



Argentina flathead – bottom trawling fishery

MSC Pre-Assessment Report

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1. Introduction

1.1. Aims and scope of the pre-assessment.

This is a pre-assessment of the Argentina flathead – bottom trawling fishery conducted by industrial coastal vessels in the coastal marine ecosystem of North of Argentina and Uruguay waters (Common Fishing Zone) against the Marine Stewardship Council (MSC) Standard, version 3.0. The aim is to highlight the main obstacles to be removed to achieve an MSC certification and to inform an Action Plan capable of solving those obstacles. This provisional assessment is based mostly on information gathered by the assessment team and provided by stakeholders up to the date of writing. The document is intended to provide actionable information on the status of the fishery against the standard. The document aims at identifying sustainability issues in the fishery that may need to be addressed for it to become certifiable against the MSC standard.

1.2. Constraints to the pre-assessment of the fishery.

Some data related to the numbers and/or volumes of bycatch species caught by the fishery were not within CeDePesca's reach in order to perform a detailed identification of main and minor species as established by the MSC. Also, OOS species have not been completely identified. Sections 3.6-3.9 will be utilized once the fishery has more information available.

1.3. Version details

Table 1: Fisheries program documents versions.

Document/Assessment Tree	Version number/Type
MSC Fisheries Certification Process	Version 3.0
MSC Fisheries Standard	Version 3.0
Assessment tree	<i>Default + RFMOs</i>
MSC General Certification Requirements	Version 2.5
MSC Reporting Template	Version 2.0
MSC Pre-Assessment Reporting Template	Version 4.0

2. Unit(s) of Assessment and Unit(s) of Certification

2.1 Unit(s) of Assessment

Table 2: Unit(s) of Assessment (UoA).

UoA X	Description
Target Stock	Brazilian flathead (<i>Percophis brasiliensis</i>) in the Southwest Atlantic, Common Fishing Zone Argentina-Uruguay (CFZAU)
Geographical area	FAO fishing area 41, within the Argentina-Uruguay Common Fishing Zone
Fishing gear type(s) and, if relevant, vessel type(s)	Bottom trawling with coastal industrial vessels up to with semi-industrial vessels up to 25 m length
Client group	Simplot Australia Pty. Ltd.

Other eligible fishers	
Justification for choosing the Unit of Assessment	The Unit of Assessment is coincident with the CFZAU, with the stock distribution and with the management unit under the jurisdiction of the Joint Management Commission. The fishing fleet is relatively homogeneous.

3. Pre-assessment results

3.1. Pre-assessment results overview

3.1.1. Overview

While Principle 1 seems to be in general ok, with a couple of issues to solve before or after the certification is achieved (namely: harvest control rules and specific, non-generic reference points). The main gaps are about the impacts on the ecosystem (Principle 2), where the general lack of information doesn't allow to understand most of those impacts. Regarding Principle 3, the main gaps are the lack of formal mechanisms of consultation and participation of private stakeholders at the Joint Technical Commission of the Maritime Front (CTMFM), and the lack of a specific management system for B. flathead with explicit goals, and participatory mechanisms for making decisions and following up the efficacy of the adopted measures.

3.1.2. Recommendations

3.1.2.1 [Principle 1](#)

1. It will be necessary at some point to establish explicit harvest control rules.
2. It will be also important to define specific, non-generic, biological reference points.

3.1.2.2 [Principle 2](#)

1. Systematic bycatch information is required to be collected by on-board observers on at least 20% of the UoC-associated fleet fishing trips. To schedule this activity, each partner must provide the list of vessels that will be included in the Project and that, in the future, may provide certified products.
2. It will also be necessary to collect information on the impacts on Out-of-Scope species and habitats.
3. With the information collected, the impacts will be evaluated quantitatively through models or quali-quantitatively through a risk analysis method.
4. According to the evaluations mentioned in point 3, it might be necessary to design management measures/strategies that will mitigate those impacts.

3.1.2.3 [Principle 3](#)

1. Some regular participatory mechanism is necessary at the CTMFM to incorporate inputs of the private sector, where the necessary measures can be debated and advised and where the effectiveness of those adopted in the past is evaluated, beyond what already does the Coastal Fisheries Working Group. This kind of participatory mechanisms are currently of use in all international fisheries management bodies.

2. A Management Plan or a proxy is required that includes specific objectives in relation to the status of the stock and specific objectives in relation to bycatch and other impacts on the ecosystem.

4. It is necessary to demonstrate that there is an effective monitoring and surveillance system, that the sanction system is sufficiently dissuasive and that the fishermen comply with the established rules.

3.2. Summary of Performance Indicator level scores

Table 3: Summary of Performance Indicator level scores.

Principle	Component	IC	Performance indicator	Score	Data deficient?
1	Outcome	1.1.1	Status of the stock	100	
		1.1.2	Stock rebuilding		
	Harvest strategy	1.2.1	Harvest strategy	85	
		1.2.2	Harvest control rules and tools	75	
		1.2.3	Information / monitoring	80	
		1.2.4	Stock assessment	75	
2	In-scope species	2.1.1	Outcome/status	80	
		2.1.2	Management strategy	90	
		2.1.3	Information / monitoring	80	
	Out of scope and ETP species	2.3.1	Outcome/status	<60	Y
		2.3.2	Management strategy	<60	
		2.3.3	Information / monitoring	<60	Y
	Habitats	2.4.1	Outcome/status	60	Y
		2.4.2	Management strategy	<60	
		2.4.3	Information / monitoring	60	Y
	Ecosystems	2.5.1	Outcome/status	<60	Y
		2.5.2	Management strategy	60	
		2.5.3	Information / monitoring	65	Y
3	Governance and policies	3.1.1	Legal framework	95	
		3.1.2	Consultation, roles and responsibilities	65	
		3.1.3	Long term goals	90	
	Specific management system	3.2.1	Specific goals for the fishery	60	
		3.2.2	Decision making process	75	
		3.2.3	Compliance and enforcement	65	
		3.2.4	Management system performance evaluation	70	

3.3. Principle 1

3.3.1. Principle 1 background

a) Description of the species

The Brazilian flathead (Figure 1), *Percophis brasiliensis* (Quoy et Gaimard, 1824), is a demersal coastal species that inhabits sandy bottoms belonging to the family Percophidae in the southwestern Atlantic waters (Figure 2a). Its latitudinal distribution ranges from Rio de Janeiro (23°S) to the northern province of Chubut (44°S) (Verazay, 1976; Gosztonyi, 1981). According to FishBase, the distribution range extends from the southern region to the northern part of the Santa Cruz Province (48°S) (Figure 2b).



Figura 1. Brazilian flathead, *Percophis brasiliensis*, (Quoy et Gaimard, 1824). Source: https://www.inidep.edu.ar/media/k2/items/cache/e071acc32c7e4befc3022bf1715b6773_XL.jpg



Figure 2a. Distribution of Brazilian flathead, *Percophis brasiliensis*, (Quoy et Gaimard, 1824). Source: Fishbase (<https://www.fishbase.se/summary/Percophis-brasiliensis.html>)

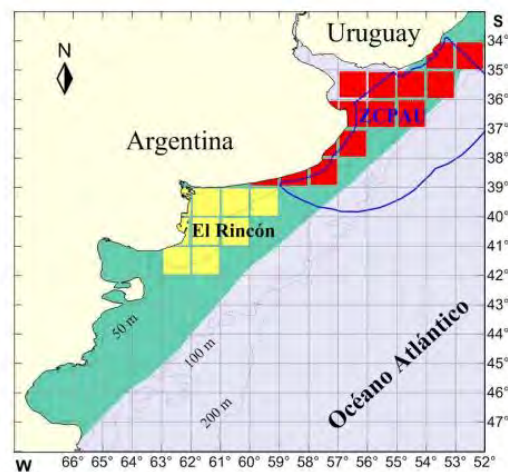


Figure 2b. Distribution area of Brazilian flathead (*Percophis brasiliensis*) shown in green. The fishing rectangles belonging to the Northern Coastal Ecosystem Bonaerense (ECB) "ZCPAU" are marked in red, and those of the Southern ECB "El Rincón" are marked in yellow. Source: Rico et. al., (2018).

b) Stock Assessment

According to Barrera (2007), the Brazilian flathead (*Percophis brasiliensis*) has a persistent spatial distribution in the Southwest Atlantic Coastal System (34°- 41° S) and exhibits seasonal north-south and coast-shelf migratory movements. Rodríguez et al. (2009) determined that the species shows a differential distribution of its ontogenetic stages in the spring, related to its maturation state, with bottom salinity and depth being the determining factors of this spatial pattern.

The Brazilian flathead is a long-lived species with slow growth. It exhibits differential development from the first year of life, with females reaching greater lengths than males of the same age. The maximum recorded ages were 15 years for females and 19 years for males (Barretto et al., 2011).

The species is a partial spawner with indeterminate annual fecundity (Militelli & Macchi, 2001a, b). It exhibits the highest reproductive activity during the spring-summer period, and mature individuals are concentrated in the El Rincón area (Macchi and Acha, 1998), where a significant portion of the population is engaged in reproduction in early November. Despite its longevity, females mature at 2.6 years with a size at first sexual maturity of 35.6 cm TL, while males mature at 1.75 years with a size at first sexual maturity (Rodríguez et al., 2009).

The Brazilian flathead (*Percophis brasiliensis*) is one of the main species landed in the "coastal mixed-species" fishery, which is part of a demersal multispecies-multifleet fishery in the Coastal Bonaerense Ecosystem (ECB) (CTMFM, 2021). Fishing takes place in areas under provincial, and national jurisdiction, and the resource is shared with the Oriental Republic of Uruguay in the Argentine-Uruguayan Common Fishing Zone, where its management is carried out by the Joint Technical Commission of the Maritime Front (CTMFM) (Rico et al., 2018).

Previous studies on population parameters (Perrotta and Fernández Giménez (1996); Rico & Sáez (2010); Rico et al. (2011); Rodríguez et al., (2010), otolith chemical composition (Avigliano et al. (2015), and parasitological evidence (Braicovich & Timi, (2008); Braicovich et al. (2020)) of the Brazilian flathead in the Southwest Atlantic have identified four stocks: one north of 39° S in the Argentine-Uruguayan Common Fishing Zone (ZCPAU), one south of El Rincón (ER), one in the San Matías Gulf, and one in the North Patagonian waters. Although not explicitly mentioned in the sources, there is a possibility of a fifth stock of Brazilian flathead in the waters of Brazil. Due to the lack of significant geographical or oceanographic barriers, there is a high probability of connectivity between stocks, particularly in the southern region of the Buenos Aires Province, specifically in El Rincón-ZCPAU.

Currently, the management of the Brazilian flathead fisheries is carried out through two management units: the first (82% of landings) corresponds to the Treaty area (ZCPAU) and is managed by the CTMFM, and the second (20% of landings) is under the responsibility of the Argentine Fishing Authority (Rico et al. (2018); CTMFM (2021)).

According to Rico et al. (2018), assessment work on the resource has been carried out since 2012 within the framework of the Coastal Resources Assessment Working Group of the CTMFM. Initially, global assessment models such as the Schaefer dynamic model and difference-delay models were applied, showing advances in the knowledge of different biological and fishery aspects. From 2016 onwards, the estimation of Brazilian flathead abundance indices has been incorporated, using data from research campaigns as well as the commercial fleet (Rico et al. (2018); CTMFM (2021)).

The most recent stock assessment conducted by Rico and Rodríguez (2022) analyzed the fishery and evaluated the Brazilian flathead stock in the Río de la Plata area, ZCPAU (Argentine-Uruguayan Common Fishing Zone), and adjacent jurisdictional waters north of 39° S, between 1934 and 2021. They applied an age-structured integrated model using the Stock Synthesis (SS) version 3.30 modeling platform, developed in ADM Builder.

The basic assumptions considered in the models were established based on their own analyses and peer reviews conducted in recent years, representing a substantial advance compared to previous years' models. The adopted assumptions were as follows:

a) Beverton and Holt recruitment function was used to model recruitment, including interannual variability through a LogNormal error with a deviation of 0.4 (σ_R). The recruitment in the beginning of the period, referred to as the R_0 parameter, was estimated in the model. The h parameter (steepness), which defines the stock-recruit relationship coefficients, was fixed at $h=0.8$, given the difficulty of estimating it within the model, mainly due to the lack of contrast in the information. Bias corrections were also applied based on the methodology of Methot and Taylor.

b) The year 1934 was considered as the starting year of the model, assuming an equilibrium population structure for the first year of assessment, as the mean recorded catch prior to 1960 was 40 t/year.

c) A logistic selection pattern was considered, estimated by lengths in two time periods: 1934-2005 and 2006-2021.

d) A minimum observation error was considered for the total catches of the species ($CV=0.01$).

e) Proportional relationship between biomass and indices (fleet and campaign) was assumed, with a LogNormal error.

f) The coefficient of variation (CV) associated with the fleet index was derived from an average value of 0.3 and the annual standard errors of the MLG resulting from the index standardization, in order to scale the CV variability and maintain variability between years.

g) The coefficient of variation associated with the campaign index was derived from an average value of 0.2 and the annual standard errors of the MLG resulting from the index standardization, in order to scale the CV variability and maintain variability between years.

h) The initially considered effective sample size for each model was the number of samples obtained for length distributions of landings, number of hauls for length distributions of campaigns, and number of subsamples for age distributions of landings and campaigns. An iterative process was performed to determine the effective sample size, correcting the initial values.

Given the influence of the estimation of the steepness parameter (h) on the results of the assessment models, the researchers conducted a sensitivity analysis of this parameter by constructing likelihood profiles associated with the base model. To examine the consistency between successive estimations obtained as new information is incorporated, a retrospective analysis of the past five years of the proposed models was carried out.

The assessment of the Brazilian flathead population status was summarized based on the construction of Kobe plots. Kobe plots are used to analyze the current and historical state of a population in terms of fishing mortality (F) and biomass (B) associated with the maximum sustainable yield (MSY) or a proxy of this indicator (MSY ; i.e., F_{msy} and B_{msy}) (Rico and Rodríguez, 2022).

Management objective and reference biological points: Based on the results of the models, projections were made for the long-term (15-year) evolution of abundance and yields, under a management objective that aimed to achieve a reproductive abundance equal to or greater than 40% of the reproductive biomass existing at the beginning of exploitation (BRV), a value defined as the target biological reference point ($PBRO$). Additionally, the 20% of the reproductive biomass existing at the beginning of exploitation was considered as the limit biological reference point ($LBRP$). This criterion was adopted according to the agreement reached at the "Workshop to Methodologically Review the Biological Reference Points, Estimates of Future Abundance Projections, and State

(Kobe) Diagrams of Fisheries developed within the framework of the CTIMFM," held by Rodríguez et al. (2022).

In order to measure the risk of the current reproductive biomass being below the objective reference value (40% BRV), simulations were conducted based on the state of the stock and its age uncertainty in the year 2021. Uncertainty was incorporated into the analysis by randomly generating values in each simulation, using the mean value and estimated deviation from the diagnosis, assuming a LogNormal distribution, as well as in the population vector.

Through this process, the biologically acceptable catches (BAC) were estimated, which would maintain the population above the PBRO in the long term, accepting a risk lower than 10% and 50% that the reproductive biomass falls below these reference values.

Stock assessment results

Evaluation models

Different implementations of integrated models structured by age were used to describe the population dynamics of the resource. The model called ME1 base was implemented, which combined information obtained from the CPUE series (kg/d) from 1999-2006 with that estimated from positioning and satellite monitoring information (CPUE VMS —kg/hvms-) available from 2007 to 2020. It also included the Campaign Index series and considered the interannual variability of recruitment through a LogNormal error with a coefficient of variation of 0.4 ($\sigma_R = 0.4$) and a parameter defining the stock-recruit relationship $h=0.8$. Based on this base model, two alternative models were implemented, detailed as follows:

ME1 base: CPUE Delta (1999-2006) + CPUE VMS (2007-2021) + Campaign Index, $\sigma_R = 0.4$ and $h=0.8$.

ME2: Base model with a discard estimation. A discard estimate of 3.5% of the catch (in weight) of Brazilian flathead was considered for the period 2000-2021. This discard value was estimated by Riestra and Lagos (2017) based on 16 observer trips aboard the fleet targeting coastal species during the year 2016. For the application of this model, the discard percentage was added to the total annual catch since there is no information on length samples for this fraction.

ME3: Base model considering $h=0.9$. The likelihood profile of the parameter h in ME1 was explored, suggesting values higher than 0.8 (mainly based on information from age structures and abundance indices, Figure 3). Taking into account previous estimates using the Mangel method (Ruarte, 2017), this model was established as a sensitivity analysis of the h parameter (steepness), given the impact it has on scale and population trend estimation.

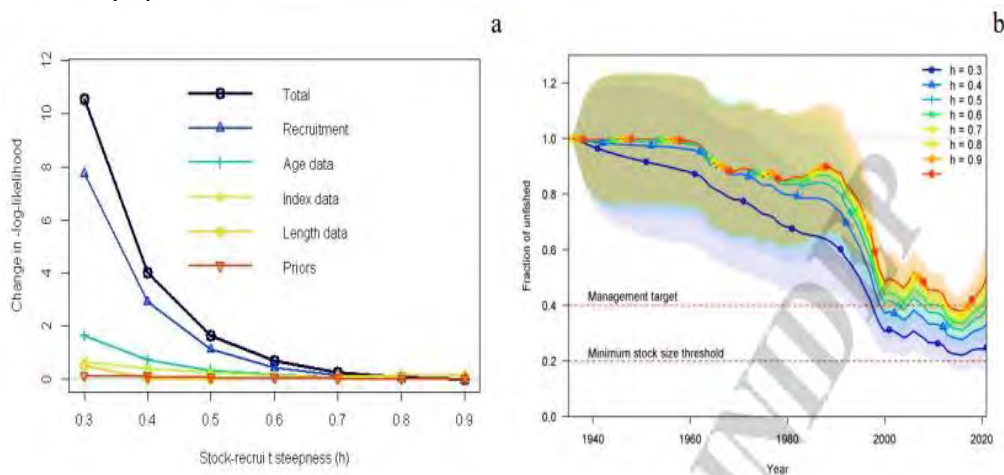


Figure 3. Likelihood profile associated with the parameter h (steepness) of ME1 (a), and the corresponding estimation of the reduction in reproductive biomass related to this estimation. (b). Source: Rico y Rodríguez (2022).

The five-year retrospective analysis of the structured model ME1 was consistent. The trend of reduction in reproductive biomass showed variations when 4 and 5 years were removed from the analysis (Figure 4a), but within the confidence limits of the different runs. The scale and general pattern of instantaneous fishing mortality rates did not change as the final years were removed. (Figure 4b).

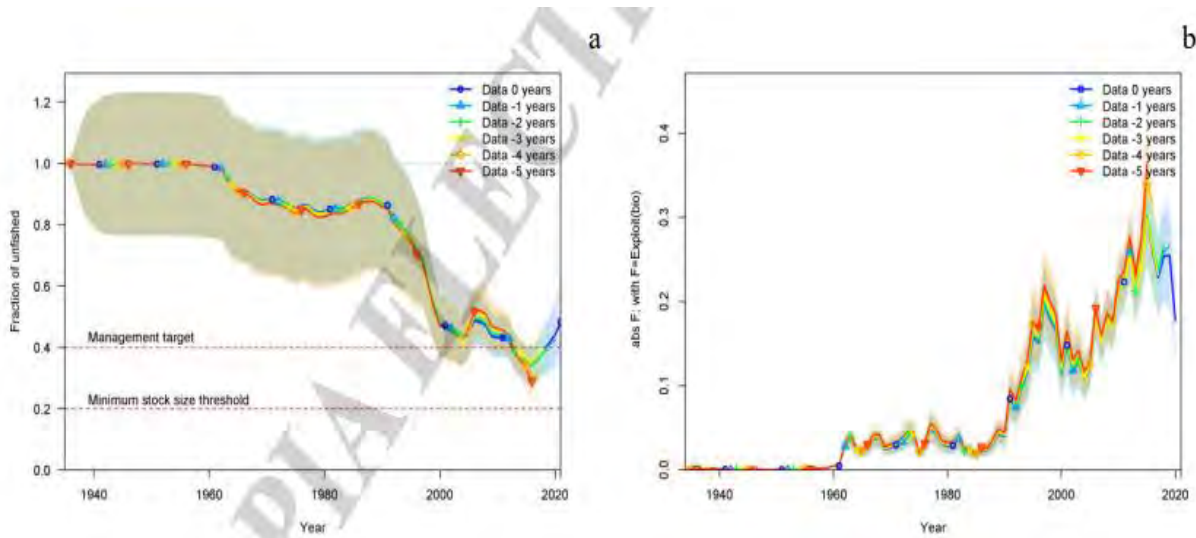


Figure 4. Retrospective analysis of 5 years: (a) reduction in reproductive biomass, and (b) instantaneous fishing mortality rates according to the base model ME1. Source: Rico y Rodríguez (2022).

The models were executed relatively quickly (-48-60 seconds) and showed good convergence properties. The final gradient for each model was notably small (0.00033-0.00048), and the Hessian matrix for parameter estimates was positive definite in each model. The models showed satisfactory fit to the standardized CPUE indices, both Delta and VMS. However, when calibrating to the research survey index, the models primarily matched the observed values in the years 1994, 1998-1999, 2003, 2005, and 2019, but not the value observed in 2013. Figure 5 presents the main results obtained for each model.

Indicadores	Modelos		
	ME1 base	ME2 base con descarte	ME3 base
h	0.8	0.8	0.9
B_{2021} (t)	36.513	35.913	36.726
BV (t)	64.886	64.184	62.919
BR_{2021} (t)	26.069	25.920	26.206
BRV (t)	54.177	53.486	52.535
Relación BR_{2021}/BRV	48%	48%	50%
f_{2021}	0,31	0,31	0,31

Figure 5. The main results obtained from the adjustment of the integrated models for Brazilian flathead corresponding to the different models. h Parameter corresponding to stock-recruit relationship; Biomass of the last year (B_{2021}); Virgin biomass (BV); Reproductive biomass of the last year (BR_{2021}); Virgin reproductive biomass (BRV); Reduction: the ratio between the reproductive biomass of the last year (BR_{2021}) and the reproductive biomass (BR) (expressed as a percentage); f_{2021} : proportional factor of the annual fishing mortality rate in the year 2021. Source: Rico y Rodríguez (2022).

The different implemented models showed a generally decreasing trend in total biomass until 2002, with values ranging from 31,000 to 32,500 tonnes, associated with the period of maximum recorded catches of the species, reaching 8,343 tonnes in 1997. Subsequently, fluctuations in abundance were

observed, followed by a marked recovery starting in 2015 and reaching values between 35,913 and 36,726 tonnes in 2021. These estimates are consistent with those obtained in the Brazilian flathead stock assessment in Rico *et al.* (2022) (Figure 6a). Moreover, regarding the reproductive biomass (BR) levels recorded in 2021, they varied between 25,920 and 26,206 tonnes (Figure 6b), corresponding to values relative to the virgin reproductive biomass (BRV) between 48% and 50%. These levels suggest that the resource would be above the PBRO (40% BRV), which is the target biological reference point. (Figure 6c).

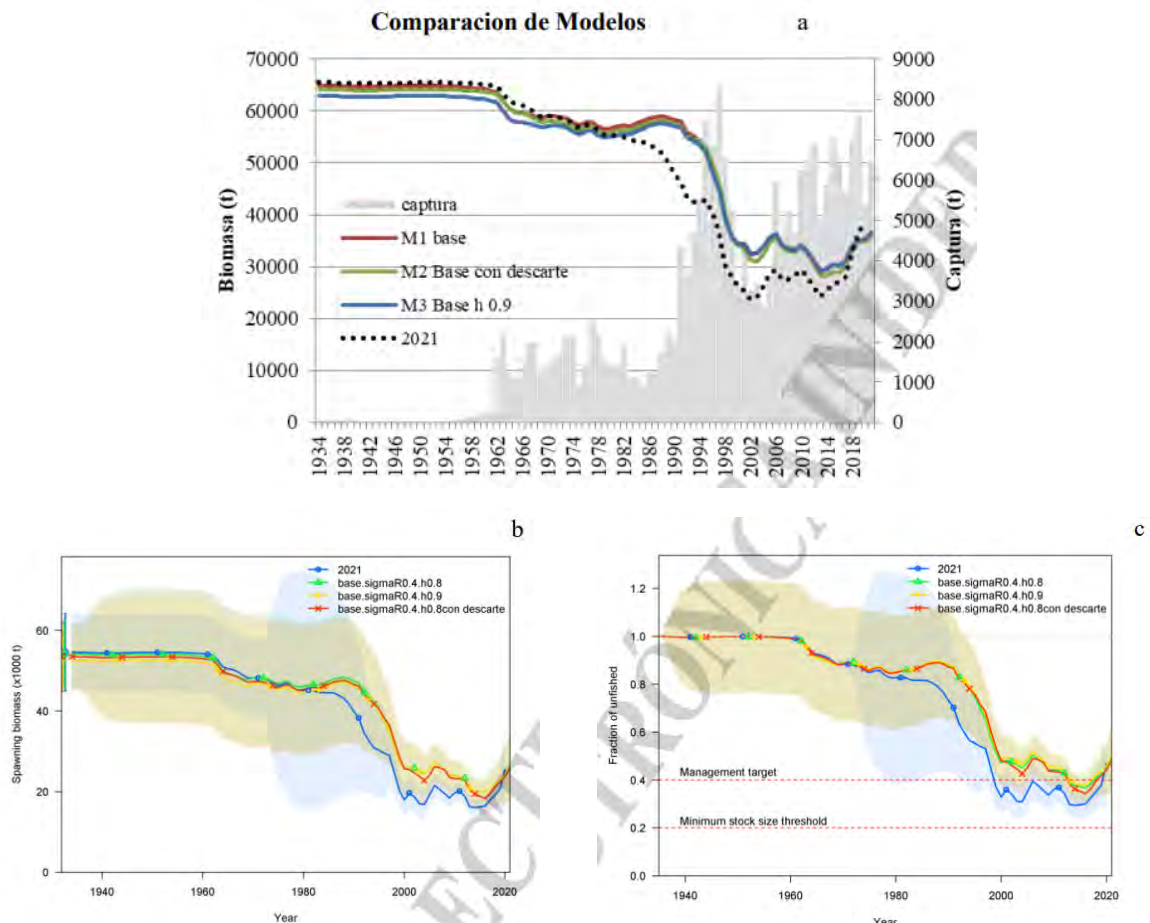


Figure 6. (a) Trend of total biomass and catches, (b) trend of reproductive biomass, (c) reduction of reproductive biomass, from the different age-structured integrated models for Brazilian flathead of the current year and the ME3 model from the previous year's stock assessment. (Rico *et al.*, 2022). Source: Rico y Rodríguez (2022).

From the Kobe plots, it was observed that the population in 2021 is not in an overexploited state ($BR_{current}/BR_{PBRO} > 1$), but it is subject to overfishing ($F_{target} < F_{current} < F_{limit}$), as the instantaneous fishing mortality rate was estimated to be above the target rate, although not exceeding the limit rate (Figure 7). Regarding the historical status of the resource, it was observed that until 1996, the population was in a healthy state, with no overfishing or overexploitation observed. In the following two years, overfishing was estimated, but this situation was reversed until 2005. From 2006 onwards, the population is once again subject to overfishing, and for the first time in 2013, it reached a state of overexploitation, which continued until 2017. It is important to note that in 2015, overfishing levels exceeded, albeit slightly, the newly established limit level. Since then, it is estimated that the population is not in a state of overexploitation, but it is subject to overfishing.

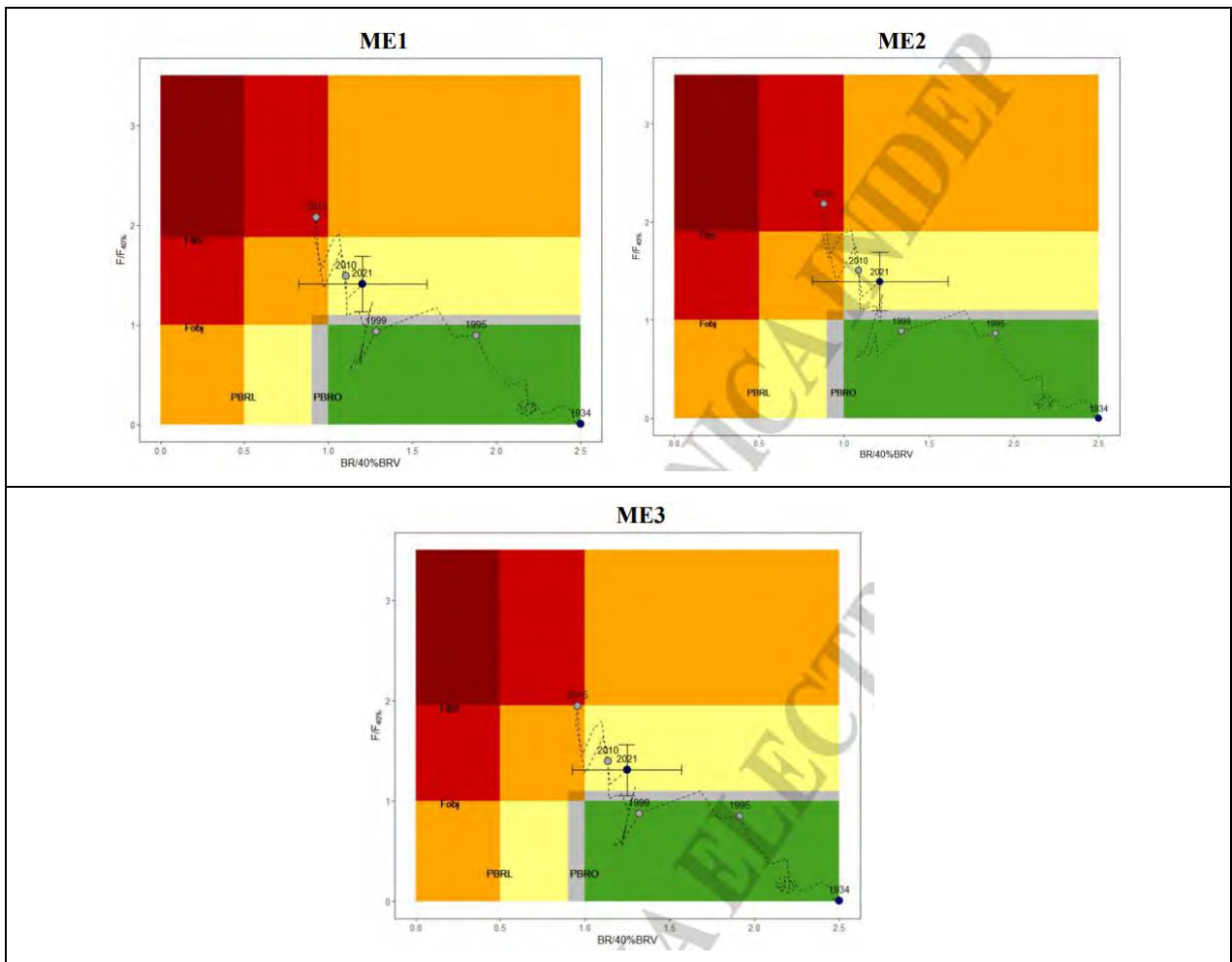


Figura 7. Kobe plot of the models ME1, ME2, and ME3. The blue dots correspond to the population status in the initial and final years of the period, and the dashed lines represent the trajectory of the population status throughout the period. In the last year of assessment, the 95% confidence interval is also included. Source: Rico y Rodríguez (2022).

Projections and risk analysis

CBAs associated with the PBRO (40% BRV) were estimated for the years 2022 and 2023, considering a 10% and 50% risk of falling below the PBRO for each of the models proposed (Figure 8). The CBA values for the year 2022 fall within the range of 7,083 to 7,663 t for a 10% risk, and between 8,843 t and 9,531 t for a 50% risk.

Modelo aplicado		CBA						
		Base $h=0,8$		Base con descarte		Base con $h=0,9$		
		Año	Riesgo 10%	Riesgo 50%	Riesgo 10%	Riesgo 50%	Riesgo 10%	Riesgo 50%
Estructurado	ME1	2022	7.359	9.168				
		2023	7.189	8.492				
	ME2	2022			7.083	8.843		
		2023			6.916	8.164		
	ME3	2022					7.663	9.531
		2023					7.433	8.744

Figura 8. Estimated Biologically Acceptable Catches (CBA) for the years 2022 and 2023, in tons, corresponding to the age-structured integrated models, according to the Target Biological Reference Point (PBRO = 40% BRV). Source: Rico y Rodríguez (2022).

c) Fishery Characteristics

In Argentina, the Brazilian flathead is part of the Coastal Demersal Fishery Association known as "coastal mixed-species " (VC), which is a multi-species and multi-fleet fishery (Carozza et al., 2001). This fishery is regulated by the Federal Fisheries Council (CFP) through Resolution 15/2006, which establishes its specific composition and distribution area within the Argentine jurisdiction and the Treaty Area. The VC fishery comprises 30 fish species, some of which have well-defined targeted fisheries (Ruarte et al., 2017).

Currently, there is no Brazilian flathead fishery developed in Uruguay. Therefore, the information available for this species corresponds to the Argentine fleet operating in the Treaty Area and jurisdictional waters, making the management of this fishery quite complex (Rico and Rodríguez, 2022).

The Brazilian flathead is exploited by three types of fleets: inshore, coastal, and offshore fleets, using two fishing methods: bottom trawling with gates and pair trawling (Rico et al., 2018). The industrial Argentine fleet, which operates in the shared resources of the Treaty Area, is composed almost exclusively of wet-fish vessels.

Ice-chilling vessels are refrigerated vessels that transport the catch, regardless of the fishing gear used, cargo capacity, or navigation capabilities. They include inshore vessels, coastal units, and offshore units.

Inshore vessels are either with or without refrigeration capacity and with or without a hold. Originally, their navigation time was limited to a maximum of 24 hours. Subsequent modifications led to the inclusion of vessels previously classified as coastal vessels.

Regarding the fishing gear and fishing maneuvers used, wet-fish vessels are usually stern trawlers, although there are also vessels that haul the catch on the starboard side. The trawl net can be operated with gates to ensure proper opening, or two vessels can operate together in pair trawling. Depending on the target species, wet-fish vessels can conduct bottom trawling (mainly targeting species from the coastal mixed-species fishery and hake) or midwater trawling (for Argentine anchovy and mackerel) (Giardoni and Sanchez, 2021).

Carozza et al. (2001) categorized the fleet that catches Argentine Hake into two strata: Stratum I (up to 24.99 m) and Stratum II (25 to 40 m). Within Stratum I, three sub-strata are grouped: Ia (from 8 to 14.96 m in length), Ib (from 15 to 18.23 m in length), and Ic (from 18.24 to 24.99 m in length). Stratum II includes two sub-strata: IIa (from 25 to 28.99 and 38 to 38.99 m in length) and IIb (from 29 to 40 m, except for 38-38.99 m in length). Vessels with lengths between 18.23 and 24.99 m (Ic) land the largest volumes of Brazilian flathead (Rico and Rodríguez, 2022).

According to the analysis conducted in the latest assessment by Rico and Rodríguez (2022), there were 70 vessels operating during 2021 (Figure 9), mostly belonging to the Ic (n=34), Ib (n=18), and IIa (n=12) fleet strata. The bottom trawl with gates was the most commonly used fishing gear, accounting for 98% of the catches during the period from 2018 to 2021, north of 39°S. (Figure10).

Estratos (metros de eslora)	N° barcos totales							
	2014	2015	2016	2017	2018	2019	2020	2021
Artesanales	1	0	0	0	0	0	0	0
Ia (8 - 14,96)	14	10	10	12	5	6	5	5
Ib (15 - 18,23)	33	32	27	23	19	22	19	18
Ic (18,24 - 24,99)	46	49	46	40	36	38	34	34
IIa (25-28,99 y 38-38,99)	20	27	19	6	9	9	6	12
IIb (29 - 40)	2	2	1	1	0	0	0	1
>40 m	1	0	0	0	0	1	0	0
Total	117	120	103	82	69	76	64	70

Figure 9. The number of vessels per Argentine trawler fleet stratum that landed Brazilian flathead in the period from 2014 to 2021 in Argentine jurisdictional waters, Río de la Plata, and ZCPAU north of 39°S. Source: Rico y Rodríguez (2022).

Arte	CAPTURA							
	en volumen (t)				en porcentaje			
	2018	2019	2020	2021	2018	2019	2020	2021
Arrastre de fondo	6.913,9	7.469,1	5.316,4	6.392,3	98,8	98,4	98,4	98,9
Arrastre media agua	72,3	88,5	86,2	49,0	1,0	1,2	1,6	0,8
No identificados	13,2	31,4	-	-	0,2	0,4	-	-
Surimeros (arrast.fondo)	-	0,2	-	-	-	0,002	-	-
Red tangoneras	-	-	-	21,8	-	-	-	0,3
Total	6.999	7.589	5.403	6.463	100	100	100	100

Figure 10. Landed catch of Brazilian flathead (in metric tons) by fishing gear used by the fleet operating in the northern area (39°98') during the years 2018, 2019, 2020, and 2021. Source: Rico y Rodríguez (2022).

The Treaty Area (ECB Norte/North) accounted for an average of 80% of Brazilian flathead catches (Figure 11 and 12), where the CTMFM (Joint Technical and Management Committee) has been establishing the Total Allowable Catches for the Treaty Area since 2012. On the other hand, Figure 13 shows that the declared catches in this area exceeded the established maximum values.

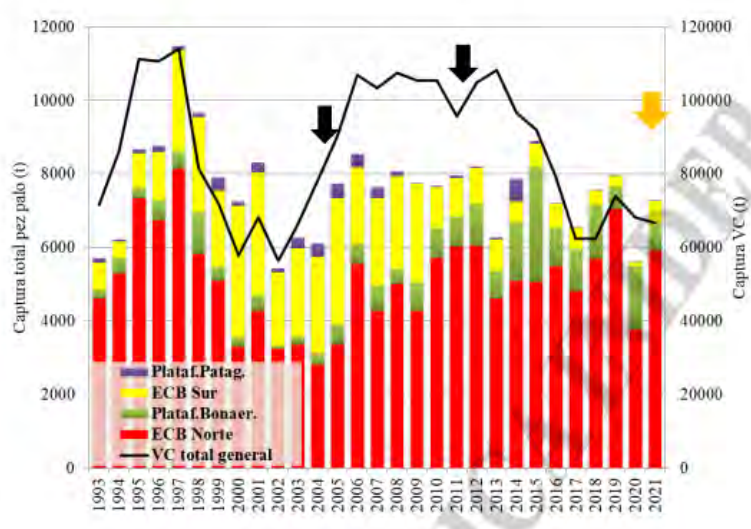


Figure 11- Evolution of nominal catches of the total "Coastal Mixed-Species" (VC) and Argentine Brazilian flathead (in tons) by ecosystem, as carried out by the Argentine fleet. Period of years 1993-2021. The black arrows indicate different stages in the implementation of the closure in the southern Argentine-Uruguayan Common Fishing Zone (ECB Sur/South) (years 2004 and 2009), and the orange arrow represents the increase in the volume of catches of the Argentine red shrimp fishery (year 2016). Source: Rico y Rodríguez 2022.

Ecosistema	Capturas declaradas							
	Volumen (t)				Porcentaje (%)			
	2018	2019	2020	2021	2018	2019	2020	2021
ECB Norte	5691	7036	3764	5925	75	89	67	81
Plataforma Norte	405	273	95	570	5	3	2	8
ECB Sur	1308	553	1639	538	17	7	29	7
Plataforma Sur	152	80	110	226	2	1	2	3
Patagónico	5	1	8	16	0,06	0,01	0,14	0,23
TOTAL	7561	7943	5616	7275	100	100	100	100

Figure 12. Landings (t and %) of Brazilian flathead, by ecosystem, recorded in Argentina during the years 2018, 2019, 2020, and 2021. Source: Rico y Rodríguez 2022.

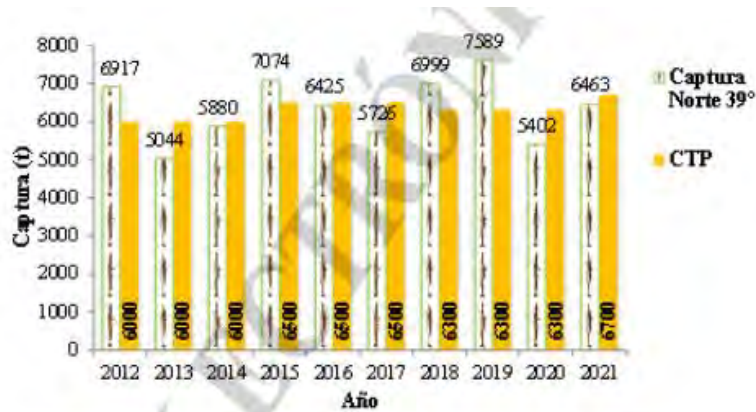


Figure 13. Landings of Brazilian flathead north of 39°S and Total Allowable Catches (TAC) established by CTMFM resolutions in the Treaty area. Source: Rico y Rodríguez 2022.

In some years the landings of Brazilian flathead exceeded the maximum catches established by the regulatory authority (Ruarte et al., 2020), particularly in 2019, 7,589 tons were landed in the Treaty area and adjacent jurisdictional waters, while the suggested CBA (BAC in English) and the respective established TAC were 6,300 tons (CTMFM Resolution No. 04/2019). Considering the declarations made to the CTMFM, the TAC was exceeded by 8.9%, and in relation to the total landings north of 39°S, it was exceeded by 20.5%. However, the INIDEP staff suggested some measures to avoid overpassing the TAC, and the last two years, landings were lower than the established TAC (Ruarte et al., 2021).

The information on declared catches by fishing rectangle (RP) indicates that the fishing zones remained unchanged in recent years. The highest yields in 2021 mainly came from RP 3756, while lower catches were reported in RP 3857, 3655, 3753, and 3856. (Figure 14).

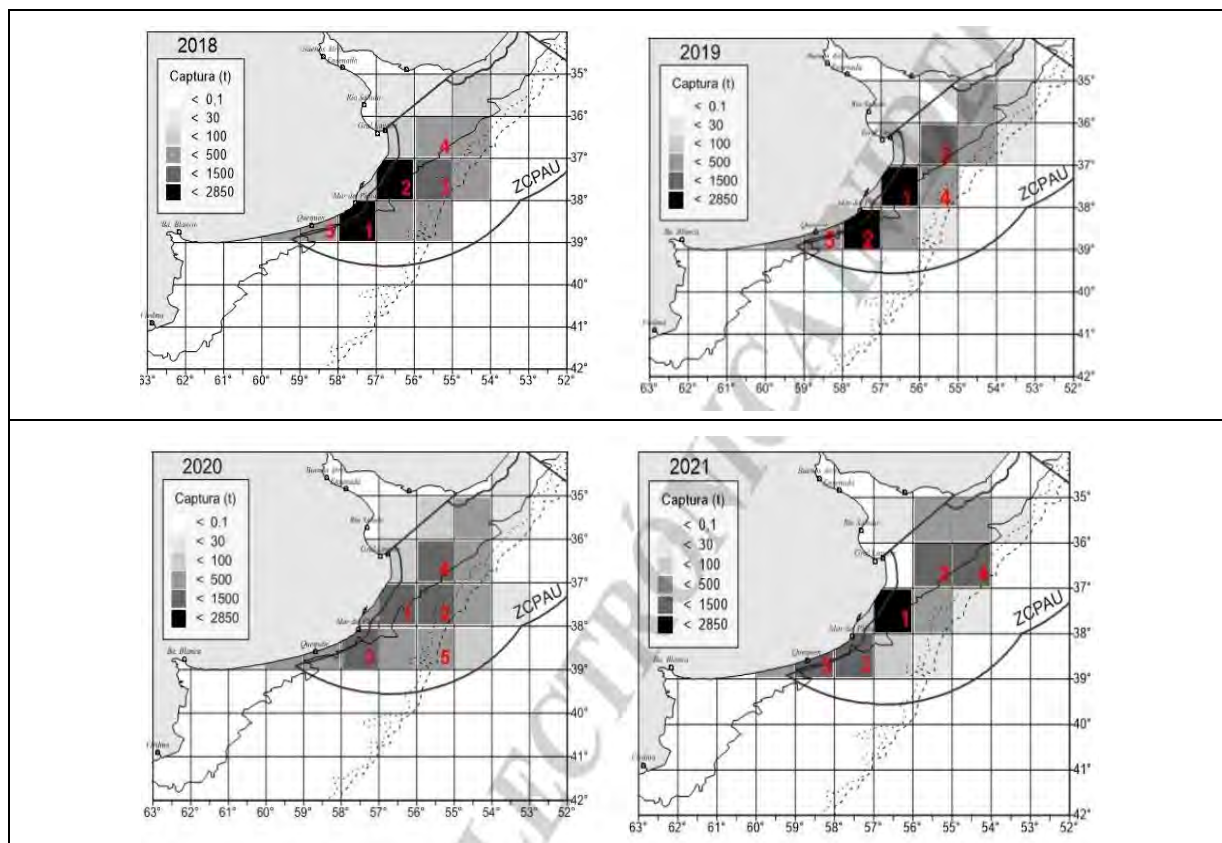


Figure 14. The fishing areas for the Argentine commercial fleet's catches of Brazilian flathead in the North area of 39°S, listed in decreasing order of volume. Period: 2018 - 2021. Source: Rico y Rodríguez 2022.

3.3.2. Catch profiles

The information about catches of the UoA is not available yet but the fillet exports from the fleet involved with the UoC is around 600 tons/year of boneless fillet, approximately 1,500 tons of wet fish per year.

3.3.3. Total Allowable Catch (TAC) and catch data

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

TAC / Catch Data	Year	Amount
TAC	2021	6700
UoA share of TAC	2022	1500 tons
Total catch by UoA (most recent year)	2021	6500 tons
Total catch by UoA (second most recent year)	2020	5400 tons

PI 1.1.1 – Stock status

PI 1.1.1		The stock is at a level that maintains high productivity and has a low probability of recruitment overfishing		
Scoring issue		SG 60	SG 80	SG 100
a	Stock status relative to recruitment impairment			
	Guidepost	It is likely that the stock is above the point of recruitment impairment (PRI).	It is highly likely that the stock is above the PRI.	There is a high degree of certainty that the stock is above the PRI.
	Met?	Yes	Yes	Yes
Rationale		According to the stock assessment conducted by Rico and Rodríguez (2022) and agreed upon by the Working Group in the Argentine-Uruguayan Common Fishing Zone, using age-structured integrated models for <i>Percophis brasiliensis</i> in 2022, the levels of reproductive biomass (BR) ranged from 25,920 t to 26,206 t. These values represented 48% to 50% of the virgin reproductive biomass (BRV) according to the model, indicating a recovery trend since 2002. The stock was found to be above the Target Biomass Reference Point (40% BRV), therefore well above of the PRI. In consequence, the assessment team considers that there is a high degree of certainty that the stock is above the threshold where recruitment could be adversely affected, and SG100 is met.		
b	Stock status in relation to achievement of maximum sustainable yield (MSY)			
	Guidepost		The stock is at or fluctuating around a level consistent with MSY.	There is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?	2004 y 2016 23000 y 19000	Yes	Yes
Rationale		According to the stock assessment of <i>Percophis brasiliensis</i> conducted by Rico and Rodríguez (2022), the different implemented models showed a decreasing trend in total biomass until 2002, with values ranging from 31,000 to 32,500 t. This period was associated with the highest recorded catches of the species, reaching 8,343 t in 1997. Subsequently, fluctuations in abundance were observed, followed by a marked recovery starting in 2015, reaching values between 35,913 and 36,726 t in 2021. These estimates are consistent with those obtained in the stock assessment of Brazilian flathead in 2021 (Rico et al., 2022). Consequently, there is also a growing trend in reproductive biomass, which since 2018 has been above the Target Biomass Reference Point (PBRO). Therefore, there is a high degree of certainty that the stock has been above a level consistent with the Maximum Sustainable Yield (MSY) in recent years, and the SG100 would be achieved.		

Stock status relative to reference points			
	Type of reference point	Value of reference point	Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (SIa)	RB_{limit}	20% of RB_v	48-50% of RB_v RB = 2.5 RB_{limit}
Reference point used in scoring stock relative to MSY (SIb)	RB_{target}	40% of RB_v	48-50% of RB_v RB = 1.2-1.25 RB_{target}

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI
Data-deficient? (RBF needed)	No

PI 1.1.2 – Stock rebuilding

PI 1.1.2	Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe			
Scoring issue	SG 60	SG 80	SG 100	
a	Rebuilding timeframes			
	Guide post	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 that does not exceed 1 generation time for the stock.
	Met?	NA		NA
Rationale				
b	Rebuilding evaluation			
	Guide post	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?	NA	NA	NA
Rationale				

Draft scoring range	NA
Information gap indicator	Information sufficient to score PI

PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring issue		SG 60	SG 80	SG 100
a	Harvest strategy design			
	Guide post	The harvest strategy is expected to achieve stock management objectives reflected in PI 1.1.1/PI 1.1.1A 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/PI 1.1.1A 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/PI 1.1.1A SG80.
	Met?	Yes	Yes	No
Rationale		<p>There are several elements that make up the current capture strategy. For example, there is an annual stock assessment specifically for Brazilian flathead (Rico and Rodríguez 2022) conducted through integrated age-structured models developed in the Stock Synthesis framework, calibrated with standardized relative abundance indices derived from fishing statistics, satellite monitoring of the commercial fleet, and Argentine research campaigns. They also estimate target and limit reference points, values of the Biologically Acceptable Catch (BAC/ CBA in Spanish), and a Working Group of Argentine and Uruguayan Scientists that provides recommendations to the Mixed Technical Commission of the Maritime Front, which establishes a Total Allowable Catch (TAC) in the common fishing zone (CTMFM Resolution 08/22).</p> <p>Additionally, there are regulations for the coastal mixed-species fishery in Argentina that captures Brazilian flathead, such as port discharge controls, spatiotemporal restrictions during the spawning season, satellite tracking of the fleet, a closed area for the protection of reproductive aggregations of demersal species from October to March each year, with a prohibition on trawling outside the closed season for vessels over twenty-five (25) meters in length. There is also an Advisory Committee for Monitoring the Coastal Mixed-Species Fishery composed of the Regulatory Authority, the Secretariat of Environment and Sustainable Development, the National Institute of Fisheries Research and Development (INIDEP), representatives from the Province of Buenos Aires, representatives from the Province of Rio Negro, and a representative from each of the chambers representing the authorized companies for the capture of "coastal mixed-species" (CFP Resolution 02/2010). The combination of all these elements constitutes a capture strategy that responds to the stock status, and the elements of the capture strategy work together to achieve the stock management objectives reflected in PI 1.1.1/PI 1.1.1A SG80. Thus, this scoring issue would achieve SG80. Nevertheless, there is not a public design that specifically establishes goals, therefore SG100 is not met.</p>		
b	Harvest strategy evaluation			
	Guide post	The harvest strategy is likely to work based on prior experience or plausible argument.	The harvest strategy has been tested and is expected to meet the objectives reflected in PI 1.1.1/ PI 1.1.1A SG80 or there is evidence that the harvest strategy is achieving its objectives reflected in PI 1.1.1/ PI 1.1.1A SG80.	The performance of the harvest strategy has been evaluated and evidence exists to show that it is achieving the objectives reflected in PI 1.1.1/ PI 1.1.1A SG80, including being clearly able to maintain stocks at target levels.
	Met?	Yes	Yes	No
Rationale		<p>The evidence demonstrates that the stock of <i>Percophis brasiliensis</i> is in a growing trend of reproductive biomass above the TBRP (PBRO in Spanish) (Rico and Rodríguez 2022), achieving its objectives reflected in PI 1.1.1/ PI 1.1.1A SG80. Therefore, it meets the requirements of SG80. Nevertheless, the harvest strategy has not been evaluated (for example through an MSE), and therefore, SG100 is not met.</p>		

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
c	Harvest strategy monitoring			
	Guide post	Monitoring is in place that is expected to determine whether the harvest strategy is working.		
	Met?	Yes		
Rationale		<p>The fishery is regularly monitored through the collection of landing statistics, landing sampling, satellite monitoring, research campaigns, and stock assessment. This monitoring has allowed the generation of a significant amount of biological-fishery information related to the Brazilian flathead fishery, including catches, CPUE, size and sex structure, growth, mortality, reproductive aspects, spatial and temporal distribution of catches, otolith chemical composition, parasitological evidence, among others. It is expected (and indeed does) determine if the capture strategy is working. Therefore, it meets the requirements of SG60 and by default SG80/SG100 if the other aspects to be scored also meet the same criteria.</p>		
d	Harvest strategy review			
	Guide post			The harvest strategy is periodically reviewed and improved as necessary.
	Met?			Yes
Rationale		<p>The capture strategy, current population status, and resource status projections are continuously reviewed by the INIDEP and discussed annually by the Working Group of the Joint Technical Commission for the Maritime Front (CTMFM). This has led to improvements over the years, primarily related to the application of assessment models (according to Rico et al., 2018 and CTMFM, 2021), resulting in recommendations for CBA and the establishment of CTP in the Argentine-Uruguayan Common Fishing Zone (ZCPAU). Additionally, within the Argentine jurisdiction, there is an Advisory Commission for the Monitoring of the Coastal Mixed-Species Fishery (Resolution CFP 27/2009) that captures Brazilian flathead and, based on INIDEP's recommendations, the Federal Fisheries Council makes modifications or improvements to regulatory measures when necessary. For example, Resolution CFP 02/2010 incorporates improvements in the establishment of the Restricted Effort Area to protect reproductive concentrations of coastal demersal species, as well as spatial and temporal closures based on vessel length. Recently, the CTMFM took into account the scientific recommendation made by the Working Group and published a management measure that establishes the administrative period for CTP allocation from October 1st, 2022, to September 30th, 2023, in order to coordinate the fishing season with the biological events of the species (Resolution CTMFM No. 08/2022).</p> <p>In November, the most abundant catches were obtained in the south-eastern and north-eastern quarters of RP 3756. This period of high catches in the mentioned areas coincides with reproductive aggregations and juvenile concentrations. Therefore, different management alternatives were proposed to avoid situations that could easily lead to a decrease in biomass and/or overexploitation. For the months of November and December 2021, the following actions were proposed for the south-eastern and north-eastern quarters of RP 3756: Limiting the number of trips per vessel, establishing an area of effort restriction for bottom trawling, and implementing a bottom trawling closure area. Based on the recommendations of the Working Group, the CTMFM established an effort restriction area for bottom trawling, limiting the entry of vessels longer than 20 meters in the months of November and December in the north-eastern, north-western, and south-eastern quarters of rectangle 3756 (Resolution CTMFM No. 14/2021).</p> <p>Within the Argentine jurisdiction, the capture strategy is also periodically reviewed, as evidenced by a series of resolutions by the Federal Fisheries Council over the past 20 years.</p> <p>Therefore, the evaluation team considers that the capture strategy is regularly reviewed and improved as necessary. Thus, this aspect to be scored would meet the requirements of SG100 when the other aspects of this PI meet the requirements of SG80.</p>		

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
e	Shark finning			
	Guide post	There is a high degree of certainty that shark finning is not taking place.		
	Met?	NA		
Rationale		<i>Scoring Issue need not be scored if sharks are not a target species.</i>		
f	Review of alternative measures			
	Guide post	There has been a review of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a review every 5 years of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a review that happens every 2 years of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock, and they are implemented, as appropriate.
	Met?	NA	NA	NA
Rationale		Based on the available information (Rico and Rodríguez 2022), the results indicate that the age structures consistent with the length compositions of the Brazilian flathead caught by the current fishery are predominantly comprised of adult specimens aged 3, 4, and 5 years, with a percentage of juveniles below 10%. Therefore, there is no need for alternative measures to avoid the capture of juveniles, and this scoring aspect does not apply.		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 1.2.2 – Harvest control rules and tools for stocks managed by Regional Fisheries Management Organisations (RFMOs)

PI 1.2.2		There are well-defined and effective HCRs in place		
Scoring issue		SG 60	SG 80	SG 100
a	HCR design and application			
	Guide post	HCRs are expected to reduce the exploitation rate as the PRI is approached and are either generally understood and in place , or available .	Well-defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached and 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	No	No
Rationale		<p>According to the defined standard, a harvest control rule (HCR) is a framework through which the fishery aims to achieve the objectives stated in PI 1.1.1. It consists of pre-established rules and management actions taken in response to changes in the stock status with respect to implicit or explicit reference points or triggers.</p> <p>In this fishery, an annual stock assessment is conducted using integrated age-structured models (Rico and Rodríguez 2022), which define two biological reference points associated with fishing mortality levels that would maintain the reproductive biomass above 20% (PBRL) and 40% (PBRO) in the long term. These reference points are used to calculate biologically acceptable catches with their associated levels of risk, which are provided by the Argentine-Uruguayan Scientific Working Group to the CTMFM. Based on these recommendations, an annual Total Allowable Catch (TAC) is allocated in the common fishing area.</p> <p>It can be inferred that, since biological reference points have been established and the biologically admissible catch is recommended by scientists based on them, there are implicit, generally understood HCRs, which are expected to reduce the exploitation rate as it approaches the point where recruitment could be impaired. Therefore, this scoring aspect would achieve SG60. However, there is no explicit (well-defined) harvest control rule in place, so this scoring aspect would not achieve SG80.</p>		
b	HCR robustness to uncertainty			
	Guide post		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
Rationale		<p>There are no explicit harvest control rules as defined by the standard. Nevertheless, from the INIDEP technical reports is possible to understand that the implicit HCRs are likely to be robust to the main uncertainties derived from the particularities of the fishery, and a confidence interval is provided. Therefore, SG80 could be met. Probably a more in-depth analysis should be done on uncertainties to meet the requirements of SG100.</p>		

PI 1.2.2		There are well-defined and effective HCRs in place		
c	HCR evaluation			
	Guide post	There is some evidence that tools used or available to implement HCRs are appropriate and effective in controlling exploitation.	Available evidence indicates 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
Rationale		<p>Although there may not be a explicit harvest control rule, there are available tools and measures implemented to control the exploitation, such as Total Allowable Catch, spatial and temporal closures, satellite monitoring systems, and discharge controls.</p> <p>The available evidence, through the stock assessment, indicates that the population has been above its target reference point (PBRO) for several years, and in the past two years, the Total Allowable Catch (CTP) has not been exceeded. These implemented tools, together with the implicit HCRs, would be appropriate to achieve the desired levels of exploitation implied by the implicit harvest control rules. Therefore, this scoring issue would meet SG80.</p>		

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

PI 1.2.3 – Information and monitoring

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring issue		SG 60	SG 80	SG 100
a	Range of information			
	Guide post	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 are 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
Rationale		There is a significant amount of information available about the Brazilian flathead fishery from various sources: landing reports, updated statistics, research conducted by scientists from INIDEP and the CTMFM Working Group. The information is available online, upon request to the authorities or the institute, and also in scientific articles published in scientific journals. The type of information available includes port or monthly landings, descriptions of biological characteristics, population parameters, environmental variables, species distribution, spawning areas, types of fishing fleet, fleet characteristics, CPUE, and trophic aspects. All this information is used for monitoring the fishery and the annual assessment of the resource. Since there is sufficient information available related to the stock structure and productivity, fleet composition, environmental information, on-board production processes, and other data to support the capture strategy, this aspect would achieve SG80 . However, due to the absence of an observer program and limited temporal coverage of research campaigns, it would not meet SG100.		
b	Monitoring			
	Guide post	Stock abundance and UoA removals are monitored and at least 1 indicator is available and monitored with sufficient frequency to support the harvest strategy.	Stock abundance and UoA removals are regularly monitored at a level of accuracy and coverage consistent with the harvest strategy , and 1 or more indicators are available and monitored with sufficient frequency to support the harvest strategy.	All information required by the harvest strategy is monitored with high frequency and a high degree of certainty, and there is a good understanding of the inherent uncertainties in the information (data) and the robustness of assessment and management in dealing with this uncertainty.
	Met?	Yes	Yes	Yes / No
Rationale		The abundance of the stock and the fishery's catches are regularly monitored at a level of precision and coverage consistent with the capture strategy. There are several indicators available (size, sex, maturity, spatial and temporal distribution of fishing, effort, catch) that are monitored with sufficient frequency to support the information required to assess the status of the Brazilian flathead population and support the capture strategy. Additionally, these indicators are reviewed annually by INIDEP and within the framework of the Working Group of the Joint Technical Commission for the Maritime Front. These data have been used annually since 2012, initially applying global dynamic assessment models such as Schaefer and delayed difference models (Rico et al., 2018), followed by important methodological advances in estimating Brazilian flathead abundance indices, using data from research campaigns as well as the commercial fleet. Currently, age-structured integrated models based on sustainability principles are applied (CTMFM 2021). Furthermore, during the stock assessment, the Working Group identifies uncertainties. Hence, this aspect would achieve SG80 . The lack of an on board observers program does not allow satisfying the requirements of SG100.		

c	Comprehensiveness of information		
	Guide post		There is good information on all other fishery removals from the stock.
	Met?		Yes
Rationale	<p>Since the beginning of fishing activity until the present in Uruguay, the Brazilian flathead fishery has not been developed (CTMFM 2021). Therefore, the detailed and analyzed information in the stock assessment includes all the removals by the Argentine fleets operating in the Treaty area (Rico and Rodríguez 2022). INIDEP annually monitors all the required information to feed the age-structured integrated assessment models, which are analyzed by the Working Group to estimate CBA values and make recommendations to the Joint Technical Commission for the Maritime Front. The commission establishes a Total Allowable Catch (TAC) in the common fishing area (CTMFM Resolution 08/22).</p> <p>On the other hand, the removals by other fleets in other areas are also recorded in Argentine fishing statistics and onboard observer programs (e.g., for hake or shrimp).</p> <p>In this regard, it is considered that there is good information about other removals of the stock carried out by other fisheries, and therefore, this aspect would achieve SG80.</p>		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 1.2.4 – Assessment of stock status

PI 1.2.4		There is an assessment of the stock status		
Scoring issue		SG 60	SG 80	SG 100
a	Appropriateness of assessment to stock under consideration			
	Guide post		The assessment is appropriate for the stock and for the harvest strategy.	The assessment takes into account the major features relevant to the biology of the species and the nature of the UoA.
	Met?		Yes	Yes
Rationale		<p>The assessment for Brazilian flathead was designed based on the dynamics of the fishery and the resource (Rico and Rodríguez 2022), applying an age-structured integrated model in the Stock Synthesis 3.30 modeling platform developed in ADMBuilder. This modeling approach offers several advantages, such as flexibility to incorporate a wide range of information, multiple fleets, different models for biological processes (such as growth, maturity, mortality, vulnerability, recruitment), age-reading error, sex-specific differences, temporal variability of parameters, different areas, spatial movement, discards, and tagging-recapture, among others. It is also used to perform the entire assessment process, including diagnosis, uncertainty analysis, and projections. This model is an appropriate, consistent, and internationally recognized tool for monitoring the stock status and is suitable for the Brazilian flathead stock. Therefore, this aspect would achieve SG80. It can also be asserted that "the assessment takes into account the most important characteristics relevant to the species' biology and the nature of the fishery". Hence, it could potentially fulfil the requirements of SG100.</p>		
b	Assessment approach			
	Guide post	The assessment estimates stock status relative to generic reference points appropriate to the species category.	The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated.	
	Met?	Yes	No	
Rationale		<p>According to Rico et al. (2018), resource assessment studies have been conducted since 2012 within the framework of the Working Group on Coastal Resource Assessment of the CTMFM, documenting significant methodological advances to date. In 2021, different age-structured integrated models were applied using the Stock Synthesis 3.30 platform to describe the population dynamics of Brazilian flathead. Biological reference points (BRPs) were used to suggest Biologically Acceptable Catches to the Technical Joint Commission of the Maritime Front: a limit reference point (PBRL = 20% BRV) and a target reference point (PBRO = 40% BRV), adopted as agreed upon in the "Workshop to methodologically review Biological Reference Points, estimates of future abundance projections, and state-space plots (Kobe plots) of fisheries developed within the framework of the CTMFM," held at INIDEP in 2018 (Rodríguez et al., 2022). These reference points aim to maintain the fishery at a satisfactory level and indicate a limit beyond which the state of a fishery and/or a resource is considered undesirable and jeopardizes its renewal. Additionally, an adjacent area associated with the PBRO, shown in gray, was defined to establish a threshold that serves as an alert for implementing recovery actions to prevent reaching the PBRL. This area was delimited between 90 and 100% of the PBRO on the horizontal axis and between 100 and 110% of the Fobj on the vertical axis. Therefore, the assessment estimates the stock status relative to appropriate generic reference points for the species category and would meet SG60 but not SG80, as the reference points are generic.</p>		

c	Uncertainty in the assessment			
	Guide post	The assessment identifies major sources of uncertainty.	The assessment takes uncertainty into account .	The assessment evaluates stock status relative to reference points in a probabilistic way.
	Met?	Yes	Yes	Yes
Rationale	<p>Following the stock assessment conducted by Rico and Rodriguez (2022), the age-structured integrated model implemented in the Stock Synthesis version 3.30 modeling platform developed in ADMBuilder incorporates uncertainty in the annual total catch data, fleet and research survey abundance indices, and associated length and age structures. Regarding the model parameters, uncertainty is considered in the initial recruitment value for the period, as well as annual deviations throughout the time series, uncertainty in catchability coefficients, and selection patterns (which in turn consider variability in two time periods) for both the fleet and research surveys. Parameter estimation is performed using the maximum likelihood method. Biases in recruitment deviations are corrected using the methodology of Methot and Taylor, and weighting adjustments for length- and age-structured information are performed.</p> <p>Based on the model results, projections of abundance and long-term yields (15 years) are made under a management objective that would achieve a reproductive abundance equal to or greater than 40% of the reproductive biomass at the start of exploitation (BRV), a value defined as the target reference point (PBRO). Additionally, 20% of the reproductive biomass at the start of exploitation is considered as the limit reference point (PBRL).</p> <p>In order to assess risk, simulations are conducted based on the age-specific stock status and its uncertainty in the year 2021. This includes the weight-at-age at the beginning and middle of the year, maturity-at-age, and selection pattern resulting from the model fit. The average, minimum, and maximum recruitment values from the period for which information is available are used to estimate annual deviations associated with the recruitment curve in the assessment model. Uncertainty is incorporated into the analysis by randomly generating recruitment values in each simulation based on the mean value and estimated deviation from the diagnosis, assuming a LogNormal distribution, as well as uncertainty in the population vector. The analysis is performed in R Project, to estimate the uncertainty associated with the estimates of all variables of interest and the adjustment of risk logistic curves.</p> <p>Based on this process, Biologically Acceptable Catches (BACs) are estimated that would maintain the population above the PBRO in the long term, accepting a risk of less than 10% and 50% that the reproductive biomass falls below these reference values. Therefore, it is considered that the stock assessment accounts for uncertainty and would achieve an SG80. If the other aspects also meet that score, it will reach SG100.</p>			
d	Evaluation of assessment			
	Guide post			The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
	Met?			No

Rationale	<p>According to Rico and Rodriguez (2022), the model has been updated and improved over time. Initially, global assessment models were applied, such as the Schaefer dynamic and delayed difference models. Later, Bayesian-based Schaefer global assessment models and age-structured integrated models with a frequentist approach were implemented on different computational platforms. Significant methodological advances were made in the estimation of abundance indices standardized for the Brazilian flathead, using data from research campaigns and the commercial fleet through the use of Generalized Linear Models (GLM). The fishing intention of the Argentine commercial fleet targeting Brazilian flathead in the ZCPAU and adjacent jurisdictional waters was studied to select an appropriate subset of data for estimating an abundance index for the species.</p> <p>Based on this subset of data, the standardization of the CPUE (Catch Per Unit Effort) was performed using a combination of a Generalized Linear Model with the Delta Lognormal approximation (GLM Delta-LogNormal). This process incorporates records with zero catch values for the Brazilian flathead and involves two Generalized Linear Models (GLMs): one for positive values and another for the proportion of positive records, covering the period from 1999 to 2006.</p> <p>Furthermore, the relative abundance index was estimated based on positioning and satellite monitoring information (VMS CPUE, expressed in kg/hourVMS) from the fleet stratum Ic between 2007 and 2020. The incorporation of this estimation represents a significant advancement due to inconsistencies in the fishing reports regarding the declared effort in hours and the loss of information on the fishing area when considering the declared effort in days.</p> <p>In this context, the Brazilian flathead assessment was designed based on the dynamics of the fishery and the resource and currently utilizes age-structured integrated models in the Stock Synthesis 3 modeling platform. Stock Synthesis (SS), developed in ADMBuilder, is an appropriate, consistent, and internationally recognized tool for evaluating the stock status.</p> <p>The assessment has been tested and proven to be robust. However, other alternative assessment hypotheses and approaches have not been recently explored. Therefore, this aspect would achieve an SG80 score by default but would not reach SG100.</p>			
e	Peer review of assessment			
	Guide post		The assessment of stock status is subject to peer review.	The assessment has been internally and externally peer reviewed .
	Met?		Yes	Yes
Rationale	<p>The stock assessment undergoes internal peer review at the INIDEP (National Institute for Fisheries Research and Development) and, as it is a shared resource with the Eastern Republic of Uruguay, it is jointly evaluated by scientists from the Working Group of the CTMFM. Thus, this aspect would achieve an SG80 score. Additionally, Rico et al. (2018) mentioned that workshops were conducted with international specialists (Taschari, R. Canales, C. and Valero, J.) to review the estimation of relative abundance indices and the assessment work carried out by the INIDEP to study the population dynamics of the Brazilian flathead in the Coastal Ecosystem of Buenos Aires north of 39°S, as part of the project "Building Capacities for the Assessment of the Brazilian flathead." These workshops have helped improve the assessment and management recommendations for the Brazilian flathead fishery, based on sustainability principles and scientific rigor. Therefore, it can be considered that the assessment has undergone internal and external peer review. Consequently, this aspect could reach SG100.</p>			

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

3.4. Principle 2

3.4.1. Principle 2 background

Version 3.0 of the standard categorizes the bycatch of the target species and the species of marine birds, mammals, and/or reptiles that interact with the fishery as follows:

- **In-scope species:** Those non-target species that are captured by the fishery, specifically fish and invertebrates.
- **Endangered, threatened, or protected (ETP) and out-of-scope (OOS) species:** OOS species refer to mammals, birds, reptiles, or amphibians that cannot be certified. ETP species are fish or invertebrate species that meet certain risk or protection criteria according to the decision tree shown in Figure 15.

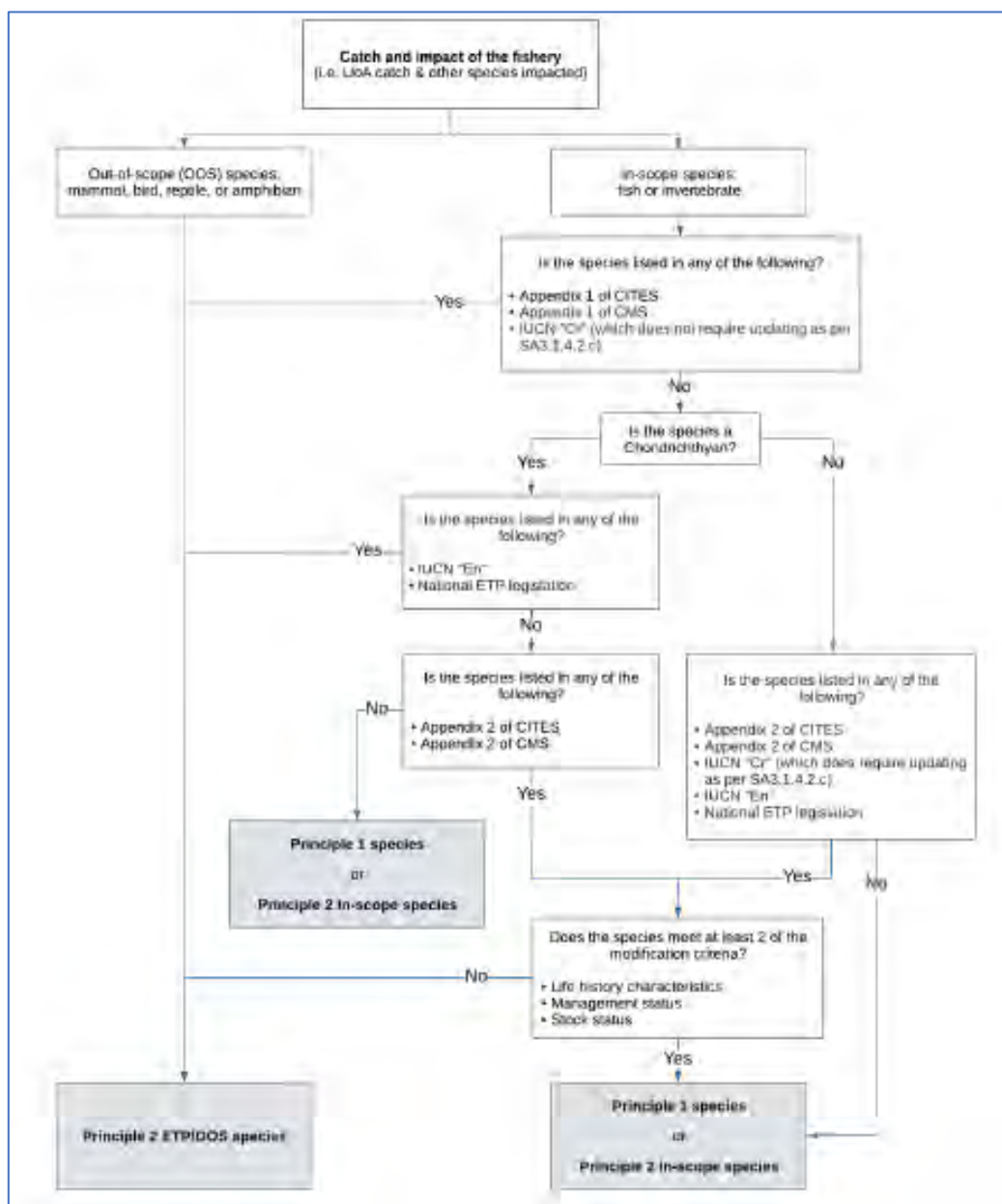


Figure 15. Decision tree for non-target species categorization: in-scope species, and endangered, threatened, or protected and out-of-scope (ETP/OOS) species. Source: MSC, 2022.

Furthermore, *in-scope-species* are considered as either main or minor species according to the following criteria:

- Main species: These are considered main species if their capture by the Unit of Assessment (UoA) represents 5% or more of the total catch of all species.
- Minor species: These are considered minor species if their capture by the UoA represents 2% or more of the total catch of all species.

The coastal mixed-species, of which the Brazilian flathead is a part, is a collection of over 40 species of bony and cartilaginous fish that are distributed in the coastal area of Buenos Aires, maintaining persistence over time and in their specific composition. Biologically, it is defined as a demersal fish association that gives rise to a multispecies fishery. Additionally, other non-commercial species are caught, for which there are no adequate records.

a) In-scope-species

The information provided by the landing reports from the 2019 and 2021 coastal mixed-species suggests that the most representative species caught by this fishery, in order of importance, are: corvina rubia or blanca (croaker), pescadilla (striped weakfish), Brazilian flathead, and besugo (red porgy), together representing more than 72.21% of the reported catch from 2017 to 2021 (see **Figure 16**). (MAGYP, 2022)

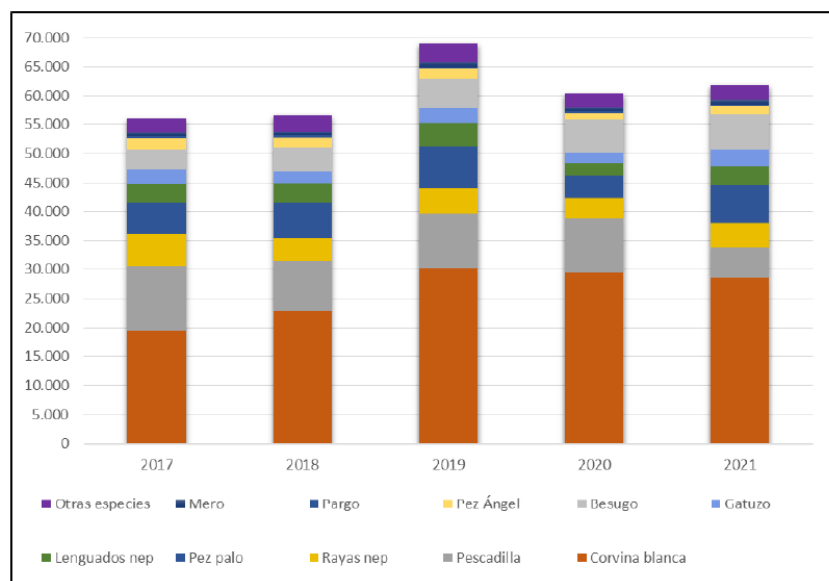


Figure 16. Total catch of coastal fishery species from 2017 to 2021. Source: (MAGYP, 2022).

The average annual catch of Brazilian flathead for the years 2019 to 2021 was 6,910 tons, representing 10.13% of the total catch of the coastal mixed-species fishery. Considering Brazilian flathead as the target species, the remaining species in the landings of the coastal fishery (around 40) are considered as bycatch, of which 26 are in-scope-species (Table 5). Among these, only three species exceed the 5% threshold of the catches to be considered **main** species: white croaker (*Micropogonias furnieri*), red porgy (*Pagrus pagrus*), and striped weakfish (*Cynoscion guatucupa*). However, while Brazilian flathead is mainly caught in the warmer months, white croaker is primarily caught in the cold months, the same as striped weakfish. Therefore, it is possible that when Brazilian flathead is more predominant, the catches of these other species may not be as significant. As for red porgy, although there is a high seasonal correlation, the spatial correlation should be verified because while Brazilian flathead fish prefers soft bottoms, red porgy prefers hard bottoms.

Table 5: In-scope-species in landings considering Brazilian flathead as the target species. Source: MAGYP (2021).

Nombre común	Nombre científico	Desembarque (T)	% D/DT
Corvina blanca o rubia	<i>Micropogonias furnieri</i>	28579,7	46,27%
Besugo	<i>Pagrus pagrus</i>	6024,1	9,75%
Pescadilla / Pescadilla de red	<i>Cynoscion guatucupa</i>	5284,8	8,56%
Lenguados nep*		3342,3	5,41%
Mero	<i>Acanthistius patachonicus</i>	860,5	1,39%
Salmon de mar	<i>Pseudopersis semifasciatus</i>	405,4	0,66%
Corvina negra	<i>Pogonias cromis</i>	285,8	0,46%
Pargo	<i>Umbrina canosai</i>	237,7	0,38%
Anchoa de banco	<i>Pomatomus saltatrix</i>	189,4	0,31%
Palometa pintada	<i>Parona signata</i>	147,5	0,24%
Pescadilla real	<i>Macrodon ancylodon</i>	145,3	0,24%
Saraca	<i>Brevoortia aurea</i>	96,4	0,16%
Lisa	<i>Mugil sp.</i>	89,0	0,14%
Chernia	<i>Polyprion americanus</i>	52,1	0,08%
Pez sable	<i>Trichiurus lepturus</i>	30,4	0,05%
Brotola	<i>Urophycis brasiliensis</i>	14,5	0,02%
Pampanito	<i>Stromateus brasiliensis</i>	7,6	0,01%
Congrio costero	<i>Conger orbignyanus</i>	3,5	0,01%
Castañeta	<i>Nemadactylus bergi</i>	1,0	<0,01%
Sargo	<i>Diplodus argenteus</i>	0,4	<0,01%
Testolin azul	<i>Prionotus punctatus</i>	0,1	<0,01%
Testolin rojo	<i>Prionotus nudigula</i>	0,1	<0,01%
Burriqueta	<i>Menticirrhus americanus</i>	0,1	<0,01%

On the other hand, Fernandez Araoz *et al* (2009), analyzed the season and the area where the coastal species are predominant, and defined that, North of 39°S, Area 2 (Figure 17) and season II (warm months) were particularly important for Brazilian flathead and defined the main bycatch as composed by some chondrichthyans (see ETP section), flatfish nei, striped weakfish and other less representative species (Table 6).

Table 6: Predominance of bony fish by season for Area 2. Season I: warm months; season II: cold months.

Species	% A2 - SI	Species	% A2 - SII
Brazilian flathead	18,18	Flatfish	12,32
Flatfish	15,77	Brazilian flathead	7,76
Striped weakfish	5,16	Striped weakfish	5,64
Argentine croaker	4,03	Brazilian sandperch	3,65
Red porgy	3,47	Argentine sea bass	3,53

The only species that clearly overpass the 5% threshold for being defined as “main” is striped weakfish. As regard to flatfish nei, this group is made of seven species: *Paralichthys patagonicus*, *Paralichthys orbignyanus*, *Paralichthys isosceles*, *Xystreuris rasile* and *Paralichthys brasiliensis* (Rico, 2010) where *P. orbignyanus* y *P. patagonicus* are predominant.

Rico (2010) provides some inputs about the specific composition of the flatfish group (Figure 18). Using the information at that figure to distribute the percentages of flatfish in landings, we obtain the Table 7, where only Patagonian flounder (*Paralichthys patagonicus*) overpass the 5% threshold and, therefore, would be also a main species.

According to the reviewed information, the species "striped weakfish" (*Cynoscion guatucupa*) and "Patagonian flounder" (*Paralichthys patagonicus*) would meet the parameters to be classified as in-scope main species.

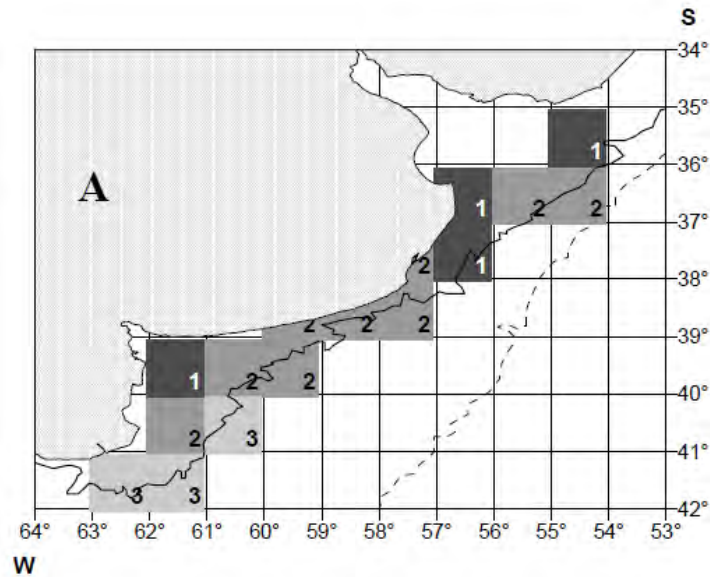


Figure 17. Spatial distribution of fishing zones in the Buenos Aires coastal ecosystem. Source: Fernandez Araoz et al (2009).

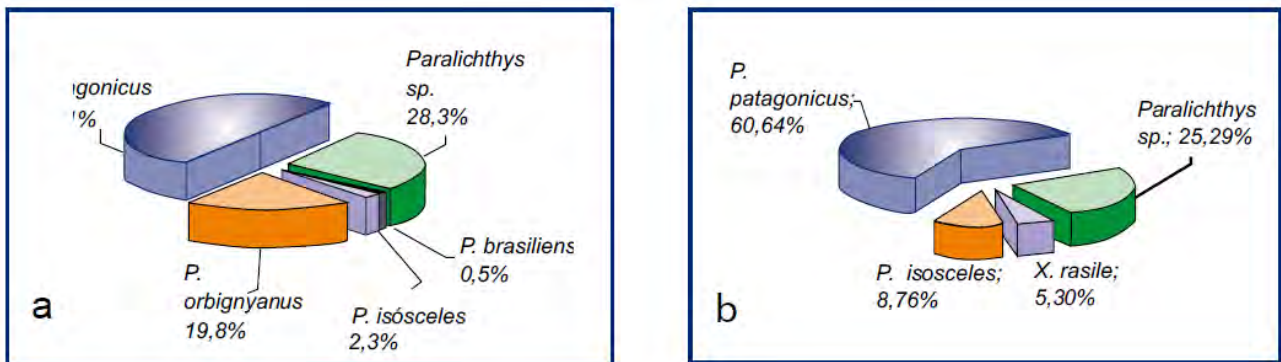


Figure 18. Percental composition of flatfish landings according to a) research surveys (average 1981-2005), and b) landings sampling (2001). Source: Rico, 2010.

Table 7: Percentage of flatfish species on total landings calculated from Table 5 and Figure 18. Only *P. patagonicus* overpass the 5% threshold. Source: Rico, 2010

Research surveys			Landings sampling		
Species	% S-I	% S-II	Species	% S-I	% S-II
<i>P. patagonicus</i>	10,80	8,44	<i>P. patagonicus</i>	12,80	10,00
<i>P. orbignyanus</i>	4,35	3,40	<i>P. orbignyanus</i>	0,00	0,00
<i>P. isosceles</i>	0,51	0,40	<i>P. isosceles</i>	1,85	1,44
<i>P. brasiliensis</i>	0,11	0,09	<i>X. rasile</i>	1,12	0,87

Between the sharks and rays that are not considered as ETP species, we find Smallnose Fanskate (*Sympterygia bonapartii*, IUCN: NT), Rio Skate (*Rioraja agassizi*, IUCN:VU), Psammobatis spp (IUCN: LC) and Broadnose Sevengill Shark (*Notorynchus cepedianus*, IUCN: VU). All of them accounted for negligible landings, well below the 2% threshold to be considered main species.

b) ETP/OOS Species

According to Version 3.0 of the standard, all chondrichthyan species that are listed by the IUCN under the category "Endangered" (EN) or worse, and/or protected by national legislation, should be classified as Endangered, Threatened, or Protected (ETP).

Based on the report from the Ministry of Agriculture, Livestock, and Fisheries for the Coastal Mixed-Species Fishery in 2021, the INIDEP report (2020), and Resolution 27/2009 from the Federal Fisheries Council, a total of 24 chondrichthyan species (skates and sharks) were identified as part of the Coastal Mixed-Species Fishery and its incidental catch.

Table 8 shows the list of these species, their conservation status according to the IUCN, and whether they are included in the appendices of CITES and CMS.

Table 8: Categorization of chondrichthyans present in the coastal mixed-species fishery. CR= critically endangered; EN=endangered.

TAXONOMIC GROUP	COMMON NAME	SPECIES	IUCN	CITES	CMS
Chondrichthyans	Narrownose smooth-hound	<i>Mustelus schmitti</i>	CR	NO	NO
	Tope	<i>Galeorhinus galeus</i>	CR	NO	II
	Angular Angelshark	<i>Squatina guggenheim</i>	EN	NO	NO
	Shortnose Guitarfish	<i>Zapteryx brevirostris</i>	EN	II	NO
	Brazilian Guitarfish	<i>Rhinobatos horkelii (Pseudobatos horkelii)</i>	CR	II	NO
	Spotback Skate	<i>Atlantoraja castelnaui</i>	CR	NO	NO
	Yellownose Skate	<i>Dipturus chilensis</i>	EN	NO	NO
	Bignose Fanskate	<i>Sympterygia acuta</i>	CR	NO	NO
	Eyespot Skate	<i>Atlantoraja cyclophora</i>	EN	NO	NO
	Copper Shark	<i>Carcharinus brachyurus</i>	VU	II	NO
	Sand Tiger Shark	<i>Carcharias Taurus</i>	CR	NO	NO

It is also important to consider whether these chondrichthyan species are protected by national legislation. In this case, authorities have taken measures to promote research regarding chondrichthyan species (skates, chimaeras, and sharks), as shown in the National Action Plan for the Conservation and Management of Chondrichthyans, approved by Resolution No. 6/2009 of the Federal Fisheries Council (CFP). The general objective of this plan is to "ensure, on a participatory basis, within the framework of the Federal Fisheries Regime (Law No. 24,922), the General Environmental Law (Law No. 25,675), and relevant international agreements, the conservation and sustainable management of chondrichthyans in areas under the jurisdiction of the Argentine Republic, following the guidelines of the FAO Code of Conduct for Responsible Fisheries and the ecosystem-based approach to fisheries management."

There are also the following regulations:

SPECIFIC REGULATION FOR CHONDRICHTHYANS		
Res CFP No 13/2003	It establishes that sharks measuring over 1.6 meters must be released back into the sea.	In force since 19/06/2003
Provision of the Directorate of Fisheries Development (Province of Buenos Aires) No. 55/08	Permanent ban on large coastal sharks (sand tiger shark, copper shark, broadnose sevengill shark, and silky shark).	
Provision N° 29-2022 Subsecretariat of Fisheries and Aquaculture (25-02-2022)	Sets a minimum fine of five thousand (5,000) fishing units in case the maximum percentage limits established in Articles 2 and 3 of Annex I of Resolution No. RESFC-2021-8-E-CFP-CFP dated June 3rd, 2021, of the Federal Fisheries Council are exceeded for the landing of skates and sharks.	

SPECIFIC EGULATION FOR CHONDRICHTHYANS	
Resolution N° 6-2022 Joint Argentine-Uruguayan Technical Commission (29-07-2022)	Sets the Total Allowable Catch (TAC) for the species narrownose smoothhound (<i>Mustelus schmitti</i>) in the common fishing zone for the year 2022.
Resolution N° 11-2022 Joint Argentine-Uruguayan Technical Commission (24-08-2022)	Sets the TAC for the species angular angel shark (<i>Squatina guggenheim</i>) in the common fishing zone for the year 2022.
Resolution N° 14-2022 Joint Argentine-Uruguayan Technical Comission (14-10-2022)	Set the TAC for the coastal skates as a group and for the deep-sea skates as a group in the common fishing zone for the year 2023.

Regarding the interaction of the fishery with seabirds, marine mammals, and reptiles, there are reports of incidental catch of two bird species: Magellanic Penguin (*Spheniscus magellanicus*) and White-chinned Petrel (*Procellaria aequinoctialis*), and two sea turtle species: Leatherback Turtle (*Dermochelys coriacea*) and Loggerhead Turtle (*Caretta caretta*). These reports come from a Technical and Advisory Report by INIDEP (2020) based on an observer report from 2016.

Although the number of individuals per species is not reported, their weight is recorded. Thus, it can be deduced that one individual of each turtle species and between 4 and 6 individuals of penguins and petrels were caught in 16 fishing trips, during which about two thousand tons of 94 species were caught. Both the turtles and birds were discarded, but their condition at the time of being returned to the sea is unknown. It is likely that they suffocated during trawling or injured during hauling. However, the available information is not sufficient to understand the impact of the fishery on these taxonomic groups.

In order to promote the study and management of the interaction between seabirds, marine mammals, and Argentine fisheries, the CFP, SSPyA, Ministry of Environment and Sustainable Development (MAyDS), and INIDEP developed the National Action Plan to Reduce the Interaction of Marine Mammals with Fisheries in Argentina (PAN-Mammals) and the National Action Plan to Reduce the Interaction of Birds with Fisheries in Argentina (PAN-Birds). However, the specific impacts of the UoA are not identified. Therefore, the need to adopt mitigation measures in this regard is unknown.

c) Habitats

The Brazilian flathead is a species with coastal and benthic habits that inhabits sandy bottoms, preferably at depths less than 50 m. Its distribution ranges from 23° S (Rio de Janeiro, Brazil) to 47° S (northern province of Santa Cruz, Argentina) (Cousseau and Perrota, 2013). It is mainly captured during spring and summer between 40° and 43° S at depths ranging from 39 to 75 m (Bellisio et al, 1979; Gosztonyi, 1981; Cousseau and Perrota, 2013). During winter, the highest abundances have been observed in the El Rincón area (38°30'-42° S).

The area of the Río de la Plata Treaty and the Maritime Front, where this fishery takes place, is known for its high biological productivity. It is a hydrologically complex and dynamic habitat with marked horizontal and vertical density gradients. The drivers of this variability are linked to seasonal and interannual changes in the discharge of the Río de la Plata, seasonal wind regimes strongly linked to latitudinal variations of the South Atlantic High-Pressure Center, the proximity to the edge of the shelf with the convergence of the major contour currents of the Southwest Atlantic (Malvinas and Brazil), as well as the input of nutrients from the southwest of the area carried by the subantarctic waters of the Argentine shelf (CTMFM, 2017).

In the Treaty area, the coastal habitat of the species is topographically demarcated by the step formed by the 50-60 meter isobath, which separates the coastal regime from the shelf regime. Regarding the shelf water masses, Negri et al. 2016 indicate that south of 38°S, subantarctic

waters flow, and north of 36.5°S, waters diluted by the discharge of the Río de la Plata and subtropical waters, predominant in summer, are added. Subantarctic waters, transported from the south, extend parallel to the bathymetry with a SW-NE direction and a salinity range between 33.5 and 34.2 psu. The Subantarctic Shelf Water (ASaP) can be distinguished into three components: the outer component with salinity between 33.7 and 34.2 psu, located in the outer strip of the continental shelf; the middle component over the central shelf with a relative minimum salinity resulting from the input of diluted waters from continental runoff in the southern part of the continent; and the coastal component with relatively high salinity values ($S > 33.8$), originating from the east of El Rincón and originating from within the San Matías Gulf due to the effect of restricted circulation and the predominance of evaporation over local precipitation. The subtropical waters present are the Tropical Water (ATr) and the Central South Atlantic Water (ACeAS), transported southward by the Brazil Current, which predominates during summer and autumn. The warmest and shallowest water is the ATr, with temperatures and salinity above 18.5°C and 36 psu, respectively, flowing above the ACeAS. The water from the Río de la Plata (ARdP) mixes with waters from the continental shelf, forming a buoyant layer of low salinity over the subantarctic and subtropical waters of the continental shelf, inducing high vertical stratification and isolating the deep layer.

The topography, together with the inputs of continental water and modifications due to atmospheric exchange, create a complex ecological and oceanographic system. In the Río de la Plata, the Barra del Indio bank constitutes a geomorphological barrier that divides the area into an internal and an external part. The internal part corresponds to a fluvial regime with riverine waters that are vertically mixed, and the external part corresponds to a mixohaline regime where the intrusion of shelf waters along the bottom, in the form of a saline wedge, generates a two-layer structure with strong vertical stratification that decreases towards the outer part of the Río de la Plata. The interfaces between the mentioned regimes give rise to two salinity fronts, one at the bottom as the limit between the fluvial and mixohaline regimes, and one at the surface as the limit between the mixohaline regime and the shelf waters (CTMFM, 2017).

From the analysis of the bathymetric data of the Buenos Aires Shelf (see Figure 19), it can be inferred that approximately 70% of its surface has depths greater than 70 meters. The most developed morphological feature of the shelf is the so-called "terraces," whose origin is linked to variations in sea level in response to Plio-Pleistocene glacial cycles (Violante et al, 2017).

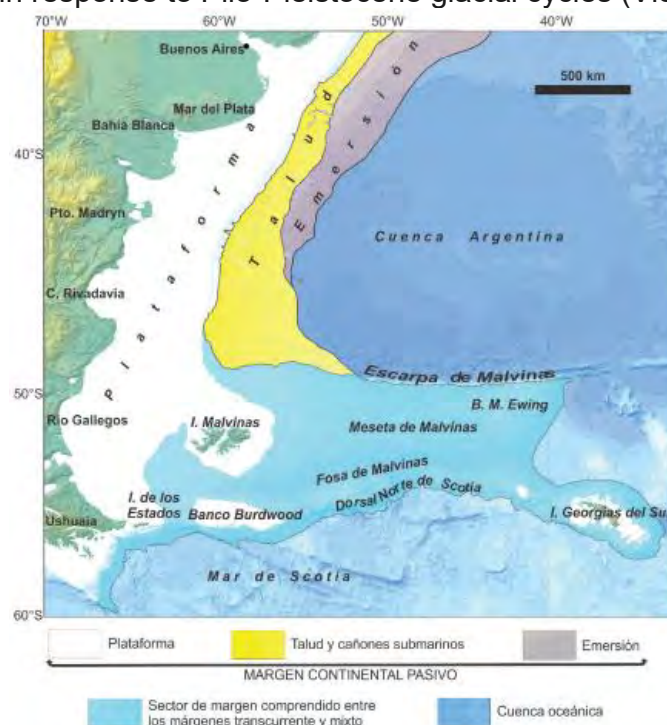


Figure 19. Main morpho-sedimentary features of the Argentine continental margin. Source (Violante et al, 2017).

The inflow of diluted water from the Río de la Plata into the continental shelf and its seasonal variation influence the ecosystem of the shelf by modifying the physicochemical properties of the area, nutrient concentrations, and biological productivity. The distribution of surface salinity varies seasonally and is driven by winds and continental discharge. In autumn-winter, continental winds and freshwater discharge reach maximum values. During this period, there is a northeastward drift of water originating from the Río de la Plata discharge along the coast of Uruguay. In spring-summer, the water drifts southeastward towards the coast of Argentina, influenced by oceanic winds and a decrease in continental discharge. Additionally, there are areas where local contributions of continental water modify the coastal front formation, which has biological implications (CTMFM, 2017).

The interactions of the analyzed fishery with the seabed are not documented, although as a trawling fishery, there is an inevitable impact that needs to be understood.

d) Ecosystem

The persistence of species composition in the diverse coastal area of Buenos Aires over the years seems to indicate that there are no major impacts perceived in the ecosystem as a whole, which is consistent with the fact that we are analyzing a predominantly multispecies fishery.

However, there are signals that need to be better understood, such as changes in the diet of an omnivorous predator like the Brazilian flathead (San Román, 1972): According to Milesi et al. (2012), the Brazilian flathead can be characterized as a piscivorous predator with a trophic level of 4.25, primarily consuming bony fish (98.56%), followed by mollusks (1.37%) and crustaceans (0.05%). The most important prey items were horse mackerel *Trachurus lathami* (64.63%), Argentine anchovy *Engraulis anchoita* (27.37%), and the squid *Loligo sanpaulensis* (1.36%).

On the other hand, the lack of information regarding the impacts on non-commercial species (discards) and higher-level predators also prevents a complete understanding of the fishery's impact on the ecosystem.

3.4.2. Principle 2 Performance Indicator scores and rationales

PI 2.1.1 – In-scope species outcome

PI 2.1.1		The UoA aims to maintain in-scope species above the PRI and does not hinder recovery of in-scope species if they are below the PRI		
Scoring issue		SG 60	SG 80	SG 100
a	Main in-scope species stock status			
	Guide post	<p>Main in-scope species are likely to be above the PRI.</p> <p>or</p> <p>If the species is below the PRI, it is likely that the UoA does not hinder recovery and rebuilding.</p>	<p>Main in-scope species are highly likely to be above the PRI.</p> <p>or</p> <p>If the species is below the PRI, there is evidence of recovery, or it is highly likely that the UoA does not hinder recovery and rebuilding.</p>	There is a high degree of certainty that main in-scope species are fluctuating around a level consistent with MSY.
	Met?	Yes	Yes	No
Rationale		<p>According to the analysis in the introduction of Principle 2, the species "striped weakfish " (<i>Cynoscion guatucupa</i>) and "Patagonian flounder" (<i>Paralichthys patagonicus</i>) would meet the parameters to be classified as in-scope main species.</p> <p>Striped Weakfish (<i>Cynoscion guatucupa</i>) Within the Coastal Mixed-Species Fishery in 2021, striped weakfish represented 8.5% of the total catch. Based on historical catch data for this species by the fleets of Argentina and Uruguay, it is known that since 2004, the capture of this species has remained relatively stable with some fluctuations observed during the period 2015-2017, where decreases and increases in catches were observed. These fluctuations have also been observed in other fishing grounds, likely due to variations in recruitment, fleet accessibility, changes in the carrying capacity of the ecosystem for the species, changes in fishing effort, or a combination of these factors (CTMMFM, 2021).</p> <p>The results of the stock assessment conducted by the working group advising the CTMFM indicate that the striped weakfish population is in very good condition, so much so that the resource status is "close to the sustainability target".</p> <p>The management measures adopted by the CTMFM for this species are:</p> <ul style="list-style-type: none"> • Joint Resolution CARP-CTMFM 01/2021: Establishes the Total Allowable Catch (TAC) for striped weakfish (<i>Cynoscion guatucupa</i>) for the years 2021 and 2022 in the Treaty area. <p>Patagonian flounder (<i>Paralichthys patagonicus</i>) <i>Paralichthys patagonicus</i> is the most frequently landed species of flatfish in Argentina fisheries, with the highest catch occurring off Buenos Aires and declining to the south. Catch per unit effort (CPUE) from 1999 to 2018 was very variable. Biomass estimates from 1934 to 2018 show somewhat of a decline, but this is highly uncertain as the indices of abundance trend upward since about 2014 or over the past 4-5 years. Data from recent research cruises are expected to improve these model indices. According to the most recent stock assessment of the demersal fishery, it is not overfished, and overfishing is not occurring (Riestra et al, 2020).</p> <p>Management measure adopted by CTMFM for this species (for all flatfish) is:</p> <ul style="list-style-type: none"> • Resolution CTMFM 16/2022. Establishes a Total Allowable Catch (TAC) for flatfish in the Argentina-Uruguay Common Fishing Zone. <p>Considering that it is highly likely that the stock status of the two classified main species is above the PRI, the SG80 requirement is met. While it can be considered that there is a high degree of certainty that the striped weakfish stock fluctuates around or above the MRS, the same cannot be affirmed for the Patagonian flounder. Therefore, the SG100 requirement is not met.</p>		

b	Minor in-scope species stock status			
	Guide post			<p>Minor in-scope species are highly likely to be above the PRI.</p> <p>or</p> <p>If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor in-scope species.</p>
	Met?			No
Rationale		<p>It cannot be claimed that it is highly likely that all in-scope minor species are above the PRI or that, if any of them are below the PRI, there is evidence that the fishing activity does not hinder the recovery and rebuilding of the in-scope minor species. Additionally, there are species that are discarded for which there is no information available. This is a scoring issue that can be resolved with more information from onboard observation activities, likely utilizing the RBF (Risk-Based Framework). Therefore, the SG100 requirement is not met.</p>		

Draft scoring range	≥80
Information gap indicator	<p>More information sought.</p> <p><i>More information is necessary to score minor species. The complete list of species needs to be known and information to conduct an RBF must be collected.</i></p>
Data-deficient? (Risk-Based Framework needed)	<p>For main species: No</p> <p>For minor species: Yes</p>

PI 2.1.2 – In-scope species management strategy

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of in-scope species		
Scoring issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place for the UoA, if necessary , that are expected to maintain or to not hinder rebuilding of the main in-scope species at/to the in-scope species outcome SG60 level.	There is a partial strategy in place for the UoA, if necessary , that is expected to maintain or to not hinder rebuilding of the main in-scope species at/to the in-scope species outcome SG80 level. or Where in-scope species outcome fails to meet the SG80, a demonstrably effective strategy is in place between all MSC UoAs that categorise this species as main in-scope to ensure that they collectively do not hinder recovery and rebuilding.	There is a strategy in place for the UoA for managing main and minor in-scope species at the in-scope species outcome SG80 level.
	Met?	Yes	Yes	No
Rationale		Taking into account that the main species stocks meet the requirements of indicator 2.1.1 to score 80 points and considering the set of measures adopted within the scope of the CTMFM and the CFP, it can be considered that there is a partial strategy that achieves and maintains these results. Therefore, this scoring issue meets the requirements for an SG60 and an SG80 , but it does not meet the requirements for an SG100 due to the lack of a strategy to manage main and minor species.		
b	Management strategy effectiveness			
	Guide post	The measures, if necessary , are considered likely to work for the main in-scope species, based on plausible argument.	There is some evidence that the measures/partial strategy, if necessary , is achieving the objectives for main in-scope species set out in scoring issue (a), based on some information directly about the UoA and/or species involved.	There is evidence that the partial strategy/strategy is achieving the objectives set out in scoring issue (a), based on information directly about the UoA and/or species involved.
	Met?	Yes	Yes	Yes
Rationale		Based on the resource status assessments conducted by the Joint Technical Commission of the Maritime Front for all in-scope main species, it has been observed that biomass values are stable or even increasing in recent years. This is evidence that the strategies and associated measures are effective. Therefore, this scoring aspect would meet the requirements for an SG80 , and even an SG100 if the other scoring issues would enable such a score.		

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of in-scope species		
c	Review of alternative measures			
	Guide post	There is a review of alternative measures to minimise UoA-related mortality of unwanted catch of main in-scope species	There is a review at least once every 5 years of alternative measures to minimise UoA-related mortality of unwanted catch of main in-scope species and they are implemented, as appropriate .	There is a review that happens every 2 years of alternative measures to minimise UoA-related mortality of unwanted catch of all in-scope species, and they are implemented, as appropriate .
	Met?	NA	NA	NA
Rationale		Based on the available information, the spatiotemporal restriction measures appear to have been sufficient in preventing excessive catch of unwanted individuals of the main species (juveniles, spawning individuals). Therefore, this scoring aspect is NOT APPLICABLE .		
d	Shark finning			
	Guide post	There is a high degree of certainty that shark finning is not taking place.		
	Met?	Yes		
Rationale		The only shark accounted as in-scope species is the broadnose sevengill shark (<i>Gatopardo</i> , <i>Notorynchus cepedianus</i>) but the catch and landing of this species is negligible. As the finning is a commercial operation, we can assert that there is a high degree of certainty that finning for this shark is not taking place. The approach is different for ETP species, but in this case the evaluation team consider that SG60 is met.		
e	Ghost gear management strategy			
	Guide post	There are measures in place for the UoA, if necessary , that are expected to minimise ghost gear and its impact on all in-scope species.	There is a partial strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on all in-scope species.	There is a strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on all in-scope species.
	Met?	NA	NA	
Rationale		The SI is scored within ETP/OOS species component.		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 2.1.3 – In-scope species information

PI 2.1.3		Information is adequate to determine the impact of the UoA on in-scope species and the effectiveness of management measures or strategies in place		
Scoring issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impact on main in-scope species			
	Guide post	Information is adequate to broadly understand the impact of the UoA on the stock status of main in-scope species.	Information is adequate to estimate the impact of the UoA on the stock status of main in-scope species with a high degree of accuracy .	Information is adequate to estimate the impact of the UoA on the stock status of main in-scope species with a very high degree of accuracy .
	Met?	Yes	Yes	No
Rationale		The information on the in-scope main species is adequate, and in the case of the striped weakfish, it has a very high level of accuracy to estimate the impact of the UoA on the status of these species. In the case of the Patagonian flounder, the information is not enough to estimate individually its status with a high level of accuracy. Therefore, this indicator meets SG80 but not SG100.		
b	Information adequacy for assessment of impact on minor in-scope species			
	Guide post			Information is adequate to estimate the impact of the UoA on the stock status of minor in-scope species with a high degree of accuracy .
	Met?			No
Rationale		While there is quantitative information available on the bycatch that would allow estimating the impact of the UoA on the status of some minor species, it is not considered to have a high level of accuracy. There are also some minor species that are discarded and therefore are not accurately known. Therefore, this SI does not meet the requirements of SG100.		
c	Information adequacy for management strategy			
	Guide post	Information is adequate to support measures to manage main in-scope species.	Information is adequate to support a partial strategy to manage main in-scope species.	Information is adequate to support a strategy to manage all in-scope species and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	Met?	Yes	Yes	No
Rationale		The information on main species is adequate to support the management strategies adopted thus far, and the stock assessments allow for a high degree of certainty in determining whether these measures are achieving their objectives. Therefore, this scoring issue meets SG80 . However, it does not meet SG100 because there is not enough information available to determine if all minor species require management strategies.		

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI regarding main species For minor species more information is needed (see PI 2.1.1)

PI 2.1.3R – In-scope species information if RBF is used to score PI 2.1.1

Note – This PI will be used in the future if the RBF is used to score PI 2.1.1 for the UoA (MSC Fisheries Standard Toolbox Table A3).

PI 2.1.3R		Information on the nature and amount of in-scope species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage in-scope species		
Scoring issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impact on main in-scope species			
	Guide post	Qualitative information is adequate to estimate productivity and susceptibility attributes for main in-scope species.	Some quantitative information is adequate to assess productivity and susceptibility attributes for main in-scope species.	
	Met?	Yes / No / NA	Yes / No / NA	Yes / No / NA
Rationale				
b	Information adequacy for assessment of impact on minor in-scope species			
	Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor in-scope species with respect to status.
	Met?			Yes / No
Rationale				
c	Information adequacy for management strategy			
	Guide post	Information is adequate to support measures to manage main in-scope species.	Information is adequate to support a partial strategy to manage main in-scope species.	Information is adequate to support a strategy to manage all in-scope species and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	Met?	Yes / No	Yes / No	Yes / No
Rationale				

Draft scoring range	<60 / 60-79 / ≥80
Information gap indicator	More information sought / Information sufficient to score PI <i>If more information is sought, include a description of what the information gap is and what information is sought</i>

PI 2.2.1 – ETP/OOS species outcome

PI 2.2.1		The direct effects of the UoA do not hinder recovery of the ETP/OOS unit to favourable conservation status																																																				
Scoring issue		SG 60	SG 80	SG 100																																																		
a	Direct effects																																																					
	Guide post	The direct effects of the UoA are unlikely to hinder recovery of the ETP/OOS unit to favourable conservation status.	The direct effects of the UoA are highly unlikely to hinder recovery of the ETP/OOS unit to favourable conservation status.	There is a high degree of certainty that the direct effects of the UoA do not hinder recovery of the ETP/OOS unit to favourable conservation status.																																																		
	Met?	No	No	No																																																		
Rationale		<p>Out-of-scope species (marine birds, mammals and reptiles): Only information regarding incidental catch of 2 turtle species and 2 bird species was obtained from a technical report by INIDEP. The report mentions the leatherback turtle (<i>Dermochelys coriacea</i>), loggerhead sea turtle (<i>Caretta caretta</i>), Magellanic penguin (<i>Spheniscus magellanicus</i>), and white-chinned petrel (<i>Procellaria aequinoctialis</i>) in 2016. These interaction reports do not indicate the number of individuals involved but state that they were discarded, suggesting that they were dead when returned to the sea. (Riestra y Ruarte, 2020). In general, there is limited knowledge about these types of interactions and the direct effects the fishery has on these species.</p> <p>In-scope protected, threatened, or endangered species (chondrichthyans): In the Introduction, the following species are listed in this category:</p> <table border="1"> <thead> <tr> <th>TAXONOMIC GROUP</th> <th>COMMON NAME</th> <th>SPECIES</th> <th>UICN</th> <th>CITES</th> </tr> </thead> <tbody> <tr> <td rowspan="11">Chondrichthyans</td> <td>Narrownose smooth-hound</td> <td><i>Mustelus schmitti</i></td> <td>CR</td> <td>NO</td> </tr> <tr> <td>Tope</td> <td><i>Galeorhinus galeus</i></td> <td>CR</td> <td>NO</td> </tr> <tr> <td>Angular Angelshark</td> <td><i>Squatina guggenheim</i></td> <td>EN</td> <td>NO</td> </tr> <tr> <td>Shortnose Guitarfish</td> <td><i>Zapteryx brevirostris</i></td> <td>EN</td> <td>II</td> </tr> <tr> <td>Brazilian Guitarfish</td> <td><i>Rhinobatos horkelii (Pseudobatos horkelii)</i></td> <td>CR</td> <td>II</td> </tr> <tr> <td>Spotback Skate</td> <td><i>Atlantoraja castelnaui</i></td> <td>CR</td> <td>NO</td> </tr> <tr> <td>Yellownose Skate</td> <td><i>Dipturus chilensis</i></td> <td>EN</td> <td>NO</td> </tr> <tr> <td>Bignose Fanskate</td> <td><i>Sympterygia acuta</i></td> <td>CR</td> <td>NO</td> </tr> <tr> <td>Eyespot Skate</td> <td><i>Atlantoraja cyclophora</i></td> <td>EN</td> <td>NO</td> </tr> <tr> <td>Copper Shark</td> <td><i>Carcharinus brachyurus</i></td> <td>VU</td> <td>II</td> </tr> <tr> <td>Sand Tiger Shark</td> <td><i>Carcharias Taurus</i></td> <td>CR</td> <td>NO</td> </tr> </tbody> </table> <p>The angular angelshark (<i>Squatina guggenheim</i>), together with narrownose smooth-hound and skates (Rajidae family) are the most exploited chondrichthyan species in the area of the Río de la Plata Treaty and its Maritime Fron. According to the stock assessments conducted by the scientific advisory team of the CTMFM, the narrownose smooth-hound (<i>Mustelus schmitti</i>) is in a critical state and has been under a recovery plan since 2020. On the other hand, the angular angelshark is considered to be in a good state (close to the sustainability target). In general, skates have experienced population reductions, and there are several measures in place for their recovery.</p> <p>As the Brazilian flathead is part of the coastal mixed-species fishery, which usually includes these chondrichthyans, currently it is impossible to assert that it is unlikely for the direct effects of the UoA to prevent the recovery of these chondrichthyan species to a favorable conservation status. The impact of the measures implemented so far will need to be observed in order to make such a claim. Therefore, in addition to regular assessments, it would be beneficial to have population status evaluations for species such as spiny dogfish, guitarfish, skates and sand tiger shark.</p>			TAXONOMIC GROUP	COMMON NAME	SPECIES	UICN	CITES	Chondrichthyans	Narrownose smooth-hound	<i>Mustelus schmitti</i>	CR	NO	Tope	<i>Galeorhinus galeus</i>	CR	NO	Angular Angelshark	<i>Squatina guggenheim</i>	EN	NO	Shortnose Guitarfish	<i>Zapteryx brevirostris</i>	EN	II	Brazilian Guitarfish	<i>Rhinobatos horkelii (Pseudobatos horkelii)</i>	CR	II	Spotback Skate	<i>Atlantoraja castelnaui</i>	CR	NO	Yellownose Skate	<i>Dipturus chilensis</i>	EN	NO	Bignose Fanskate	<i>Sympterygia acuta</i>	CR	NO	Eyespot Skate	<i>Atlantoraja cyclophora</i>	EN	NO	Copper Shark	<i>Carcharinus brachyurus</i>	VU	II	Sand Tiger Shark	<i>Carcharias Taurus</i>	CR	NO
TAXONOMIC GROUP	COMMON NAME	SPECIES	UICN	CITES																																																		
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PI 2.2.1	The direct effects of the UoA do not hinder recovery of the ETP/OOS unit to favourable conservation status
	<p>Based on the information provided for both OOS and ETP species, it is considered that this scoring issue would not meet SG60 until the necessary data is available.</p> <p>Once more detailed information on the direct impacts on OOS species is obtained, it will be necessary to use the RBF to reassess this PI.</p>

Draft scoring range	<60
Information gap indicator	More information sought
Data-deficient? (Risk-Based Framework needed)	Yes

PI 2.2.2 – ETP/OOS species management strategy

PI 2.2.2		The UoA has precautionary management strategies in place designed to:		
		<ul style="list-style-type: none"> • Ensure that incidental catches of the ETP/OOS unit are minimised and where possible eliminated • Ensure that the UoA does not hinder recovery to Favourable Conservation Status. 		
Scoring issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place, if necessary , that are expected to minimise the UoA-related mortality of the ETP/OOS unit and achieve the ETP/OOS outcome SG80 level of performance.	There is a strategy in place, if necessary , that is expected to minimise the UoA-related mortality of the ETP/OOS unit and achieve the ETP/OOS outcome SG80 level of performance.	There is a comprehensive strategy in place that is expected to minimise the UoA-related mortality of the ETP/OOS unit and achieve the ETP outcome SG80 level of performance.
	Met?	Yes	Yes	No
Rationale		<p>Regarding the in-scope ETP species (chondrichthyans caught in the coastal mixed species fishery), there are strategies in place to reduce the impact of the fishery.</p> <p>In 2002, the First Chondrichthyan Debate Forum was held, where the CTMFM established the initial specific management measures for some chondrichthyan species. This was done through RES CTMFM 5/2002, which established the total allowable catch (TAC) for narrownose smooth-hound, and RES CTMFM 13/2002, which established the early closure of targeted fishing for southern eagle ray and skates. The need to investigate skate species of the Rajidae family and the for southern eagle ray of the Myliobatis genus was also declared, as they are reported in the common fishing area.</p> <p>In 2015, the Chondrichthyan Working Group met to analyze the situation of chondrichthyan species exploited in the treaty area, considered as a priority by the Commission. This was particularly focused on narrownose smooth-hound, angular angelshark, other sharks, and skate species that are part of the coastal fishery. The group also aimed to conduct research campaigns on chondrichthyans and their bycatch to evaluate them and establish restricted fishing areas for the protection of these species. Another objective of this meeting was to conduct studies that contribute to understanding the status of these resources in order to provide recommendations to the Commission regarding necessary management measures.</p> <p>In 2018, the Regional Action Plan for the Conservation and Sustainable Fishing of Chondrichthyans in the Río de la Plata Treaty Area and its Maritime Front was established. This plan highlights the progress made in the biological and fishery knowledge of chondrichthyan species, including the development of specific research campaigns, the implementation of sampling and data acquisition protocols for this taxonomic group, as well as the determination of abundance indexes and the application of population assessment models for the most exploited chondrichthyans in the Treaty area.</p> <p>Regarding birds, mammals and reptiles, Argentina has National Action Plans and specific measures in place to reduce impacts on these species. The regulations regarding chondrichthyans and out-of-scope species are detailed in the introduction.</p> <p>In addition, the CTMFM promulgated Resolution 4/2022 that deals with the regional action plan to reduce the interaction of seabirds with the fisheries that take place in waters of common interest.</p> <p>It is expected that the existing set of measures will be effective in reducing mortality of ETP and OOS species impacted by the fishery when necessary. Therefore, it meets the requirements for an SG60, and probably an SG80 as well.</p>		

PI 2.2.2	<p>The UoA has precautionary management strategies in place designed to:</p> <ul style="list-style-type: none"> • Ensure that incidental catches of the ETP/OOS unit are minimised and where possible eliminated • Ensure that the UoA does not hinder recovery to Favourable Conservation Status. 		
b	Management strategy effectiveness		
	Guide post		Evidence indicates that the measures, strategy or comprehensive strategy have reduced or minimised the mortality of the ETP/OOS unit.
	Met?		No
Rationale	There is no evidence indicating that the measures or the comprehensive strategy have reduced or minimized the mortality of ETP/OOS species Thus, this scoring issue meets SG60 by default but does not meet SG80.		
c	Review of alternative measures to minimise mortality of the ETP/OOS unit		
	Guide post		There is a review at least once every 5 years of the alternative measures to minimise UoA-related mortality of the ETP/OOS unit and they are implemented as appropriate for the ETP/OOS unit.
	Met?		No
Rationale	<p>Within the framework of the CFP, there is a continuous review of measures aimed at minimizing the mortality of ETP/OOS species.</p> <p>For instance, based on the most recent data available regarding the shark stock status, resolution CFP No 8/2021 mandates the return of non-commercially valuable sharks caught as bycatch to the sea.</p> <p>INIDEP has created a guide for crew members of the trawling fleets focused on “promoting good fishing practices and the release of non-commercial cartilaginous fish to maximize their survival, although it is focused on non-commercial species of chondrichthyans”.</p> <p>The implementation of Total Allowable Catches, closed areas in reproductive and juvenile concentration zones, can also be seen as a partial measure to minimize the mortality of chondrichthyan species classified as ETP in this fishery.</p> <p>Regarding measures to decrease mortality or operational interaction with birds, the National Action Plan for Birds (PAN-Aves) indicates that interactions between 13 and 23 bird species with trawlers in Argentine waters have been detected. However, the precise impact of the coastal fishery on these species is unknown, making it difficult to define the need for alternative measures. Therefore, this scoring issue meets SG60 by default, but not SG80.</p>		

PI 2.2.2	The UoA has precautionary management strategies in place designed to: <ul style="list-style-type: none"> • Ensure that incidental catches of the ETP/OOS unit are minimised and where possible eliminated • Ensure that the UoA does not hinder recovery to Favourable Conservation Status. 			
d	Shark finning			
	Guide post	There is a high degree of certainty that shark finning is not taking place.		
	Met?	No		
Rationale	The Resolution CFP No. 4/2013 establishes the prohibition of the practice known as "shark finning" on board of fishing vessels. On the other hand, the landing of shark and skate species mentioned in the introduction is carried out with complete specimens, as shark finning is not a common practice in Argentine fisheries, and there are no records of shark fin exports. However, the standard requires clear evidence that shark finning does not occur, and although the observer program of the INIDEP registers the absence of this practice, this fishery faces the drawback of not embarking observers. Therefore, this scoring issue does not meet SG60, and as a result, the PI fails.			
e	Ghost gear management strategy			
	Guide post	There are measures in place, if necessary , for the UoA that are expected to minimise ghost gear and its impact on the ETP/OOS unit.	There is a partial strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on the ETP/OOS unit.	There is a strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on the ETP/OOS unit.
	Met?	Yes	No	No
Rationale	In general, few fishing equipments are permanently lost. They are expensive, and when a loss occurs, fishermen themselves try to recover them. Recently, the Argentine government implemented measures to ensure traceability and minimize losses of fishing gear through Disposition 4/2023 (DI-2023-4-APN-DNCYFP#MAGYP). Therefore, this indicator meets at least SG60 .			

Draft scoring range	<60
Information gap indicator	More information sought to score PI. Impacts on ETP/OOS species not well known. Lack of shark finning needs evidence.

PI 2.2.3 – ETP/OOS species information

PI 2.2.3	Information is adequate to determine the impact of the UoA on the ETP/OOS unit and the effectiveness of management measures or strategies in place			
Scoring issue	SG 60	SG 80	SG 100	
a	Information adequacy for assessment of impacts			
	Guide post	Information is adequate to broadly understand the impact of the UoA on the ETP/OOS unit.	Information is adequate to estimate the impact of the UoA on the ETP/OOS unit, and to estimate whether the UoA may be a threat to its recovery, with a high degree of accuracy .	Information is adequate to estimate the impact of the UoA on the ETP/OOS unit, and to estimate whether the UoA may be a threat to its recovery, with a very high degree of accuracy .
	Met?	No	No	No
Rationale	While there is sufficient information to broadly understand the impact of the UoA on chondrichthyans, the same cannot be said for OOS species. Therefore, this aspect being scored does not meet the requirements for SG60.			
b	Information adequacy for management strategy			
	Guide post	Information is adequate to support measures to manage impacts on the ETP/OOS unit.	Information is adequate to support a strategy to manage impacts on the ETP/OOS unit, and to measure trends to evaluate the effectiveness of the measures to minimise mortality.	Information is adequate to support a comprehensive strategy to manage impacts on the ETP/OOS unit, and to evaluate the effectiveness of the measures to minimise mortality with a high degree of certainty .
	Met?	No	No	No
Rationale	As in the case of Scoring Issue a), the information on chondrichthyans may be sufficient to support management measures regarding the impacts on ETP species, but the same cannot be said for OOS species. Therefore, this scoring issue would not meet SG60.			

Draft scoring range	<60
Information gap indicator	More information sought to score PI More information is needed about the impacts on OOS species

PI 2.2.3R – ETP/OOS species information if RBF is used to score PI 2.2.1

Note: This PI will be used in the future if the RBF is used to score PI 2.2.1 for the UoA (MSC Fisheries Standard Toolbox Table A4).

PI 2.2.3R	Relevant information is collected to support the management of UoA impacts on the ETP/OOS unit, including:			
	<ul style="list-style-type: none"> • Information for the development of the management strategy. • Information to assess the effectiveness of the management strategy. • Information to determine the outcome status of the ETP/OOS unit. 			
Scoring issue	SG 60	SG 80	SG 100	
a	Information adequacy for assessment of impacts			
	Guide post	Qualitative information is adequate to estimate productivity and susceptibility attributes for the ETP/OOS unit.	Some quantitative information is adequate to assess productivity and susceptibility attributes for the ETP/OOS unit.	
	Met?	Yes / No	Yes / No	Yes / No
Rationale				
b	Information adequacy for management strategy			
	Guide post	Information is adequate to support measures to manage impacts on the ETP/OOS unit.	Information is adequate to support a strategy to manage impacts on the ETP/OOS unit, and to measure trends to evaluate the effectiveness of the measures to minimise mortality.	Information is adequate to support a comprehensive strategy to manage impacts on the ETP/OOS unit, and to evaluate the effectiveness of the measures to minimise mortality with a high degree of certainty .
	Met?	Yes / No	Yes / No	Yes / No
Rationale				

Draft scoring range	<60 / 60-79 / ≥80
Information gap indicator	<p>More information sought / Information sufficient to score PI</p> <p><i>If more information is sought, include a description of what the information gap is and what information is sought</i></p>

PI 2.3.1 – Habitats outcome

PI 2.3.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(ies) responsible for fisheries management in the area(s) where the UoA operates		
Scoring issue		SG 60	SG 80	SG 100
a	Less sensitive habitats			
	Guide post	The UoA is unlikely to reduce structure and function of less sensitive habitats to a point where there would be serious or irreversible harm .	The UoA is highly unlikely to reduce structure and function of less sensitive habitats to a point where there would be serious or irreversible harm .	There is evidence that the UoA is highly unlikely to reduce structure and function of less sensitive habitats to a point where there would be serious or irreversible harm .
	Met?	Yes	No	No
Rationale		<p>Brazilian flathead is a species with coastal and benthic habits that inhabits sandy bottoms, preferably at depths of less than 50 meters. Its distribution ranges from 23° S (Rio de Janeiro, Brazil) to 47° S (northern province of Santa Cruz, Argentina) (Cousseau and Perrota, 2013) (See table). It is mainly caught in summer at depths ranging from 39 to 75 meters (Bellisio et al, 1979; Gosztonyi, 1981; Cousseau and Perrota, 2013).</p> <p>Considering that the UoA operates at depths of less than 50 meters within the continental shelf, which is characterized by a flat geomorphology with sediment plains consisting of sandy substrates, it is considered unlikely that the UoA would significantly reduce the habitat structure and function to a point where severe or irreversible damage could occur. Therefore, this scoring issue meets the requirements for SG60. However, more information would be needed to apply the RBF and evaluate these impacts according to the requirements of SG80.</p>		
b	More sensitive habitats			
	Guide post	The UoA is unlikely to reduce structure and function of more sensitive habitats to a point where there would be serious or irreversible harm .	The UoA is highly unlikely to reduce structure and function of more sensitive habitats to a point where there would be serious or irreversible harm .	There is evidence that the UoA is highly unlikely to reduce structure and function of more sensitive habitats to a point where there would be serious or irreversible harm .
	Met?	NA	NA	NA
Rationale		No more sensitive habitats requiring particular protection have been detected, and therefore this scoring issue does not apply		

Draft scoring range	60-79
Information gap indicator	More information sought to score PI. More quali-quantitative information is needed to have a better understanding of the outcomes on habitats or to conduct an RBF analysis
Data-deficient? (Risk-Based Framework needed)	Yes

PI 2.3.2 – Habitats management strategy

PI 2.3.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
Scoring issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place, if necessary , that are expected to achieve the habitat outcome SG80 level.	There is a partial strategy in place, if necessary , that is expected to achieve the habitat outcome SG80 level or above.	There is a strategy in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.
	Met?	No	No	No
Rationale		As long as the level of risk posed by this fishery to the habitats on which it operates is not well known, it is not possible to determine whether it is necessary to establish stronger management measures to ensure that the unit does not pose a risk of serious or irreversible harm to habitats. Therefore, this indicator does not meet the requirements of SG60.		
b	Management strategy effectiveness			
	Guide post	The measures, if necessary , are considered likely to work, based on plausible argument .	There is some evidence that the measures/partial strategy, if necessary , is achieving the objectives set out in SI (a), based on information directly about the UoA and/or habitats involved.	There is evidence that the partial strategy/strategy is achieving the objectives set out in SI (a), based on information directly about the UoA and/or habitats involved.
	Met?	No	No	No
Rationale		At the time of this pre-assessment, there is no information available to determine whether measures are necessary and, consequently, whether they are effective. Therefore, this scoring issue does not meet SG60.		
c	Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect more sensitive habitats			
	Guide post	Information is adequate to broadly understand compliance in the UoA with management requirements to protect more sensitive habitats.	Information is adequate to determine , with a high degree of accuracy , compliance in the UoA with both its management requirements and protection measures afforded to more sensitive habitats by other MSC UoAs/non-MSC fisheries, where relevant .	Information is adequate to determine , with a very high degree of accuracy , compliance in the UoA with both its management requirements and with protection measures afforded to more sensitive habitats by other MSC UoAs/ non-MSC fisheries, where relevant .
	Met?	NA	NA	NA
Rationale		No "more sensitive areas" involved with the fishery.		

PI 2.3.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
d	Ghost gear management strategy			
	Guide post	There are measures in place, if necessary , for the UoA that are expected to minimise ghost gear and its impact on all habitats.	There is a partial strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on all habitats.	There is a strategy in place for the UoA, if necessary , that is expected to minimise ghost gear and its impact on all habitats.
	Met?	Yes	No	No
Rationale		In general, few fishing equipments are lost for a long time. They are expensive, and when a loss occurs, fishermen themselves try to recover them. Recently, the Argentine government implemented measures to ensure traceability and minimize losses of fishing gear through Disposition 4/2023 (DI-2023-4-APN-DNCYFP#MAGYP). Therefore, this indicator meets at least SG60 .		

Draft scoring range	<60
Information gap indicator	More information sought to score PI See PI 2.3.1.

PI 2.3.3 – Habitats information

PI 2.3.3		Information is adequate to determine the impact of the UoA on habitats, including changes in the risk posed by the UoA over time		
Scoring issue		SG 60	SG 80	SG 100
a	Information quality			
	Guide post	The types and distribution of habitats are broadly understood .	The nature, distribution, and vulnerability of habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA.	The distribution of habitats is known over their range, with particular attention given to the occurrence of vulnerable habitats. habitats is known over their range, with particular attention to the occurrence of vulnerable habitats.
	Met?	Yes	No	No
Rationale		There is a basic understanding of the types of habitats present in the fishing area and their distribution. There are qualitative data regarding the spatial extent of interaction, as well as the temporal and spatial location of fishing gear use. Therefore, this aspect meets the requirements for an SG60 . However, the available information is not up-to-date and does not have the level of detail required to meet the requirements for an SG80.		
b	Information adequacy for assessment of impacts			
	Guide post	Information is adequate to broadly understand the impacts of gear use on habitats.	Information is adequate to estimate the impacts of the UoA on habitats with a high degree of accuracy .	Information is adequate to estimate the impacts of the UoA on habitats with a very high degree of accuracy .
	Met?	Yes	No	No
Rationale		The qualitative information is sufficient to understand the general nature of the main impacts of fishing gear on commonly encountered habitats. It would be possible to estimate the spatial consequences and habitat attributes. Therefore, the requirements for an SG60 are met. However, so far there is a lack of qualitative and quantitative information necessary to meet the requirements for an SG80.		
c	Monitoring			
	Guide post		Adequate information continues to be collected to detect any increase in risk to habitats.	Changes in habitat distributions over time are measured.
	Met?		No	No
Rationale		Currently, there is no Onboard Observer Program in place to collect data specifically related to habitats. Therefore, this aspect would meet the requirements for an SG60 by default, but it would not meet the requirements for an SG80.		

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

PI 2.3.3R – Habitats information if CSA is used to score PI 2.3.1

Note – This PI will be used in the future if the RBF is used to score PI 2.3.1 for the UoA (MSC Fisheries Standard Toolbox v1.0 Table A5).

PI 2.3.3R		Information is adequate to determine the risk posed to habitats by the UoA and the effectiveness of the strategy to manage impacts on the habitats					
Scoring issue		SG 60		SG 80		SG 100	
a	Information quality						
	Guide post	Qualitative information is adequate to estimate the types and distribution of habitats.	Some quantitative information is available and is adequate to estimate the types and distribution of habitats.	The distribution of habitats is known over their range, with particular attention to the occurrence of vulnerable habitats.			
	Met?	Yes / No	Yes / No	Yes / No			
Rationale							
b	Information adequacy for assessment of impacts						
	Guide post	Qualitative information is adequate to estimate the consequence and spatial attributes of habitats.	Some quantitative information is available and is adequate to estimate the consequence and spatial attributes of habitats.				
	Met?	Yes / No	Yes / No	Yes / No			
Rationale							
c	Monitoring						
	Guide post		Adequate information continues to be collected to detect any increase in risk to habitats.	Changes in habitat distributions over time are measured.			
	Met?		Yes / No	Yes / No			
Rationale							

Draft scoring range	<60 / 60-79 / ≥80
Information gap indicator	<p>More information sought / Information sufficient to score PI</p> <p><i>If more information is sought, include a description of what the information gap is and what information is sought</i></p>

PI 2.4.1 – Ecosystem outcome

PI 2.4.1		The UoA does not cause serious or irreversible harm to the key elements underlying ecosystem structure and function		
Scoring issue		SG 60	SG 80	SG 100
a	Ecosystem status			
	Guide post	The UoA is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be 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 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 serious or irreversible harm.
	Met?	No	No	No
Rationale		<p>While there is evidence that the species included in the coastal mixed-species fishery has not substantially changed over the years, there is a lack of information regarding important ecosystem components such as benthic fauna, discarded species, birds, mammals, and habitats. Therefore, until this lack of data is solved, this scoring issue would not meet SG60.</p> <p><i>[List/detail what “key ecosystem elements” are being assessed (SA3.14.3-SA3.14.4, GSA3.14.4).]</i></p>		

Draft scoring range	<60
Information gap indicator	More information sought to score PI There is a lack of information regarding impacts on important ecosystem components such as benthic fauna, discarded species, OOS species, and habitats.
Data-deficient? (Risk-Based Framework needed)	Yes

PI 2.4.2 – Ecosystem management strategy

PI 2.4.2		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 issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place, if necessary , which considers the potential impacts of the UoA on the key elements underlying ecosystem structure and function.	There is a partial strategy in place, if necessary , that is expected to achieve the Ecosystem outcome SG80 level.	There is a strategy in place for managing the impact of the UoA on the key elements underlying ecosystem structure and function.
	Met?	Yes	No	No
Rationale		The existence of measures that prohibit the capture of chondrichthyan species in certain areas due to their importance as breeding and nursery grounds for juveniles, as well as measures that protect ETP species, indicates that established measures consider the potential impacts of the UoA on key aspects of the ecosystem. Therefore, it meets SG60 . However, more information is needed regarding the impacts on in-scope minor species, ETP/OOS species, and habitats to determine if these measures can achieve a score of 80 in indicator 2.4.1 and meet the requirements for SG80.		
b	Management strategy effectiveness			
	Guide post	The measures, if necessary , are considered likely to work, based on plausible argument.	There is some evidence that the measures/partial strategy, if necessary , is achieving the objectives set out in scoring issue (a), based on some information directly about the UoA and/or the ecosystem involved.	There is evidence that the partial strategy/strategy is achieving the objectives set out in scoring issue (a) based on information directly about the UoA and/or ecosystem involved.
	Met?	Yes	No	No
Rationale		It is expected that the existing measures will help maintain the health of the ecosystem, thereby fulfilling the requirements for SG60 . However, without further information, it is not possible to determine if these measures are achieving the desired results, and therefore, the requirements for an SG80 are not met.		

Draft scoring range	60-79
Information gap indicator	More information sought to score PI See PI 2.4.1.

PI 2.4.3 – Ecosystem information

PI 2.4.3		There is adequate knowledge of the ecosystem and the main impacts of the UoA on key ecosystem elements		
Scoring issue		SG 60	SG 80	SG 100
a	Information quality			
	Guide post	Information is adequate to identify the key elements of the ecosystem.	Information is adequate to broadly understand the key elements of the ecosystem.	
	Met?	Yes	No	
Rationale		The available information is sufficient to identify the key elements of the ecosystem but not to broadly understand them. Therefore, this scoring issue meets SG60 but not SG80.		
b	Investigation of UoA impacts			
	Guide post	Main impacts of the UoA on the key ecosystem elements can be inferred from existing information	Main impacts of the UoA on the key elements of the ecosystem have been investigated in detail.	Main interactions between the UoA and the key ecosystem elements have been investigated in detail.
	Met?	Yes	No	No
Rationale		The main impacts of the fishery on key elements of the ecosystem can be inferred from the existing information, but none have been investigated in detail. Therefore, this scoring issue meets SG60 , but not SG80.		
c	Understanding of component functions			
	Guide post		The main functions of the components in the ecosystem are known.	The impacts of the UoA on the components are identified and the main functions of these components in the ecosystem are understood.
	Met?		Yes	No
Rationale		This scoring issue meets SG60 by default. The main functions of the components (target species P1, in-scope species, OOS, and ETP) in the ecosystem are known, fulfilling the requirements for an SG80 . However, it does not meet SG100, as the available information at the time of this assessment has not been sufficient to identify the detailed composition of the ETP/OOS and the impacts on habitats.		
d	Monitoring			
	Guide post		Adequate data continue to be collected to detect any increase in risk level.	Information is adequate to support the development of strategies to manage ecosystem impacts.
	Met?		No	No
Rationale		There are key elements of the ecosystem that are not monitored adequately to understand the increase in risk level, therefore this SI does not meet the requirements of SG80.		

Draft scoring range	60-79
Information gap indicator	More information sought to score PI. See PI 2.4.1

3.5. Principle 3

3.5.1. Principle 3 background

a) Fishing Operation Area and Considerations on Stock Identification

The Brazilian flathead (*Percophis brasiliensis*) is a coastal demersal species that inhabits the coastal waters of the southwestern Atlantic Ocean. Its latitudinal distribution extends from Rio de Janeiro (23°S) to the northern province of Chubut (44°S) in Argentina (Verazay, 1976; Gosztonyi, 1981).

The Brazilian flathead is one of the main species landed in the "coastal mixed-species" fishery, a demersal multispecies-multifleet fishery that operates in the Coastal Ecosystem of Buenos Aires (ECB) (CTMFM, 2021). The fishery takes place in areas under provincial and national jurisdiction of the Argentine Republic, and the resource is also shared with the Oriental Republic of Uruguay in the Argentine-Uruguayan Common Fishing Zone (ZCPAU), where its management is carried out within the framework of the Technical Joint Commission of the Maritime Front (CTMFM) (Rico et al., 2018).

Consequently, the management of Brazilian flathead fisheries in the southwestern Atlantic is based on two management units: the first corresponds to the ZCPAU area and is jointly managed by Argentina and Uruguay under the CTMFM; and the second corresponds to the El Rincón area in Argentine waters, and its management is the responsibility of the Argentine fisheries authority (Rico et al., 2018). The former management unit corresponds to the Unit of Assessment of this pre-evaluation.

In Argentina, the Brazilian flathead is part of the Coastal Demersal Fishery Association of Buenos Aires or "coastal mixed-species" (in Spanish "variado costero" (VC)), which, from a fishing point of view, corresponds to a multispecies-multifleet fishery (Carozza et al., 2001), as established by the Federal Fisheries Council (CFP) in Resolution No. 15/2006, which defines its specific composition and recognizes its distribution area within Argentine jurisdiction and the Treaty Area. This unit is composed of around 40 fish species, being some of them well-defined targeted fisheries (Ruarte et al., 2017).

Currently, there are no Brazilian flathead landings in Uruguay. Therefore, the information on this species corresponds to the Argentine fleet operating in the Treaty area and jurisdictional waters, which adds considerable complexity to the management of this fishery (Rico and Rodríguez, 2022).

Several stocks have been identified for Brazilian flathead, but the UoA is focused on the stock belonging to the Argentina-Uruguay Common Fishing Zone and Argentina jurisdictional waters North of 39° S.

b) Main laws ruling the fishery

The Treaty of the Río de la Plata and its Maritime Front

The Treaty of the Río de la Plata and its Maritime Front is an international treaty signed in Montevideo on November 19, 1973, between Argentina and Uruguay and which put an end to the boundary dispute in the waters of the Río de la Plata.

The treaty was ratified by the Congress of the Argentine Nation by law Nr. 20645 sanctioned on January 31, 1974, and by the, then, military government of Uruguay by decree-law Nr. 14145 of January 25, 1974, and entered into force with the exchange of ratifications on February 12, 1974.

As an international treaty, in Argentina it has a higher legal status than regular laws, according to the current National Constitution reformed in 1994.

Argentina Federal Fisheries Law and complementary laws

Federal Fisheries Law 24,922 was enacted on December 9th, 1997, and published in the Official Journal on January 12th, 1998. This law, along with complementary Federal Decree 748/99, governs fishing activities in the Argentine Republic.

Article 1 of the Law states that "The Argentine Nation will promote the exercise of maritime fishing in pursuit of maximum development compatible with the rational use of marine living resources. It will promote the effective protection of national interests related to fishing and will promote the sustainability of fishing activity, encouraging the long-term conservation of resources, fostering the development of environmentally appropriate industrial processes that promote the generation of maximum added value and the highest employment of Argentine labor."

Within this law, jurisdictional and domain areas over fishing maritime spaces are considered, which correspond to the Nation and the Provinces with a maritime coastline. It also emphasizes that marine living resources existing in the waters of the Argentine EEZ, excluding the Continental Shelf, are under the exclusive domain and jurisdiction of the Nation.

Article 8 of the Law establishes the Federal Fisheries Council (CFP), which has the responsibility of generating federal-level policies. The CFP is a collegiate body composed of five representatives from the Nation and one representative from each of the five Provinces with a maritime coastline. It should be noted that each of these provinces has its own administration and applicable fishing legislation up to the 12-nautical-mile limit from the baseline. Law No. 24,922, with its modifications and regulatory decree, has been the legal framework upon which the Federal Fisheries Council (CFP), established within the law, has designed national fishing policy.

Law 24,922, the General Fisheries Law, establishes general definitions and the scope of the country's fishing policy. It also establishes the functions of the National Fisheries Authority (currently, the Secretariat of Agriculture, Livestock, and Fisheries through its Subsecretariat of Fisheries and Aquaculture; SAGPyA and SSPyA, respectively) and creates the Federal Fisheries Council as the federal entity responsible for defining the details of the National Fisheries Policy, as well as the Fisheries Research Policy, among other functions such as setting Maximum Allowable Catches.

In addition, the Federal Fisheries Law has assigned the National Institute of Fisheries Research and Development (INIDEP) the responsibility of providing technical advice to the responsible authorities.

Within Law 24,922, there is also the requirement to land catches in Argentine ports, the obligation to declare catches, and the imposition of a fishing fee per ton, species, and fishing gear. It also defines the need for vessels to have a quota or a fishing permit to engage in fishing activities.

Other articles of this law regulate topics such as the Fleet Satellite Monitoring System, exceptions to the booking of Argentine-flagged vessels, crew, fishing register, National Fisheries Fund, regime of offenses and sanctions, and finally, supplementary and provisional provisions.

Complementarily, on September 3rd, 1995, Law 24,543 was passed, approving the United Nations Convention on the Law of the Sea (UNCLOS), adopted by the Third United Nations Conference on the Law of the Sea, and the Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea, put in practice on April 30th, 1982, and July 28th, 1994, respectively. This Law established a legal regime that is currently in force, with the definition of Territorial Sea, Adjacent Zone, and Exclusive Economic Zone. The convention established privileges and responsibilities for coastal countries related to the exploitation and conservation of fisheries resources under their jurisdiction. As an international treaty, it has a higher legal status than regular laws, according to the current National Constitution reformed in 1994.

Uruguay Law for Responsible Fishing and Promotion of Aquaculture

On January 8, 2014, the new fishing law 19.175 (ROU, 2014) was promulgated, which redefined the National Directorate of Aquatic Resources' (DINARA) powers, not only focusing them on the management of fishing resources but also on the conservation of the ecosystem that contains them, according to modern trends in ecosystem management of fisheries in the world. This Law creates the first public-private institutionality of the fishing sector, creating, in addition to the Zonal Councils of Artisanal Fishing, the Advisory Council for Aquaculture and the Advisory Council for Fisheries, the latter made up of businessmen, workers, ministries related to the subject and DINARA, which presides over it.

With regard to general fisheries management measures, the precautionary principle is established, and closure criteria are established as well as provisions on limitation of fishing effort.

The Decree 115/2018 regulates the implementation of Law 19175 through the following Chapters: I) Purpose and scope of application; II) Definitions; III) Of the projects; IV) Of the fishing permits; V) Substitution of fishing vessels; VI) Of the fishing permits to foreign vessels; VII) Research fishing; VIII) Of the artisanal fishing; IX) Of the Fishing Councils; X) Of the Fishing Reports; XI) Of the observers; XII) Crews; XIII) Authorizations; XIV) From aquaculture; XV) Of marine mammals; XVI) Tributes; XVII) Comptrollers; XVIII) Fisheries management; XIX) General provisions; XX) Offenses and sanctions; XXI) Repeals.

c) [Main institutions responsible for the management and enforcement of the fishery](#)

- **Mixed Technical Commission of the Argentine-Uruguayan Maritime Front (CTMFM):**

The Commission was created by Article 80 of the Treaty of the Río de la Plata and its Maritime Front. It is an intergovernmental body composed of Argentina and Uruguay, whose task is to study and adopt measures for the conservation and rational exploitation of living resources and the protection of the marine environment in the Common Fishing Zone (CFZ). The implementing/enforcement authorities are different national administrative offices from each country, depending on the subject matter. The Commission is composed of 5 members and 3 advisers from each country. The CTMFM receives annual scientific advice of six working groups on the state of fisheries resources and the environment.

The management of the flathead fishery, as part of the coastal multi-species fishery, is under the CTMFM and the management authorities of the two countries party to the Treaty. The States party of the CTMFM set their policies and national legislation for fisheries. Fisheries research, monitoring, control and surveillance and control are performed by the authorities of each country. In all these tasks, the CTMFM and CARP support the national fisheries authorities and research institutes. At the same time, the two countries must submit the information relevant to the work of the CTMFM. Vessels authorized to fish in the CFZ must deliver information, which includes data on species, volumes and geographical references of the catches. They also possess an VMS that reports, each time, the location, direction and speed of the unit (Gilardoni, 2018).

CTMFM primarily deals with the fishery regulations, establishing management measures by resolution. It is thus CTMFM that ensures the sustainability of fisheries resources by implementing management measures based on scientific advice. These regulate:

- Total Allowable Catch (TAC)
- spatial and temporal fishing bans
- restrictions on fishing effort
- minimum sizes for catch
- good practices for the catch of some species

These measures are taken on the basis of the scientific advice received from groups of scientists from both countries. CTMFM carries out regular monitoring (monthly, bi-weekly, or weekly as appropriate) of catches with the aim to determine eventually fishing bans and TACs.

- Argentina Federal Fisheries Council (CFP)

It is the state, inter-jurisdictional body responsible for defining the national fisheries policy and the main regulator of maritime fishing activity at the national level. It was created by the Federal Fisheries Regime (Law No. 24,922), which particularly emphasized its federal character through the collegiate composition of the body. It is composed as follows (Article 8 of the Law):

1. One representative from each province with a maritime coast.
2. The Subsecretary of Fisheries.
3. One representative of the Secretariat of Environment and Sustainable Development.
4. One representative of the Ministry of Foreign Affairs, International Trade, and Culture.
5. Two representatives appointed by the National Executive Power.

The main responsibilities of the CFP are defined in Article 9 of the Law:

- a) Establish the national fisheries policy.
- b) Establish the fisheries research policy.
- c) Establish the Maximum Allowable Catches by species, taking into account the maximum sustainable yield of each species, based on data provided by the INIDEP (National Institute for Fisheries Research and Development). Additionally, establish annual catch quotas per vessel, species, fishing zones, and fleet type.
- d) Approve commercial and experimental fishing permits.
- e) Advise the responsible authority on international negotiations.
- f) Plan national fisheries development.
- g) Establish co-participation guidelines in the National Fisheries Fund (FO.NA.PE.).
- h) Provide opinions on experimental fishing.
- i) Establish catch rights and set fees for fishing activities.
- j) Modify the distribution percentages of the FO.NA.PE. established in Article 45(e) of the present Law.
- k) Regulate artisanal fishing by establishing a fishing quota reserve for different species to be allocated to this sector.
- l) Establishing topics requiring a qualified majority vote by Federal Fisheries Council members.
- m) Enacting its own regulations, which must be approved by a two-thirds majority vote of all its members.

Within the framework of the Federal Fisheries Council, there is an honorary Advisory Committee composed of representatives from different business and workers' associations in the fishing industry, as regulated by the Council itself, according to Article 10 of the law.

- **Uruguay Fisheries Consultative Council**

The new fisheries law established a non-binding Consultative Council for fisheries management integrated by the National Direction of Aquatic Resources (DINARA), other ministries with related competencies, company owners, and workers in the sector.

- **Argentina Subsecretary of Fisheries and Aquaculture (SSPyA):**

To fulfill its mission regarding the Federal Fisheries Law, the Ministry of Agriculture, Livestock, and Fisheries (MINAGRI) has delegated its functions to the Subsecretariat of Fisheries and Aquaculture. The SSPyA is the national fishing agency of the Argentine government and is responsible for the implementation of national fishing legislation and resolutions issued by the Federal Fisheries Council (CFP).

Its responsibilities are specified in Law 24,922 (Article 7):

- a) Conduct and execute the national fisheries policy, regulating exploitation, inspection, and research.
- b) Conduct and execute objectives and requirements related to scientific and technical research of fishery resources.
- c) Monitor the Maximum Allowable Catches by species, established by the Federal Fisheries Council, and issue annual catch quotas per vessel, species, fishing zones, and fleet type, as granted by the Federal Fisheries Council.
- d) Issue fishing permits, with prior authorization from the Federal Fisheries Council.
- e) Calculate available surpluses and establish restrictions on closed areas or seasons, subject to approval by the Federal Fisheries Council.
- f) Establish, with prior approval from the Federal Fisheries Council, the requirements and conditions that vessels and fishing companies must comply with to engage in fishing activities.

- **Uruguay National Directorate of Aquatic Resources (DINARA)**

According to the Fisheries Law, corresponds to the DINARA:

- 1) The orientation, promotion and development, in all its aspects, of the activities related to the responsible use of hydrobiological resources, of the ecosystems that contain them and of the derived industries, at a public and private level.
- 2) The promotion for the active participation in the administration of hydrobiological resources of all interested persons through the Fisheries Advisory Council, the Aquaculture Advisory Council and the Fisheries Zonal Councils.

The powers of DINARA are (between others):

- A) Execute and control compliance with all activities related to fishing and aquaculture, in accordance with this law.
- B) In accordance with the regulations issued, following the procedures and criteria indicated therein, proceed to:
 - Receive the applications for permits, authorizations and concessions, which will be granted in all cases by the Ministry of Livestock, Agriculture and Fisheries.
 - Set the size and minimum landing weight of the species susceptible to capture.
 - Determine the permitted arts and methods of fishing.
 - Establish closed seasons, species and areas, as well as reserve areas, refuges or nurseries, considering, among others, ecosystem criteria and critical habitats.

- Determine the quotas and the volume of capture allowed, as well as modify quotas or volume in exceptional cases.
- Establish a national system of fishing and aquaculture information, including the appropriate records.
- Prohibit, if deemed appropriate, the permanence of fishing vessels in closed areas, as well as in reserve, refuge or nursery areas.
- Set and modify the landing percentages by species with respect to the total landing, taking into consideration the type of fishing, the species and the interdependence of the populations.
- Declare, where appropriate, a certain resource or set of fishing resources fully exploited.
- Establish zones and sub-zones for the best administration of the fishing resources exploited by artisanal fishermen.
- Promote scientific research as necessary for the correct administration of hydrobiological resources and, to this end, establish and manage aquaculture stations, nurseries, stations and centers and repopulation areas.
- Act as a control body for activities directly or indirectly linked to fishing or aquaculture that derive from international agreements or treaties.
- Ensure compliance with the commitments assumed with international organizations in which the State participates and subscribes in fishing and aquaculture matters and conservation of hydrobiological resources and the ecosystems that contain them.
- The determination of sanctions, when it is considered that there were violations of this law, international agreements signed by the State, regulatory provisions or resolutions, with the prior opinion of the Legal Services Division of the Ministry of Livestock, Agriculture and Fisheries, which will not be binding.

- **Argentina Coast Guard (Prefectura Naval Argentina or PNA):**

The PNA is responsible for ensuring that fishing vessels comply with navigation safety requirements, certifying crews, monitoring and enforcing fishing regulations (e.g., closed areas, fishing gear regulations), monitoring and controlling vessel departures, controlling, monitoring, and detaining national and foreign vessels, and conducting search and rescue operations. The mission of the PNA is executed through the coordination of specific functions assigned by current legislation, which include:

- Navigation and Water Transportation Security Police, which encompasses a wide range of activities related to maintaining order and security in navigation, ships, and maritime personnel.
- Public Order Security and Prevention Police, involving various police activities aimed at maintaining public order and internal security.
- Maritime Protection Police, focused on preventive activities to ensure the physical security of transportation and trade by water, including the distribution chain of goods, port facilities, and adjacent areas.
- Judicial Police, responsible for investigating and instructing summary and expert proceedings related to criminal offenses and maritime incidents within assigned spaces by law, including ports, ships, vessels in port or navigation, and involved individuals. It also handles incidents outside its jurisdiction ordered by the Judiciary.
- Environmental Protection Police and Conservation of Natural Resources, including prevention and response to water pollution by hydrocarbons and other harmful and dangerous substances from ships and port facilities. In this function, the Coast Guard is the implementing authority for numerous specific international agreements.

- **Buenos Aires Province Ministry of Agricultural Development:**

It includes the **Provincial Directorate of Fisheries**, the Directorate of Control and Fisheries Inspection, and the Directorate of Fisheries and Aquaculture Activities. By Decree 3237/95, the Regulations of Provincial Fisheries Law 11477 were approved.

By Decree 1713/1992, Law 11,449 was approved, a cooperation agreement between the Province of Buenos Aires and the Argentine Coast Guard on December 2nd, 1991, regarding the collaboration of the Coast Guards as an auxiliary police force in port activities, fishing, and ecological changes.

Law 12,558 was enacted (30/11/2000), adhering to Federal Fisheries Law 24,922 following the invitation of the mentioned law.

d) **Fisheries research institutions**

While in Uruguay the fisheries research is done by a department within DINARA, in Argentina, National Institute of Fisheries Research and Development (INIDEP) is in charge.

The INIDEP advises the Subsecretariat of Fisheries and Aquaculture of Argentina (SSPyA), the Federal Fisheries Council (CFP), and the Argentine Ministry of Foreign Affairs in the rational use of fisheries resources with the objective of preserving the marine ecosystem for future generations. Its functions include formulating, executing, and monitoring research projects in the areas of fishery prospecting, evaluation, and development, aquaculture technologies, fishing gear, technological processes, and fisheries economics, in accordance with the guidelines and priorities set by the competent authority.

In accordance with current legislation, the research program of INIDEP generates and adapts knowledge, information, methods, and technology for the development, utilization, and conservation of fisheries in Argentina. INIDEP has recently adjusted its goals and activities to adapt to changes in the fisheries sector and its legal context and to strategically prepare for future changes. Therefore, it has been actively involved in fisheries research as well as in relationships with institutions and countries that have de facto or de jure relations with the renewable resources of the South Atlantic.

e) **Specific Management Framework for the Brazilian flathead fishery in the CFZ**

The Brazilian flathead fishery (stock North of 39° S) operated by the Argentine coastal fleet Argentina is managed under a complex legal framework that includes the Joint Technical Commission (CTM), the Argentine Federal Fisheries Council (CFP) and Subsecretary of Fisheries and Aquaculture (SSPA), and the Buenos Aires Province Directorate of Fisheries (DPBA). Regulations are generated in all three areas that impact the fishery under analysis.

The main management rules are adopted by the CTMFM advised by a Technical Working Group for Coastal Fisheries; the CFP defines complementary rules such as those related with licenses and ecosystem impacts; the DPBA generally adheres to the rules of the other two bodies regarding the provincial waters (first 12 miles from the baseline). The SSPA and the DPBA are in charge of the enforcement of the rules, complemented by the PNA (Coastguards).

The CTMFM, through resolutions (5/2012, 8/2013, 4/2014, 5/2015, 3/2016, 7/2017, 5/2018, 4/2019, 9/2020, and 8/2022), has established the Total Allowable Catch (TAC) for the Brazilian flathead species (*Percophis brasiliensis*) in the Argentine-Uruguayan Joint Fishing Zone.

The CTMFM has also defined an effort restriction area for bottom trawling, limiting the entry of vessels longer than 20 meters in the months of November and December in the north-eastern, north-western, and south-eastern quarters of rectangle 3756 (Resolution CTMFM No. 14/2021).

Following a series of regulations that began in 2006, in December 2009, the Federal Fisheries Council established, through Resolution No. 27/2009, the species and areas that define the "coastal mixed-species" fishery, as well as the corresponding closed and restricted access areas. Additionally, Resolution CFP No. 02/2010 established a restricted effort area in the region known as "El Rincón".

In 2021, the Joint Technical Commission of the Maritime Front established a closed area for bottom trawl fishing to protect cartilaginous fish in the Argentine-Uruguayan Joint Fishing Zone through Resolution CTMFM No. 13/2021. This area is closed from November 1st to March 31st each year. The Province of Buenos Aires adhered to this measure by establishing Disposition of the Provincial Directorate of Fisheries No. 02/2022, which imposed a closure in its adjacent jurisdictional waters, except for the fishing fleet based in General Lavalle and San Clemente del Tuyú, from January 7th to March 31st, 2022.

Violations of laws, decrees, or resolutions regulating fishing activities under the jurisdiction of the Nation are sanctioned by the Subsecretary of Fisheries and Aquaculture, as stated in Chapter XIII of the Federal Fisheries Regime. Chapter VII of Decree 748/99 contains the Regime of Offenses and Penalties for those who fail to comply with the Law, and there is a National Registry of Offenders.

In October 2022, the National Directorate of Coordination and Fisheries Supervision issued Disposition Nr. 23/2022, approving the "Manual of Administrative Procedure" of the Coordination of Violations and Penalties Analysis within that Directorate.

3.5.2. Principle 3 Performance Indicator scores and rationales

PI 3.1.1 – Legal and/or customary framework

PI 3.1.1		The management system exists within an appropriate and effective legal and/or customary framework which ensures that it:		
		<ul style="list-style-type: none"> • Is capable of delivering sustainability in the UoA(s); • Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and • Incorporates an appropriate dispute resolution framework 		
Scoring issue		SG 60	SG 80	SG 100
A	Compatibility of laws or standards with effective management			
	Guide post	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 that deliver management outcomes consistent with MSC Principles 1 and 2.
	Met?	Yes	Yes	Yes
Rationale		In the introduction, the legal system is described, as well as the well-developed and binding institutional cooperation frameworks with the neighbouring country Uruguay and the Province of Buenos Aires regarding coastal fishing, including the Brazilian flathead. This cooperation includes the protection of different components of the ecosystem, such as chondrichthyans. Therefore, there is an effective national legal system and organized and effective cooperation with other parties to deliver management outcomes consistent with MSC Principles 1 and 2. Therefore, SG80 is met and possibly also SG100 as many of the procedures are binding for all the parties.		
b	Resolution of disputes			
	Guide post	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 most issues and that is appropriate to the context of the UoA.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes, which is appropriate to the context of the fishery and has been tested and proven to be effective .
	Met?	Yes	Yes	No
Rationale		<p>As mentioned in the Introduction, the Brazilian flathead fishery involves only vessels under the Argentine flag. Within the Federal Fisheries Law, the Argentine fishing authority has the power to sanction nationals who violate legal, regulatory, and other provisions within the scope of the EEZ and the CFPAAU, as well as the terms for resolving legal disputes that may arise within the system.</p> <p>The Federal Fisheries Council acts when a legal dispute arises, at the request of an interested party. Decisions are documented in minutes (published online at www.cfp.gov.ar), and their effectiveness has been proven through years of practice.</p> <p>Furthermore, the law includes mechanisms that guarantee the rights of offenders to access case files and make the necessary appeals. Offenders also have the right to appeal decisions, relying on the Law of Administrative Procedure No. 19.549 and its amendments, up to the level of the Presidency of the Nation.</p> <p>In cases where an administrative decision involves an imminent violation of a constitutional right, any citizen can directly appeal to the ordinary courts. This also applies within the Province of</p>		

PI 3.1.1	<p>The management system exists within an appropriate and effective legal and/or customary framework which ensures that it:</p> <ul style="list-style-type: none"> • Is capable of delivering sustainability in the UoA(s); • Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and • Incorporates an appropriate dispute resolution framework 			
	<p>Buenos Aires when the legal dispute occurs within its waters. In this jurisdiction, the regulations of the Provincial Fisheries Law specify the sanctioning powers of the provincial fishing authority, and the province has administrative appeal mechanisms that, if unsatisfied, can be taken to the ordinary courts.</p> <p>Based on the above, the management system is legally bound by a transparent mechanism for the resolution of legal disputes, which is considered effective in dealing with the majority of issues and is appropriate in the UoA context. Thus, it is considered that this scoring issue would meet the requirements of SG80. Since, at this level of analysis, there is no compiled evidence that the legal dispute resolution mechanism has been tested and proven effective, it cannot be stated that the fishery meets the requirements of SG100.</p>			
c	Respect for rights			
	Guide post	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 observe 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 formally commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
	Met?	Yes	Yes	Yes
Rationale	<p>It can be asserted that the management system has a mechanism to observe the legal rights explicitly created or established by custom for people who depend on fishing for their food or livelihood, in a manner consistent with the objectives of MSC Principles 1 and 2.</p> <p>Regarding indigenous rights, it can be said that with the amendment of Article 67, Section 15 of the Argentine National Constitution, there was a paradigm shift in indigenous human rights. Article 75, Section 17 of the National Constitution establishes that it is the responsibility of the Congress to:</p> <ul style="list-style-type: none"> • Recognize the ethnic and cultural preexistence of Argentine indigenous peoples. • Guarantee respect for their identity and the right to bilingual and intercultural education. • Recognize the legal personality of their communities and the communal possession and ownership of the lands they traditionally occupy. • Regulate the delivery of other lands suitable and sufficient for human development. • None of these lands shall be alienable, transferable, or subject to levies or seizures. <p>The new framework aims to ensure the participation of indigenous peoples in the management of their natural resources and other interests that affect them, beyond what the provinces can concurrently exercise. Therefore, the management system has mechanisms in place to generally respect the legal rights explicitly created or established by the customs of people dependent on fishing for food or livelihood. In the case of the Brazilian flathead fishery in particular, there are no indigenous groups that depend on it. On other angle, the new Fisheries Law in Uruguay and an specific legal instrument protect the rights of traditional fishers. This aspect would thus comply with the requirements of SG100.</p>			

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 3.1.2 – Consultation, roles, and responsibilities

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
Scoring issue		SG 60	SG 80	SG 100
a	Roles and responsibilities			
	Guide post	Organisations and individuals involved in the management process have been identified. Functions, roles, and responsibilities are generally understood .	Organisations and 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.	Organisations and individuals 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
Rationale		<p>The Joint Technical Commission of the Argentine-Uruguayan Maritime Front (CTMFM) is the decision-making authority regarding the maritime areas of the Argentine-Uruguayan Common Fishing Zone (ZCPAU) and its resources. This Commission determines the Total Allowable Catch (TAC - CTP) of the Brazilian flathead species in the Argentine-Uruguayan Common Fishing Zone. The CTMFM also has a bi-national technical advisory body for the coastal fisheries.</p> <p>In Uruguay, the new Fisheries Law clearly defines the role of DINARA and the Fisheries Advisory Council, with participation of the private sector and workers delegates.</p> <p>In Argentina, the Fisheries Law clearly identifies the individuals and organizations involved in decision-making. Specifically, it establishes the legal framework for the Federal Fisheries Council (CFP), the governing body of national fisheries policy and the primary regulator of the fishing activity. It also sets its collegial composition with five provincial representatives and five other from the National State. The CFP has a bylaw, approved by Resolution No. 16/2009, which sets out the operational procedures, administrative structures, and powers and responsibilities of its members.</p> <p>In addition, Resolution 27/2009 of the CFP, in Article 12, established an Advisory Committee for the Monitoring of the Coastal Mixed-Species Fishery. This committee is composed of two (2) representatives from the Enforcement Authority, two (2) representatives from the Secretariat of Environment and Sustainable Development, two (2) representatives from the National Institute of Fisheries Research and Development, one (1) representative from the Province of Buenos Aires, one (1) representative from the Province of Rio Negro, and one (1) representative from each chamber representing companies authorized to harvest "coastal mixed-species". Furthermore, the law addresses various relevant aspects of marine fishing, including research, conservation, and management of living marine resources.</p> <p>The Enforcement Authority of the Fisheries Law and for the Resolutions of CTMFM regarding the Argentine fleet is the Subsecretary of Fisheries and Aquaculture (SSPyA). Federal Decree No. 156/10 and Administrative Decision 175/10 (with subsequent amendments) establish the administrative structures and operational functions of each of its departments.</p> <p>In Argentina, the Federal Law 21,673/77 creates the National Institute for Fisheries Research and Development (INIDEP) as the Federal Scientific Authority. INIDEP provides advice to the SSPyA, the CFP, and the Argentine Ministry of Foreign Affairs in the rational use of fishery resources with the objective of preserving the marine ecosystem for future generations. Federal Decree 1063/04 defines the institutional objectives, responsibilities, and essential actions for each of its departments. INIDEP has an established organizational structure, and regular planning activities are conducted for its research, operational, and administrative areas in the coming years.</p> <p>The Ministry of Foreign Affairs is responsible for developing foreign policy in the Argentine Exclusive Economic Zone (EEZ) and adjacent regions. It promotes the fishing sector in international markets, represents the country in international commissions, and signs international agreements.</p>		

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
		<p>In terms of national environmental matters, the Ministry of Environment and Sustainable Development (MAyDS) is the Enforcement Authority of the General Environmental Law (Law No. 25,675). This law provides a framework for the preservation and conservation of natural resources in general and involves society in activities aimed at preventing deterioration and preserving and restoring the environment. The Argentine Prefectura Naval (PNA, Coastguards), established and regulated by Laws 18398/69 and 20325/73, and the Navy collaborate in the control of closed areas, illegal fishing by foreign vessels, navigation safety, among other functions.</p> <p>All these public organizations have well-defined missions and functions established by law, respecting specific procedural manuals and instructions for each particular situation.</p> <p>Therefore, it can be observed that the organizations and individuals participating in the management process have been defined, and the functions, roles, and responsibilities of all areas of responsibility and interaction are explicitly defined and well understood. This aspect would achieve SG80 and possibly SG100.</p>		
b	Consultation processes			
	Guide post	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	No	No
Rationale		The management system at CTMFM level obtains directly relevant information from several technical working groups and from the delegates from both countries. That information feeds the decision-making process. Local knowledge and inputs from the fishing sector are obtained indirectly, through the assessors from both countries, and through the delegates who, at the time, will receive inputs at the national advisory bodies. The Secretariat of CTMFM can also receive inputs from interested stakeholders and usually those inputs are responded. Therefore, is possible to recognize that SG60 is met. Nevertheless, there are not regular process that seek information from stakeholders and allow for taking those inputs in consideration for decision-making, therefore SG80 is not met.		
c	Participation			
	Guide post		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?		No	No
Rationale		At national level of both countries there are mechanisms to provide opportunity for all interested parties to be involved with the decision making process (The Advisory Council in Uruguay and the Coastal Fisheries Follow Up Commission in Argentina), but such mechanisms do not exist at the CTMFM. Therefore, SG60 is not met.		

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

PI 3.1.3 – Long term objectives

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with the MSC Fisheries Standard, and incorporates the precautionary approach		
Scoring issue		SG 60	SG 80	SG 100
a	Objectives			
	Guide post	Long-term objectives to guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach , are implicit within management policy .	Clear long-term objectives that guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach , are explicit within management policy .	Clear long-term objectives that guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach , are explicit within and required by management policy.
	Met?	Yes	Yes	Partial
Rationale		<p>The preliminary documents establishing the Mixed Technical Commission for the Maritime Front date back to the 1970s when the precautionary approach and the objective of fisheries sustainability were not commonly mentioned. These documents are very difficult to reform as they involve binational procedures. However, both signatory parties include these concepts in their national legislation.</p> <p>In Argentina, the Federal Fisheries Law, in Article 1, establishes that <i>"...the Argentine Nation will promote the exercise of maritime fishing in pursuit of maximum development compatible with the rational use of living marine resources. It will promote the effective protection of national interests related to fishing and will promote the sustainability of fishing activity, encouraging the long-term conservation of resources and favoring the development of environmentally appropriate industrial processes that promote maximum value-added and the greatest employment of Argentine labor."</i></p> <p>These minimum premises must be met by all fisheries in Argentine waters. Therefore, the Federal Fisheries Law explicitly promotes the long-term conservation of resources. Other sections of the Federal Fisheries Law 24922 are related to the prevention of excessive exploitation and the sustainable use of fishery resources:</p> <p>a. Article 17... throughout the Argentine maritime jurisdiction, fishing will be subject to restrictions established with the aim of avoiding excessive exploitation.</p> <p>b. Article 21, by prohibiting any method, technique, equipment, and fishing gear that could cause damage to living aquatic resources.</p> <p>c. Article 22, referring to the organization and maintenance of fishing regulations within the Exclusive Economic Zone, establishing organization and conservation measures aimed at rationalizing exploitation and ensuring the conservation of resources.</p> <p>d. Article 37, regarding access to fishing activity in Argentine maritime spaces and jurisdiction by foreign-flagged fishing vessels.</p> <p>Furthermore, in Minutes 34/2017 of the Federal Fisheries Council, the Project for the Application of the Ecosystem Approach to Fisheries (EEP) is highlighted, which is currently being implemented. The meeting specifies the components and results of the project:</p> <p>Component 1: Strengthening the management of marine protected areas (MPAs)</p> <p>Result 1: Increase the conservation of marine ecosystems globally significant for biodiversity in key areas through support to the enforcement authority of the Burdwood Bank for managing the</p>		

PI 3.1.3	<p>The management policy has clear long-term objectives to guide decision-making that are consistent with the MSC Fisheries Standard, and incorporates the precautionary approach</p>
	<p>MPA and its transition zones and the creation of a new protected area established outside the 12-mile territorial waters zone.</p> <p>Component 2: Deepening the ecosystem approach to fisheries (EEP) in national regulatory frameworks and policies for coastal and marine fisheries management.</p> <p>Result 2.1: EEP tested in a pilot fishery, selected in collaboration between INIDEP, the private sector, the Federal Fisheries Council, SSPyA, MAYDS, and scientific institutions, sustaining employment and conserving biodiversity and marine ecosystem services.</p> <p>Result 2.2: Conditions and capacities for effective implementation of the EEP built at the national level.</p> <p>Result 2.3: Improved information and monitoring management systems, including socio-economic data and information on selectivity, good practices, and mitigation measures, to facilitate decision-making on the application of the EEP in public and private spheres.</p> <p>Component 3: Monitoring and evaluation of the project</p> <p>Result 3: The implementation of the project is based on results management, and the results and lessons learned from the project are applied to future operations.</p> <p>In March 2019, the Secretariat of Agroindustry and the Secretariat of Environment and Sustainable Development in Argentina organized the dialogue and training sessions on the Ecosystem Approach to Fisheries (EEP) and facilitated the exchange among stakeholders in the fishing industry, including the business sector, institutions related to fisheries management, the scientific sector, and provincial administrations.</p> <p>Officials from the Argentinean Fisheries Subsecretariat, representatives from the National Institute of Fisheries Research and Development (INIDEP), representatives from the Argentinean fishing industry, international experts, and the official of Programs from the Food and Agriculture Organization of the United Nations (FAO) participated in the workshops.</p> <p>The sessions were held as part of the project "Protecting Marine Biodiversity: Ecosystem Approach to Fisheries and Protected Areas," implemented by the Secretariat of Environment and Sustainable Development, with the support of the Food and Agriculture Organization of the United Nations (FAO) and the collaboration of the Federal Fisheries Council.</p> <p>In August 2022, the Ministry of Environment and Sustainable Development of Argentina held a dialogue and training session on "<i>Incentives and Market Requirements within the Framework of the Ecosystem Approach to Fisheries (EEP)</i>", with the participation of national and international speakers.</p> <p>The objective of the activity, conducted under the project "Strengthening Management and Protection of Coastal and Marine Biodiversity in Key Ecological Areas and the Application of the Ecosystem Approach to Fisheries (EEP)," implemented by the Ministry of Environment and supported by the Food and Agriculture Organization of the United Nations (FAO), was to generate collaborative dialogue among stakeholders to understand the challenges, opportunities, and requirements presented by international markets for the application of the EEP and to strengthen private sector management and those issues and perspectives that promote the tools to achieve an ecosystem approach to fisheries.</p> <p>Additionally, Law No. 25675, which defines the National Environmental Policy of the Argentine Republic, enacted in November 2002, explicitly includes the Precautionary Principle in Article 4.</p>

PI 3.1.3	The management policy has clear long-term objectives to guide decision-making that are consistent with the MSC Fisheries Standard, and incorporates the precautionary approach
	<p>This principle states that when there is a danger of serious or irreversible damage, the absence of information or scientific certainty should not be used as a reason to postpone the adoption of effective measures, based on the costs, to prevent environmental degradation. Furthermore, this law considers environmental damage, defining it as any relevant alteration that negatively modifies the environment, its resources, the balance of ecosystems, or collective goods or values.</p> <p>In Uruguay, Law No. 19175 of 2013 establishes in Article 1 that "the conservation, research, sustainable development, and responsible use of hydrobiological resources and the ecosystems that contain them are of general interest". Article 2 states that "the purpose of this law is to establish the legal regime for fishing and aquaculture in order to ensure the conservation, management, sustainable development, and responsible use of hydrobiological resources and the ecosystems that contain them in the national territory and in the waters, both inland and maritime, over which the State exercises its sovereignty and jurisdiction."</p> <p>In the same legal framework, Article 16 defines the precautionary principle: "In the formulation of policies and the development and application of fisheries legislation, the precautionary criterion in the conservation, management, and exploitation of hydrobiological resources and the ecosystems that contain them must be respected, in accordance with this law and with the commitments undertaken by the country under the United Nations Convention on the Law of the Sea of December 10th, 1982, approved by Law No. 17082 of April 15th, 1999, without prejudice to any others that may be concluded."</p> <p>Both the name of the mentioned law, its text, and its regulations (Decree No. 115/018) explicitly refer to the need to use and conserve the ecosystems that contain fisheries in a sustainable manner.</p> <p>Furthermore, Resolution 8/2022 of the Mixed Technical Commission for the Maritime Front, which establishes the total allowable catch of Brazilian flathead, states "the need to adopt measures for the conservation and rational exploitation of the Brazilian flathead species (<i>Percophis brasiliensis</i>)" and indicates that the Coastal Working Group "has suggested conservation and management measures with the aim of maintaining the sustainability of this resource."</p> <p>Therefore, it is considered that the overall management system has clear long-term explicit objectives guiding decision-making in line with the MSC Standard, and the precautionary approach is also explicit. Thus, this scoring issue would meet the requirements of SG80 and PARTIALLY also SG100.</p>

Draft scoring range	≥80
Information gap indicator	Information sufficient to score PI

PI 3.2.1 – Fishery-specific objectives

PI 3.2.1		The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC Principles 1 and 2		
Scoring issue		SG 60	SG 80	SG 100
a	Objectives			
	Guide post	Objectives , which are broadly consistent with achieving the outcomes expressed by MSC 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 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 Principles 1 and 2, are explicit within the fishery-specific management system.
	Met?	Yes	No	No
Rationale		<p>Within the framework of the CTMFM, the Coastal Working Group has been formed, and since 2012, an annual Total Allowable Catch for Brazilian flathead in the Argentine-Uruguayan Common Fishing Zone (ZCPAU) has been established. The resolutions that set these Total Allowable Catches define general sustainability objectives for the resource, albeit without specifying them, assuming they are indicated in the scientific reports.</p> <p>From the above, it can be inferred that the specific management of the fishery has implicit objectives consistent with the desirable outcomes according to MSC Principle 1, although they are not explicitly stated in any fishery management document.</p> <p>On the other hand, Argentina has various active action plans under the Federal Fishing Regime (Law No. 24.922) and the General Environment Law (Law No. 25.675), including:</p> <ul style="list-style-type: none"> National Action Plan to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing (PAN-INDNR) National Action Plan for the Conservation and Management of Chondrichthyans (PAN-Tiburones) National Action Plan to Reduce Bird Interactions with Fisheries (PAN-Aves) National Action Plan to Reduce Marine Mammal Interactions with Fisheries (PAN-Mamíferos) National Action Plan for the Conservation of Marine Turtles (PAN-Tortugas) <p>Since the fishery, even under the management of the CTMFM, is carried out solely by the Argentine fleet, these plans and measures are applicable. All of this suggests that there are also implicit objectives regarding the impacts related to MSC Principle 2, although they are not explicit in any specific fishery management document.</p> <p>Based on the above, the fishery would meet the requirements of SG60, but due to the lack of properly specified management objectives, it does not meet SG80.</p>		

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

PI 3.2.2 – Decision-making processes

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
Scoring issue		SG 60	SG 80	SG 100
a	Decision-making processes			
	Guide post	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	
Rationale		<p>The CTMFM has well-established procedures for decision-making. For this fishery, the first step involves the scientific advice provided by the binational Coastal Working Group. Subsequently, the delegations from both countries meet and make decisions based on this advice, such as the establishment of the Total Allowable Catch (TAC or CTP in Spanish).</p> <p>Regarding decisions related to Argentine exclusive waters, the management decision-making processes are clearly outlined in the Federal Fisheries Law No. 24.922, Federal Decrees No. 748/99, 156/10, and Administrative Decision 175/10, among other legal documents.</p> <p>The CFP has an Advisory Committee for the Monitoring of the Coastal Mixed-Species Fishery composed of key stakeholders in the fishery, and it receives scientific advice from INIDEP. This leads to the development of measures and strategies to achieve the implicit specific objectives of the fishery.</p> <p>The Province of Buenos Aires is part of the CFP and naturally adheres to its decisions through specific provisions for provincial waters, as well as facilitating research processes. For example, Disposition 151/2021 authorizes INIDEP to conduct the "<i>Evaluation of Coastal Demersal Species in the El Rincón Area</i>" campaign.</p> <p>In conclusion, the decision-making processes in the coastal mixed-species fishery are well-established and result in measures to achieve the specific objectives (even if implicit) of the fishery.</p> <p>Based on the information presented, this aspect would meet SG80.</p>		
b	Responsiveness of decision-making processes			
	Guide post	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	No	No
Rationale		<p>At the CTMFM, the decision-making processes respond to serious issues raised by the Coastal Technical Group, at the time conformed by technical staff of both countries (INIDEP and DINARA) and, certainly, take some account of the wider implications of decisions.</p> <p>In Argentina, the Federal Fisheries Council (CFP) demonstrates a response to serious and other important issues identified in research through their decision-making processes (such as action plans to protect OOS species), and taking into account the broader implications of decisions, the</p>		

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
		same cannot be assured for the Joint Technical Commission for Maritime Fronts (CTM). Therefore, this indicator meets the requirements of SG60 but only partially meets the requirements of SG80.		
c	Use of precautionary approach			
	Guide post		Decision-making processes use the precautionary approach and are based on best available information.	
	Met?		Yes	
Rationale		<p>According to PI 3.1.3, both signatory countries of the Treaty of the Río de la Plata and the Maritime Front have adequately incorporated the precautionary principle into their fisheries and general legislation. Regarding its practical application in the fishery under consideration, the Biologically Acceptable Catches of Brazilian flathead recommended by the INIDEP and considered by the CTMFM through the Coastal Working Group, are provided with two levels of risk of the stock being below the PBRO: 10% and 50%.</p> <p>In CTMFM Resolution 8/2022, it is observed that the administrators chose the scenario with the lowest risk or more precautionary approach, defining the CTP of Brazilian flathead based on that recommendation (see Principle 1 in this document). Therefore, this aspect to be scored would comply with the requirements of SG80.</p>		
d	Accountability and transparency of management system and decision-making process			
	Guide post	Some information on the fishery's performance and management action is generally available on request to stakeholders.	Information on the fishery's performance and management action is available on request , and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation, and review activity.	Formal reporting to all interested stakeholders provides comprehensive information on the fishery's performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation, and review activity.
	Met?	Yes	No	No
Rationale		At the CTMFM website there is some information on management actions and statistics are updated regularly. The Secretariat also responds to questions on request. Therefore, SG60 is met. But, usually, explanations about actions or lack of actions are not provided so SG80 is not met.		
e	Approach to disputes			
	Guide post	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability of the fishery.	The management system or UoA is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or UoA acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.
	Met?	Yes	Yes	No
Rationale		Although the evaluated fishery primarily takes place in the ZCPAU (Argentine-Uruguayan Common Fishing Zone), once its resolutions are published in the Argentine Official Journal, they		

PI 3.2.2	The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery
	<p>acquire national legal force. Since the fleet operating in the fishery is Argentine, the agency responsible for enforcing these regulations is the Subsecretariat of Fisheries (SSPA) of Argentina. Furthermore, regulations approved within the framework of the CFP are also enforced by the SSPA. In summary, the only possible jurisdiction for legal disputes related to the operation of the fleet capturing Brazilian flathead is the Argentine Republic.</p> <p>In Argentina, the system respects judicial decisions once all appeals have been exhausted, although there have been no significant cases of judicial intervention in recent times. The same can be said regarding sanctioning processes in the Province of Buenos Aires. Additionally, there are no indications of non-compliance with regulations by users in the fishery.</p> <p>Therefore, the requirements of SG80 would be fulfilled. SG100 would not be achieved because, as of now, there is insufficient information to affirm that the management system acts proactively to prevent legal disputes or promptly implements judicial decisions arising from legal challenges.</p>

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control, and surveillance (MCS) mechanisms ensure the management measures in the UoA are enforced and complied with		
Scoring issue		SG 60	SG 80	SG 100
a	MCS system			
	Guide post	MCS mechanisms exist within the UoA.	An MCS system exists within the UoA.	A comprehensive MCS system is well-established within the UoA.
	Met?	Yes	Yes	Yes
Rationale		<p>As informed above, the control system for the fishery is in charge of the Argentina fisheries authority. In Argentina, a series of Monitoring, Control, and Surveillance (MCS) tools are used for monitoring and controlling fishing operations and the commercialization of fishery products. In terms of fleet operation control, the (SSPyA) has implemented the Integrated System for Control of Fishing Activities (SICAP), which consists of: a) the National Fishing Fleet's Satellite Positioning System, b) satellite information provided by the National Commission for Space Activities regarding the zone where foreign fishing vessels operate outside the Argentine Exclusive Economic Zone (ZEEA), and c) control and surveillance activities carried out by the Coast Guard, Navy, and Air Force, which have surface units (coast guard vessels and corvettes) and air units (airplanes and helicopters) to combat illegal fishing.</p> <p>Through years of fishery management resolutions, the Authority has designed well-defined control tools. For the coastal mixed-species fishery, the Federal Fisheries Council (CFP), through Resolution 07/2005, requires:</p> <ul style="list-style-type: none"> vessels operating in the "coastal mixed-species " fishery to have a Satellite Monitoring System. Additionally, the submission of fishing logs by all the fleet containing the usual data for each fishing trip is mandatory to enhance relevant monitoring measures. <p>The Subsecretariat of Fisheries and Aquaculture (SSPyA) established the vessel positioning system through Disposition No. 2/2003, which obliges all fishing vessels, except for artisanal vessels, to have a Marine Transceiver with a built-in GPS (Global Positioning System) receiver. The satellite monitoring system (VMS) allows for real-time knowledge of the position, route, and speed of the vessels.</p> <p>The vessel owner is responsible for contracting a satellite communication service that provides data reports to the SSPyA, the Argentine Coast Guard, the Argentine Navy, the INIDEP, and coastal provinces through a website. The transmitted information is continuously available, and the initial programmed frequency is one hour. The legislation related to the satellite monitoring system requires vessels that experience interruptions in their satellite reports to return to port, leading most vessels to have multiple monitoring systems operating simultaneously. Real-time graphical representation of the status of reporting fishing vessels can be viewed on the website of the Ministry of Agriculture, Livestock, and Fisheries at the following link: https://www.agroindustria.gov.ar/sitio/areas/pesca_maritima/monitoreo/.</p> <p>It is important to note that the SSPyA, through Disposition 206/10, created the Integrated Control System using video cameras and real-time data recording on board fishing vessels. The deadlines for compliance with this provision have been indefinitely extended by Dispositions 1/2011 and 86/2013 due to technical infeasibility. According to a personal communication with a high-ranking official from the Subsecretariat of Fisheries and Aquaculture, these regulations will be repealed as they have been found technically unfeasible, and they will be replaced by a better-structured surveillance and control system at a later stage.</p> <p>The National Directorate of Fisheries Control and Surveillance (DNCyFP), through Disposition No. 26/2022, has determined that owners or lessees of Argentine-flagged fishing vessels targeting the "coastal mixed-species " fishery must electronically record and confirm the Electronic Fishing Logs within a maximum period of forty-eight (48) hours from the vessel's arrival at port after completing the fishing trip.</p>		

PI 3.2.3	Monitoring, control, and surveillance (MCS) mechanisms ensure the management measures in the UoA are enforced and complied with			
	<p>The Fisheries Directorate of the Province of Buenos Aires requires electronic fishing logs from vessels operating in the ports of the Province of Buenos Aires. This allows for the collection of important statistical and biological information necessary to assess the state of fishery resources and establish management measures for sustainable fisheries and proper resource administration.</p> <p>Lastly, both the National Directorate of Fisheries Control and Surveillance (DNCyFP) of the Subsecretariat of Fisheries and Aquaculture at the national level and the Fisheries Directorate of the Province of Buenos Aires carry out control of fish landings in national or provincial waters, respectively. The former published a Procedure Manual for National Fishing Control and Surveillance in 2022 (Disposition 14/2022-DNCyFP).</p> <p>Based on the information provided, it is evident that an integral MCS system is well-established within the UoA. Therefore, this scoring issue meets SG80 and likely SG100."</p>			
b	Sanctions			
	Guide post	Sanctions to address non-compliance exist within the UoA.	Sanctions to deal with non-compliance exist, that are appropriate to the UoA, and are applied.	Comprehensive sanctions to address non-compliance exist, that are appropriate to the UoA, and are consistently applied.
	Met?	Yes	No	No
Rationale	<p>In Argentina, sanctions for non-compliance with the Law are reflected within the Fisheries Law. In Chapter XIII, the regime of offenses and sanctions is explicitly stated. It states: "<i>Violations of laws, decrees, or resolutions that regulate activities related to living marine resources under the jurisdiction of the Nation shall be sanctioned by the enforcing authority of this law. Violations committed by foreign-flagged vessels in Argentine jurisdictional waters shall be sanctioned by the enforcing authority of this law. Violations in waters under provincial jurisdiction shall be sanctioned by the enforcing authorities of each respective provincial jurisdiction in accordance with the provisions of Articles 3 and 4 of this law.</i>"</p> <p>Chapter VII of Decree 748/99 establishes the Regime of Offenses and Sanctions for those who violate the law. Additionally, through Disposition 20-E/2017, the Subsecretariat of Fisheries and Aquaculture creates the National Registry of Offenders' Records under Law No. 24,922. Therefore, we can say that there are sanctions to address non-compliance with the Law, but currently, there is not enough information to affirm that they are applied to the UoA. Therefore, this scoring issue would comply with SG60. To achieve SG80, more evidence is needed.</p>			
c	Compliance (information)			
	Guide post	Information is adequate to broadly understand compliance in the UoA.	Information is adequate to estimate compliance in the UoA with a high degree of accuracy .	Information is adequate to estimate compliance in the UoA with a very high degree of accuracy .
	Met?	Yes	No	No
Rationale	<p>There is evidence that in the past two years, the established CTPs by the CTMFM have been complied with. Additionally, satellite monitoring ensures compliance with spatial and temporal closure regulations. On the other hand, fishing logs are submitted to the authority. Moreover, during the landing, restrictions on landing percentages of certain species are verified. Overall, it can be stated that regulations are generally complied with, and therefore, the requirements of SG60 are met.</p> <p>However, the lack of observers and inspectors on board of the fleet under analysis prevents us from accurately determining the extent to which regulations are fully respected. Therefore, SG80 would not be met.</p>			

PI 3.2.3		Monitoring, control, and surveillance (MCS) mechanisms ensure the management measures in the UoA are enforced and complied with		
d	Compliance (outcome)			
	Guide post	Systematic non-compliance of regulations specific to governing sustainable fishing practices on the water is not evident within the UoA.	Majority of regulations, including all regulations specific to governing sustainable fishing practices on the water, are likely to be complied with.	Majority of regulations, including all regulations specific to governing sustainable fishing practices on the water, are consistently complied with.
	Met?	Yes	No	No
Rationale		In this fishery, there is no evidence of systematic non-compliance with the specific regulations governing the coastal mixed-species fishery. Therefore, SG60 is met. Additional evidence would be required to meet SG80.		

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

PI 3.2.4 – Monitoring and management performance evaluation

PI 3.2.4		There is a system for 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 issue		SG 60	SG 80	SG 100
a	Evaluation coverage			
	Guide post	There are mechanisms in place to evaluate some parts of the fishery-specific management system.	There are mechanisms in place to evaluate key parts of the fishery-specific management system.	There are mechanisms in place to evaluate all parts of the fishery-specific management system.
	Met?	Yes	Yes	No
Rationale		At the CTMFM, with the help of the Technical Working Group for Coastal fisheries, there are mechanisms in place to evaluate key parts (removals and protection of some biological processes) of the management system for the Brazilian flathead fishery. Those mechanisms result in a constant evolution of the normative. Therefore, the requirements of SG80 are met, but not SG100 as not all parts of the fishery are considered into the management and its evaluation.		
b	Internal and/or external review			
	Guide post	The fishery-specific management system is subject to occasional internal review.	The fishery-specific management system is subject to regular internal and occasional external review .	The fishery-specific management system is subject to regular internal and external review.
	Met?	Yes	No	No
Rationale		Since the establishment of the Coastal Working Group, it is possible to affirm that management system for Brazilian flathead is subject to occasional internal review, and consequently the management measures have been adjusted from time to time. Therefore, SG60 is met. Nevertheless, it is not possible to affirm that the internal review is regular, and there are not external reviews, so SG80 is not met.		

Draft scoring range	60-79
Information gap indicator	Information sufficient to score PI

4. Appendices

4.1. Risk-Based Framework outputs

The Analyses contained in this section will be used in the future, as information becomes available.

4.1.1. Consequence Analysis (CA)

The CAB should complete the Consequence Analysis (CA) table below for each data-deficient species under PI 1.1.1, including rationales for scoring each of the CA attributes.

Reference(s): MSC Fisheries Standard Toolbox Section A3

Table 9: CA scoring template

Principle 1: Stock status outcome	Scoring element	Consequence subcomponents	Consequence score
		Population size	
		Reproductive capacity	
		Age/size/sex structure	
		Geographic range	
Justification for most vulnerable subcomponent			
Justification for consequence score			

4.1.2. Productivity Susceptibility Analysis (PSA)

The CAB should include in the report an MSC Productivity Susceptibility Analysis (PSA) worksheet for each Performance Indicator where the PSA is used and one PSA rationale table for each data-deficient species identified, subject to MSC Fisheries Standard Toolbox Section A4. If species are grouped together, the CAB should list all species and group them indicating which are most at-risk.

Reference(s): Fisheries Standard Toolbox Section A4

Table 10: PSA productivity and susceptibility attributes and scores for fish and invertebrates.

Performance Indicator		
Productivity		
Scoring element (species)		
Attribute	Justification	Score
Average age at maturity		1 / 2 / 3
Average maximum age		1 / 2 / 3
Fecundity		1 / 2 / 3

Average maximum size Not scored for invertebrates		1 / 2 / 3
Average size at maturity Not scored for invertebrates		1 / 2 / 3
Reproductive strategy		1 / 2 / 3
Trophic level		1 / 2 / 3
Density dependence Invertebrates only		1 / 2 / 3
Susceptibility		
Fishery Only where the scoring element is scored cumulatively	<i>Insert list of fisheries impacting the given scoring element (MSC Fisheries Standard Toolbox A4.4.3a)</i>	
Attribute	Justification	Score
Areal Overlap	<i>Insert attribute justification. Note specific requirements in MSC Fisheries Standard Toolbox A4.4.6.b, where the impacts of fisheries other than the UoA are taken into account.</i>	1 / 2 / 3
Encounterability	<i>Insert attribute justification. Note specific requirements in MSC Fisheries Standard Toolbox A4.4.7.b, where the impacts of fisheries other than the UoA are taken into account.</i>	1 / 2 / 3
Selectivity of gear type		1 / 2 / 3
Post capture mortality		1 / 2 / 3
Catch (weight) Only where the scoring element is scored cumulatively	<i>Insert weights or proportions of fisheries impacting the given scoring element (MSC Fisheries Standard Toolbox A4.4.4).</i>	1 / 2 / 3

Table 11: PSA productivity and susceptibility attributes and scores for birds.

Performance Indicator		
Productivity		
Scoring element (species)		
Attribute	Justification	Score
Average age at first breeding		1 / 2 / 3
Average 'optimal' adult survival probability		1 / 2 / 3
Fecundity		1 / 2 / 3
Susceptibility		
Attribute	Justification	Score
Areal Overlap	<i>Insert attribute justification.</i>	1 / 2 / 3
Encounterability	<i>Insert attribute justification.</i>	1 / 2 / 3
Selectivity of gear type		1 / 2 / 3
Post capture mortality		1 / 2 / 3

Table 12: PSA productivity and susceptibility attributes and scores for marine mammals: Mysticetes and sirenians; Odontocetes; Pinnipeds and sea otters.

Performance Indicator		
Productivity		
Scoring element (species)		
Attribute	Justification	Score
Average age at maturity		1 / 2 / 3
Fecundity		1 / 2 / 3
Average 'optimal' adult survival probability (only scored for Pinnipeds and sea otters)		1 / 2 / 3
Susceptibility		
Attribute	Justification	Score
Areal Overlap	<i>Insert attribute justification.</i>	1 / 2 / 3
Encounterability	<i>Insert attribute justification.</i>	1 / 2 / 3
Selectivity of gear type		1 / 2 / 3
Post capture mortality		1 / 2 / 3

Table 13: PSA productivity and susceptibility attributes and scores for sea turtles.

Performance Indicator		
Productivity		
Scoring element (species)		
Attribute	Justification	Score
Average age at maturity		1 / 2 / 3
Fecundity: eggs per season per remigration interval		1 / 2 / 3
Susceptibility		
Attribute	Justification	Score
Areal Overlap	<i>Insert attribute justification.</i>	1 / 2 / 3
Encounterability	<i>Insert attribute justification.</i>	1 / 2 / 3
Selectivity of gear type		1 / 2 / 3
Post capture mortality		1 / 2 / 3

Table 14: PSA productivity and susceptibility attributes and scores for sea snakes.

Performance Indicator		

Productivity		
Scoring element (species)		
Attribute	Justification	Score
Average length at maturity (cm)		1 / 2 / 3
Average maximum size (cm)		1 / 2 / 3
Fecundity		1 / 2 / 3
Susceptibility		
Attribute	Justification	Score
Areal Overlap	<i>Insert attribute justification.</i>	1 / 2 / 3
Encounterability	<i>Insert attribute justification.</i>	1 / 2 / 3
Selectivity of gear type		1 / 2 / 3
Post capture mortality		1 / 2 / 3

Table 15: PSA productivity and susceptibility attributes and scores for amphibians.

Performance Indicator		
Productivity		
Scoring element (species)		
Attribute	Justification	Score
Average age at maturity		1 / 2 / 3
Average maximum age		1 / 2 / 3
Fecundity		1 / 2 / 3
Average maximum size Not scored for invertebrates		1 / 2 / 3
Average size at maturity Not scored for invertebrates		1 / 2 / 3
Reproductive strategy		1 / 2 / 3
Trophic level		1 / 2 / 3
Density dependence Invertebrates only		1 / 2 / 3
Susceptibility		
Attribute	Justification	Score
Areal Overlap	<i>Insert attribute justification.</i>	1 / 2 / 3
Encounterability	<i>Insert attribute justification.</i>	1 / 2 / 3
Selectivity of gear type		1 / 2 / 3
Post capture mortality		1 / 2 / 3

Table 16: Species grouped by similar taxonomies (if MSC Fisheries Standard Toolbox A4.1.6 is used).

Species scientific name	Species common name (if known)	Taxonomic grouping	Most at-risk in group?
<i>e.g. Genus species subspecies</i>		<i>Indicate the group that this species belongs to, e.g. Scombridae, Soleidae, Serranidae, Merluccius spp.</i>	Yes / No

4.1.3. Consequence Spatial Analysis (CSA)

The CAB should complete the Consequence Spatial Analysis (CSA) table below for PI 2.4.1, if used, including rationales for scoring each of the CSA attributes.

Reference(s): Fisheries Standard Toolbox Section A7

Table 17: CSA justification table for PI 2.3.1 Habitats.

Consequence	Justification	Score
Regeneration of biota		1 / 2 / 3
Natural disturbance		1 / 2 / 3
Removability of biota		1 / 2 / 3
Removability of substratum		1 / 2 / 3
Substratum hardness		1 / 2 / 3
Substratum ruggedness		1 / 2 / 3
Seabed slope		1 / 2 / 3
Spatial	Justification	Score
Gear footprint		1 / 2 / 3
Spatial overlap		1 / 2 / 3
Encounterability		1 / 2 / 3

4.1.4. Scale Intensity Consequence Analysis (SICA)

The CAB should complete the Scale Intensity Consequence Analysis (SICA) table below for PI 2.4.1, if used, including rationales for scoring each of the SICA attributes.

Reference(s): MSC Fisheries Standard Toolbox Section A8

Table 18: SICA scoring template for PI 2.4.1 Ecosystem.

Performance Indicator PI 2.4.1 Ecosystem outcome	Spatial scale of fishing activity	Temporal scale of fishing activity	Intensity of fishing activity	Relevant subcomponents	Consequence Score
				Species composition	
				Functional group composition	
				Distribution of the community	
				Trophic size/structure	
Justification for spatial scale of fishing activity					
Justification for temporal scale of fishing activity					
Justification for intensity of fishing activity					
Justification for consequence score					

4.2. Benthic Impacts Tool settings

This template details the information the user of the MSC Benthic Impacts Tool must report in order for the output to be used to inform scoring. The intention is to ensure the outputs of the Benthic Impact Tool are auditable and reproducible.

Please complete all unshaded fields. For all notes and guidance indicated in italics, please delete and replace with your specific information.

Reference: MSC Fisheries Standard Toolbox Section C

Table 19: Benthic Impacts Tool: User and assessment information.

Name	
Organisation	
Date of use	
Units of Assessment(s) for which tool used	
Confirm that the MSC Benthic Impacts Tool User Manual was followed	Yes / No

Table 20: Benthic Impacts Tool: Data and settings.

Complete this table for each gear type assessed using the Benthic Impacts Tool. If multiple gear types were assessed using the Benthic Impacts Tool, replicate the table below and complete one table per gear type.

Gear type assessed	
Datasets: <i>In each of the boxes please provide a description of the data used (e.g., data type, scope, source and any modifications to original datasets)</i>	
Fishing effort data	
Assessment area boundary	
Habitats within the assessment area boundary	
Settings	
Effort and habitat data	
How many years of fishing effort data are there in the dataset?	
What grid cell size did you use?	
Depletion values: <i>Complete where default values were not used</i>	
What gear-specific depletion rate did you use?	
What gear-specific penetration depths did you use?	

What sediment type did you assign to each habitat type?	<i>E.g., A2.3 – Mud, A2.4 – Sand, A2.5 – Gravel</i>
Recovery rates: <i>Complete where default values were not used</i>	
What longevity distribution parameters were used?	
What species data was used?	

4.3. Harmonised fishery assessments

Harmonisation is required in cases where assessments overlap, or new assessments overlap with pre-existing fisheries.

If relevant, in accordance with FCP v3.0 Annex PB requirements, the CAB may describe in the report the processes, activities and specific outcomes of efforts to harmonise fishery assessments. The CAB may identify in the report the fisheries and Performance Indicators that may be subject to harmonisation at full assessment.

Reference(s): FCP v3.0 Annex PB, Table PB1

Table 21: Overlapping Units of Assessment.

Fishery name	Unit of Assessment	Certification status	Certification date	Performance Indicators to harmonise

Table 22: Overlapping Units of Assessment.

Supporting information	
<i>Describe any background or supporting information relevant to the harmonisation activities, processes and outcomes.</i>	
Has there been an Annual Harmonisation meeting of which the results will be adopted?	Yes / No
Date of annual harmonisation meeting	DD / MM / YY
If applicable, describe the meeting outcome	
<i>e.g. Agreement found among teams or lowest score adopted.</i>	

Table 23: Scoring differences.

Performance Indicators (PIs)	Fishery name & UoA name	Fishery name & UoA name	Fishery name & UoA name	Fishery name & UoA name
PI	Score	Score	Score	Score
PI	Score	Score	Score	Score
PI	Score	Score	Score	Score

Table 24: Rationale for scoring differences.

If exceptional circumstances apply, outline the situation and whether there is agreement between or among teams on this determination (FCP v3.0 PB 1.3.2.1).
If applicable, explain and justify any difference in scoring and rationale for the relevant Performance Indicators (FCP v3.0 Annex PB 1.3.2.2).

4.4. References (Bibliography)

- [CARP-CTMFM] Comisión Administradora del Río de la Plata - Comisión Técnica Mixta del Frente Marítimo. 2021. Resolución conjunta N° 1/2021. Establece la Captura Total Permisible de la especie pescadilla (*Cynoscion guatucupa*) para los años 2021 y 2022 en el área del Tratado. 2 pp.
- [CFP] Consejo Federal Pesquero. 2017. Acta N° 34. Enfoque Ecosistémico.
- [CFP] Consejo Federal Pesquero. 2018. Acta N° 31. Plan de acción Nacional para la conservación de las tortugas marinas en La República Argentina.
- [CFP] Consejo Federal Pesquero. N° 2/2010. Establéce el Área de Esfuerzo Restringido (AER) para la protección de concentraciones reproductivas de especies demersales costeras.
- [CFP] Consejo Federal Pesquero. Resolución N° 11/2015. Plan de Acción Nacional para reducir la interacción de mamíferos marinos con pesquerías en la República Argentina.
- [CFP] Consejo Federal Pesquero. Resolución N° 15/2010. Plan de Acción Nacional para reducir la interacción de aves con pesquerías en la República Argentina.
- [CFP] Consejo Federal Pesquero. Resolución N° 16/2009 Modificación del Reglamento de funcionamiento del CFP.
- [CFP] Consejo Federal Pesquero. Resolución N° 27/2009 Medidas de administración del variado costero.
- [CFP] Consejo Federal Pesquero. Acta 32/2009. Veda Pez palo.
- [CNA] Congreso de la Nación Argentina. 1991. Ley N° 23.968. Espacios Marítimos y Líneas de Base de la República Argentina.
- [CNA] Congreso de la Nación Argentina. 1995. Ley N° 24.430. Constitución Nacional (sancionada en 1853 con las reformas de los años 1860, 1866, 1898, 1957 y 1994).
- [CNA] Congreso de la Nación Argentina. 1998. Ley 25.052. Prohíbese la caza o captura a través de redes o por el sistema de varamiento forzado, de ejemplares de orca (*Orcinus orca*) en todo el territorio nacional.
- [CNA] Congreso de la Nación Argentina. 1998. Ley N° 24.922. Régimen Federal de Pesca
- [CNA] Congreso de la Nación Argentina. 2002. Ley N° 25.675. Política Ambiental Nacional. Presupuestos mínimos para Gestión Sustentable.
- [CNA] Congreso de la Nación Argentina. 2003. Ley N° 25831. Régimen de libre acceso a la información pública ambiental.
- [CNA] Congreso de La Nación Argentina. 1973. Ley N° 20645 "Tratado del Río de la Plata y su Frente Marítimo"
- [CNA] Consejo Federal Pesquero. Resolución N° 06/2009. Plan de Acción Nacional para la Conservación y el Manejo de Condrictios (tiburones, rayas y quimeras) en la República Argentina.
- [CNA] Consejo Federal Pesquero. Resolución N° 07/2005. Medidas de Administración y manejo variado costero.
- [CNA] Consejo Federal Pesquero. Resolución N° N° 9/2009. Establéce el Area de Esfuerzo Restringido (AER) para la protección de concentraciones reproductivas de especies demersales costeras.
- [CNA] Consejo Federal Pesquero. Resolución N° N°15/2006. Establece medidas de manejo y administración para ser aplicadas al conjunto denominado 'variado costero'.
- [CNA] Consejo Federal Pesquero. Resoluciones N° 04/2009 – 07/2009 – 08/2009 – 14/2009 - 02/2010 – 03/2010 – 01/2011. Vedas estacionales y zonales de Pez palo
- [CTMFM] Comisión Técnica Mixta del Frente Marítimo. 2002. Resolución N° 5/2002. CTP de gatuzo – *Mustelus schmitti*. 2 pp.
- [CTMFM] Comisión Técnica Mixta del Frente Marítimo. 2002. Resolución N° 13/2002. Suspensión con carácter precautorio, la captura de las especies rayas y chucho en la Zona Común de Pesca. 2 pp.
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