphinus delphis*; Dusky dolphin – *Lagenorhynchus obscurus*; and South America sea lion – *Otaria flavescens*.

If the progress of this milestone is considered "on target", the team will maintained 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 (*Engraulis anchoita*), Bonaerense stock, semi-pelagic mid-water trawl fishery, and allow quantitative demonstrate that is highly likely to not create unacceptable impacts.

If the progress of this milestone is considered "on target", the team will re-score this scoring issue using the default assessment tree, giving a final score a least of 80 and closing the condition established.

To show that for the audit of four years are available evidence that meets national requirements and / or international setting limits for ETP species, the client group has requested cooperation to government agencies and research institutions to implement a program research / observation more rigorous analyze biological limits for ETP species that are affected directly and / or indirectly to the fishery.

The actions to be implemented include research groups of the Universidad Nacional de Mar del Plata with data collected by observers on board (INIDEP Observer Program) in vessels client group.

In this instance the client group will present information regarding the established biological limits to national and / or international 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*), reports of observers species data related anchovy fishery, which provides the research group of the Universidad Nacional de Mar del Plata in conjunction with the working groups INIDEP.

General Objective/Actions

For the fourth year of surveillance the client group it will provide evidence that it is highly likely that the effect of the Unit of Assessment maintains populations of species ETPs, 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 evaluation Unit not hinder their recovery and those indirect effects have been considered and that they do not cause irreversible damage.

Deadline: 4 years.

Objective 1: December 2017

Biological limits established will be analysed at national and international level 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 number of observations required to monitor the fleet headed to Bonaerense anchovy during the fishing season in order to begin to estimate the biological limits of the fishery of the ETP species that have not been determined.

It will adjust and implement a plan of observer coverage on board the fleets operating on the Bonaerense anchovy fishery, to assess the impact on catches of the species ETP, watching the actions set out in the framework of National Action Plans for the conservation and management on marine mammals (PAN-Mamíferos).

It will be implemented and adjusted protocol to the current needs that includes the acquisition of basic data, in order to monitor the catch of species ETP and evaluate a

Client action plan

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possible impact of the Bonaerense anchovy fishery on their populations will be implemented.

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

They will be provided progress reports for the first year.

Objective 2: December 2018

Analyze the data collected by observers on board.

A possible impact of Bonaerense anchovy fishery on populations of ETP species of marine mammals will be assessed. If populations that interact with the fishery are below safe biological limits, data taking will continue to analyse if there is evidence of recovery.

In addition, it will review and determine which are the direct and indirect effects of the UoA on the populations of species ETPs. Data will be collected to determine whether the effects hinder recovery or cause irreversible damage.

They will be provided progress reports for the second year.

Objective 3: December 2019

Data acquired by 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 will be implemented.

The progress reports will be provided in the third year.

Objective 4: December 2020

The final analysis demonstrating that the fishery does not affect populations of (Atlantic dolphin – *Delphinus delphis*; Dusky dolphin – *Lagenorhynchus obscurus*; and South America sea lion – *Otaria flavescens* according to national and international requirements and also considers the direct and indirect effects, will be completed and evaluated for the fourth year of supervision. If mitigation measures have been implemented, its effectiveness will be studied and the necessary adjustments are made.

To show that for the audit of four years are available evidence that meets national requirements and / or international setting limits for ETP species, the client group has requested cooperation to government agencies and research institutions to implement a program research / observation more rigorous analyze biological limits for ETP species that are affected directly and / or indirectly to the fishery.

The actions to be implemented include research groups of the Universidad Nacional de Mar del Plata with data collected by observers on board (INIDEP Observer Program) in vessels client group.

In this instance the client group will present information regarding the established biological limits to national and / or international 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*), reports of observers species data related anchovy fishery, which provides the research group of the Universidad Nacional de Mar del Plata in conjunction with the working groups INIDEP.

Consultation on condition

The following researchers and governement officials have been consulted:

-Observer on boards researcher

Action leaders:

Lic. Gabriel Blanco (PNOB)

Dra. Agustina Mandiola (IMMyC-CONICET)



Assistants:

Lic. José L. Flaminio (PNOB)

Interesting groups:

Dr. Juan Manuel Bosch (Director de Coordinación Pesquera, CFP)

Lic. Gabriela Navarro (Directora Nacional de Planificación Pesquera - SSPyA)

External parties involved in the meeting of the conditions

The relevant researchers and government officials have been consulted and agree that these actions will comply to meet the raised conditions.

They have committed to assist the fishery in undertaking the actions specified in the action plan.

Letters of these commitments are shown below.



14 de Octubre de 2016

ANCHOITA BONAERENSE (ENGRAULISANCHOITA) PESQUERIA INDUSTRIAL DE RED DE ARRASTRE DE MEDIA AGUA SEMI PELÁGICA

PLAN DE ACCIÓN PRESENTADO

PARA CUMPLIR CON LAS CONDICIONES Y RECOMENDACIONES DADAS POR OIA-MSC PARA LA RE-CERTIFICACIÓN

FECHA: Octubre 2016

LÍDERES DE PROYECTO:

Centauro S.A., Gerente: Sr. Carlos Rodríguez
Delicias S.A., Presidente: Sr. Martin Discala

Nuevo Viento S.R.L./Alleloccic S.A. Socio gerente: Sr. Pablo Esteban Ciccolella

Catesur S.A.

La Isolana S.R.L.,

Mar Picado S. A.

Marbetan S. A.

Natusur S. A.

Presidente: Sr. César Cicciotti

Gerente: Sr. Gabriel Discala

Presidente: Sr. Antonio Di Scala

Presidente: Sr. Miguel Cseh

Presidente: Sr. Rosario Daniel Pennisi

Pranas S.A. Presidente: Sr. Rosario Daniel Penni
Pranas S.A. Presidente: Sr. Rosario Daniel Penni
Pranas S.A.

NOMBRE DE LA PESQUERÍA:

Ancholta argentina (Engraulis anchoita) stock bonaerense.

LOCALIZACIÓN DE LA PESQUERÍA:

Unidad de manejo Bonaerense (Pcia. de Buenos Aires, Argentina), área norte de los,41°S en el Mar Argentino; y área de Zona Común de Pesca Argentino Uruguaya Método de Pesca: Red de arrastre industrial de media agua semi-pelágica.

MÉTODO DE PESCA:

Red de arrastre industrial de media agua semi- pelágica.

VISIÓN GENERAL DEL PLAN DE ACCIÓN:

La pesquería de anchoita argentina ha sido certificada como sostenible (de acuerdo a los principios y criterios del MSC para una pesca sostenible) en agosto de 2011, y desde entonces fueron realizadas cuatro revisiones anuales (en 2012, 2013, 2014 y 2015), donde se analizó la información disponible, y se cumplieron todas las condiciones y etapas.

Teniendo en cuenta el Informe de Certificación Público, todos los informes de vigilancia, resultados, y evaluado el progreso contra las condiciones de la certificación, el equipo de evaluación de OIA decidió proceder con el proceso de re-certificación, que comenzó en enero de 2016.

El equipo de OIA presentó el borrador del informe de evaluación MSC el 11 de abril de 2016. Basado en el análisis de la información disponible, marcó algunos Indicadores de Rendimiento (Performance Indicators) usando la metodología de la evaluación por default, y se aplicó RBF (RiskBased Framework) en PI 2.2.1 (Resultado de especies secundario), 2.3.1 (Resultado de especies de ETP), 2.4.1 (Resultado del hábitat) y 2.5.1 (Resultado del ecosistema).

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Después de la revisión del informe borrador por parte de los revisores pares y del organismo de acreditación de OIA, se estableció finalmente una sola condición relacionada al indicador de desempeño 2.3.1 (Resultado de especies de ETP).

En síntesis, los objetivos claves para la re-certificación fueron:

- Mejorar el plan de vigilancia para cubrir toda la temporada de pesca con observadores a bordo.
- 2) Continuar con la recolección de datos suficientes para detectar el grado de interacción con:
- -Especies ETP(mamíferos marinos: Delfin del Atlántico; Delfin Oscuro y Lobo Marino de un pelo)
- 3) Evaluar la incidencia de la pesca sobre los mamíferos marinos anteriormente identificados.
- 4) Proponer y evaluar posibles medidas de mitigación, de ser necesarios

Se trabajará con los grupos del Programa de Peces Pelágicos y del Subprograma Observadores a Bordo del INIDEP, e investigadores del CONICET (Mamíferos marinos) y empresas pesqueras principalmente, contando con otros grupos de interés como autoridades de la Subsecretaría de Pesca y ONGs relacionadas.

2



NIVEL DE REQUERIMIENTOS	ACCIONES	RECURSOS NECESARIOS	LÍDERES DE ACCIÓN	ASOCIADOS EN LA ACCIÓN	GRUPOS DE INTERÉS
2.3.1- Especies ETP Condición 1: Evidenciar que: Cuando los requisitos nacionales y / o nternacionales establecen límites para las especies ETP, los efectos combinados de la MSCUAAssobre la población / stock son conocidos y es altamente probable que estén dentro de esos límites. Es altamente probable que los efectos directos de la JoA no difficultan la ecuperación de las especies ETP. Se han considerado efectos indirectos para el UoA y se cree que es altamente probable que no creen impactos naceptables.	Para demostrar que para la auditoria del 4 año se dispone de evidencia de que se cumple con los requisitos nacionales y / o internacionales que establecen límites para las especies ETP, el grupo cliente ha solicitado colaboración a organismos oficiales e instituciones de investigación, e implementará un programa de investigación/observación más riguroso que analizará los límites biológicos para las especies ETPs que son afectados de manera directa y/o indirecta con la pesquería. Las acciones que serán implementadas inclurán investigación de grupos de la Universidad Nacional de Mar del Plata con los datos colectados por los observadores del INIDEP) en los barcos del grupo cliente. En esta instancia el grupo cliente presentará información referente a los límites biológicos establecidos a nível nacional y/o internacional y el efecto directo e indirecto de la pesquería sobre las poblaciones de Delfin del Atlántico, Delfin Oscuro y Lobo Marino de un pelo, reportes de observadores, datos de las especies relacionadas con la pesquería de ancholta, que provea el grupo de investigación de la Universidad Nacional de Mar del Plata en conjunto con los grupos de trabajo del INIDEP.	Observadores a bordo con entrenamiento especifico para la identificación de especies ETP presentes en la operación de pesca. Obtención de muestras a partir de observadores a bordo.	Lic. GabrielBlanco(PNOB) Dra. Agustina Mandiola (IMMyC-CONICET)	Lic. José L. Flaminio (PNOB)	Dr. Juan Manuel Bosch (Director de Coordinació Pesquera,CFP) Lic. Gabriela Navarro (Directora Nacional de Planificación Pesquera - SSPyA)

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PLAZOS Y OBJETIVOS

ACCIONES

Para demostrar que para la auditoría del 4 año se dispone de evidencia de que se cumple con los requisitos nacionales y / o internacionales que establecen límites para las especies ETP, el grupo cliente ha solicitado colaboración a organismos oficiales e instituciones de investigación, e implementará un programa de investigación/observación más riguroso que analizará los limites biológicos para las especies ETPs que son afectados de manera directa y/o indirecta con la pesquería.

Las acciones que serán implementadas incluirán investigación de grupos de la Universidad Nacional de Mar del Plata con los datos colectados por los observadores a bordo (Programa de Observadores del INIDEP) en los barcos del grupo cliente.

En esta instancia el grupo cliente presentará información referente a los límites biológicos establecidos a nivel nacional y/o internacional y el efecto directo e indirecto de la pesquería sobre las poblaciones de Delfin del Atlántico, Delfin Oscuro y Lobo Marino de un pelo, reportes de observadores, datos de las especies relacionadas con la pesquería de anchoita, que provea el grupo de investigación de la Universidad Nacional de Mar del Plata en conjunto con los grupos de trabajo del INIDEP.

PLAZOS Y OBJETIVOS

Objetivo General / Acciones:

Para el cuarto año de supervisión el grupo cliente proporcionará evidencia de que es altamente probable que el efecto de la Unidad de Evaluación mantiene por encima de los limites biológicos establecidos en los requisitos nacionales y/o internacionales a las poblaciones de especies ETPs, tales como: Delfin del Atlántico, Delfin Oscuro y Lobo Marino de un pelo. Además, se proporcionará evidencia de que los efectos directos de la Unidad de Evaluación no dificultan su recuperación y aquellos efectos indirectos han sido considerados y que los mismos no producen daños irreversibles.

Plazo general: 4 años

Objetivo 1: Diciembre 2017

Se analizarán los límites biológicos establecidos a nível nacional e internacional de las especies ETPs anteriormente mencionadas. En el caso de que no se hayan determinado anteriormente, se procederá a estimar un valor aproximado.

Se utilizará un método estadístico para calcular el número óptimo de observaciones necesarias para supervisar la flota dirigida a ancholta bonaerense durante la temporada de pesca, con el fin de comenzar a estimar los límites biológicos de la pesqueria de las especies ETPs que no hayan sido determinados.

Se ajustará e implementará un plan de cobertura con observadores a bordo de las flotas que operan sobre el récurso anchoita bonaerense, a fin de evaluar la incidencia en las capturas de las especies ETP, contemplando las acciones establecidas en el marco del Plan de Acción Nacional para la conservación y manejo mamíferos (PAN-Mamíferos).

Se implementará el Protocolo ajustado a las necesidades actuales que contemple la adquisición de datos básicos, con el fin de monitorear la captura de especies ETP y evaluar un posible impacto de la pesquería de anchoita bonaerense sobre sus poblaciones.

Se capacitará a los observadores sobre la implementación del Protocolo, considerando las acciones establecidas en el marco del PAN-Mamíferos.

Serán provistos informes de avances para el primer año.

Objetivo 2: Diciembre 2018

Analizar los datos adquiridos por los observadores a bordo.

Se evaluará un posible impacto de la pesquería de anoboita bonaerense sobre las poblaciones de las

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ACCIONES	PLAZOS Y OBJETIVOS
	especies ETPs de Mamíferos Marinos. En caso de que las poblaciones que interactúan con la pesquería estén por debajo de los límites biológicos, se continuará con la toma de datos para analizar si hay evidencia de recuperación.
	Además, se revisará y determinará cuáles son los efectos directos e indirectos de la Unidad de Evaluación sobre las poblaciones de Delfin del Atlántico, Delfin Oscuro y Lobo Marino de un pelo. Se recolectarán datos para poder determinar si los efectos dificultan su recuperación o producen daños irreversibles.
	Serán provistos informes de avances para el segundo año.
	Objetivo 3: Diciembre 2019
	Se analizarán los datos adquiridos por los observadores a bordo.
	En caso de ser necesario, se implementarán medidas que permitan minimizar el impacto de la pesquería sobre Delfin del Atlántico, Delfin Oscuro y Lobo Marino de un pelo de tal modo que no afecten los límites biológicos establecidos a nivel nacional y/o internacional.
	Serán provistos informes de avances en el tercer año.
	Objetivo 4: Diciembre 2020
	El análisis final demostrando que la pesquería no afecta a las poblaciones de Delfín del Atlántico, Delfír Oscuro y Lobo Marino de un pelo de acuerdo a los requisitos nacionales e internacionales y además considera los efectos directos e indirectos, será completado y evaluado para el cuarto año de supervisión. Er caso de haberse implementado medidas de mitigación, se estudiará su eficacia y se realizarán los ajustes necesarios.
	Para demostrar que para la auditoria del 4 año se dispone de evidencia de que se cumple con los requisitor nacionales y / o internacionales que establecen límites para las especies ETP, el grupo cliente ha solicitado colaboración a organismos oficiales e instituciones de investigación, para implementar un programa de investigación/observación más riguroso que analice los límites biológicos para las especies ETPs que sor afectados de manera directa y/o indirecta con la pesquería.
	Las acciones que serán implementadas incluirán investigación de grupos de la Universidad Nacional de Mar del Plata con los datos colectados por los observadores a bordo (Programa de Observadores del INIDEP) en los barcos del grupo cliente.
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Organización Internacional Agropecuaria



ACCIONES	PLAZOS Y OBJETIVOS
	En esta instancia el grupo cliente presentará información referente a los límites biológicos establecidos a nivel nacional y/o internacional y el efecto directo e indirecto de la pesquería sobre las poblaciones de Delfin del Atlántico, Delfin Oscuro y Lobo Marino de un pelo, reportes de observadores, datos de las especies relacionadas con la pesquería de ancholta, que haya provisto el grupo de investigación de la Universidad Nacional de Mar del Plata en conjunto con los grupos de trabajo del INIDEP.

Centauro S A Sr. Carlos Rodriguez

Catesur S.A. Sr. César Cicciotti

Marbetan S. A. Sr. Miguel Cseh Presidente

Presidente

Delicies S.A. Sr. Martin Discala Presidente

Sr. Gabriel Di Scala Gerente

Natusur S. A. Sr. Rosario Daniel Pennisi Presidente Nuevo Viento S.R.L./Alleloccic S.A. Sr. Pablo Esteban Ciccolella

Socio Gerente

Mar Picado S. A. Sr. Antonio Di Scala Presidente

Pranas S.A. Sr. Sebastián Greco Presidente



"2016 - ANO DEL BICENTENARIO DE LA INDEPENDENCIA



Ministerio de Agroindustria Instituto Nacional de Investigación y Desarrollo Pesquero

Mar del Plata, 16 de junio de 2016

Ing. Acui. Carolina Medina Foucher
MSC Program Manager – Fisheries & Chain of Custody
Organización Internacional para la Agricultura
S/D

Por la presente me dirijo a usted con el fin de que tome conocimiento acerca del compromiso del Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP) de participar en el proceso de re certificación de la pesquería de anchoíta bonaerense. De esta manera, el INIDEP avala que colaborará en el cumplimiento de las condiciones o metas propuestas por el grupo cliente en el Plan de Acción presentado ante la OIA.

Por otra parte, el INIDEP firmará próximamente un convenio con las empresas que solicitaron la certificación de la pesquería citada, comprometiéndose a trabajar en los temas propuestos y acordados en el plan de acción.

Sin otro particular, saluda a usted atentamente

Dr. OTTO C. WÖHLER
DIRECTOR
INSTITUTO NACIONAL DE INVESTIGACION
Y DESARROLLO PESQUERO
INTIDEP





Mar del Plata, 24 de Junio de 2016.

Sres. Martín Di Scala Ricardo Angeleri Pablo Cicolella S/D

De mi consideración:

Tengo el agrado de dirigirme a Ustedes en respuesta a su atenta nota del 16 de Junio pasado, solicitando la participación de los Grupos de Investigación Vertebrados y Biología, ecología y conservación de Mamíferos Marinos en el proceso de Certificación de la pesquería de Anchoita del stock bonaerense por la MSC.

Al respecto le informo que se ha autorizado su participación en el mismo, adjuntándoles las Ordenanzas del Consejo Académico de creación de los mismos como unidades de investigación de nuestra Facultad (OCAs 1014/2008 y 1649/2013).

Quedo a su disposición por cualquier otra gestión que sea de su interés.

Cordialmente

Facultad de Ciencias Exactas y Naturale-

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Andin



MAR DEL PLATA, 15 SEP 2008

VISTO las actuaciones obrantes en el Expediente N° 6-1724/04 (cuerpo III), mediante las cuales los Doctores Adriana Lía GOLDEMBERG (fs. 431, 435 y 436) y Marco FAVERO (fs. 432 y 433) del Departamento de Biología solicitan la actualización de los Grupos de Investigación: "HISTOLOGÍA, HISTOQUÍMICA Y FISIOLOGÍA BIOQUÍMICA" y "VERTEBRADOS", respectivamente, reconocidos por Ordenanza de Consejo Académico Nº 722/04, y

CONSIDERANDO:

El aval del mencionado Departamento, a fojas 431 in-fine, 432 in-fine y 435 in-fine.

Lo dispuesto por Ordenanza de Consejo Superior Nº 2258/07.

Que, se ha dado cumplimiento a lo normado en Ordenanza de Consejo Académico Nº 226/03 y modificatoria Ordenanza de Consejo Académico Nº 425/03.

El dictamen favorable de la Comisión de

Investigación y Postgrado (fs. 438).

Lo resuelto en sesión del 8 de septiembre de 2008.

Las atribuciones conferidas por el Artículo 105° del Estatuto Universitario.

Por ello,

EL CONSEJO ACADEMICO DE LA FACULTAD DE CIENCIAS EXACTAS Y NATURALES DE LA UNIVERSIDAD NACIONAL DE MAR DEL PLATA ORDENA

ARTICULO 1º.- ACTUALIZAR el Grupo de Investigación: "HISTOLOGÍA, HISTOQUÍMICA Y FISIOLOGÍA BIOQUÍMICA", cuyo Investigador Responsable es la Doctora Alcira Ofelia DÍAZ, reconocido por Ordenanza de Consejo Académico Nº 722/04, según se detalla:

HISTOLOGÍA, HISTOQUÍMICA Y FISIOLOGÍA BIOQUÍMICA Grupo:

Dependencia Departamento de Biología

funcional:

Investigador Dra. Alcira Ofelia DÍAZ

responsable:

Integrantes: Dra. Adriana Lía GOLDEMBERG

Dra. Clelia Viviana DEVINCENTI

Dra. Alejandra Antonia LOPEZ MAÑANES

Lic. María Victoria LONGO

ARTICULO 2°.- ACTUALIZAR el Grupo de Investigación: "VERTEBRADOS", cuyo Investigador Responsable es el Doctor Marco FAVERO, reconocido por Ordenanza de Consejo Académico

Nº 722/04, según se detalla:

Dean Funes 3280 - tel: 475-2200 - Fax (0223) 475-3150 - (B7500AYJ) Mar del Plata - Pcia. De Buenos Aires - Argentina

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Grupo:

VERTEBRADOS

funcional:

Dependencia Departamento de Biología

Investigador Dr. Marco FAVERO responsable:

Integrantes: Lic. María Susana Bó Dr. Juan Pablo ISSACH Dra. Laura Estela VEGA Sr. Patricio BELLAGAMBA Dra. Viviana COMPARATORE Lic. Daniel Augusto CARDONI

Lic. Laura Marina BIONDI

Lic. Alejandro Víctor BALADRÓN FÉLIX

Lic. Carolina BLOCK

Lic. Oscar Anibal STELLATELLI Dra. Laura MAUCO

Lic. María Paula BERÓN Lic. Mariela Inés GHYS Lic. Germán Oscar GARCÍA

Dra. Sofía COPELLO

Lic. Juan Pablo SECO PON Dra. Rocio MARIANO y JELICICH Lic. Ana Clara MAZZOLARI Srta. Carla Ángela PATERLINI Srta. María Soledad LIÉBANA

ARTICULO 3° .- Registrese. Dése al Boletin Oficial de la Universidad. Comuníquese a quienes corresponda. Cumplido, archívese.

ORDENANZA DE CONSEJO ACADEMICO Nº

1014

Dr. Gustavo Raúl DALEO DECANO Mad de Ca. Exactes y Naturales

LIC. Raul OSCAL ZAM ZAMORANO

Dean Funes 3280 - tel: 475-2200 - Fax (0223) 475-3150 - (B7600AYJ) Mar del Plata - Pcia. De Buenos Aires - Argentina

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1649

MAR DEL PLATA, 2 6 FFR 2013

VISTO las actuaciones obrantes en el Expediente Nº 6-1086/12, mediante las cuales el Doctor Diego Horacio RODRÍGUEZ solicita la creación del Grupo de Investigación "BIOLOGÍA, ECOLOGÍA Y CONSERVACIÓN DE MAMÍFEROS MARINOS", Y

CONSIDERANDO:

El aval del Departamento de Ciencias Marinas fojas 1 in-fine.

Lo normado por Ordenanzas de Consejo Superior Nºs 2258/07 y 2301/12.

Lo dispuesto por Ordenanzas de Consejo Académico N°s 226/03 y 425/03.

Que, mediante Ordenanza de Consejo Académico Nº 1643/13 se dio de BAJA al Grupo de Investigación "ECOLOGÍA COSTERA Y BIODETERIORO".

El informe de la Secretaría de Investigación y

Postgrado a fojas 108. El dictamen de la Comisión de Investigación y

Postgrado (fs. 110).

Lo resuelto en sesión del día 25 de febrero de 2013. Las atribuciones conferidas por el Artículo 105° del Estatuto Universitario.

Por ello,

EL CONSEJO ACADEMICO DE LA

FACULTAD DE CIENCIAS EXACTAS Y NATURALES DE LA UNIVERSIDAD NACIONAL DE MAR DEL PLATA ORDENA

ARTICULO 1º.- CREAR el Grupo de Investigación " BIOLOGÍA, ECOLOGÍA Y CONSERVACIÓN DE MAMÍFEROS MARINOS".

DEPENDENCIA FUNCIONAL

Departamento de Ciencias Marinas - Instituto de Investigaciones Marinas y Costeras. (Facultad de Ciencias Exactas y Naturales)

DIRECTOR: Doctor Diego Horacio RODRÍGUEZ

INTEGRANTES:

Dr. Ricardo Oscar BASTIDA Dra. Marcela Silvia GERPE

Técnica Oceánica María Eudilia TRASSENS

Lic. Nilda Dora MANOLIDIS

Cartógrafo Marcelo Omar FARENGA

·Lic. Mariela DASSIS

Lic. Pablo Ezequiel DENUNCIO Lic. Gisela Vanina GIARDINO Lic. Paula Sabrina POLIZZI

Lic. María Agustina MANDIOLA

Lic. María Belén ROMERO Lic. Julián BASTIDA

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Lic. Sergio Gabriel MORÓN Ph.D. Randall William DAVIS Lic. Alberto PONCE de LEÓN MUXÍ

ARTICULO 2°.- Registrese. Dése al Boletin Oficial de la Universidad. Comuniquese a quienes corresponda. Cumplido, archivese.

ORDENANZA DE CONSEJO ACADEMICO Nº

ES COPIA

Isabel Rosario GARCIA

Dra. Sonia TREPODE
DECANA
Facultad de Cs. Exactas y Naturales

Dra. Maria Sandra CHURIO VICEDECANA Facultad de Cs. Exactas y Naturales



Appendix 2. Peer review reports

Summary of Peer Reviewer 1 Opinion

Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?

NO

Justification:

MY VIEW AFTER READING THE REPORT IS THAT THE FISHERY IS SUSTAINABLE TO THE MSC STANDARD.

HOWEVER, THE AUTHORS FAIL TO PRESENT IN AN ADEQUATE WAY THE EVIDENCE TO JUSTIFY SUCH A DETERMINATION. IN MY OPINION, MANY OF THE PIS ARE NOT SCORED CORRECTLY. A SUBSTANTIAL PART OF THE EVIDENCE PRESENTED IN THE MAIN TEXT IS NOT RELEVANT TO THE SCORING AND MANY ISSUES RAISED IN THE SCORING JUSTIFICATIONS ARE NOT MENTIONED IN THE MAIN TEXT.

CAB Response

The assessment team agrees with the peer reviewer about sustainability of the fishery. The team reviewed and adjusted PIs scoring, rationales and main text in accordance of MSC Standard. Information not relevant to the scoring was removed and information used to justify scoring was incorporated.

Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?

NO

[Reference: FCR 7.11.1 and sub-clauses]

Justification:

I HAVE STRONG RESERVATIONS ABOUT THE THREE CONDITIONS. MY REVIEW INDICATES THAT THE SCORING OF SOME PIS SHOULD BE REVISED AND THIS WOULD LEAD TO SEVERAL NEW CONDITIONS.

I DOUBT THAT TWO OF THE EXISTING CONDITIONS ARE JUSTIFIED AND I WOULD NEED CONVINCING ON THE OTHER ONE (2.2.1).

WHATEVER, THE AUTHORS FAIL TO FOLLOW MSC REQUIREMENTS IN WRITING THE CONDITIONS AND THIS MEANS THAT THEY ARE NOT APPROPRIATE.

CAB Response:

The team reviewed the PIs scorings below 80 (2.2.1, 2.3.1 and 2.4.1). RBF's rationales were reviewed and adjusted with new information.

The team considered that 2 of 3 conditions established must be removed, due new data supporting to reduce the risk.

Condition was writed following MSC FCR v2.0 (i.e. Table G9. Example of conditions for Principle 2 and PF6.1.2, ensuring that the client action plan proposed by the fishery must be capable of raise the score to 80, addressing all the species for which the score falls below 80, and without causing additional associated problems for other species).

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If included

Do you think the client action plan is sufficient to close the conditions raised? [Reference FCR 7.11.2-7.11.3 and sub-clauses]

YES

Justification:

THE MILESTONES SHOULD NOT LEAD FROM THE CLIENT ACTION PLAN. HOWEVER, IF THE CONDITIONS CONTINUE TO PERTAIN, THE CLIENT ACTION PLAN WOULD BE A SUFFICIENT RESPONSE AND LEAD TO THE RELEVANT PIS MEETING THE STANDARD WITHIN A DEFINED PERIOD OF TIME.

CAB Response:

The assessment team agrees with the comment and the remaining condition. The action plan is sufficient response and lead to the relevant PIs meeting the standard within a defined period of time.

Performance Indicator Review

Table 1 For reports using one of the default assessment trees:

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.
 1.1.1	YES	NO	NA	NOTE THAT I CHANGED THE TEMPLATE TO PUT JUSTIFICATIONS BELOW AS I WAS UNABLE TO CHANGE THE FORMAT THAT HID A LOT OF MY COMMENTS OFF THE BOTTOM OF A PAGE.



SIA THE JUSTIFICATION FOR BOTH SI STARTS WITH A CUT AND PASTE OF THE SCORING GUIDELINE. IS THIS REQUIRED? (THIS ALSO THE CASE WITH OTHER PIS BUT I HAVE NOT REPEATED THE COMMENT)

NOTE THAT THE RESPONSE TO SG100 IS "NO" AND NOT "YES".

IT MAY BE CONSIDERED THAT PARTS OF THE JUSTIFICATION ARE NOT RELEVANT; THERE DOESN'T APPEAR TO BE A NEED TO NOTE ANNUAL AVERAGES, FISHING MORTALITY AND THE ESTABLISHED QUOTA.

THE INTEREST IS IN WHETHER OR NOT THE STOCK IS CURRENTLY "ABOVE THE POINT WHERE SERIOUS ECOSYSTEM IMPACTS COULD OCCUR" WITH A TRP OF 529,000 AND A LRP OF 320,000 THE CURRENT VALUE OF 835,000 CAN BE USED TO JUSTIFY THE ALLOCATED SCORE OF 80.

SIB. THE NEED IS TO CONSIDER WHETHER OR NOT THE STOCK IS FLUCTUATING "around a level consistent with ecosystem needs". ACCORDINGLY, THE JUSTIFICATION FOR SCORING SIB MUST BE EXTENDED TO CONSIDER RECENT HISTORY.

AS WITH SIA NEITHER THE QUOTA OR CATCH ARE RELEVANT.

CAB Response:	CAB Response:					
SI a): The rational	he team follows the MSC metric in rationales with the supporting evidences. I a): The rational and SI scoring was reviewed, considering your comments. SI a) was justified to allocate SG80. I b): The rational for SI was reviewed according your comments. It was include a table that explain clearly the recent years of the fishery history.					
1.1.2						
AS THE FISHERY S	AS THE FISHERY SCORED 90 FOR PI 1.1.1, PI 1.1.2 WAS NOT SCORED.					
CAB Response:						
Not applicable.	Not applicable.					
1.2.1	NO	NO	NA			
	A. I FIND THAT THE FISHERY DOES MEETS SG100. WHILE THE CFP RESOLUTION DEFINES MEASURES, THESE ONLY FORM PART OF A HARVEST STRATEGY AND NO EVIDENCE IS RESENTED TO SHOW THAT THERE IS A DESIGN THAT TAKES THE OTHER ELEMENTS OF THE HARVEST STRATEGY INTO ACCOUNT.					



FOR EXAMPLE, AS FAR AS I CAN SEE, APART FROM SOME BRIEF REFERENCE IN THE JUSTIFICATION FOR PI 3.1.3, THIS IS THE ONLY PLACE IN THE REPORT WHERE FISH MEAL IS MENTIONED. THE AUTHORS STATE THAT THE USE OF ANCHOVY FOR USE AS FISH MEAL IS NOT "ENCOURAGED". IS IT PERMISSIBLE BY LAW?

IT IS CLEAR THAT THE HARVEST STRATEGY IS LARGELY BASED ON MARKET CONDITIONS. HOW WOULD THE HARVEST STRATEGY RESPOND IF THE MARKET DEMAND WAS TO INCREASE?

THERE IS JUSTIFICATION TO SCORE THE FISHERY AT 80 FOR SIA.

SIB. CLEARLY THE CATCH IS LIMITED AND AS SUCH IT CAN BE CONCLUDED THAT THERE IS EVIDENCE THAT THE HARVEST STRATEGY EXISTS AND IT IS ACHIEVING ITS OBJECTIVES. HOWEVER I QUESTION THE RELEVANCE OF THE FOLLOWING STATEMENT THAT, APART FROM THE DEFINED CATCH LEVEL, I WOULD CONSIDER AS A MARKET STRATEGY RATHER THAN A HARVEST STRATEGY. "there is evidence that a re- assessment of the situation would be immediately done if the catches exceed 60,000 t a week (SIC), and so, there is evidence of a clear objective of maintaining a constant supply of anchovy to the foreign market is met and so this scoring issue is met"

SIF. THIS SCORING ISSUE RELATES TO THE UNWANTED CATCH OF THE TARGET SPECIES. "SA2.4.8 Scoring issue (f) requires that UoAs review whether the use of alternative measures could reduce the mortality arising from unwanted catches from the target stocks". FOR 1.2.1 THE TEAM SHOULD FOLLOW THE MSC CR AND GUIDELINES APPLIED TO PRIMARY SPECIES SA3.5.3.

THE REPORT DOES NOT CONSIDER THIS ISSUE E.G. IF THERE IS "SLIPPAGE" OF UNWANTED CATCH TO ENSURE THE LANDING QUALITY (SIZE) NEEDED FOR THE HUMAN CONSUMPTION MARKET. THE AUTHORS CONSIDER THIS IS AN ISSUE UNDER PI 2.1.1; UNLESS IT IS INCLUDED IN THE JUSTIFICATION FOR THIS PI, IT CANNOT ACHIEVE THE SCORE OF 60.

NOTE THAT IF THE JUSTIFICATION FOR PI 2.1.1 IS INCLUDED UNDER PI 1.2.1, THE BIENNIAL REVIEWS NEED TO BE SPECIFIC TO THE SUBJECT OF THIS SCORING ISSUE AND THUS SG100 WOULD NOT BE MET. JUSTIFICATION WOULD HAVE TO BE GIVEN TO ALLOW THE FISHERY TO MEET SG80 I.E. "There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality" I.E. AT LEAST EVERY 5 YEARS.

CAB Response:

SI a): The assessment team considered the peer reviewer comments and agree that this SI meets with SG100. Clarifications were made about the human consumption intended use and the prohibition por industrial uses. Even considering the market conditions as an element of the of the harvest strategy, all the elements of the harvest strategy determine, in the last 21 years, the level of exploitation from 0.5% to 3.5% stock total biomass, as it is stated in the report.

SI b): The assessment team considered your comments and rephrase the statement putting focus on guidelines. Also same errors were erase.

SI f): This SI was reviewed taking into account the MSC CR and guidelines apply to P1 and P2 (SA3.5.3). The rational was adjusted to unwanted catch issue and the use of alternative measures.

1.2.2	NO	NO	NA	



WHILE I AGREE THAT THE PI MEETS SG100 NOTE MSC CR "7.10.6 To contribute to the scoring of any PI, the team shall verify that each scoring issue is fully and unambiguously met. 7.10.6.1 A rationale shall be presented to support the team's conclusion. 7.10.6.2 The rationale shall make direct reference to every scoring issue and whether or not it is fully met". DUE TO THE PRESENTATION IT IS DIFFICULT TO UNDERSTAND THE LOGIC OF THE JUSTIFICATION AND THE AUDITORS DO NOT FOLLOW THE MSC REQUIREMENTS (AND THIS IS THE SAME FOR SOME IF NOT ALL OF THE PIS IN THE SCORING MATRIX".

NOTE THAT "REFERENCES" ARE NOT GIVEN FOR ANY OF THE PIS IN THE SCORING MATRIX.

CAB Response:

All rationales of this PI were reviewed according MSC Certification Requirements. The assessment team modified justification in order to support team's conclusions. Information not relevant was erase.

1.2.3	NO	NO	NA

SIA. NOTE "SA2.6.3 Teams shall interpret "a comprehensive range of information" and "all information" at the SG100 level to include information provided by a strategic research plan.SA2.6.3.1 This information shall go beyond the immediate short-term management needs to create a strategic body of research relevant to the long-term UoA-specific management system".

ON THAT BASIS LDO NOT THINK THAT THE FISHERY MEETS SG100.

SIC. NOTE "The reference to 'other' fishery removals in scoring issue (c) relates to vessels outside or not covered by the unit of assessment. These require good information but not necessarily to the same level of accuracy or coverage as that covered by the second scoring issue."

THE JUSTIFICATION DOES NOT RESPOND TO THE SCOING REQUIREMENT, WHILE I AGREE WITH THE CONCLUSION

CAB Response:

SI a): Even there is a strategic body implemented as INIDEP with different research areas as reproductive analysis, acoustic, eggs and larvae, oceanographic, pelagic fishery, etc. to analyse the stock structure and distribution, etc. beyond to the area of exploitation for short-term management needs, but there is not research surveys carried out in the recent years to provide the data.

The assessment team agree with you and this SI was re-scored to SG80.

SI c): The justification was reviewed according scoring guidelines.



1.2.4	YES	NO	NA	

SIA. THE FOLLOWING POINT SHOULD BE CLARIFIED "The assessment team fully understand the whole stock assessment process, its sequence, reasons and definitions of reference points, the available time series, data used for tuning".

SIC THE FOLLOWING PARAGRAPH SHOULD BE MOVED TO SID "Moreover, even when the direct estimation of biomass or SSB shows these harvest strategy would maintain the population at a stable sustainable level, equivalent to BMSY, there is no evidence that supports that the assessment has been tested and shown to be robust, nor alternative hypotheses and assessment approaches have been rigorously explored".

THE AUTHORS DO NOT PROVIDE ANY EVIDENCE THAT THE MODEL IS "evaluating stock status relative to reference points in a probabilistic way"; AS SUCH NO JUSTIFICATION IS PRESENTED TO CONCLUDE THAT THE FISHERY MEETS SG100.

CAB Response:

SI a): This point is clarified focus on the requirements.

SI c): The rational was adjusted to SI guidelines to justify SG100 level.

2.1.1	NO	NO	NA
-------	----	----	----

SIA. NOTE "SA3.1.3 The team shall assign primary species in P2 where all the following criteria are met: SA3.1.3.1 Species in the catch that are not covered under P1 because they are not included in the UoA". ANCHOVY IS NOT A PRIMARY SPECIES IN P2 AND SHOULD NOT BE CONSIDERED UNDER COMPONENT 2.1.

AS THERE ARE NO PRIMARY SPECIES (BUT THIS HAS TO BE JUSTIFIED) THEN THE FISHERY MEETS SG 100 (NOTE "SA3.2.1 If a team determines that a UoA has no impact on a particular component, it shall receive a score of 100 under the Outcome PI".

SIB NO JUSTIFICATION IS GIVEN FOR DEFINING CHUB MACKEREL AS A MINOR PRIMARY SPECIES. LOOKING AT TABLE 3 (WHICH IN ITSELF IS BADLY PRESENTED AND IS DIFFICULT TO UNDERSTAND) THERE IS NO INDICATION THAT THE SPECIES REGULARLY REPRESENTS MORE THAN 5 % OF THE **TOTAL CATCH IN THE UOA.**

TO BE INCLUDED AT THE 2% THRESHOLD IT WOULD NEED TO BE A VULNERABLE SPECIES.

WHATEVER, IF IT WAS TO CONSIDERED, BASIC INFORMATION ON THE SPECIES SHOULD BE INCLUDED IN THE MAIN TEXT UNDER P2. THERE IS NO SUCH INFORMATION. IN FACT THERE IS EXTREMELY LIMITED COVERAGE OF THE INFORMATION THAT WOULD BE NEEDED TO SCORE 2.1 AND A LARGE PART OF 2.2.

CAB Response:

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SI a): The assessment team clarifies primary species determination. In accordance of FCR, there are not main primary species detected. This SI was adjusted to FCR - SA3.2.1 and the fishery meets with SG100. SI b): Tables 3 and 4 was adjusted and unified to facilitate its understand (now Table 5). As it is mentioned before there are not main primary species detected. The chub mackerel is identified as minor and rationale was improved with more information (time series).					
2.1.2	NO	NO	NA		
	MENTS ABOVE UNDER 2.1.1 IT IS CLEAF	R THAT A LARGE PART, IF NOT ALL, OF THE FISHERY WOULD MEET SG80 SIA.	JUSTIFICTION FOR THE SCORING O	F PI 2.1.2 IS NOT APPROPRIATE.	
CAB Response:					
	team agree with this comment and reled to be considered as a main primar		tial strategy in place for chub ma	ckerel fishery even if this species is below the	
2.1.3	NO	NO	NA		
SIA. AS ONLY ANCHOVY WAS CLASSIFIED AS A MAIN PRIMARY SPECIES (SEE ABOVE) THE COMMENT "However, since there is not enough information on discards of both (MY EMPHASIS) species, and although there are not sampling campaign to hinder a quantitative assessment of stock status, total predicted catch cannot be quantified" SHOULD BE REVIEWED. SIB. NOTE THE COMMENT ABOVE ON WHETHER OR NOT THERE ARE MINOR PRIMARY SPECIES.					
CAB Response:					
SI a): The assessment team reviewed this SI and it was rescored to meet with SG100 due the UoA has not impact this component. SI b): The assessment team reviewed this SI and it was rescored to meet with SG100 due the UoA has not impact this component.					
2.2.1	NO	NO	NO		

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NOTE "A3.7.1 The team shall determine and justify which secondary species are considered 'main' and which are not". THE JUSTIFICATION FOR SIA PI 2.2.2 STATES "The mid-water trawl fishery under certification targets a variety of species during the fishing season depending on the area. The species considered as secondary species are: rough sead ('surel'), Southern Atlantic butterfish ('pampanito'), Argentine seabass ('mero'), 'castañeta', plownose chimaera ('pez gallo') and in some circumstancy, greater sheawater ('pardela de cabeza negra')". I.E 6 SPECIES IN TOTAL.

THE SCORING TABLE FOR PI 2.2.1 WAS NOT COMPLETED, RATHER THE READER IS DIRECTED TO THE APPENDIX PROVIDING THE PSA FOR PI 2.2.1. IN MY OPINION, THE TABLE SHOULD HAVE BEEN COMPLETED TO JUSTIFY THE SELECTION OF SECONDARY SPECIES.

THIS IS ESPECIALLY THE CASE AS A REVIEW OF THE MAIN TEXT INDICATES NO MENTION OF THE GREATER SHEARWATER, WHILE ONLY SOME OF THE OTHER 5 SPECIES ARE MENTIONED IN TABLE 3. THE AUTHORS DID NOT PRESENT THE BACKGROUND TO PRIMARY AND SECONDARY SPECIES IN SECTION 3.4.

ON THAT BASIS, IT IS NOT POSSIBLE TO COMMENT ON WHETHER THE INCLUSION OF GREATER SHEARWATER IS JUSTIFIED.

I WOULD QUESTION THE INCLUSION OF THE FISH SPECIES IN THE RBF AS THEIR INDIVIDUAL AND TOTAL SHARE OF THE TOTAL CATCH IS MINISCULE. NOTE "PF4.1.4The team may elect to conduct a PSA on "main" species only when evaluating PI 2.1.1 or 2.2.1. PF4.1.4.1. If the team decides to consider "main" species only, final PI score shall be adjusted downward according to clause PF5.3.2."

THE CONDITION DOES NOT MEET MSC REQUIEREMENTS AS ESTABLISHED IN MSC CR 7.11 THE CONDITION SHOULD BE MORE EXPLICIT AND SHOULD NOT COMPRISE A CUT AND PASTE OF THE SCORING GUIDELINE. I.E. IN THIS CASE IT SHOULD REFER TO THE GREATER SHEARWATER.

SPECIFICALLY "7.11.1.4 The CAB shall draft conditions to specify milestones that spell out: a. The measurable improvements and outcomes (using quantitative metrics) expected each year. b. The specific timeframes over which the milestones and the whole condition must be met. c. The outcome and score that shall be achieved at any interim milestones".

THE CLIENT ACTION PLAN SHOULD ESTABLISH HOW THE CLIENT WILL RESPOND TO THE DEFINED MILESTONES; THE MILESTONES ARE NOT ESTABLISHED ON THE BASIS OF THE CLIENT ACTION PLAN.

IT HAS TO BE RECALLED THAT (I) THE CONDITION SHOULD NOT BE PRESCRIPTIVE — IT IS FOR THE CLIENT TO DETERMINE HOW THE CONDITION IS MET; AND (II) THE ANNUAL SURVEILLANCE AUDITS MEASURE PROGRESS ACCORDING TO THE DEFINED MILESTONES AND NOT THE ACTION PLAN;

IN THIS CASE THE "MILESTONES" WITHIN THE CLIENT ACTION PLAN ARE SO SPECIFIC THAT THE FISHERY COULD MEET PROBLEMS EACH YEAR WHEN THE AUDITORS ASK WHAT HAS BEEN DONE AND NOT WHAT YOU WERE HOPING TO DO OR PLAN TO DO.

CAB Response:

The assessment team clarified the justification to select secondary species in the respective Evaluation Table. The team concluded that the impact of fishery is unsignificant for fishes mentioned in Table 5 and the UoA has no impact on these species. However, the team identifies that is necessary to carried out RBF for great shearwater and *Larus dominicanus* (both as main species), due there are not biological limit data to estimate its status.

The review of this PI, including new information incorporated in the report, indicated that RBF's score is 80 and the PI 2.2.1 not requires a condition. Initial condition set is removed.



				·			
2.2.2	NO	NO	NA				
GIVEN THAT THE F (THIS WOULD ONI) NO EVIDENCE IS P THE ISSUE OF GRE IF IT IS DEFINED A measures implem dependent on hig and reduce the im THIS STATES NO N A HIGH LEVEL OF "IN PLACE". I THINK WHAT TH	SIA. A PARTIAL STRATEGY IS ONLY REQUIRED "IF NECESSARY". GIVEN THAT THE FISH SPECIES ARE ALL MINOR SECONDARY, WITH A LIMITED CATCH, WOULD IT NOT BE MORE PLAUSIBLE TO ARGUE THAT A PARTIAL STRATEGY IS NOT REQUIRED (THIS WOULD ONLY BE THE CASE IF ANY OF THE SPECIES WERE CONSIDERED VULNERABLE). NO EVIDENCE IS PROVIDED TO SUPPORT THE STATEMENT "In some cases, bycatch species survive the catching and are returned to the sea alive". THE ISSUE OF GREATER SHEARWATER IS MORE COMPLICATED. IF IT IS DEFINED AS A MAIN SECONDARY SPECIES, I DO NOT CONSIDER THAT THE JUSTIFICATION PROVIDED IS ADEQUATE I.E "In the case of greater sheawater, there are no measures implemented in place to minimize fishing impacts, but there a preliminary data that the impact of Argentine anchovy is low in the population of this species. It is strongl dependent on high levels of at sea monitoring which are unlikely to be reached at least in short term. Although there is a national plan executed (PAN-Aves) which aims to analyz and reduce the impact of fishing in seabirds". THIS STATES NO MEASURES ARE IN PLACE AND THUS THE FISHERY CANNOT MEET SG60. A HIGH LEVEL OF AT-SEA MONITORING IS NOT IN PLACE AND THEREFORE CANNOT BE USED AS EVIDENCE. THE AIMS OF THE NATIONAL PLAN DO NOT MEET THE REQUIEREMEN "IN PLACE". I THINK WHAT THE TEXT QUOTED ABOVE MEANS THAT MEASURES ARE NOT NEEDED AND IF THE AUTHORS ARE TO SCORE THE FISHERY AT 80 THEN EVIDENCE MUST BE PROVIDED TO SHOW THAT NEITHER MEASURES OR A PARTIAL STRATEGY ARE NECESSARY.						
CAB Response:	CAB Response:						
SI a): The team agree that partial strategy must be implemented if necessary. The study presented by Paz (2005) indicates that the UoA has no impact on great shearwater and Kelp gull in its rebuilding and recovery. The team adjusted the rationale to meet with SG80.							
2.2.3	YES	YES	NA				
NA	NA						

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CAB Response:



Not applicable. 2.3.1 NO NO NA

NOTE THE FOLLOWING "PF4.4.3 When scoring susceptibility, the team shall take into account the impacts of fisheries other than the UoA according to the following requirements: PF4.4.3.4 When scoring PI 2.3.1, only the UoA shall be taken into account".

NOTE MY COMMENT ABOVE RELATING TO THE QUALITY OF THE MAIN TEXT WHERE IT RELATES TO THE ETP SPECIES.

THE DEFINITION OF THE INTERACTION OF ETP SPECIES WITH THE UOA APPEARS TO BE VERY BROAD AND THE JUSTIFICATION FOR THE CHOICE OF SPECIES TO BE INCLUDED IN THE PSA SHOULD BE COVERED IN THE EVALUATION TABLE FOR PI 2.3.1.

IT IS NOT FOR ME TO DETERMINE WHICH SPECIES SHOULD BE CONSIDERED, BUT ON FIRST LOOK I CAN ONLY SEE JUSTIFICATION FOR POSSIBLY 5 OF THE 14 SPECIES.

AEREAL OVERLAP COVERS "Areal overlap (availability) Overlap of the fishing effort with a species concentration of the stock".

AS AN EXAMPLE, I DO NOT SEE THE USEFULNESS OF "Procellaria aequinoctialis is widely distributed, and it is known for nesting on the Sub-Antatctic Islands belonging to France, New Zealand and South Africa, and also on South Georgias and Malvinas Islands (acap.aq)"

WHAT IS NEEDED IS AN ANALYSIS OF THE PRESENCE OF THE SPECIES IN THE AREA OF THE UOA.

I HAVE SIMILAR ISSUES WITH THE NON SPECIFIC COMMENTS ON ENCOUNTERABILITY AND SELECTIVITY OF GEAR TYPE. FOR EXAMPLE, I QUESTION THE RELEVANCE OF " At the Antarctic sites, eggs are generally laid in mid-October to mid-November, over approximately a 21 day period. Laying tends to be earlier at lower latitudes, starting in late August on Gough Island, and late September on Marion Island, Macquarie Island and Iles Crozet. On average, eggs are incubated for c. 60 days, hatching late October to late January; egg losses tend to be noticeably higher than chick losses. Young chicks are brooded and guarded for 24-26 days until they attain thermal independence. Males deliver food to the chicks more frequently than do females; male chicks fledge later and with a higher body mass than females. Chicks fledge from March to late May, generally c. 100–130 days after hatching. In Patagonia, the fledging period lasts from late March to late April after only 86-125 days in the nest (acap.aa)".

THERE ARE MANY OTHER EXAMPLES.

ON THE BASIS OF THE FOREGOING I HAVE NOT REVIEWED THE RATIONAL FOR THE SUSCEPTIBILITY SCORES AND I AM UNABLE TO COMMENT ON THE APPROPRIATENESS OF THE ALLOCATED SCORE.

CONDITION 2: SEE MY COMMENTS ON CONDITION 1.

CAB Response:

The assessment team reviewed available information detailed in the table of PI 2.3.1 and decided to reduce ETP species list to assess using PSA.

Even the UoA has a negectable impact on ETP species, in the site visit consultations, stakeholders agree to carry out research surveys that provide more information to

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reinforce that the fishery not hinder rebuilding and recovery on these vulnerable/endangered groups (seabirds/marine mammals), due that the last monitoring not cover sufficient fishing trips to conclude the mentioned above.

Rationales provide for PSA assessment are reviewed and adjusted following FCR.

Condition established follows the FCR - PF6.1.2, ensuring that the client action plan proposed by the fishery must be capable of raise the score to 80, addressing all the species for which the score falls below 80, and without causing additional associated problems for other species.

2.3.2 NO NO NA

NOTE "SA3.11.2 The team shall evaluate either scoring issue (a) or scoring issue (b) on the ETP species management strategy: SA3.11.2.1 Where there are requirements for protection and rebuilding provided through national ETP legislation or international agreements, the team shall score scoring issue (a). SA3.11.2.2 Where there are no requirements for protection and rebuilding provided through national ETP legislation or international agreements, the team shall score scoring issue (b)".

THE REPORT STATES "ETP species that interact with anchovy fishery have requirements for protection or rebuilding provided through national ETP legislation based on international agreements as National Action Plans (PAN-Aves, PAN-Tiburones and PAN-mamíferos)".

ACCORDINGLY, I QUESTION WHY SIB HAS BEEN SCORED INSTEAD OF SIA.

NOTE "A "comprehensive strategy" (applicable only for ETP component) is a complete and tested strategy made up of linked monitoring, analyses, and management measures and responses".

I DO NOT SEE THE JUSTIFICATION FOR SCORING SIA OR SIB AT SG100.

ON THE BASIS OF INFORMATION AVAILABLE, I THINK IT IS POSSIBLE TO PRESENT AN ARGUMENT THAT THE FISHERY WOULD MEET SG80, BUT THE LACK OF PRECISION ON AFFECTED ETP POPULATIONS MAKES IT DIFFICULT TO ARRIVE AT A FIRM CONCLUSION.

SIC. I ASK MYSELF IF REDUCED FISHING ACTIVITY MAY BE CONSIDERED TO BE PART OF THE STRATEGY. WHAT WOULD BE THE SITUATION IF FISHING EFFORT WOULD INCREASE.

THE REMAINDER OF THE JUSTIFICATION IS SOUND.

SIE. THE QUESTION POSED IS "There is a biennial review",

WHILE BIENNIAL MEETINGS OF THE NEW COMMISSION ARE PROPOSED, AS YET THERE APPEARS TO BE NO EVIDENCE THAT IT WILL MEET SG100. ON THAT BASIS, I THINK IT IS TOO EARLY TO SCORE THE FISHERY AT SG100.

I QUESTION THE RELEVANCE OF "There is established prohibition to use other fishing gears than purse seine and mid-water trawl net, and prohibition of night fishing, at which point the resource, as well as other pelagic, ascends to water layers near the surface and dispersed to feed".

CAB Response:



SI a): The team reviewed rationale presented in the SI b) and agree with peer reviewer that this justification correspond to SI a). Also, the team agrees that the strategy in place is not test linked to monitoring, analyses and management measures. This SI was re-scored to SG80.

SI c): The assessment team agrees with this sentence and incorporate it in the rationale to strenghten the justification.

SI e): As it is indicated in PIs 1.2.1, 2.1.1 and 2.2.2, there is more than biannual review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch related with pelagic fisheries and they are implemented as appropriate.

Since 28 May 2015 (creation of Commission), two annual meetings were set. The last meetings were held on 8 July 2015, 22 December 2015 and 23 May 2016.

As it is mentioned in the studies performed by Paz (2015) and Mandiola & Rodriguez (2005), the need to monitor ETP species was subject in the framework of first certification process of fishery. The coordination of monitoring is raised at meetings of Commission and implemented by the management authority (CFP).

Also, as it is described in the background, there are national programs (PAN-Aves and PAN-mamíferos) to monitor and assess the implementation of alternative measures for seabirds and marine mammals in Argentine fisheries and decrease unwanted catch.

This rationale was reviewed including this information.

2.3.3 NO NO NA	
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NOTE "SA3.6.3 In scoring issue (b) teams shall consider the following when determining the adequacy of the information in relation to its ability to determine and to detect changes in the outcome indicator score:SA3.6.3.1. That higher quality information shall be required to demonstrate adequacy as the importance, or difficulty, of estimating the true impact of the UoA on a species in relation to its status increases. SA3.6.3.2 That in determining the adequacy of the methods used for data collection, the team shall consider: a. The precision of the estimates (qualitative or quantitative); b. The extent to which the data are verifiable (on their own or in combination with other data sources); c. Potential bias in estimates and data collection methods; d. Comprehensiveness of data; and The continuity of data collection".

THERE IS NO EVIDENCE TO SHOW THAT THERE IS THE INFORMATION REQUIRED TO SCORE THE FISHERY AT 80. I CONSIDER THAT A CONDITION WOULD BE REQUIRED ON 2.3.3.

CAB Response:

SI b) The team considers that the fishery does not impact on ETP species. This further supported by assessments carried out by Paz (2015) and Mandiola & Rodriguez (2015). Both studies indicate that the impact of the UoA on ETP species is very low considering other assessments carried out in other fisheries. In the case of seabirds 97% of contacts not cause serious injuries and marine mammals are gilled by trawl net but they are back live to the water. National Action Plans for Birds and Marine Mammals allow a significant improvement of monitoring catches, including specific protocols to identify damage and implement, if necessary, the most adequate measures/strategies.

2.4.1	NO	NO	NA	

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SEE ABOVE ON THE NEED FOR AN EVALUATION TABLE TO BE COMPLETED.

I DO NOT UNDERSTAND WHY THE CSA WAS USED.

IT MAY BE THAT THE AUTHORS CONFUSED "MID WATER TRAWL" WITH DANISH SEINE; THE LATTER IS A GEAR USED TO TARGET DEMERSAL SPECIES FOUND CLOSE TO THE BOTTOM BUT DISAGGREGATED.

DANISH SEINE CAN NOT BE USED AS A PROXY FOR MID WATER TRAWL. IT WOULD BE NORMAL FOR A MID WATER TRAWL OR PURSE SEINE FISHERY TO SCORE 80 ON PI 2.4.1 DUE TO LACK OF INTERACTION WITH THE HABITAT.

IF THE AUTHORS CAN JUSTIFY SUCH AN APPROACH THERE WOULD BE NO NEED FOR A CONDITION.

WHATEVER, FOR COMMENTS ON CONDITION 3 SEE CONDITION 1.

CAB Response:

The assessment team reviewed the available information of habitats for Bonaerense anchovy mid-trawl fishery. As it is mentioned in the background section, even if it is rarely that this fishing gear comes into to contact with the sea bottom, this impact is not tested and there is not adequate information about areas that contain vulnerable habitats. With available information, the team can not assess directly if the UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area(s) covered by the governance body(s) responsible for fishery management. The team scored this PI as deficient data and use RBF to score PI 2.4.1.

The fishing gear under assessment is not provided in Tables PF14 and PF15 and the assessment team considered 'Danish seine' as the most similar and precautory gear in terms of extent of bottom contact. FAO indicates that this fishing technique is particularly applicable where there are areas with flat seabed but no large trawlable bottom. Even if the mid-trawl net operates generally the column water, rarely this fishing gear comes into to contact with the sea bottom, the team decides to use this similar gear to estimate the impact on the function and structure of bottom.

Scoring using CSA methodology was reviewed and it is identified a 'technical error' in RBF_MSC_worksheets_v2 02 and this PI score 93. Condition is not needed for the PI 2.4.1 and it is removal.

2.4.2 NO NO NA

REFER TO THE REPONSE ABOVE AND THE NEED FOR THE JUSTIFICATION TO CONCENTRATE ON THE WORD "necessary".

UNTRAWLABLE BOTTOM IS NOT A STRATEGY.

NO JUSTIFICATION IS PROVIDED TO SCORE THE FISHERY AT SG100 "There is a strategy in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats". AS IT IS ALL FISHERIES, SEASONALITY CANNOT BE USED AS JUSTIFICATION.



SIB IF IT IS ARGUED THAT MEASURES AND A PARTIAL STRATEGY ARE NOT NEEDED, IT IS JUSTIFIABLE FOR THE FISHERY TO MEET SG60 AND SG80.

SIC. THE SAME AS SIB. I DO NOT THINK THE AUTHORS JUSTIFY THE SCORE AT SG100. IF THEY DO CONSIDER THAT A STRATEGY IS IN PLACE (SEE SIA) A STRONGER ARGUMENT SHOULD BE PUT FORWARD.

RECALL THAT THE STRATEGY COVERS ALL FISHERIES AND NOT JUST THE UOA.

SID. APART FROM THE SCORING TABLE AND THE CONDITION, THE REPORT DOES NOT A MENTION VME OR WHETHER OR NOT THESE ARE PRESENT IN THE AREA OF THE FISHERY. ACCORDINGLY THERE IS NO BASIS TO SCORE THIS SCORING ISSUE.

AS NOTED ABOVE, A SIMPLE CUT & PASTE OF A SCORING GUIDELINE IS NOT ACCEPTABLE JUSTIFICATION.

CAB Response:

SI a): The team review this SI in accordance with peer review comments. The Bonaerense anchovy mid-trawl fishery is perceived as a low impact fishery due that fishing gear operates in the water column and rarely comes into to contact with the sea bottom, it is not necessary, at the moment, a partial strategy in place. Also, mandatory closed areas system enforced using a Vessel Monitoring System (VMS), which act as protection of the benthic habitat and the whole ecosystem. CSA results for PI 2.4.1 have shown that direct impacts of the fishery under assessment on habitat structure and function and type of habitats are negligible. In addition, the fishing operation in itself is also considered to be a strategy for the impact of the fishery on habitat types. The mid-water trawl only rarely comes into to contact with sea bottom as it can be damage incurring significant costs for the fishers, which is a powerful incentive to minimize contact with the bottom. Also, the fishing operations are concentrated in a specific area, contribute to minimize impacts. Therefore, evidences show that the fishery meets with SG80 level of performance.

SI b): The assessment team agrees with the peer reviewer and the rationale is adjusted to meet with SG80, due that a partial strategy is not needed.

SI c): The assessment team agrees with the peer reviewer and the rationale is adjusted to meet with SG80, due that a partial strategy is not needed.

SI d): The assessment team reviewed and adjusted the rationale for this SI. However, as it is presented in the Figures 6 and 18, the fishery overlaps with closed areas restricted for the use of bottom trawl net. Sanctions are established in the CTMFM Resolutions N° 10/00 and N° 01/09. The mid-trawl net rarely come contact with seabeds and at the moment there is not a prohibition for Bonaerense anchovy fishery in these areas due to seasonality of the fishery. In Argentina, management fishery is integrated for all fisheries, including close/protection areas that could be restricted for some specific fishery. Statements is determined by management authorities, CFP and CTMFM, and published in their websites. Monitoring control is applied by vessel monitoring system (VMS) using GPS. If a vessel enters in a close area using bottom trawl nets, the management authority requests its return to port and applies respective sanctions. Therefore, the fishery meets with SG100 level of performance.

2	.4.3	NO	NO	NA	

SIA. I DO NOT UNDERSTAND "The interaction on the semi pelagic net wich is the important and the mid-water trawl with the selectivity don't affect the particulate food items, that

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the fishery occurs in a small part of the distribution, in part of the year 3 month as was mention before, it can be seen that the impact of the fishery in the anchovy habitat it can consider relevant. Although interactions with the benthic habitat either through gear deployment wich only in some cases touch the bottom in the start of the haul because the net is not prepare for the benthic fishery and it will be broken, the loss of gear were described as uncommon for the mention before, as the OBO Program is in place, covering well enough the fishery, the information collected may both be useful as indicators of changes in the habitat or as cause of these changes".

I SUSPECT THAT THE JUSTIFICATION IS OVERLY COMPLICATED, WHEN IT NEEDS TO ONLY TAKE INTO ACCOUNT THE NATURE, SCALE AND INTENSITY OF THE FISHERY.

SIB. I HAVE THE SAME BASIC COMMENT ON THE JUSTIFICATION AS SIA.

"While sufficient data is being gathered and is available to allow the nature of the impacts of the fishery on habitat types, changes in habitat distributions over time have not been completely measured at the moment and the fishery meets with the SG80 level for this SI". IS NOT RELEVANT.

SIC. I AGREE THAT THE FISHERY MEETS SG80, BUT THE JUSTIFICATION LACKS PRECISION. THE MAIN POINT IS THAT INFORMATION ON THE FISHERY (NUMBER AND TYPE OF BOATS) IS SUFFICIENT TO IDENTIFY ANY INCREASE IN RISK.

CAB Response:

SI a): The assessment team adjusted the rationale to meet with SG80. As is reviewed in the RBF workshop with stakeholders and described in the main report, there are some quantitative information adequated to estimate the types and distribution of the main habitats (see Appendix 1.2.3 and Figure 18). The fishing area is characterized by fine sediments as mud and sand, unrippled flat and benthic solitary sedentary/sessile epifaune. Habitat is homogenous and it is expanded in all Bonaerense sea bottom. As shown in Figure 6, the fishery is carried out in a small area than closed area determined for coastal demersal organisms (CTMFM Resolution N° 01/09).

SI b): The team adjusted the rationale to meet with SG80.

SI c): The team adjusted the rationale to meet with SG80.

2.5.1	NO	NO	NA	
			1	

SEE THE COMMENT ABOVE ON THE USE OF THE EVALUATION TABLE WHEN THE RBF IS USED.

NOTE: PF8.4.2 "The greatest spatial extent shall be used to determine the spatial scale score for the overlap of the ecosystem with the fishing activity (Table PF20). PF8.4.2.1 Only the overlap of the ecosystem with the fishing activity of the UoA shall be considered".

WHILE THERE IS GENERAL INFORMATION ON THE ECOSYSTEM, THERE IS NO INDICATION OF SCALE AND THEREFORE NO EVIDENCE TO SUPPORT THE CONTENTION THAT THE FISHERY COVERS 16 % TO 30 % OF THE ECOSYSTEM.

IF IT IS CONCLUDED THAT THE TEMPORAL SCALE IS 101 – 200 DAYS THE SCORE IS 4 AND NOT 3.



HOWEVER, THERE IS NO SUPPORT FOR THE CONCLUSION THAT IT IS 101 – 200 DAYS. PAGE 35 INDICATES A FISHING SEASON OF THE LAST 5 MONTHS OF THE YEAR THUS IT WOULD APPEAR THAT A TEMPORAL SCORE OF 4 IS JUSTIFIED.

CONSEQUENCE. I DO NOT UNDERSTAND "The consensus reached by stakeholders was that, considering that the effect of the fishery on the different components of the ecosystem is low/negligible, it is more important to consider the effect of fishing activity on the target species, and that it the reason of why this "trophic size/ structure" subcomponent is chosen, among the others, as the most vulnerable"

THE USE OF THE RBF APPEARS TO BE JUSTIFIED IN THE COMMENT IN THE EVALUATION TABLE FOR PI 2.5.3 "Direct information on the impact of this fishery on the ecosystem community was considered to be limited because of the absence of On Board Observers (OBOs) in the certification assessment and has triggered use of the Risk Based Framework (RBF) for PI".

I AM UNCLEAR AS TO WHY DIRECT EVIDENCE AS PROVIDED BY OBSERVERS IS CONSIDERED RELEVANT TO 2.5.1. THIS IS CONSIDERED ELSEWHERE.

2.5.1. GIVEN THE SMALL SIZE OF THE CATCH BY THE UOA IN TERMS OF THE SIZE AND NATURE OF THE ECOSYSTEM AND THE BIOMASS OF ANCHOVY, MY INCLINATION WOULD HAVE BEEN NOT TO USE THE RBF BUT PROVIDE EVIDENCE TO SUPPORT A SCORE OF 80 AND THAT THE FISHERY MEETS "The UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm"

THIS IS JUSTIFIED BY REFRENCE TO "SA3.16.3 "The team should note that "key" ecosystem elements are the features of an ecosystem considered as being most crucial to giving the ecosystem its characteristic nature and dynamics, and are considered relative to the scale and intensity of the UoA. They are features most crucial to maintaining the integrity of its structure and functions and the key determinants of the ecosystem resilience and productivity".

CAB Response:

The assessment team considered that information is not enough therefore it is not adequate to support analysis of the impact of the fishery on the ecosystem, and thus this PI was scored using RBF. Given the lack of periodicity in the research fishing trips, information provided by the On Board Observer's Program is essencial for the continous assessment of the fishery through information collected in commercial fishing trips. For this report, information about fishing scale and Spatial distribution of anchovy eggs densities was added, and a spatial scale of 16-30% was checked and supported in a precautionary aproach, since data is not fully updated. Temporal scale was revised and changed to 4, in the light of the average length of the fishing season (September to December, and sometimes during May). Even if fishing days are below 100 in the last years, the assessment team used a precautionary approach to assigh 101-200 days. Overall intensity was scored according to the overall intensity of the fishing activity, upon the distribution and dynamics of the stock being exploited. Taking into account PR's suggestion, wording has been changed with the intention to clarify the sentence: "The team has worked with all stakeholders at the SICA workshop to select the subcomponent on which the fishing activity is having the most impact, and the general agreement (or consensus) based on information provided by all stakeholders and the expert judgement of the team, was to select this subcomponent to be "trophic/size structure". This choice was based on the agreement that "the effect of the fishery on the different components of the ecosystem is low or negligible, specially when compared to the effect of fishing activity on the target species", not affecting other species composition, internal dynamics or distribution of communities". When assesing the consequence score, the consequence category of 80 would apply, as a precautionary approach, because there is not enough evidence that changes that affect the internal dynamics



Then, it was considered that "change in the mean trophic level and biomass/number in each size/class up to 5% (SG80)".

2.5.2 NO NO NA

SIA. SEE ABOVE FOR COMMENTS OF THE USE OF THE WORD "necessary" AND THE IMPLICATIONS FOR SCORING OTHER SI IN THIS PI.

SIC. I DO NOT CONSIDER THE JUSTIFICATION FOR SG100 AS VALID. NOTE THE NEED TO CONSIDER THE STRATEGY (WHICH DOES NOT EXIST).

CAB Response:

SI a): Taking into account PR's review, rational was revised to: "Even if there is a national strategy in place to manage primary, secondary and ETP species and habitats, comprising of limited discards, closed areas, minimum landing sizes, fishing season, limitation on fishing operations area, representing also and effective partial strategy restraining any other impacts from the fishery that would affect ecosystem structure and function.

As is described in the background and previous Principle 2 Performance Indicators, the impact on incidental catch species and ecosystem component have a low impact on this fishery, and a partial strategy as a specific "ecosystem strategy" is not considered to be required. The Ecosystem Outcome 80 level of performance has been already reached through RBF process."

SI c): This SI was revised and rescored to 80.

2.5.3 NO NO NA

SIB. WHILE I AGREE ON THE SCORE, THE SIMPLE CUT AND PASTE OF THE SCORING GUIDELINE IS NOT ADEQUATE JUSTIFICATION.

SIE. COULD YOU NOT REFER TO CHANGES IN SCALE AND INTENSITY OF THE FISHERY (NUMBER OF BOATS AND CATCH) AS DATA ADEQUATE TO DETECT ANY INCREASE IN RISK?

CAB Response:

SI b): Main impacts of the fishery on these key ecosystem elements can be inferred from existing information and some have been investigated in detail (see rationale of SI a), but there is no evidence that main interactions between the UoA and these ecosystem elements can be inferred from existing information, and have been investigated in detail.

There is currently no updated information on the predator-prey relationships and inter-dependencies among commercial species within the unit of assessment. So, the fishery



meets with the SG80 level of performance for this SI. SI e): Taking into account peer reviewer comment, this rational has been revised and rewritten to be consistent with other rationales provided in this report.					
3.1.1	YES	YES	NA		
NOTE THE COMM	MENT ABOVE ABOUT THE NEED TO SEP	ARATELY DEAL WITH EACH SCORING GUID	DEPOST WITHIN EACH SCORING ISSU	JE.	
CAB Response:					
The assessment t	team reviewed this PI and rationales v	vere adjusted according each scoring guid	depost.		
3.1.2	YES	YES	NA		
NOTE THE COMM	MENT ABOVE ABOUT THE NEED TO SEP	ARATELY DEAL WITH EACH SCORING GUID	DEPOST WITHIN EACH SCORING ISSU	JE.	
CAB Response:					
The assessment t	team reviewed this PI and rationales v	vere adjusted according each scoring guid	depost.		
3.1.3	YES	YES	NA		
NOTE THE COMMENT ABOVE ABOUT THE NEED TO SEPARATELY DEAL WITH EACH SCORING GUIDEPOST WITHIN EACH SCORING ISSUE.					
CAB Response:					
The assessment t	team reviewed this PI and rationales v	vere adjusted according each scoring guid	depost.		



3.2.1	NO	NO	NA	
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SIA NOTE "SA4.2.1 The term "explicit" as used in the Principle 3 scoring guideposts is not applicable solely to formally codified or documented management measures and mechanisms. SA4.2.2 The term "explicit" shall also refer to informal management measures and mechanisms that are well established and effective.SA4.2.3 In scoring management performance in the continuum from implicit to explicit, the team shall consider: SA4.2.3.1 The extent to which such management measures, whether formal or informal, are established in the UoA, SA4.2.3.2 How well they are understood and applied by users within the UoA, and SA4.2.3.3 The extent to which such measures are considered durable and unambiguous".

THIS SUPPORTS A SCORE OF 80 FOR THE FISHERY.

NOTE "SA4.7.2 The team shall interpret "measurable" at SG100 to mean that in addition to setting fishery-specific objectives that make broad statements objectives are operationally defined in such a way that the performance against the objective can be measured".

I DO NOT SEE ANYTHING IN THE JUSTIFICATION THAT WOULD ALLOW THE CONCLUSION THAT THE FISHERY MEETS SG100

CAB Response:

The assessment team reviewed this PI and agreed with Peer Reviewer that the justification meet with SG80. The score was modified.

3.2.2	NO	NO	NA
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SIA TAKING INTO CONSIDERATION "BUENOS AIRES, 28 de mayo de 2015 VISTO la Ley N° 24.922, y CONSIDERANDO: Que la DIRECCIÓN NACIONAL DE PLANIFICACIÓN PESQUERA de la SUBSECRETARÍA DE PESCA Y ACUICULTURA ha producido el Informe Gestión de Pesquerías N° 16/2014: "Aportes para la creación de la Comisión de análisis y Seguimiento de Pesquerías de Especies Pelágicas", del que surge la necesidad de un ámbito específico para tratar las cuestiones vinculadas a estas pesquerías, con las empresas del sector y todos los actores involucrados, como existe para las demás" (http://www.cfp.gob.ar/resoluciones/Resolucion%207%20(28-05-015)%20medidas%20manejo%20pelagicas.pdf) AND GIVEN THAT THE ROLE OF THE COMMISSION IS ADVISORY, I FIND IT DIFFICULT TO SUPPORT THAT THE FISHERY MEETS SG80 AND THAT "There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives".

UNLESS EVIDENCE CAN BE SHOWN THAT THE COMMISSION'S WORK HAS <u>RESULTED</u> IN MEASURES AND STRATEGIES THEN THEN THE FISHERY SHOULD BE SCORED AT 60 WITH A CONDITION.

SIB INSUFFICIENT EVIDENCE IS PROVIDED TO JUSTIFY THE FISHERY MEETING SG100 "ali".

CAB Response:



SI a): The assessment team reviewed the justification for this SI clarifying the decision making processes is established in the Federal Fishing Law, where CFP is the authority to make a decision which results in measures and strategies.

Even that the Commision is recently created, there are concerns exposed in its meeting that the management authority has taked into account for results measures. Evidence are described in the report.

SI b): The assessment team was revised and strengthened the justification to meet with SG100.

3.2.3 YES YES NA

CAB Response:

Not applicable.

3.2.4 NO NO

THE SCORING FOR SIA AND SIB ARE CONFUSED.

WHILE I AGREE WITH THE SCORING, THE RATIONAL FOR SG100 COULD BE STRENGTHENED AND THERE SHOULD BE BETTER EVIDENCE OF EXTERNAL PEER REVIEW.

CAB Response:

The assessment team reviewed both scoring issues (a and b) and adjusted them to SG80.

Table 2 For reports using the Risk-Based Framework:

Performance	Does the report clearly explain	Are the RBF risk scores well-	Justification:	CAB Response:
Indicator	how the process(es) applied to determine risk using the RBF has	referenced? Yes/No	Please support your answers by referring to specific scoring	
	,		referring to specific scoring	



	led to the stated outcome? Yes/No		issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	
1.1.1				Not applicable.
2.1.1				Not applicable
2.2.1	NO	NO	SEE ABOVE	Response is available above.
2.3.1	NO	NO	SEE ABOVE	Response is available above.
2.4.1	NO	NO	SEE ABOVE	Response is available above.
2.5.1	NO	NO	SEE ABOVE	Response is available above.

Table 3 For reports assessing enhanced fisheries:

Does the report clearly evaluate any additional impacts that might arise from enhancement activities?	Yes/No	CAB Response:
Note: Justification to support your answers is only required where answers given are 'No'.		
Justification: NOT APPLICABLE		Not applicable.

Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary) can be added below and on additional pages

1. Deliberately I have not read the initial assessment report and the annual surveillance audit reports. This report must be judged on its own merits.

CAB Response: As this re-assessment report was prepared using new Fisheries Certification Requirements, this report must be judged separately of other report versions.



2. The UoA is the semi pelagic mid-water trawl fishery for Bonaerense anchovy. On Pages 13 and 35 the authors state that the traditional activity on anchovy was based on the Rada fishery with purse seine effort by small engine vessels (<200 hp). Mid water trawlers were then introduced, and in 1995 the "Rada" share was 60 % to 70 % and decreasing.

I doubt that a small-scale vessel with a 200 hp engine has the capacity for effective mid water trawling. Yet from other comments it appears that this fleet segment continues to operate (it lands into Mar del Plata).

The authors should clarify whether or not the Rada vessels continue to operate and if so the fishing gear USED. If they continue to use purse seine they would not be part of the unit of assessment and would not be able eligible (*The unit of assessment (UoA) defines exactly what is under assessment. If the fishery is certified, only fish from the named unit(s) of certification will be able to carry the MSC ecolabel in the marketplace. A unit of certification is usually defined by reference to the following: Target fish species and stock (including its geographic area), Fishing method, gear, practice and/or vessel type, The fishing fleet /groups of vessels or individual fishing operators pursuing that stock including those client group members initially intended to be covered by the certificate. A unit of assessment (UoA) is the same as defined above but may also include 'other eligible fishers' who might be able to also carry the MSC ecolabel if they agree to share the certificate costs with the client).*

If it were the case that RADA vessels are not part of the UOA, this would have to be reflected throughout the report (e.g. T2, Page 32 (reference to catch by RADA vessels).

CAB Response: As Rada o Ria vessels use purse seine ('lampara') to catch anchovy, the team decided to erase information described in the background about this fleet due that there is not part of the UoA. It is mentioned this fleet in the overview of the fishery as part of fishery history.

3. How accurate is Table 1; does it include larger vessels fishing both stocks and the RADA vessels?

CAB Response: Table 1 defines all vessels/companies eligible to enter in the UoC and are part of Coastal and High-Sea fleets that catch anchovy using mid-water trawl net (UoA).

4. Two stocks of anchovy are fished in Argentinian waters – Bonaerense and Patagonian. P2 refers to the impact of the UoA on other elements of the ecosystem. Yet, substantial parts of the main text appear to refer to the Patagonian stock, while some references relate to anchovy without defining which stock. This makes it difficult to understand parts of the report and their relevance to the assessment.

CAB Response: The team reviewed the Background about the impact of the UoA on other elements of the ecosystem and determined that the main text must focuses the impact of Bonaerense stock.

5. The authors have not strictly followed the required MSC template. This prevents a full appreciation of the content and the validity of many of the points being made.

CAB Response: The Public Comment Draft Report follows MSC template.

6. In the main text there is nothing in P2 on primary and secondary species, habitats and ecosystems.

CAB Response: New information about P2 elements (primary, secondary, ETPs species, habitat and ecosystem) was introduced to support scoring rationales.

7. The link between the presentation in the main text and the rational presented in the evaluation tables is tenuous.

CAB Response: The team reinforced the main text to justify rationales presented in the evaluation tables.



8. There is substantial repetition between some sections.

CAB Response: As it is mentioned above, the main text was adjusted in many sections. The team removed text that is not relevant for the re-assessment.

9. A lot of the information contained in the section covering P1 is more usually included in the previous section presenting an overview.

CAB Response: As it is mentioned above, the main text was adjusted in many sections. The team removed text that is not relevant for the re-assessment.

10. T3 & T4 would be better in the section covering P2.

CAB Response: Tables 3 and 4 were unified in the Table 5. This new table includes classification of species that interact with the fishery for a good understanding.

11. In other parts of P2 there is a lot of information but I would question the relevance of some parts to the assessment, while other parts should not be under P2 but be placed under P3. Pages 40 – 42 cover Waters of Argentine. Does all of this add to the readers understanding? How much of the sections on marine mammals and sea birds are relevant to the UoA? Take for example page 49 and the reference to bottom trawling and the mitigation measures for bottom trawling and long liners. To what extent do the table on Pages 52 – 54 and 56 - 59 refer to mid water trawl. The tale on pages 59 – 61 should properly belong to the section on P3.

CAB Response: As it is mentioned above, the main text was adjusted in many sections. The team removed text that is not relevant for the re-assessment.

12. The section on by catch is confusing and limits the potential for readers to gain a good understanding of the possible interactions of the UoA with other elements of the ecosystem, especially ETP species with a section that seems to cover a lot of the potential for interaction in Patagonia.

CAB Response: As it is mentioned above, the main text was adjusted in many sections. The team removed text that is not relevant for the re-assessment.

13. I find pages 65-68 trouble some and question whether the team is presenting consultancy services as opposed to auditing.

CAB Response: The information provided in these pages cited by peer reviewer was directly extracted of PAN-Mamíferos. The team reviewed the available information and summarized it to present evidence relevant for the scoring. The rest of information was removed to not conduct a "consultancy service".

14. I have the same concerns about P3; a lot of information but it may be considered that a large part of this could be removed from the report e.g. pages 73 – 80 may be more useful to the reader if summarized in, say, a single page.

CAB Response: In accordance with the Peer Reviewer, the main text of Principle 3 was reviewed and summarized.

15. More importantly, my strong impression is that the main text on P3 relates more to Component 3.1 (overarching framework) as opposed to Component 3.2 (fishery specific issues).

CAB Response: As it is mentioned above, the main text was adjusted in many sections. The team removed text that is not relevant for the re-assessment.

16. In sum, the quality of the main text leads to many issues in reviewing the content of the evaluation tables.

CAB Response: As it is mentioned above, the main text was adjusted in many sections. The team removed text that is not relevant for the re-assessment.



17. An FMP (1992)? is mentioned at the beginning of the report but I do not see any more recent references.

CAB Response: FMP is Fishery Management Policies, but the team considered it not relevant to the re-assessment report and removed this term of it.

18. In my view, the quality of report presentation should be substantially improved. While I appreciate the difficulties for non-native speakers to draft a report of this nature in very good English, a poorly presented report reflects badly on the authors and this may influence stakeholder opinions on the assessment. There are a significant number of spelling and grammatical errors, with some misleading translations (e.g. red = net and not network). More important are those parts of the report that are difficult to understand and this may prove an issue, especially to non-technical non-English speakers.

CAB Response: The team reviewed spelling and grammatical error and substantially improved the assessment report. The assessment team regrets the difficulties which might have caused.

19. Any review should look at the formatting to ensure consistency between fonts etc.

CAB Response: Fonts and formatting were revised to ensure its consistency.

20. On page 91, given the nature of the UOA how is it possible to arrive at the stated conclusion on straddling stocks?

CAB Response: The assessment team reviewed this criterion and agrees with peer reviewer's comment about straddling stocks.

As it is described by FAO (http://www.fao.org/docrep/003/t3740e/T3740E03.htm#ch3.10), UNCLOS does not use the term "straddling stocks", but article 63, clause 2 refers to: "the same stock or stocks of associated species [which] occur both within the exclusive economic zone and in an area beyond and adjacent to the zone". The concept of straddling fish stock can cover a continuum from most of the fish being inside the areas of the EEZs under national jurisdiction to most of the fish being in an area beyond and adjacent to it, that is outside EEZs (in the high seas). No minimum portion outside or inside has been defined, but usage seems to indicate that as long as there is some directed fishing effort at catching the stock on either side of the EEZ line, it is considered to be straddling.

Bonaerense anchovy stock is shared between Argentina and Uruguay in the ZCPAU due that both EEZ are overlapping in this area. This stock is under binational jurisdiction.

21. Throughout the report I had difficulty in understanding if the 120,000 quota was for the UoA or both stocks. This needs to be clarified (it is for the UOA).

CAB Response: The TAC of 120,000 t is set for the Bonaerense anchovy stock. According CFP Resolution N° 6/2015, north and southern stocks are managed separately. There is TACs assigned for each one. TAC for Bonaerense anchovy = 120,000 t and TAC for Patagonian stock = 100,000 t. This allocation catch was specified in the report for good understanding.

22. The landing place for the UOA should be clarified. On page 19 a figure of 20,000 mt to 30,000 mt is given for landings in Mar del Plata. Clearly, this is not from the UOA. But page 35 states that Patagonian fish is landed in San Antonio Oeste and Puerto Madryn. Where are the Mar de Plata landings caught? This has implications for traceability.

CAB Response: Argentine anchovy, Bonaerense stock, is landed in Mar del Plata (in most time) and Quequen's Port (see page 16). Separation of both stocks is described in the formal documentation provided by captain to authority management and it is verified through VMS.



23. Traceability. It is incorrect to state "All anchovy caught by the fleet can be considered to be MSC certified under this re-assessment and so there will be no risk of mixing MSC and non-MSC anchovy in the unload process". Comments must be stock specific.

CAB Response: This sentence was adjusted using stock specification to not confuse stakeholders: 'All Bonaerense anchovy stock (north of 41° S) caught by coastal and high-sea fleets using mid-water trawl net can be considered to be MSC certified under re-assessment and so there will be no risk of mixing MSC and non-MSC anchovy in the unload process'.

24. Table 4: Row 1. Is it not the case that purse seiners and mid water trawlers fish the UOA stock. Row 2 is it the case that mid water trawlers fishing the UOA cannot at some other time fish the Patagonian stock? Row 3; the content should be reconsidered. Row 4 if Patagonian and purse seine anchovy is landed there is a risk of mixing.

CAB Response: The assessment team has considered these comments and was adjusted the risk analysis of traceability.

Row 1: There are vessels using purse-seine net catching Bonaerense anchovy. This fleet is called 'Rada o Ría'. The enforcement authority has implemented in the traceability system the document 'PARTE FINAL DE PESCA' that includes a declaration of fishing gear used to catch species and marine area that it is harvested. This official form shall be completed by captain in every fishing trip and must be presented in landing port. This document is used by management authority to monitor TACs and assess stock status of species.

However, vessels not use two fishing gears at the same time in a determined fishing trip. If the intension is to change the gears to target a specific species, the vessels must return to port and change it. This change must be specified in the 'PARTE FINAL DE PESCA'.

According above mentioned, there is low risk to mix anchovies catch by other fishing gear.

Row 2: There is no risk of Rada Ría, Coastal and High-sea fleets fishing outside of the UoA or in different geographical areas. Bonaerense and Patagonian anchovy stocks are managed separated by enforcement authority. Mid-water trawlers not fish in the same trip Bonaerense and Patagonian stocks. If in the case, mid-water trawlers catch Patagonian stock, this harvest must be declared in official document, mentioning specific fishing area.

Row 3: There are other vessels outside the client group fishing the same stock. These vessels are identified in the Table 1. In the case, that these vessels are interested to enter in the actual client group, it is necessary to sign a certificate sharing agreement.

Row 4: In the case that Patagonian anchovy and purse seine anchovy landing at the same time, both fishes are separated and documented adequately with the supervision of control authority (SSPyA's inspector). A registration of this surveillance is recorded in the "ACTA DE DESCARGA". There is low risk of mixing.

25. The point from which chain of custody certification is not "Separate Chain of Custody certification will be required... when anchovies are processed in the respective processing plant", it is at first sale or when the fresh product arrives at the processing plant; not when the fresh product is processed.

CAB Response: The assessment team reviewed this sentence. It is clarified as: "Separate Chain of Custody Certification will be required from the first point of sale or when fresh product arrives at the processing plant."

END



Summary of Peer Reviewer 2 Opinion

Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?	NO	CAB Response
According to the evidence presented in the draft report, the actual performance of the anchovy fish respect to Principle 2 is rather weak and is not worthy of the final given score. The assessment to situation (see page 7, Executive summary), but rationales/justification for the specific scoring issues general fishery regulations and policies, do not reflect these weaknesses.	The available information not reflects a negative impact in the stock status and ecosystem related. Even if OBO program is not mandatory for this fishery that allow to monitor, certified vessels/companies are working together to reinforce technical and scientific information about ecosystem needs and fishery interactions. The assessment team checked rationales provided and adjusted them to comply with scoring level established.	
Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within	YES	CAB Response
the specified timeframe?		
[Reference: FCR 7.11.1 and sub-clauses]		
Justification: Conditions are appropriately written to achieve the SG 80 outcome within the specified timeframe. (The key point is whether the actions and circumstances to meet the conditions are adequate).		The team agrees with peer reviewer. Condition established is appropriately written to achieve the SG80 outcome within the specified timeframe.



If included:

Do you think the client action plan is sufficient to close the conditions raised?	NO	CAB Response
[Reference FCR 7.11.2-7.11.3 and sub-clauses]		
Scientific research will be conducted to meet the conditions requirements, broadly mentioning the ster (i.e. data and samples collection, analysis, reporting). Some specifics about procedures or methods to a have helped evaluate whether the expected results could be attained, and within the timeframe. On parties / stakeholder have expressed their willingness /commitments to collaborate with the Client Grant process, but at present, no formal agreements with scientific institutions have been signed and, as imposed evidence that financial support to conduct the proposed studies will be available. Moreover, limited observers might pose an additional constrain. In short, reasonable doubts arise about the conditions' compliance.	deal with the issues would the other hand, interested roup in the re-certification rtant as the above, there is	The team reviewed all rationales and available information, and determined that 2 of 3 conditions set preliminary must be removed. The new action plan was reviewed and it was determined that is sufficient to close the condition raised. There are formal agreements with scientific institutions (i.e. INIDEP and UNMdP) provided in the report. Financial support was agreed in a private framework between companies and scientific institutions.

Performance Indicator Review

Table 4 For reports using one of the default assessment trees:

Performance Indicator	Has all available relevant information been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response
1.1.1 A	YES	NO	NA	Scoring issue b) although the stock is healthy, exploitation rates are low, and current biomass is high, the default target biomass consistent with	SI b): The assessment team reviewed the rationales and adjusted it to the SG80 level. Even if the target level is



				ecosystem needs, does not achieve 75% Bo, but 68%Bo (as stated in the justification for scoring issue a). Also, there is no evidence that the stock is fluctuating around or is above a level consistent with ecosystem needs.	lower than the default biomass target level proposed by MSC (75%), the target level applied for Bonaerense anchovy fishery is consistent with ecosystem needs according robust empirical data for the UoA assessed. In consultation with INIDEP (see Appendix 3), the level adopted is the same applied in other pelagic fisheries (i.e. Chilean herring fishery) not impact the abundance levels of more than 15% of the other species and trophic groups by more than 40% due the fishery is subexploited and not reduce its abundance level. There is detected that trophic groups of marine mammals were increased in 5% in the last years. Also, birds groups were increased due to indirectly effects of the fishery. The abundance of anchovy allows maintaining needed of ecosystem, but there is not high degree of certainty due that this level is not tested by credible ecosystem model.
1.1.2	Not scored	Not scored	NA		Not applicable.
1.2.1	YES	NO	NA	Scoring issue f): First, 100 scoring guidepost refers to biennial review of the alternative measures (not twice a year), and secondly the commission was recently created (December 2015), so yet there is no evidence of biennial	SI f): The rationale was adjusted to SG 100 level, considering that the fishery has an historical annual review of unwanted catch on every stock assessment and actually, at least to



				meeting.	twice a year, surpassing the biannual requirement in both cases. The commission was created in May 2015 as it is established in the CFP Resolution N° 7/2015. The meetings were held on 8 July 2015 22 December 2015 and 13 May 2016.
1.2.2	YES	NO	NA	Scoring issue a) There are no evidences in the draft report that the stock has been fluctuating around, or is above an adequate target level for at least 70% of the time.	SI a): Evidence to support that the stock has been fluctuacting around or above an adequate target level for at least 70% of time was included in the PI 1.1.1A. The graphic shown that the stock is above the TRP for every year on the last 21 years.
1.2.3	YES	NO	NA	Scoring issue a) Certainly a great bulk of knowledge about the resource and the fishery is available. Nevertheless, stakeholders / researchers have pointed out that information on the structure and distribution of the stock is restricted to the area of exploitation. On the other hand, there is no updated information concerning the size of the mature stock. With respect to the removals of the fishery, there is no quantification of the magnitude of the total discards (target species). Scoring issue b) justification for this scoring issue emphasizes on the harvest/catch monitoring, rather than on the stock abundance, as requested. Scoring issue c) arguments raised to support the	SI a): The assessment team considers your comments and re-score this SI as SG80. The data about stock structure, stock productivity, fleet composition, stock abundance and UoA removals is not updated by research surveys to support the current harvest strategy. According the removals of the fishery is not relevant due that the fleet change of fishing zone in the case of unwanted catch (as it is mentioned in the PI 1.2.1). SI b): It was adjusted the rational for this SI, addressing a stock abundance, UoA removals and monitoring



				scoring are not appropriate, since they have no connection with the matter of the guidepost.	frequency. SI c): The justification was reviewed according scoring guidelines.
1.2.4	YES	NO	NA	Scoring issue e): Although the stock assessment report has been reviewed by several scientist /experts, there is no evidence that a formal peer review process has been performed. Peer review is a well-structured process comprising several phases and steps duly accredited which includes: review stock assessment documents, data inputs, and analytical models along with other pertinent information (e.g. previous assessments, processes to address uncertainties, biological reference framework to assess the status); discuss the technical merits and deficiencies of the input data and analytical models during an open review panel meeting; document meeting discussions; and provide a complete report(s) for the reviewed species.	SI e): The assessment team has considered your comment and improve the clarity of the statement considering that the internal review done at INIDEP is formalized by an internal resolution that is mention in the rationale.
2.1.1	NO	NO	NA	Scoring issue a): The assessment team identified no main primary species in the Argentine anchovy (target species) fishery, but states that the discarded anchovy is the main primary species. MSC criteria is that a single species can be classified in only one category. Scoring issue b):There is no updated estimation of the biomass in the northen stock of Chub mackerel (the only minor primary species), and the draft report does not show a time series estimates of the stock status, so it might be risky	SI a): The assessment team clarifies primary species determination. In accordance of FCR, there are not main primary species detected. This SI was adjusted to FCR - SA3.2.1 and the fishery meets with SG100. SI b): Tables 3 and 4 was adjusted and unified (now Table 5) to facilitate its understand. As it is mentioned before there are not main primary species detected. The chub mackerel is



				to state that the chub mackerel stock is higly likely above the PRI. On the other hand, no evidence is presented in the draft report that the UoA is not hindering the recovery and rebuilding.	identified as minor and rationale was improved with more information (time series).
2.1.2	NO	NO	NA	Scoring issue a): As stated in PI 2.1.1, the assessment team identified no main primary species. With respect to the only minor primary species (chub mackerel), the draft report does not show the existence of a strategy in place, but only measures. Scoring issue b): As stated in PI 2.1.1, the assessment team identified no main primary species. With respect to the minor primary species, the draft report does not show the existence of a strategy or partial strategy. Scoring issue c): As stated in PI 2.1.1, the assessment team identified no main primary species. With respect to the minor primary species, the draft report does not show the existence of a strategy or partial strategy. Scoring issue e) With respect to the minor primary species, the draft report does not show the existence of a strategy or partial strategy. Scoring issue e) With respect to the minor primary species, the SG100 refers to biennial review (not twice a year) of the alternative measures; and secondly, the commission was recently created (December 2015), so yet there is no evidence of biennial meeting.	SI a): The rationale is reinforce to achieve SG100 for the only minor primary species identified. SI b): The rationale is reinforce to achieve SG80 for the only minor primary species identified. SI c): The rationale is reinforce to achieve SG80 for the only minor primary species identified. SI e): The rationale was adjusted to SG100 level, considering that pelagic fisheries has an historical annual review of unwanted catch on every stock assessment (except for northern stock of chub mackerel) and actually, at least to twice a year, surpassing the biannual requirement in both cases. The commission was created in May 2015 as it is established in the CFP Resolution N° 7/2015. The meetings were held on 8 July 2015 22 December 2015 and 13 May 2016.
2.1.3	NO	NO	NA	Scoring issue a): As stated in PI 2.1.1, the assessment team identified no main primary	SI a): The assessment team was reviewed this SI and it was rescored to



				species. Scoring issue c), minor species: there is no enough information to support a strategy to manage this species.	meet with SG100 due the UoA has not impact on this component. SI c): The assessment team was reviewed this SI and the rational was reinforce to meet with SG80.
2.2.1	RBF methodology	RBF methodology	YES (if condition is fulfilled)	This PI was assessed using the RBF, and given a Condition (N°1). Comments on this condition are provided here and also in the Optional General Comments (4) section, at the end of this peer review report: The only main secondary species identified by the assessment team is the Great Shearwater, a diving bird (classified as Vulnerable by Argentinian experts) which interacts with the fishery. Therefore, the condition and all the efforts involved in the development of the client action plan to satisfy this condition, would apply solely to this species. (It is worth noting that no main secondary species were identified in the stakeholders meetings held in February 2016. See Appendix 3 of the Draft Report).	The assessment team clarified the justification to select secondary species in the respective Evaluation Table. The team concluded that the impact of fishery is unsignificant for fishes mentioned in Table 5 and the UoA has no impact on this species. However, the team identifies that is necessary to carried out RBF for great shearwater and Larus dominicanus (both as main species), due there is not biological limit data to estimate its status. Even there is not sufficient information to score productivity and susceptibility attributes, data were agreed with stakeholders consulted in the site visit using information of similar species. The review of this PI, including new information incorporated in the report, indicated that RBF's score is 80 and the PI 2.2.1 not requires a condition. Initial condition sets is removed.
2.2.2	No	No	NA	Scoring issue a): As noted above the only main secondary species identified by the assessment team is the shearwater Pardela cabeza negra	SI a): The team has reviewed the rational and concluded that partial strategy must be implemented if



	(see RBF analysis), and there are no measures / strategies in place for this species. According to FCR v2.0, SA 3.8., this shearwater should be considered as <u>unwanted catch</u> . On the other hand, no evidence is presented in the draft report about the existence of a strategy in place for the 5 listed minor secondary species. Scoring issues b) and c): The draft report presents no evidence about the existence of	necessary. The study presented by Paz (2005) indicates that the UoA has no impact on great shearwater and Larus dominicanus in its rebuilding and recovery. The team adjusted the rationale to meet with SG80. SI b) and c): As the volume of secondary species is unsignificant and that 97% of interaction observed not cause serious injuries to the seabirds,
	measures or strategies in place for main or minor secondary species. Scoring issue e): as noted by the assessment team, all minor secondary species are retained (to be commercialized), and therefore they are not unwanted catch, and scoring issue e) should not be scored.	the information presented reinforce that the UoA has no impact in the recovery and rebuilding of secondary species. SI e): As it is indicated in Pls 1.2.1 and 2.1.1, there is more than biannual review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch related with pelagic fisheries and they are implemented as appropriate. As it is mentioned in the study performed by Paz (2015), the need to monitor seabirds was subject in the framework of first certification process of Argentine anchovy (Engraulis anchoita), Bonaerense stock, semipelagic mid-water trawl fishery. The
		coordination of monitoring is raised at meetings of Commission and implemented by the management



					authority (CFP). Also, as it is described in the background, there is a national program to monitor and assess the implementation of alternative measures for seabirds in Argentine fisheries and decrease unwanted catch. This rationale was reviewed including this information.
2.2.3	NO	NO	NA	Scoring issue a): this issue focused particularly on main secondary species , but justification given by the assessment team refers to all secondary species. Scoring issue c): adequate information is not available to support a strategy for secondary species.	SI a): The team reviewed the rationale and adjusted it to main secondary species. SI c): As the volume of secondary species is unsignificant and that 97% of interaction observed not cause serious injuries to the seabirds, the information presented reinforce that the UoA has no impact in the recovery and rebuilding of secondary species
2.3.1	RBF metodology	RBF metodology	YES (if condition is fulfilled)	This PI was scored using RBF methodology and a condition was given (N° 2). Comments on this condition are provided in the Optional General Comments (4) section, at the end of this peer review report.	The assessment team reviewed available information detailed in the table of PI 2.3.1 and decided to reduce ETP species list to assess using PSA. Even the UoA has a negectable impact on ETP species, in the site visit consultations, stakeholders agree to carry out research surveys that provide more information to reinforce that the Argentine anchovy (Engraulis anchoita), Bonaerense stock, semi-



					pelagic mid-water trawl fishery not hinder rebuilding and recovery on these vulnerable/endangered groups (seabirds/marine mammals), due that the last monitoring not cover sufficient fishing trips to conclude the mentioned above. Rationales provide for PSA assessment are reviewed and adjusted following FCR. Condition established follows the FCR - PF6.1.2, ensuring that the client action plan proposed by the fishery must be capable of raise the score to 80, addressing all the species for which the score falls below 80, and without causing additional associated problems for other species.
2.3.2	NO	NO	NA	Scoring issues b and c): No specific measures/strategies in place to protect ETP species are documented by the assessment team. It is worth noting that there are 4 chondrictians ETP species classified as Endangered and Vulnerable which are retained because of their commercial value. Scoring issue d): No specific or particular evidence is provided above implementation of measures/strategies. Scoring issue e): First, SG 100 refers to biennial review of the strategy (not twice a year), and secondly the commission was recently created	SI b) and c): As it is mentioned in PI 2.3.1, the UoA interacts with seabirds and marine mammals, but the impact, as it is indicated in preliminary studies, are unsignificant for this species. At the moment, Argentine anchovy (Engraulis anchoita), Bonaerense stock, semipelagic mid-water trawl fishery do not need a measure to minimise mortality in seabirds and marine mammals. SI d) As it is mentioned above SI b) and c), there is some evidence that the strategy in place become successful and



	(December 2015), so yet there is no evidence of biennial meeting.	is achieving its overall objective, especially because volume of unwanted catches is insignificant and their survival after discarding is high. The last monitoring surveys not cover sufficient fishing trips to conclude that the UoA not hinder rebuilding and recovery on seabirds and marine mammals. So, even all plans are recently implemented and executed, it cannot be assured that the evidence is clear enough to detect that intended changes are occurring, and the fishery does not comply with SG100 for this SI, but meets the SG80 requirements for this SI. SI e): As it is indicated in PIs 1.2.1, 2.1.1 and 2.2.1, there is more than biannual review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch related with pelagic fisheries and they are implemented as appropriate. As it is mentioned in the studies performed by Paz (2015) and Mandiola & Rodriguez (2005), the need to monitor ETP species was subject in the framework of first certification process of Argentine anchovy (Engraulis anchoita), Bonaerense stock, semipelagic mid-water trawl fishery. The
		pelagic mid-water trawl fishery. The coordination of monitoring is raised at



					meetings of Commission and implemented by the management authority (CFP). Since 28 May 2015 (creation of Commission), two annual were set. The last meetings were held on 8 July 2015, 22 December 2015 and 23 May 2016.
					Also, as it is described in the background, there are national programs (PAN-Aves and PAN-mamíferos) to monitor and assess the implementation of alternative measures for seabirds and marine mammals in Argentine fisheries and decrease unwanted catch. This rationale was reviewed including this information.
2.3.3	YES	YES	NA		Not applicable.
2.4.1 Habitat	RBF metodology	RBF metodology	YES (if condition is fulfilled)	This PI. was scored using RBF methodology and a condition was given (N° 3). Comments on this condition are provided in the Optional General Comments (4) section, at the end of this peer review report.	The assessment team reviewed the available information of habitats for Bonaerense anchovy mid-trawl fishery. As it is mentioned in the background section, even if it is rarely that this fishing gear comes into to contact with the sea bottom, this impact is not tested and there is not adequate information about areas that contain vulnerable habitats. With available information, the team can not assess directly if the UoA does not cause



					serious or irreversible harm to habitat structure and function, considered on the basis of the area(s) covered by the governance body(s) responsible for fishery management. The team scored this PI as deficient data and use RBF to score PI 2.4.1.
					The fishing gear under assessment is not provided in Tables PF14 and PF15 and the assessment team considered 'Danish seine' as the most similar and precautory gear in terms of extent of bottom contact. FAO indicates that this fishing technique is particularly applicable where there are areas with flat seabed but no large trawlable bottom. Even if the mid-trawl net operates generally the column water, rarely this fishing gear comes into to contact with the sea bottom, the team decides to use this similar gear to estimate the impact on the function and structure of bottom. Scoring using CSA methodology was
					reviewed and it is identified a 'technical error' in RBF_MSC_worksheets_v2 02 and this PI score 93. Condition is not needed for the PI 2.4.1 and it is removal.
2.4.2	NO	NO	NA	Scoring issue c): Draft report does not show quantitative evidences that measures/strategies	SI c): The rationale is adjusted to meet with SG80, due that a partial strategy is



				are being implemented successfully. Scoring issue d): No VME's have been identified in the UoA area (according to the background information provided in the draft report).	not needed. SI d): The assessment team reviewed and adjusted the rationale for this SI. However, as it is presented in the Figures 6 and 18, the fishery overlaps with closed areas restricted for the use of bottom trawl net. Sanctions are established in the CTMFM Resolutions N° 10/00 and N° 01/09. The mid-trawl net rarely come contact with seabeds and at the moment there is not a prohibition for Bonaerense anchovy fishery in these areas due to seasonality of the fishery. In Argentina, management fishery is integrated for all fisheries, including close/protection areas that could be restricted for some specific fishery. Statements is determinated by management authorities, CFP and CTMFM, and published in their websites. Monitoring control is applied by vessel monitoring system (VMS) using GPS. If a vessel enters in a close area using bottom trawl nets, the management authority requests its return to port and applies respective sanctions. Therefore, the fishery meets with SG100 level of performance.
2.4.3	YES	YES	NA		Not applicable.



2.5.1	RBF metodology	RBF metodology	NA		See below response.
2.5.2	NO	NO	NA NA	Scoring issues a, b, and c): there are no speciific measures/strategies in place (which had been displayed in the draft report) to deal with the impacts of the UoA on the ecosystem elements.	Taking into account PR's review, rational was revised to: "Even if there is a national strategy in place to manage primary, secondary and ETP species and habitats, comprising of limited discards, closed areas, minimum landing sizes, fishing season, limitation on fishing operations area, representing also and effective partial strategy restraining any other impacts from the fishery that would affect ecosystem structure and function. As is described in the background and previous Principle 2 Performance Indicators, the impact on incidental catch species and ecosystem component have a low impact on this fishery, and a partial strategy as a specific "ecosystem strategy" is not considered to be required. The Ecosystem Outcome 80 level of performance has been already reached through RBF process."
2.5.3	NO	NO	NA	Scoring issue b): Justification for SG 80 is not clear or should be checked. Scoring issue d): justification for this scoring issue is not consistent with other rationales provided by the assessment team in relation with the impacts of the UoA.	SI b): The assessment team clarified the rational for this SI. SI d): Taking into account peer reviewer comment, this rational has been revised and rewritten to be consistent with other rationales provided in this



					report.
3.1.1	YES	YES	NA		Not applicable.
3.1.2	YES	YES	NA		Not applicable.
3.1.3	YES	YES	NA		Not applicable.
3.2.1	YES	NO	NA	Scoring issue a): the anchovy fishery shares the general objectives stipulated in Law N° 24.922 and other legal normative related to the exploitation of fisheries resources in Argentina. Consequently, the objectives of this fishery are implicit in the regulation measures which are enforced, but no evidence of explict specific objectives is shown in the draft report.	SI a): Even if objectives of this fishery are extracted from the general fishing law, they were explicited in all resolutions submitted by CFP related to TAC's establishment. For ecosystem, objectives are explicited in each National Action Plan focused in mitigate unwanted catch.
3.2.2	YES	NO	NA	Scoring issue a): the maximum score for this issue is 80 (not 100, as stated in the draft report. On the other hand, altought there is a decision making process which results in measures and strategies, the rationales raised by the team focus mainly on the participation of the different institutions and stakeholder groups, rather than on the distinctive features of the decision process itself. Scoring issue e): Second paragraph of the justification denotes a misunderstanding of SG 60.	SI a): It is reviewed in compliance with FCR and this SI is re-scored to SG80. Distintive features of decision process are described in the background. Si e): The assessment team reviewed this sentence, clarifying that the management authority has not records that the Argentine anchovy (Engraulis anchoita), Bonaerense stock, semipelagic mid-water trawl fishery has been repeatedly violating the same law or regulation necessary for the sustainability issue.



3.2.3	YES	YES	NA		Not applicable.
3.2.4	YES	NO	NA	Scoring issue b): justification given for this issue is a verbatim copy of scoring issue a). On the other hand, this peer reviewer is uncertain in regard to the existence of external review, considering that - according to MSC criteria-external review means external to the fishery specific management system.	de la Nación (Constitution Organization) and Auditoria General de la Nación (depending on the Congress),

Table 5 For reports using the Risk-Based Framework:

Performance Indicator	Does the report clearly explain how the process(es) applied to determine risk using the RBF has led to the stated outcome? Yes/No	Are the RBF risk scores well- referenced? Yes/No	Justification: Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. Note: Justification to support your answers is only required where answers given are 'No'.	CAB Response:
1.1.1				Not applicable.
2.1.1				Not applicable.
2.2.1	NO	YES (in general)	In regard to the Shearwater (Pardela cabeza negra), there is no enough information to score this element, even using the RBF methodology. If used, the assessment team should have selected the highest risk score. In regard to Jurel/Surel (Trachurus), the team should check	See above response.



			the scores assigned to average maximum size and average size at maturity.	
2.3.1	YES (?)	YES	Note: The assessment team should check the score given to average maximum size in the case of the Magellan penguin	See above response.
2.4.1	YES	YES		Not applicable.
2.5.1	NO	NO	Under the SICA methodology for PI 2.5.1. the most vulnerable subcomponent identified by the assessment team was Trophic/size structure, but the rationale for consequence score is unclear or confused. On the other hand, the assessment team should check the score given to temporal scale of fishing activity.	The assessment team considered that information is not enough therefore it is not adequate to support analysis of the impact of the fishery on the ecosystem, and thus this PI was scored using RBF. Given the lack of periodicity in the research fishing trips, information provided by the On Board Observer's Program is essencial for the continous assessment of the fishery through information collected in commercial fishing trips. For this report, information about fishing scale and Spatial distribution of anchovy eggs densities was added, and a spatial scale of 16-30% was checked and supported in a precautionary aproach, since data is not fully updated. Temporal scale was revised and changed to 4, in the light of the average lenght of the fishing season (September to December, and sometimes during May). Even if fishing days are below 100 in the last years, the assessment team used a precautionary approach to assigh 101-200 days. Overall intensity was scored according to the overall intensity of the fishing activity, upon the distribution and dynamics of the stock being exploited. Taking into account PR's suggestion, wording has been changed with the intention to



						clarify the sentence: "The team has worked with
						all stakeholders at the SICA workshop to select
						the subcomponent on which the fishing activity is
						having the most impact, and the general
						agreement (or consensus) based on information
						provided by all stakeholders and the expert
						judgement of the team, was to select this
						subcomponent to be "trophic/size structure".
						This choice was based on the agreement that
						"the effect of the fishery on the different
						components of the ecosystem is low or
						negligible, specially when compared to the effect
						of fishing activity on the target species", not
						affecting other species composition, internal
						dynamics or distribution of communities". When
						assesing the consequence score, the consensus
						was that a consequence category of 80 would
						apply, as a precautionary approach, because there is not enough evidence that changes that
						affect the internal dynamics are unlikely to be
						detectable against natural variation (SG100), but
						definitely there are no changes in the trophic
						level and biomass/number in each class up to
						10%. Then, it was considered that "change in the
						mean trophic level and biomass/number in each
						size/class up to 5% (SG80)".
						, , , , , , , , , , , , , , , , , , , ,
Table	e 6 For reports assessing enhance	ed fisheries:				
Does	the report clearly evaluate any	additional impacts that mia	ht arise from	Yes/No	CAB Response:	
I	ncement activities?	, , ,	•	,	•	
Note	Note: Justification to support your answers is only required where answers given are					

'No'.



<u>Justification:</u> Not applicable.

Optional: General Comments on the Peer Review Draft Report (including comments on the adequacy of the background information if necessary) can be added below and on additional pages

1. Maybe the assessment team might like to revise the text of the draft report to check the English language.

CAB Response: The team reviewed spelling and grammatical error and substantially improved the assessment report. The assessment team regrets the difficulties which might have caused.

2. In this reviewer's opinion, one of the current conditions (Condition 2) is related to some of the initial (previous) conditions (Conditions 5, 6 and 7), being referred to measures /strategies to protect or minimize the impacts of the anchovy fishery on ETP species.

CAB Response: The team reviewed all rationales and available information, and determined that 2 of 3 conditions set preliminary must be removed. The condition related to ETP species was focused to 3 ETP species (marine mammals) that have a potential negative interaction.

3. The assessment team provides plenty of information concerning the ecosystem background (P2) and the management system background (P3). Although this information is highly illustrative of the Argentine fishing sector, there is a need to summarize and identify which pieces of this information relates particularly to the anchovy fishery under assessment. This would help to facilitate the review of the document

CAB Response: The team reinforced the main text to justify rationales presented in the evaluation tables.

4. Conditions regarding Pl. 2.2.1; 2.3.1 and 2.4.1: Scientific research will be conducted to meet the conditions requirements, broadly mentioning the steps of any research process (i.e. data and samples collection, analysis, reporting). Some specifics about procedures or methods to deal with the issues would have helped evaluate whether the expected results could be attained, and within the time framework. On the other hand, interested parties / stakeholders have expressed their willingness /commitments to collaborate with the Client Group in the re-certification process, but, at present, no formal agreements with scientific institutions have been signed and, as important as the above, there is no evidence that financial support to conduct the proposed studies will be available. Moreover, limited availability of on- board observers might pose an additional constrain. In short, reasonable doubts arise about the conditions' compliance.

CAB Response: The team reviewed all rationales and available information, and determined that 2 of 3 conditions set preliminary must be removed. The new action plan was reviewed and it was determined that is sufficient to close the condition raised. There are formal agreements with scientific institutions (i.e. INIDEP and UNMdP) provided in the report. Financial support was agreed in a private framework between companies and scientific institutions.

5. In many cases the assessment team does not respond to the specific issues posed by the scoring issues, but presents general information which does not permit a proper evaluation. On the other hand, very often the same rationales/justification are raised to justify scoring issues that –technically speaking- are related, but different.

CAB Response: The assessment team reviewed all scoring issues and adjusted in many cases the justification for appropriate scoring level. All adjustements are explained in the Table 4 of Peer Reviewer Report.



Appendix 3. Stakeholder submissions

a. Summary of the information obtained from the stakeholder meetings, including the range of opinions.

Buenos Aires, 22 de febrero de 2016.

Minuta sobre la reunión realizada con el GRUPO CLIENTE, en el marco de la on-site visit de la Pesquería de Anchoíta Argentina, Stock Bonaerense.

En el marco de la Re-Evaluación de Pesca Sustentable MSC de la Pesquería de Anchoíta Argentina, Stock Bonaerense, se realizó una reunión en la ciudad de Mar del Plata con el GRUPO CLIENTE, conformado por DELICIAS S.A., CENTAURO S.A., ALLELOCIC S.A. y NUEVO VIENTO S.R.L., y se conversaron algunos temas claves para el proceso de re-evaluación y los últimos trabajos realizados.

Las personas presentes fueron:

Carlos Rodríguez Director of CENTAURO S.A.

Laura Martínez Souto Quality Manager of CENTAURO S.A.

Martín Discala President of DELICIAS S.A.

Pablo Esteban Ciccolella Manager Partner of NUEVO VIENTO S.R.L./ALLELOCCIC S.A.

Rocío González Quality Manager of DELICIAS S.A. Silvia Barañano Quality Manager of PRANAS S.A.

Los temas tratados fueron:

- *Nuevo proceso de evaluación:* se aclaró que frente al comienzo de un nuevo proceso de evaluación, existe la posibilidad de que surjan nuevas condiciones. Se conversó el cambio de metodología frente a la cual se debe re-evaluar la pesquería, lo que implica tener conocimiento del impacto acumulativo de la pesquería y especies acompañantes.
- Especies primarias, (PIs 2.1.X): se consensuó que no hay especies primarias que puedan ser consideradas "principales" (mayor al 5% del total de la captura), y sólo la caballa podría ser considerada como "minor", tratándose de un recurso del que se pesca alrededor del 1% del total de la captura. Se mencionó que este porcentaje puede deberse a la coexistencia de la caballa con la anchoíta en el periodo comprendido entre julio y noviembre. Sin embargo, considerando la performance anual de los últimos años, generalmente sólo se captura anchoíta ("captura limpia").
- Especies secundarias, (Pls 2.2.X): se consensuó que no existen especies secundarias principales de peces, mientras que el jurel (con una captura aproximada de 3%) podría ser considerado una especie "minor", aun siendo el mayor volumen de especies acompañantes. Se mencionó a la "palometa moteada o pampanito" (Stromateus brasiliensis) como posible especie retenida menor, aunque no se descargan más de 3 cajones por buque.
- Actas de zafra: en relación a los dos puntos anteriores, se le solicitó al grupo cliente aportar las actas de descarga de los últimos 3 meses de la zafra.
- Mamíferos marinos (principalmente delfines): se mencionó que al momento no hay negociaciones en el marco de la comisión de seguimiento para la recolección de datos que permitan estimar el impacto de la pesquería y tomar las medidas de mitigación correspondientes, de acuerdo con el acta del CFP N° 46/2015.
- *Programa de Observadores:* se mencionó la imposibilidad de cumplir con 80 días de observaciones, siendo que los días de marea efectiva de los últimos años no superaron los 30-40 días. A pesar de



aquello, las empresas certificadas ratificaron su compromiso con el cumplimiento de este punto, acorde con las posibilidades del momento.

- Comisión de Sequimiento: se pidieron las actas de la comisión de seguimiento, de ser posible. Las actas de comisión no son abiertas, pero existe la posibilidad de solicitarlas a la Subsecretaría de Pesca. En la última reunión, se discutió y aprobó el ingreso a zonas de veda de merluza, argumentando la utilización de red de media agua. También se discutió el tema de la falta de campañas de investigación tanto de anchoíta como de caballa.
- ZCPAU: Existe discrepancia entre las reglas de control de captura existentes en el ámbito de injerencia de la CTMFM y Aguas jurisdiccionales argentinas (por ejemplo talla de captura mínima y estimación de captura máxima permisible).
- Pesca de anchoíta en Brasil y Uruguay: se manifiesta que ni Brasil ni Uruguay capturan anchoíta, siendo la mayor proporción de capturas de lado argentino.

Buenos Aires, 22 de febrero de 2016.

Minuta sobre la reunión realizada con el GRUPO CLIENTE. en el marco de la on-site visit de la Pesquería de Anchoíta Argentina, Stock Bonaerense.

En el marco de la Re-Evaluación de Pesca Sustentable MSC de la Pesquería de Anchoíta Argentina, Stock Bonaerense, se realizó una reunión en la ciudad de Mar del Plata conformado por GRUPOS CIENTÍFICOS y TÉCNICOS del INIDEP como partes interesadas en esta pesquería, integrado por los Grupos de Investigación de Peces Pelágicos, Condrictios y Observadores a Bordo de Buques Comerciales; y se conversaron algunos temas clave para el proceso de re-evaluación y los últimos trabajos realizados.

Las personas presentes fueron:

Head of "Pesquerías de Peces Pelágicos" Program, INIDEP Dr. David Garciarena Dr. Marcelo Pájaro Responsible of "Dirección de Pesquerías Pelágicas y Ambiente Marino",

INIDEP

Researcher of "Pesquerías de Peces Pelágicos" Program, INIDEP Lic. Claudio Buratti

Lic. Gabriel Blanco Head of "Observadores a Bordo de Buques Comerciales" Program, INIDEP

Lic. Jorge Colonello Researcher of "Pesquerías de Condrictios" Program, INIDEP

Researcher of "Observadores a Bordo de Buques Comerciales" Program, Lic. José Luis Flaminio

Researcher of "Pesquerías de Peces Pelágicos" Program, INIDEP Lic. Paula Orlando

Los temas tratados fueron:

- Nuevo Proceso de evaluación: se aclaró que frente al comienzo de un nuevo proceso de evaluación, existe la posibilidad de que surjan nuevas condiciones. Se describió brevemente la nueva metodología y los cambios realizados respecto a la evaluación original, principalmente en lo que concierne a especies primarias y secundarias, y al impacto acumulativo.
- Especies primarias, (Pls 2.1.X): se consensuó que no hay especies primarias que en principio puedan ser consideradas "principales", mientras que sólo la caballa podría ser considerada como "minor", tratándose de un recurso del que se pesca alrededor del 1% del total de la captura de anchoíta. Que en general, sólo se retiene si el tamaño es adecuado, pero que por lo general, si no es adecuado, directamente se decide cambiar de zona de pesca.



- Especies secundarias, (PIs 2.2.X): se consensuó que no existen especies secundarias principales, mientras que el jurel (con una captura aproximada de 3%), podría ser considerado una especie "minor", aun siendo el mayor volumen de especies acompañantes, y que de ninguna manera el porcentaje de captura alcanza o excede el 5% del total.
- Observadores a Bordo: se mencionó la imposibilidad de cumplir con 80 días de observaciones previstos para la certificación original, siendo que los días de captura de los últimos años no superaron los 30-40 días. Se discutió la posibilidad de adaptar el modelo de observación a la cantidad de días que efectivamente se vienen pescando, y se mencionaron las dificultades que ocurren en ocasiones debido a logística propia de la pesquería, en la que muchas veces los tiempos no son compatibles con la organización de la observación.
- Descarte de anchoíta: se mencionó el alto porcentaje de anchoíta como descarte en los informes de observadores 2013 y 2014, y se conversó sobre la real representatividad que esto pudiera tener, dada la baja cantidad de mareas realizadas y observadas. Se mencionó la posibilidad de actualizar esta información con datos más recientes. El descarte está limitado básicamente al sobrante capturado durante el último lance, una vez completados los cajones.
- Última Comisión de Seguimiento: se mencionó que no hubo representación del Grupo Cliente, y que los temas tratados fueron referidos a Economía, actividad de flota comercial y muestreo de desembarque. Se pidieron las actas de la comisión de seguimiento, de ser posible.
- Líneas espantapájaros: se mencionó el uso de estas líneas como medidas de mitigación en las pesquerías del sur, pero en principio no hay información suficiente para avalar la posibilidad de su puesta en práctica en pesquerías semipelágicas como la de anchoíta.
- Incertezas en la pesquería: el mayor desconocimiento que se tiene es que el conocimiento acerca de la estructura y distribución del stock está limitado al área de explotación, siendo que la última campaña de investigación data de 2013. Se hizo hincapié en la necesidad de nuevas campañas de investigación. Se complementa información con datos de otras campañas de investigación, dirigidas a otros recursos.
- ZCPAU: La única discrepancia es que entre las medidas de manejo, el CFP no incluyó la tolerancia de los individuos de talla mínima (120 mm) en las capturas.
- Otras remociones de anchoíta (como retenida o bycatch de otras pesquerías): se consensuó que otras remociones son insignificantes, a lo sumo menores en la pesquería de caballa.
- Pesca de anchoíta en Brasil y Uruguay: se manifiesta que ni Brasil ni Uruguay capturan anchoíta. Se aclaró que el stock de anchoíta bonaerense se distribuye hasta proximidades del Cabo de Santa Marta Grande (28 º 38'S), en Brasil.
- Revisión por pares (interna/externa): Se mencionó que todo informe es revisado y aprobado por el DNI. Es revisado y aprobado en el ámbito de la CTMFM, tanto por la parte Argentina como por los especialistas uruguayos. También es revisado, posteriormente para la toma de decisión por el CFP.
- Mamíferos marinos (principalmente delfines): se mencionó que al momento no hay negociaciones en el marco de la comisión de seguimiento, para la recolección de datos que permitan estimar el impacto de la pesquería, y tomar las medidas de mitigación correspondientes, de acuerdo con el acta de CFP 46/2015.
- Condrictios: Existen condrictios que son capturados por la pesquería, pero su incidencia es menor en comparación con otras pesquería. Se analizará el riesgo de dichas especies en el Workshop de Análisis de Riesgo (RBF).



Buenos Aires, 22 de febrero de 2016.

Minuta sobre la reunión realizada con Leandro Tamini, Aves Argentinas, en el marco de la on-site visit de la Pesquería de Anchoíta Argentina, Stock Bonaerense.

En el marco de la Re-Evaluación de Pesca Sustentable MSC de la Pesquería de Anchoíta Argentina, Stock Bonaerense, se realizó una reunión en la ciudad de Mar del Plata con el Lic. Leandro Tamini, perteneciente a Aves Argentinas y al Albatross Task Force, y se conversaron algunos temas clave para el proceso de re-evaluación y los últimos trabajos realizados.

Las personas presentes fueron:

Leandro Tamini Instructor del Albatross Task Force y Coordinador del Programa Marino,

AVES ARGENTINAS/BirdLife International

Los temas tratados fueron:

- Captura incidental: si bien BirdLife está siguiendo la situación de cerca, no hay al momento informes ni intención de realizar un análisis del bycatch de aves marinas por parte de la flota pesquera dirigida a anchoíta argentina, stock bonaerense.
- Estado de las poblaciones: se realizan conteos de individuos para estimar la población (por ejemplo para reflejar el status en IUCN).
- Potencialidad del impacto: se mencionó que si bien no hay conocimiento puntual acerca de las especies mencionadas como bycatch en esta pesquería, debería evaluarse la potencialidad en otras especies de hábitos similares.
- Representatividad: sería absolutamente necesario que haya mayor representatividad de observadores en las mareas para obtener un mayor volumen de datos.
- Observadores a Bordo: siendo recurrente el tema de la escasa cobertura por parte de observadores, se mencionó que Aves Argentinas ha trabajado y trabaja con observadores a bordo propios en otras pesquerías (por ej, hubbsi, hoki, y otras flotas fresqueras), ante lo cual existe la posibilidad de realizar algún acuerdo similar para recolectar datos sobre el impacto en aves de la pesquería de anchoíta.
- *Metodología*: se mencionó el cambio de metodología respecto de la certificación original, junto con la nueva clasificación de especies primarias, secundarias y ETP.
- Líneas espantapájaros: se mencionó el uso de estas líneas como medidas de mitigación en las pesquerías del sur, pero que en principio estas no serían útiles para pesquerías semipelágicas como la de anchoíta, porque no reduciría la interacción, dado que los lances son muy cortos y la interacción ocurre principalmente con la red de pesca.
- Otras medidas de mitigación: se mencionó el uso de conos, pero en principio estos métodos tampoco servirían porque debido a la marejada el efecto podría resultar contrario al esperado (mayor interacción).



Buenos Aires, 23 de febrero de 2016.

Minuta sobre la reunión realizada con el Grupo de Mamíferos Marinos (UNMdP), en el marco de la on-site visit de la Pesquería de Anchoíta Argentina, Stock Bonaerense.

En el marco de la Re-Evaluación de Pesca Sustentable MSC de la Pesquería de Anchoíta Argentina, Stock Bonaerense, se realizó una reunión en la Ciudad de Mar del Plata con el Dr. Diego Rodriguez y la Dra. Agustina Mandiola, pertenecientes al grupo de Mamíferos Marinos de la Universidad Nacional de Mar del Plata, y se conversaron algunos temas clave para el proceso de re-evaluación y los últimos trabajos realizados.

Las personas presentes fueron:

Dr. Agustina Mandiola Marine Mammals Researcher of IIMyC-CONICET-UNMDP
Dr. Diego Rodriguez Marine Mammals Researcher of IIMyC-CONICET-UNMDP

Los temas tratados fueron:

- Nuevo Proceso de evaluación: se aclaró que frente al comienzo de un nuevo proceso de evaluación, existe la posibilidad de que surjan nuevas condiciones. Se describió brevemente la nueva metodología y los cambios realizados respecto a la evaluación original, principalmente en lo que concierne a especies primarias y secundarias, y al impacto acumulativo.
- Estado de las poblaciones de acuerdo a la lista roja IUCN: casi todos los individuos con los que interacciona la pesquería se encuentran catalogados como "LC", a excepción de la franciscana, quien si bien en parte se solapa en su distribución con esta pesquería, es poco común que enmalle.
- Escasez de datos: se mencionó que si bien hay cierto conocimiento acerca del impacto de la pesquería en las especies mencionadas como bycatch, sería interesante y fundamental poder contar con los cuerpos para poder obtener no sólo una mejor identificación del individuo sino también evaluar qué fracción de la población estaría siendo susceptible de ser impactada. El inconveniente que se podría presentar para esto, es que al estar prohibida la captura dirigida de MM, quien descargue cuerpos de delfines podría llegar a ser considerado un infractor, cuando en realidad podría ser de gran ayuda para la recopilaicón de información del impacto de la pesquería.
- Observadores a Bordo: siendo recurrente el tema de la escasa cobertura por parte de observadores, se mencionó que existen antecedentes de "préstamo de observadores" de Aves en otras pesquerías, ante lo cual podría evaluarse la posibilidad de realizar algún acuerdo similar para recolectar datos sobre el impacto sobre mamíferos marinos en la pesquería de anchoíta.
- Medidas de mitigación: la dificultad que se tiene en este caso es que dependiendo del tipo de mamífero es el tipo de interacción con el arte. Los delfines, por ejemplo, se ahogan dentro de la red. Las alarmas acústicas en principio no servirían porque por un lado ahuyentarían delfines y por el otro atraerían lobos marinos. En las artes fijas por ejemplo, la franciscana preda sobre más chicos pero enmalla, mientras que el lobo marino preda pero no enmalla. No hay conocimiento acerca de otras pesquerías argentinas que utilicen medidas para mitigar el impacto sobre mamíferos marinos, y las muertes son muy fluctuantes. En general las medidas de mitigación que se han implementado en otras partes del mundo son medidas operatorias, en donde la maniobra de pesca no se inicia si hay mamíferos marinos en la zona, y se inicia una vez que los mismos ya no se observan. A la vez, en algunos casos los buques se desplazan hacia otros sectores a pescar.



- Sugerencias o posibilidad de mejoras: mejoramiento y mayor cantidad de datos obtenidos, evaluar las muertes sin necesidad de monitorear puntualmente lance por lance con la posibilidad de obtener el cuerpo más el reporte. Tener acceso a toda la información del viaje de pesca, acceso a la cantidad de anchoíta que se pescó, el descarte, la zona en donde operó; no sólo centrar la información en el lance en donde se evaluó la interacción con mamíferos marinos.

Buenos Aires, 24 de febrero de 2016.

Minuta sobre el RBF Workshop realizada con las Partes Interesadas, en el marco de la on-site visit de la Pesquería de Anchoíta Argentina, Stock Bonaerense.

En el marco de la Re-Evaluación de Pesca Sustentable MSC de la Pesquería de Anchoíta Argentina, Stock Bonaerense, se realizó el taller de RBF con las partes interesadas, y que demostraron interés en debatir algunos temas claves para el proceso de re-evaluación y los últimos trabajos realizados.

Las personas presentes fueron:

El listado de asistente se encuentra detallado en la Tabla 12. Dentro de los asistentes hubo un amplio rango de científicos de distintas disciplinas, grupo cliente, ONGs, etc.

Los temas tratados fueron:

Sobre el Proceso de evaluación: se realizó una introducción general acerca de los Principios del MSC para la pesca sustentable, resumen de pasos principales en la evaluación y metodología de RBF para evaluar el riesgo de la actividad pesquera en los casos en los que se dispone de informacion insuficiente. Además se suministró material informativo sobre la metodología de análisis de riesgo empleada y las posibles especies que interactúan con la pesquería. Se realizó también un resumen de las evaluaciones de certificación y supervisión de la pesqueria de anchoíta, y la decisión de avanzar en un proceso de re-evaluacion. Se presentó el árbol de evaluación propuesto, incluyendo los Pls a analizar por RBF, y se presentaron para cada caso, los parámetros a analizar (especies identificadas como secundarias o ETP; hábitat y ecosistema).

Especies primarias, (PI 2.1.1): se consensuó que no hay especies primarias que en principio puedan ser consideradas "principales", mientras que sólo la caballa podría ser considerada como "minor", tratándose de un recurso del que se pesca alrededor del 3% del total de la captura de anchoíta. Que en general, sólo se retiene si el tamaño es adecuado, pero que por lo general, si no es adecuado, directamente se decide cambiar de zona de pesca. Al ser una especie que tiene sistema de manejo y evaluación de stock, se procedió a utilizar el árbol de decisión por defecto, no aplicando RBF para este Indicador de Desempeño.

Especies secundarias, (PI 2.2.1): se presentaron las especies identificadas como secundarias en un análisis preliminar, divididas en "principales" (principalmente aves y mamíferos marinos, por estar "out of scope") y "menores" (otras especies de peces, principalmente el jurel -con una captura aproximada de 1%-), aunque que en ningún caso el porcentaje de captura alcanza o excede el 5% de la captura total. Para completar las tablas de PSA correspondientes, se tuvo en cuenta la bibliografía y el expertise proporcionado y compartido por los científicos pertenecientes al grupo de Aves de la Universidad de Mar del Plata; el cual fue consensuado por el resto de los presentes.

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Especies ETP, (PI 2.3.1): se presentaron las especies ETP (Endangered, Threatened or Protected) identificadas para la pesquería de anchoíta en un análisis preliminar; y de acuerdo a los informes presentados y porcentaje de captura, se consensuó que se evaluarían las aves y los mamíferos marinos identificados, en los cuales se hubiera encontrado un número significativo de interacciones con esta pesquería. Para completar las tablas de PSA correspondientes, se tuvo en cuenta la bibliografía y el expertise proporcionado y compartido por los científicos pertenecientes tanto al grupo de Aves de la Universidad de Mar del Plata; como a los expertos en Mamíferos Marinos de la misma casa de estudios; con el consenso del resto de los presentes.

Hábitat (PI 2.4.1): se analizaron, uno por uno, cada uno de los componentes de las tablas confeccionadas para llevar a cabo un análisis de riesgo (RBF) de hábitat, y se definió el hábitat de acuerdo al consenso de la comunidad científica en cuanto al criterio sustrato-geomorfología-biota, en base la bibliografía y el expertise proporcionado y compartido por los presentes.

Ecosistema (PI 2.5.1): se analizaron, uno por uno, cada uno de los componentes de las tablas indicativas desarrolladas por el MSC para llevar a cabo un análisis de riesgo (RBF) de ecosistema, y se definió el peor escenario posible en cuanto a la clasificación del subcomponente más vulnerable del ecosistema; considerando las escalas espaciales y temporales, y la intensidad de la pesquería de anchoita. Se alcanzó un resultado como consenso de la comunidad científica en base la bibliografía y el expertise proporcionado y compartido por cada uno de los presentes.



"2016 - ANO DEL BICENTENARIO DE LA INDEPENDENCIA"



Mar del Plata, 11 de octubre de 2016

Ing. Pedro Landa Organización Internacional Agropecuaria S/D

Me dirijo a usted con relación a su pedido por correo electrónico solicitando justificar el empleo del Punto Biológico de Referencia Objetivo del 66% dentro de las Reglas de Control de Captura empleadas en la pesquería de anchoíta bonacrense.

Una de las sugerencias del Equipo de Evaluación que intervino en el proceso de certificación de la pesquería ha sido que las recomendaciones sobre niveles permisibles de captura tendrían que basarse en Puntos Biológicos de Referencia Objetivos y Límites bien explicitados. Para la población bonaerense de anchoíta se escogió un Punto de Referencia Objetivo igual al valor de biomasa absoluta de reproductores de los grupos de edad 2 y mayores (BR_{66,2+}), asumiendo biomasa reproductiva por recluta superviviente a la tasa F₆₆ y un reclutamiento igual al promedio de las estimaciones del modelo para los últimos años. Esta tasa F ha sido recomendada como nivel de mortalidad por pesca para la sardina común explotada en Chile.

Actualmente, como usted nos ha informado, el MSC indica que "aquellas pesquerías consideradas de bajo nivel trófico deben emplear por defecto un nivel objetivo de biomasa de 75% del nivel de población reproductora que se esperaría en ausencia de pesca. En el caso de que este valor sea mayor o menor se debe justificar utilizando modelos ecosistémicos o a través de datos empíricos que justifiquen que el valor utilizado no afecta a las necesidades del ecosistemas".

Entre las principales especies de mamíferos marinos predadores de anchoíta bonaerense se encuentran los lobos marinos de dos pelos (Arctocephalus australis, Zimmermann 1783) y los lobos marinos de un pelo (Otaria flavescens, Shaw 1800). Ambos constituyen los predadores tope dominantes del sector bonaerense, asentándose actualmente en las islas costeras del Uruguay más de 500.000 lobos, de los cuales cerca del 50% se concentra en Isla de Lobos (Ponce de León, 2000; Bastida et al., 2007). Por su abundancia, densidad y distribución simpátrica esta región se constituye en la mayor concentración de lobos marinos de Sudamérica (Vaz Ferreira, 1950; 1956a; Vaz Ferreira y Ponce de León, 1987; Bastida et al., 2007). En la actualidad ambas especies tienen niveles y tendencias poblacionales diferentes. La población de A. australis se encuentra en franco aumento (≈3% anual) (Franco-Trecu et al., 2014; Lima y Páez, 1997; Páez, 1996; 2000, 2006; Ponce de León, 2000). En tanto la población de O. flavescens muestra tendencias diferentes en sus dos principales concentraciones repreoductivas de la zona; en Uruguay la población presenta un sostenido retroceso (≈1-3% anual) (Franco-Trecu et al., 2014; Lima v Páez, 1997; Páez, 1996; 2000, 2006; Ponce de León, 2000), mientras que la población de patagonia muestra un aumento anual (≈3.5% anual) (Schiavini et al., 2004). Con relación a otros grupos tróficos de mamíferos marinos más allá de las fluctuaciones poblacionales debidas a factores externos a la disponibilidad de anchoíta como fuente de alimentación, no evidencia que los puntos de referencia utilizados sean una limitante para su desarrollo. Este sería el caso de la franciscana que a pesar de que la población está disminuyendo drásticamente no se debe a un efecto directo de la pesquería de anchoíta sino a que esta especie interactúa frecuentemente con la flota artesanal.

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Acerca del estado actual de las poblaciones de aves que interactúan con la pesquería de anchoíta bonaerense, si bien existen algunas especies que son capturadas incidentalmente por la flota que pesca dicho stock, la mayoría de las poblaciones se encuentran estables o incrementándose, como fue señalado en el "Ninth Meeting of the Advisory Committee" llevado a cabo en La Serena, Chile, 9 – 13 May 2016. Dicha información puede ser consultada en el Report of the Population and Conservation Status Working Group.

Finalmente, cabe señalar que las capturas de anchoíta bonaerense han sido históricamente bajas (unas 18 mil toneladas anuales como media en el último medio siglo) en relación con todas las estimaciones puntuales disponibles sobre la biomasa del recurso, las que alcanzaron valores máximos aun superiores a cinco millones de toneladas. Así mismo, estos niveles de capturas siempre estuvieron muy por debajo de las recomendaciones realizadas por el INIDEP, de 120 mil toneladas.

Sin otro particular, saluda a usted atentamente,

Dr MARCELO PAJARO
AIC DIRECCION
Asquerias de Invertebrados,
Por es Pelagicos y Ambiente Marino

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b. Explicit responses from the team to stakeholder submissions included in line with above requirements

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Date 17/11/2016

SUBJECT: MSC Review and Report on Compliance with the scheme requirements

Dear Leszek Prenski

Please find below the results of our partial review of compliance with scheme requirements.

CAB	Organización Internacional Agropecuaria (OIA)			
Lead Auditor	Leszek Prenski			
Fishery Name	Argentine anchovy			
Document Reviewed	Public Comment Draft Report			

Ref	Туре	Page	Requirement	Reference	Details	PI
24750	Guidance	78	FCR-7.12.1.5b v.2.0	The CAB shall identify and document: a. The UoC, b. The point of intended change of ownership of product, and c. The point from which subsequent Chain of Custody is required.	Can the report please clarify whether the processing plants need CoC. It is understood from the report that CoC is required because change of ownership happens before product arrives at processors included in the client group, but this is not stated clearly.	
24752	Guidance	77	-	For each risk factor, there shall be a description of the risk present and details for the mitigation or management of risk	The risks identified in Table 13 are partly mitigated by regulatory controls (SICAP/ VMS scheme, traceability documents e.g Parte Final de Pesca). However page 8 mentions a weakness in the fishery that there is not at sea monitoring on all vessels in the UoA. The report should elaborate on how traceability risks are addressed for vessels not subject to at sea monitoring.	

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1 Minor 12, 13 77, 78	The CAB shall determine and document the scope of the fishery certificate, including the parties and categories of parties eligible to use the certificate	The report is not consistent in describing the parties eligible to use the certificate. It is unclear, therefore, whether:
	and the point(s) at which chain of custody is needed. a. Chain of custody certification shall always be required following a change of ownership of the product to any party not covered by the	a) only anchovy caught by vessels linked to the client group can be sold as MSC, or b) all anchovies are MSC-certified but can only be sold as MSC/with the MSC ecolabel by processors in the client group.
	fishery certificate. b. Chain of custody certification may be required at an earlier stage than change of ownership if the team determines that the systems within the fishery are not sufficient to make sure all fish and fish products identified as such by the fishery originate from the UoC.	This has implications for the strength of the traceability section. If a) is true, then the documentation e.g. Waybill, Parte Final de Pesca, need to identify the vessel. If b) is true, identifying the vessel is less important, but it must be made clear that use of the MSC ecolabel and selling the anchovy as MSC is restricted. Page 12 states: "As it stands, 23 midwater trawl vessels are by the time covered by the certificate." Page 13 states: "All vessels eligible to the certification were identified in the Table 1. Interested companies are invited in all times to share the certificate prior to sign an agreement with client group." In table 1 the companies shaded in pink have an asterisk (*) that says: "Companies certified against MSC Sustainable Fishery for Argentine anchovy" Page 76 states: "All Bonaerense anchovy stock (north of 41 S) caught by coastal and high-sea fleets using midwater trawl net can be considered to be MSC certified under re-assessment and so there will be no risk of mixing MSC and non-MSC anchovy in the unload process"



www.r	nsc.org					
					Page 77 states: "There are other vessels outside the client group fishing the same stock. These vessels are identified in Table 1." Page 78 states: "The conclusion of the team is that those products caught in areas described in section 3.1.1 by vessels listed in Table 1 should be eligible to be sold as MSC and carry the MSC ecolabel"	
					Please clarify the parties eligible to use the certificate and sell product as certified, and ensure this is consistent throughout the report.	
24755	Guidance	76, 77		Appropriate records shall be maintained that demonstrate the traceability of certified fish or fish products back to the UoC	Further description would be useful on the traceability documentation that is used between landing and processors: - It is unclear whether the Parte Final de Pesca accompanies the fish to the processor and whether it identifies the harvesting vessel (see TO 24754). Page 77 states that this document "must be presented in landing port and is used by management authority". - It is unclear who completed the Waybill is completed, and when. Also, what information is used to complete the Waybill? E.g. from the Parte Final de Pesca?	
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1756	Guidance	78	ECR 7 12 1 3 4 2 0	7.12.1 The CAB shall determine if the systems of	The report does not make it clear:	
/50	Guidance	/ 0	rch_7.12.1.3 v.2.0	tracking and tracing in the UoA are sufficient to	The report does not make it clear.	
				ensure all fish and fish products identified and sold	- How skips are marked to identify certified status at	
				as certified by the UoA originate from the	the eligible port of landing (Mar del Plata).	
				appropriate Unit of Certification (UoC).		
				7.12.1.3 The CAB shall document the risk factors	- What documentation accompanies the skips, and	
				outlined in the "MSC Full Assessment Reporting Template", identifying any areas of risk for the	what information is detailed in these documents.	
				integrity of certified products and how they are	-Whether non-certified product is also landed at Mar	
				managed and mitigated.	del Plata, and what systems are in place to ensure any	
					non-certified product does not enter certified supply	
					chains.	
24763	Guidance	75	FCR-7.24.5 v.2.0	The CAB shall produce a Full Re-assessment Report	4.4.3 Evaluation techniques	
				that shall conform to the "MSC Full Assessment	It is not documented who of stakeholders in Table 12	
				Reporting Template".	attended the RBF workshop. It is also not documented	
					what information was obtained from stakeholders at	
					the RBF workshop, nor what range of opinons were	
					recorded.	
					The MSC full reporting template requires that the	
					following information the RBF process be included in	
					Section 6:	
					c. A summary of the information obtained from the	
					stakeholder meetings including the range of opinions.	
					d. The full list of activities and components that have	
					been discussed or evaluated in the assessment,	
					regardless of the final risk-based outcome.	
768	Major	99	FCR-7.10.6.1 v.2.0	A rationale shall be presented to support the	PI2.1.2 scoring issue e and PI2.3.2 scoring issue e: The	2.1.2, 2.3.2
				team's conclusion.	rationale presented does not justify the score for these	
					scoring issue. It is not clear what alternative measures	
					are considered during biannual review and evidence of	
					implementation of alternative measures is not	
					presented in rationale, see GSA-3.5.3.3.	

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	However, this contradicts what is written in PI2.2.1 scoring issue a, which states "data showed that impact is low". This demonstrates that impact is not non-exsistent.
Major 100-112 FCR-SA3.1.1 v.2.0 The team shall determine and document und which component P2 species will be assessed to scoring the Unit of Assessment (UoA)	

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www.r	nsc.org					
	Major	134-146	FCR-PF4.4.2.2 v.2.0	PF4.4.2 The team shall score 4 susceptibility attributes (areal overlap (avaliblity), enconterability, selectivity and post-capture mortality) on a 3-pont risk scale: high (3), medium 92) or low (1), using the cut-offs in Table PF5. PF4.4.2.1 The team shall enter the 3-point scores into the "MSC RBF Worksheet" to calculate the overall susceptibility score. PF4.4.2.2 Where there is limited information available to score a susceptibility attribute, the more precautionary score shall be awarded.	Appendix 1.3: Risk based framework (RBF) outputs: PSA for ETP species. Selectity score of Delfin del Atlánto, Delfin Oscuro and Lobo Marino de Dos Pelo: Considering the lack of studies on gear selectivity for these species it is not clear that a score of 2 is the most precautionary.	
24774	Guidance	147	FCR-7.11.1.4 v.2.0	The CAB shall draft conditions to specify milestones that spell out: a. The measurable improvements and outcomes (using quantitative metrics) expected each year. b. The specific timeframes over which the milestones and the whole condition must be met. c. The outcome and score that shall be achieved at any interim milestones.	Condition 1 - PI2.3.1 Language used to draft milestones for this condition do not accurately reflect the outcome and score that shall be achieved at any interim milestones (FCR-7.4.11.4c). Current PI score is already 75 and it is therefore confusing to state that, at year 2 and 3, "If the progress of this milestone is considered "on target", the team will re-score this scoring issue using the default assessment tree, giving an interim score of 75."	2.3.1
24775	Minor	1	FCR-7.15.3 v.2.0	The CAB shall use the "MSC Full Assessment Reporting Template" to create the report.	The CAB has not adequately completed the "MSC Full Assessment Reporting Template" to create this report. The name of the fishery in the PCDR ("BONAERENSE ANCHOVY MID-WATER TRAWL FISHERY" (Engraulis anchoita)") does not correspond to the actual name of the fishery ("Argentine anchovy") as originally recorded in ecert and announced in MSC webpage.	
24776	Major	105	SA3.1.5.3 v.2.0	SA3.1.5.3 Species classified as 'out-of scope' (amphibians, reptiles, birds and mammals) that are listed in the IUCN Redlist as vulnerable (VU), endangered (EN) or critically endangered (CE)	PI 2.3.1 scoring issue a: It is not clear why the ETP species white chinned petrel classified as Vulnerable in the IUCN Red List is not assessed and scored as ETP species in PI2.3.x.	2.3.1

This report is provided for action by the CAB and ASI in order to improve consistency with the MSC scheme requirements; MSC does not review all work products submitted by Conformity Assessment Bodies and this review should not be considered a checking service. If any clarification is required, please contact Sergio Cansado at

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sergio.cansado@msc.org for more information.

If you have any questions regarding this response, please do not hesitate to contact the relevant Fisheries Assessment Manager for this fishery.

Marine Stewardship Council cc: Accreditation Services International

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CAB responses:

	MSC comments	CAB specific response
Ref.	Details	CAB specific response
24750	Can the report please clarify whether the processing plants need CoC. It is understood from the report that CoC is required because change of ownership happens before product arrives at processors included in the client group, but this is not stated clearly.	Even this is expressed in the "Section 5.3 Eligibility to enter further chain of custody", the assessment team clarified that all processing plants (including processors identified in the fishery client group) need CoC, due that they transform the product.
24752	The risks identified in Table 13 are partly mitigated by regulatory controls (SICAP/ VMS scheme, traceability documents e.g Parte Final de Pesca). However page 8 mentions a weakness in the fishery that there is not at sea monitoring on all vessels in the UoA. The report should elaborate on how traceability risks are addressed for vessels not subject to at sea monitoring.	As it is mentioned in the Table 13 – "Risks of mixing between certified and non-certified catch during transhipment", this activity is forbidden by Law in Argentina (Federal Fishing Law N° 24.922 and Decree N° 748/99). To ensure that vessels comply with this aspect, it is implemented a Satellite Positioning System (see "Section 3.5.4 Monitoring, control and surveillance and enforcement"). So, there is no risk to mix certified and non-certified fish. Weakness related to the absence of at sea monitoring on all vessels in the UoA was not correctly expressed and this aspect was modified in the report ("Section 1. Executive summary"), because the weakness was related to the potential improvement of scientific data collection by INIDEP OBO Program. Not related with traceability. There is not risk in the traceability; the stock is all under assessment. All fishing vessels have a mandatory traceability system with landing control by customer,
24754	The report is not consistent in describing the parties eligible to use the certifcate. It is unclear, therefore, whether: a) only anchovy caught by vessels linked to the client group can be sold as MSC, or b) all anchovies are MSC-certified but can only be sold as MSC/with the MSC ecolabel by processors in the client group. This has implications for the strength of the traceability section. If a) is true, then the documentation e.g. Waybill, Parte Final de Pesca, need to identify the vessel. If b) is true, identifying the vessel is less important, but it must be made clear that use of the MSC ecolabel and selling the anchovy as MSC is restricted.	SENASA, SSPyA's inspectors and fishing company staff. The assessment team reviewed and strenghtened this aspect in the "Section 3. Descritpion of the fishery". Also, it is clarify the parties eligible to use the certificate and sell product as certified. In effect, only anchovy caught by vessels linked (i.e. subcontracted) to the client group can be sold as MSC (see Table 1, vessels coloured in orange). Traceability documentation as Waybill, Acta de Descarga, Declaración de Captura Legal and Parte Final de Pesca (see Section 5.2 Traceability within the fishery) identify the vessel and fishing trip. All Bonaerense anchovy stock (north of 41° S) caught by coastal and high-sea fleets using mid-water trawl net (see Table 1) can be considered to be MSC certified under re-assessment, according UoA definition. However, as it is mentioned above, only vessels linked to the client group can sell this anchovy as MSC. The landing process is monitored in all time by SSPyA, Aduana, SENASA and company staff. Skips are placed in sealed containers and directly transported to processing plants. So, there will be no risk of mixing MSC and non-

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Page 12 states: "As it stands, 23 midwater trawl vessels are by the time covered by the certificate."

Page 13 states: "All vessels eligible to the certification were identified in the Table 1. Interested companies are invited in all times to share the certificate prior to sign an agreement with client group." In table 1 the companies shaded in pink have an asterisk (*) that says: "Companies certified against MSC Sustainable Fishery for Argentine anchovy".

Page 76 states: "All Bonaerense anchovy stock (north of 41 S) caught by coastal and high-sea fleets using midwater trawl net can be considered to be MSC certified under re-assessment and so there will be no risk of mixing MSC and non-MSC anchovy in the unload process"

Page 77 states: "There are not other vessels outside the client group fishing the same stock. These vessels area identified in Table 1"

Page 78 states: "The conclusion of the team is that those products caught in areas described in section 3.1.1 by vessels listed in Table 1 should be eligible to be sold as MSC and carry the MSC ecolabel"

Please clarify the parties eligible to use the certificate and sell product as certified, and ensure this is consistent throughout the report.

that is used between landing and

processors:

MSC anchovy in the unload process, due that this activity is actively monitored by SSPyA that is charge to sign the document 'DECLARACIÓN LEGAL DE CAPTURA', corroborating that fish is linked by the respective vessel.

Further description would be useful

The assessment team improved traceability explanation.

On the traceability documentation

A copy of Parte Final de Pesca should be provided to

A copy of Parte Final de Pesca should be provided to processor and it is identified the harvesting vessel. This document is provided to the management authority to carry out statistic about caught and control compliance about TAC. Mandatory documentation provided to processor is the waybill and Declaración Legal de Captura that also identifies the harvesting vessel.

Waybill is completed by the fishing company (ownership of vessels) and information used is in accordance of Parte Final de Pesca and Declaración Legal de Captura.

24755

- It is unclear whether the Parte Final de Pesca accompanies the fish to the processor and whether it identifies the harvesting vessel (see TO 24754). Page 77 states that this document "must be presented in landing port... and is used by management authority".

- It is unclear who completed the Waybill is completed, and when. Also, what information is used to complete the Waybill? E.g. from the



	Parte Final de Pesca?	
24756	The report does not make it clear: - How skips are marked to identify certified status at the eligible port of landing (Mar del Plata). - What documentation accompanies the skips, and what information is detailed in these documents. -Whether non-certified product is also landed at Mar del Plata, and what systems are in place to ensure any non-certified product does not enter certified supply chains.	Parte Final de Pesca clearly identifies the fish eligible to be certified as MSC. This document supports the origin of the fish stating if the fish belong to UoA. The document provides data of the fishing area (latitude and longitude), including fishing gear used. Non-certified can not commingle with certified fish. Documents accompanying the skips are waybill and Declaración Legal de Captura. Information detailed on them is described in the report, allowing cross checking of what is sold with what is delivered. The system in place to ensure that any non-certified product does not enter certified supply chains is the monitoring by management authority that controls the landing process and transportation. The opened skips are placed in sealed containers. A container can not have skips from other vessels. This activity is reflected in the waybill.
24763	4.4.3 Evaluation techniques It is not documented who of stakeholders in Table 12 attended the RBF workshop. It is also not documented what information was obtained from stakeholders at the RBF workshop, nor what range of opinons were recorded. The MSC full reporting template requires that the following information the RBF process be included in Section 6: c. A summary of the information obtained from the stakeholder meetings including the range of opinions. d. The full list of activities and components that have been discussed or evaluated in the assessment, regardless of the final risk-based outcome.	The Table 12 identifies stakeholders that attended the RBF workshop. The assessment team modified the title to improve and clarify it. The summary of the information obtained from stakeholder meetings including the range of opinions is provided in the Appendix 3. The full list of activities and components that have been discussed or evaluated in the assessment, regardless of the final risk-based outcome was included in the Appendix 3.
24768	PI2.1.2 scoring issue e and PI2.3.2 scoring issue e: The rationale presented does not justify the score for these scoring issue. It is not clear what alternative measures are considered during biannual review and evidence of implementation of alternative measures is not presented in rationale, see GSA-3.5.3.3.	PI 2.1.2, SI e): The assessment team agreed with this comment and reviewed this SI and GSA – 3.5.3.3. As it is mentioned in the SI a) that: 'chub mackerel is retained and landed to be sold. Also, the crew noted the number of individuals captured for each set on ad-hoc form that it is reviewed in the landing process by management authorities. This procedure allows to know as precisely as possible the composition of catches' the assessment determined that there is no unwanted catch of primary species and this SI is not scored. Rational and scoring of PI were modified.

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		This same argument was used to modify SI e) of PIs 2.2.2 and 2.3.2.
24769	PI2.2.3 scoring issue b: The rational presented does not justify the score for this scoring issue. For this scoring issue, assessment team state that the "information are adequate to assess the impact of the UoA as non existent. The UoA has not impact on minor secondary species with respect to status; so the fishery meets with SG100 of performance with this SI". However, this contradicts what is written in PI2.2.1 scoring issue a, which states "data showed that impact is low". This demonstrates that impact is not non-existent.	The assessment team agreed with this comment and reviewed the PI 2.2.1. As it is mentioned in the rationale presented in the PI 2.2.3 – SI b) that the UoA has not impact on minor secondary species with respect to status, rationale provided in the PI 2.2.1 was modified to, clarifying that the impact is negligible.
24770	It is not documented under which component each P2 species is assessed. Table 6 lists seabirds that interact with fishery, including serious injury. It is not documented why other seabirds that have serious injury as a result of interaction with the fishery, in this case Spheniscus magellanicus (12 serious injury) and Procellaria aequinoctialis (4 serious injury), are not assessed as scoring elements P2. Please refer to SA3.1.4.2 for assigning secondary species in P2 which requires that "Species that are out of scope to the program, but where the definition of ETP species is not applicable". Out of scope species include birds.	Selection of P2 species assessed is documented in the Evaluation Table of PI 2.1.1, 2.2.1 and 2.3.1. The assessment team are not assessed as scoring elements of P2: Spheniscus magellanicus and Procellaria aequinoctialis due that these species are not statistical significative to determine the impact of the fishery on these species. As it is mentioned in Table 6, species in red are those species contributing more than 10% of total number of contacts and are statistical significative to determine the impact of the fishery in seabirds (Paz, 2015).
24772	Appendix 1.3: Risk based framework (RBF) outputs: PSA for ETP species. Selectity score of Delfín del Atlánto, Delfín Oscuro and Lobo Marino de Dos Pelo: Considering the lack of studies on gear selectivity for these species it is not clear that a score of 2 is the most precautionary.	The outcome of RBF workshop was the interaction of these species with 2 Delfines del Atlántico, 5 Delfines Oscuros and 1 Lobo Marino de un pelo were gilled and returned died in the fishing activity. Stakeholders suggested a score of 1-2 in selectivity component. Taking the precautionary approach, the assessment team defined a score 2 with the support of stakeholders.
24774	Condition 1 - PI2.3.1 Language used to draft milestones for this condition do not accurately reflect the outcome and score that shall be achieved at any interim milestones (FCR7.4.11.4c). Current PI score is already 75 and it is therefore	The assessment team modified language used to draft milestones and score that shall be achieved at any interim milestones.



	confusing to state that, at year 2 and 3, "If the progress of this milestone is considered "on target", the team will re-score this scoring issue using the default assessment tree, giving an interim score of 75."	
24775	The CAB has not adequately completed the "MSC Full Assessment Reporting Template" to create this report. The name of the fishery in the PCDR ("BONAERENSE ANCHOVY MIDWATER TRAWL FISHERY" (Engraulis anchoita)") does not correspond to the actual name of the fishery ("Argentine anchovy") as originally recorded in ecert and announced in MSC webpage.	In the re-assessment process, the assessment team reviewed the original name and modified it to identify the stock of Argentine anchovy being assessed. The name was changed in the eCert as it is announced in the MSC FISHERY ANNOUNCEMENT TEMPLATE. Also, it is reviewed the report and it is replaced the name as "Argentine anchovy (Engraulis anchoita), Bonaerense stock, semi-pelagic mid-water trawl net fishery".
24776	PI 2.3.1 scoring issue a: It is not clear why the ETP species white chinned petrel classified as Vulnerable in the IUCN Red List is not assessed and scored as ETP species in PI2.3.x.	The response is provided for comment 24770.



Appendix 4. Surveillance frequency

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 Pls, 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 determination of Principle 1 and 2 information requierements, transparency of the management system, vessels, gear or other physical aspect of the fishery.

Based on this analysis, the Assessment Team has determined that a Surveillance Level 6 (Default Surveillance) is appropriate, and surveillance audits shall be undertaken anually.

Table 4.1: Surveillance level rationale

Year	Surveillance activity	Number of auditors	Rationale
Year 1	On-site audit	1 or 2 auditors on-	For reasons described above.
to Year		site, with remote	
3		support from 1	
(2017 to		auditor if needed.	
2019)			
Year 4	On-site surveillance	2 auditors on-site,	For reasons described above and the complexity of a
(2020)	audit & Re-	with remote support	re-certification process.
	certification	from 1 auditor if	
		necessary.	

Table 4.2: Timing of surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
Years 1 to 4	One year after re- certification	To be confirmed.	Reasons described above, depending on the on-going development of the fishery during the period.

Table 4.3: Fishery Surveillance Program

Surveillance	Year 1	Year 2	Year 3	Year 4
Level				
Level 6	On-site surveillance audit	On-site surveillance audit	On-site surveillance audit	On-site surveillance audit & re- certification site visit



Appendix 5. Objections process

There was not objection presented in the re-assessment process.



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