MarinTrust Whole fish fishery assessment report

Chile
Falkland sprat (*Sprattus fuegensis*)
in FAO 87.3.3, Chilean EEZ Region X (Los Lagos)

Surveillance 1
WF21

Table 1: Whole fish fishery assessment scope

Fishery name	Chile - Falkland sprat (*Sprattus fuegensis*) in FAO 87.3.3, Chilean EEZ Region X (Los Lagos)
MarinTrust report code	WF21
Type 1 species (common name, Latin name)	Falkland sprat *(Sprattus fuegensis),* Araucanian herring *(Strangomera bentincki)* and anchovy *(Engraulis ringens)*
Fishery location	FAO 87.3.3, Chilean EEZ Region X (Los Lagos)
Gear type(s)	Purse seine
Management authority (country/state)	Chilean Undersecretary of Fisheries and Aquaculture (SUBPESCA)

Table 2: Applicant and Certification Body details

Application details			
Applicant(s)		Salmonoil SA (Fiordo Austral), Pesquera Fiordo Austral SA, Glaciares SA (Fiordo Austral)	
Applicant country		Chile	
Certification Body details			
Name of Certification Body		NSF / Global Trust Certification Ltd	
Contact Information for CB		Fisheries@nsf.org	
Fishery Assessor name		Ana Ayres	
CB Peer Reviewer name		Léa Lebechnech	
Number of assessment days	4	**Assessment period**	12/2025-12/2026

Table 3: Assessment outcome

Assessment outcome (See Table 4 for a summary of assessment determination)		Approve
Approval validity	Valid from: 12/2025	Valid until: 12/2026
CB peer reviewer evaluation		Agree with assessment determination
Fishery Assessment Peer Review Group external peer reviewer evaluation		Agree with assessment determination

Table 4: Assessment determination

Summary of assessment and outcome
The Falkland sprat (*Sprattus fuegensis*) [*sardina austral or sur*] fishery that operates in inland waters of the Los Lagos Region (southern zone) in Chile is a fishery conducted by the artisanal sector. According to data from the scientific observer program in place, from 2017-2021, Falkland sprat composed about 78.96% of the catches. The accompanying fauna was composed mainly of Araucanian herring (*Strangomera bentincki*) [*sardina común*], composing 10.60% of the catches, followed by Anchovy (*Engraulis ringens*) [*anchoveta],* with 9.67%. All these species are managed by the Chilean Undersecretary of Fisheries and Aquaculture (SUBPESCA) and have reference points defined, being assessed under Category A. Minor species of the accompanying fauna considered in this assessment were mote sculpin (*Normanichthys crockeri*) [*mote*] and swarming squat lobster (*Munida gregaria*) [*langostino de los canales*], representing 0.52% and 0.15%, respectively, of the total catch in the artisanal fishery in the period analysed. As these species are not under any specific management regulation, they were assessed as Category D. No other species composed more than 0.10% of the catches of the artisanal Falkland sprat fishery. There is a robust management framework for the Falkland sprat fishery, supported by a management and a science committee where experts and scientists from different institutions ensure the sustainable exploitation of the resources. Compliance with this framework is monitored and when irregularities are identified sanctions are established; hence there is an effective management of the fishery. Dependent and independent fishery data are collected frequently to update and improve the stock assessment each year. The stock assessment establishes advice on precautionary capture quota based on projections of future recruitment, and this evaluation is updated twice a year as data are generated from annual research cruises that estimate the abundance and biomass of recruits of both species. The stocks assessment includes a frame of reference with proxy values that are used as reference points and based on the results a biologically acceptable quota (CBA) is set. The Fisheries Act (LGPA) does not establish prohibitions of commercial fisheries when stocks are below the spawning biomass limit. Instead, a resource recovery plan must be implemented. Management committees are required to elaborate and implement such recovery plans, implying reductions in fishing mortality at levels below or equal to the maximum sustainable level (FMSY). A Management Plan along with a Recovery Program was approved in November 2023 for Falkland sprat stock as it was considered depleted in 2022. In 2024, the Falkland sprat stock was estimated to be underexploited by 2024, with complete data and no evidence of overfishing. This was characterized by a spawning biomass 37% above the BDRMS target and fishing mortality well below the FRMS (BD/BDRMS=1.37; F/FRMS=0.19. For 2025, with still incomplete data, in October 2025, the CCT-PP pointed out that the under-exploitation condition without overfishing was found to be maintained, with a spawning biomass 64% above the BDRMS target and fishing mortality similarly below the reference limit (BD/BDRMS=1.64; F/FRMS=0.13), under the same seasonal catch projection assumption. The CCT-PP pointed out in October 2025 that the stock of Araucanian herring is in a state of overexploitation and has a 0.74 probability of being overfished (BD/BDMSY=0,7 y F/FMSY=1,3). This situation is attributed to the declining trend in recruitment, which has negatively affected spawning biomass in recent years. The Management Committee was urged to advance the

development of a Harvest Control Rule (HCR) to more clearly define the recruitment levels that underpin the determination of the CBA. The Fisheries Act (LGPA) does not establish catch restrictions when stocks are below the spawning biomass limit. Instead, a resource recovery plan must be implemented. Management committees are required to elaborate and implement such recovery plans (Article 9 of LGPA); implying reductions in fishing mortality at levels below or equal to FMSY. Several closures on the fishery have been established over the year, mostly related to the achievement of the TAC for the period and also when high proportions of juvenile Araucanian herring have been detected. Moreover, in 2021 the industrial Araucanian herring fishing was suspended to prevent further overexploitation because the stock's biomass was below the limit reference point The CCT-PP stated that the stock of anchovy *(Engraulis ringens)* is in a state of full exploitation (BD/BDRMS = 1.428 and F/FRMS = 0.512). The probability of the stock being overexploited is low (p = 0.009), and no overfishing is expected for 2024/25 According to available information, the negative effect of the fishery on ETP species is practically null since measures are in place to minimize mortality. The Falkland sprat fishery does not affect the habitat either since purse seines do not interact with any physical habitat. Fishery management framework considers an ecosystem approach to ensure long-term conservation and sustainable use of the resources while safeguarding the marine ecosystem. The assessor recommends the approval of Falkland sprat fishery in regio X – Los Lagos of Chilean Economic Exclusive Zone (EEZ) for the production of fishmeal and/or fish oil under the current Marin Trust Whole fish Standard (v 3.0).	
Summary of CB peer review	The CB reviewer concurs with the assessor's decision to continue the approval for this fishery against the MarinTrust Standard v3, highlighting that the management framework and the systems for surveillance, control, and enforcement continue to meet the requirements of the Standard. All comments raised during the internal peer review have been fully addressed by the assessor. Species have been correctly categorized under Category A and Category D, and each has met the relevant clause requirements. Overall, the CB reviewer supports the assessor's conclusions, noting that the report is well-referenced and provides clear, thorough justification for all scoring decisions. The peer reviewer also agrees entirely with the assessment outcomes and scores, offering only minor comments.
Summary of external peer review (see Appendix 1 for the full peer review report)	The assessor has carried out thorough work, producing a clear, well-referenced report with comprehensive justification for all scoring decisions. The peer reviewer concurs with all assessment outcomes and scores. Just a brief note: it is interesting that Falkland sprat was considered "depleted" in 2022 but recovered to "underexploited" status within only two years.
Notes for on-site auditor	NA

Table 5: General results

Section	Outcome (Pass/Fail)
M1 - Management Framework	Pass
M2 - Surveillance, Control and Enforcement	Pass
E1 - Impacts on ETP Species	Pass
E2 - Impacts on Habitats	Pass
E3 - Ecosystem Impacts	Pass

Table 6: Species-specific results

See Table 7 for further details of species categorisation.

Category	Species name (common & Latin name)	Outcome (Pass/Fail/n/a)
Category A	Falkland sprat (*Sprattus fuegensis*)	Pass
Category A	Araucanian herring (*Strangomera bentincki*)	Pass
Category A	Anchovy (*Engraulis ringens*)	Pass
Category D	Mote sculpin (*Normanichthys crockeri*)	Pass
Category D	Swarming squat lobster (*Munida gregaria*)	Pass

Table 7: Species categorisation table

List of all the species assessed. Type 1 species are assessed against Category A or Category B. Type 1 species must represent 95% of the total annual catch. Type 2 species are assessed against Category C or Category D. Type 2 species may represent a maximum of 5% of the annual catch. Species that comprise less than 0.1% of the catch are not required to be assessed or listed here.

Species name (common & Latin name)	Stock	CITES listed	IUCN Red list Category	% catch composition	Management	Category
Falkland sprat (*Sprattus fuegensis*) [*sardina austral or sur*]	Falkland sprat in inland waters of the Los Lagos Region	No	Least Concern[1]	78.96	Y	A
Araucanian herring (*Strangomera bentincki*) [*sardina común*]	Araucanian herring in Valparaíso region to Los Lagos	No	Least Concern[2]	10.60	Y	A
Anchovy (*Engraulis ringens*) [*anchoveta*]	Anchovy in Valparaíso region to Los Lagos	No	Least Concern[3]	9.67	Y	A
Mote sculpin (*Normanichthys crockeri*) [*mote*]	N/A	No	Not evaluated	0.52	N	D
Swarming squat lobster (*Munida gregaria*) [*langostino de los canales*]	N/A	No	Not evaluated	0.15	N	D

Rationale

The Fisheries Development Institute (IFOP) in Chile has a Scientific Observer Program, in which the discarding and by catch of the fisheries are researched and monitored. The IFOP Scientific Observer Program report from 2022-2023 describes the average catch composition from 2017-2021 of the artisanal Falkland sprat fishery that operates in inland waters of the Los Lagos Region (southern zone)[Table 1] [IFOP, 2023a] and was still used this year, as the 2023-2024 report did not perform catches estimates due to the low number of trips with effective sampled hauls (IFOP, 2024). Only two of the 264 trips were sampled.

The target species, Falkland sprat (*Sprattus fuegensis*) [*sardina austral or sur*], composed about 78.96% of the catches in the period between 2017-2021. The accompanying fauna was composed mainly of

[1] https://www.iucnredlist.org/species/195021/159405008

[2] https://www.iucnredlist.org/species/98841657/98887036

[3] https://www.iucnredlist.org/species/183775/102904317

Araucanian herring (*Strangomera bentincki*) [*sardina común*], composing 10.60% of the catches, followed by Anchovy (*Engraulis ringens*) [*anchoveta*], with 9.67%. All these species are managed by the Chilean Undersecretary of Fisheries and Aquaculture (SUBPESCA) and have reference points defined, being assessed under Category A.

According to Galleguillos *et al*. (2012), at the population level in Chile, the Falkland sprat forms a single genetic stock with significant reproductive cohesion. This assessment considers IFOP stock assessments for Falkland sprat in inland waters of the Los Lagos Region.

Galleguillos et al. (1994) developed a stock identification study of common sardine and anchovy resources between Regions V (Valparaíso) and IX (Araucanía) of Chile during April 1995 and April 1996 and concluded that there is no evidence to adopt the existence of subunits in the analysis area. Based on the results of this study, IFOP stock assessments extends the analysis to the Region X (Los Lagos), working on the hypothesis of a stock unit between Regions V and X in which the fishery is developed. Thus, this assessment considers stock assessments provided by IFOP for anchovy and Araucanian herring between Valparaíso and Los Lagos (V-X).

Mote sculpin (*Normanichthys crockeri*) [mote] and swarming squat lobster (*Munida gregaria*) [*langostino de los canales*] were included in the assessment since they represent 0.52% and 0.15%, respectively, of the total catch in the artisanal fishery. As these species are not under any specific management regulation, they were assessed as Category D. No other species composed more than 0.10% of the catches of the artisanal Falkland sprat fishery.

Table 1. Total catch, average catch and catch of the accompanying fauna species in relation to the target species during the period 2017-2021 in the artisanal pelagic fishery of southern Falkland sprat in the central-southern zone (inland waters of the Los Lagos region). The number of trips demonstrated was n=86 (IFOP, 2023a).

Nombre común	Captura total (t) 2017-2021	Captura media (t) 2017-2021 para la totalidad de viajes	Capt.especie v/s capt.objetivo
Sardina austral	3.461,304	40,2477	
Sardina común	464,604	5,4024	0,134228
Anchoveta	423,970	4,9299	0,122489
Mote	22,694	0,2639	0,006556
Langostino de los canales	6,474	0,0753	0,001870
Atún lanzón	3,000	0,0349	0,000867
Sierra	1,001	0,0116	0,000289
Merluza de cola	0,512	0,0060	0,000148
Calamar	0,071	0,0008	0,000021
Pejerrey de mar	0,050	0,0006	0,000014
Pateador	0,039	0,0005	0,000011
Pampanito	0,023	0,0003	0,000007
Raya volantín	0,014	0,0002	0,000004

References

Galleguillos R, J Chong, C Oyarzún, M Oliva & R Roa, 1994. Unidades de stock en los recursos sardina común y anchoveta de la zona Centro-Sur. Informes Técnicos FIP, FIP-IT/94-20, 64 pp. https://www.subpesca.cl/fipa/613/articles-89489_informe_final.pdf

Galleguillos R, Ferrada S, Canales-Aguirre C, Hernández C, Oliva M, González M T, Cubillos L, Niklitschek E, & Toledo P, 2012. Determinación de unidades poblacionales de sardina austral entre la X y XII regiones de Chile. (Informe Final. FIP 2010-17). Universidad de Concepción. https://www.subpesca.cl/portal/fipa/Consultor/Universidad-de-Concepcion/89294:Determinacion-de-unidades-poblacionales-de-sardina-austral-presente-entre-la-X-y-XII-Regiones-de-Chile

IFOP, 2023a. INFORME FINAL. Convenio de Desempeño 2022 Programa de investigación y monitoreo del descarte y la captura de pesca incidental en pesquerías pelágicas, 2022-2023. SUBSECRETARÍA DE ECONOMÍA Y EMT / Agosto 2023. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2023/P-581190.pdf

IFOP, 2024. INFORME FINAL. Programa de investigación y monitoreo del descarte y la captura de pesca incidental en pesquerías pelágicas, 2023-2024. SUBSECRETARÍA DE ECONOMÍA Y EMT / Agosto 2024. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2024/P-581201.pdf

Management requirements

This section, or module, assesses the general management regime applied to the fishery under assessment. It comprises two parts, M1, which evaluates the management framework, and M2, which evaluates surveillance, control and enforcement within the fishery.

1.1. All management criteria must be met (pass) for a fishery to pass the Management requirements.

1.1.1. The sub-criteria offer a structured evidence base to demonstrate that the fishery sufficiently meets the management criteria. It is not expected that sub-criteria are assessed independently of the main criterion.

M1 Management framework

M1.1	**M1.1 There is an organisation responsible for managing the fishery.** *In reaching a determination for M1.1, the assessor should consider if the following is in place:*
	M1.1.1 The management and administration organisations within the fishery are clearly identified.
	M1.1.2 The functions and responsibilities of the management organisations include the overall regulation, administration, science and data collection and enforcement roles, and are documented and publicly available.
	M1.1.3 Fishers have access to information and/or training materials through nationally recognised organisations.
Outcome	*Pass*

Rationale

The Ministry of Economy, Development and Tourism – MINECON (*Ministerio de Economía, Fomento y Turismo*) is the organization involved in promoting the development of the fisheries sector, along with the protection, conservation, and full use of resources and the marine environment.

Chile's institutional structure involves governing the fisheries sector centres around three key organisations, with several other institutions providing additional research and enforcement:

- The Undersecretariat of Fisheries and Aquaculture (*Subsecretaría de Pesca y Acuicultura*) – SUBPESCA is a public institution that belongs to MINECON and provides policy settings and regulatory framework (SUBPESCA, 2025a);
- The National Fisheries and Aquaculture Service *(Servicio Nacional de Pesca y Acuicultura*) - SERNAPESCA is a public institution that belongs to MINECON and is responsible for executing fisheries policy through enforcement (SERNAPESCA, 2025a);
- The Fisheries Development Institute (*Instituto de Fomento Pesquero*") – IFOP is non-profit private-law and the research arm of the institutional framework and the primary source of scientific advice to SUBPESCA (IFOP, 2025a).

Information corresponding to each of the management and administration organizations is publicly available in their websites, and can be consulted by anyone with internet access.

Thus, there is an organisation responsible for managing the fishery, **clause M1.1 is met**.

References

SERNAPESCA, 2025a. ¿Qué es SERNAPESCA?.
http://www.sernapesca.cl/que-es-sernapesca

SUBPESCA, 2025a. Acerca de la Subsecretaría.
https://www.subpesca.cl/portal/sitio/Subsecretaria/Acerca-de-la-Subsecretaria/

IFOP, 2025a. Instituto de Fomento Pesquero. Nuestra Organización
https://www.ifop.cl/quienessomos/nuestra-organizacion/

M1.2	**M1.2 Fishery management organisations are legally empowered to take management actions.** *In reaching a determination for M1.2, the assessor should consider if the following is in place:*	
	M1.2.1	There are legal instruments in place to give authority to the management organisation(s) which can include policies, regulations, acts or other legal mechanisms.
	M1.2.2	Vessels wishing to participate in the fishery must be authorised by the management organisation(s).
	M1.2.3	The management system has a mechanism in place for the resolution of legal disputes.
	M1.2.4	There is evidence of the legal rights of people dependent on fishing for food or livelihood.
Outcome	*Pass*	

Rationale

The General Law of Fishing and Aquaculture (*Ley General de Pesca y Acuicultura*) - LGPA No 18.892 issued in 1989 and, in particular, the modifications made under law N° 20.657 of February 9th, 2013, is the current law that these organisations follow to manage the fisheries in Chile.

The LGPA represents a modification of previous fisheries legislation, emphasizing commitments to the sustainable use and conservation of marine resources and prioritizing scientific information in decision-making processes. The recommendations of the Scientific and Technical Committees (CCT) are mandatory for all stakeholders, ensuring that conservation measures are based on scientific evidence above all other considerations.

In compliance to Article 4.2, SUBPESCA is legally empowered to take management actions through The LGPA and its amends. SUBPESCA is tasked with several key responsibilities. In accordance with Article 2 No. 10 of LGPA, SUBPESCA provides the authorizations to carry out extractive fishing activities with a specific vessel, conditional on compliance with the obligations established in the respective resolution. As outlined in Article 5, SUBPESCA must establish Biological Reference Points (PBRs) for all targeted stocks. It is also required to develop management plans for fisheries with restricted access, which must be reviewed and updated every five years. Article 9 mandates the implementation of Biologically Acceptable Catches (CBAs) and resource recovery plans. In compliance with SUBPESCA resolution No. 291/2015, all fish stocks must be exploited around the Maximum Sustainable Yield (MSY) level, making the MSY the primary objective when establishing quotas.

The LGPA defines the rights, obligations, and penalties for both industrial and artisanal fishers, granting legal recognition through resolutions and certificates. Industrial fishing rights are administered primarily through Transferable Fishing Licenses (LTP), which are renewable and legally transferable. Artisanal fishers register for indefinite, transferable rights in regional registries. Additionally, Law 20.249 ensures coastal marine areas for Indigenous communities to preserve traditional resource use.

The Registry of Related Activities (RAC) arises in the framework of the implementation of Law 21.370 that promotes gender equality in the fishing and aquaculture sector. This Registry consists of a “cadastre” which includes the number of people dedicated to activities such as incarnated, “charqueado”, smoked, filleting, among others, identifying their specific trade and geographic location. This Registry was created under the premise that "it is the duty of the State to generate the conditions to encourage reduce and/or eliminate job insecurity that mainly afflicts women in the artisanal fishing sector through the mainstreaming of gender approach in the design of public policies by SUBPESCA, and that it is necessary to advance in mechanisms that allow recognizing and valuing the important work in the development of related activities, which have historically been linked to extractive activity". The RAC is administered by SERNAPESCA, which has the responsibility of carrying out training and registration in the Registry, maintaining the integrity and veracity of the data (SUBPESCA, 2023).
To solve disputes between users and the fisheries authority, the following mechanisms are available:

- Administrative acts issued by the fisheries management authority can be contested at the administrative level within the Ministry of Economy, Development and Tourism, in accordance with Law No 19.880 (Law of Administrative Procedures). This can be done through remedies such as requests for reconsideration, hierarchical appeals, and review petitions as outlined in the legislation.
- Additionally, administrative acts may be challenged at the Office of the Comptroller General at the administrative level.
- Any effects resulting from the administrative acts of the fisheries authority can also be contested in court by filing Protection Resources, seeking corrective measures.

Decisions made through any of these processes are binding on the administrative authority and are considered public.

In December 2023, a proposal for a new General Fishing Law was submitted for consideration to the Chilean Congress (NLP, 2024). This project was approved unanimously in March 2024 and the FAO support this project (FAO, 2024). The initiative sought to implement a framework regulation for modern, transparent, sustainable, and equitable Chilean fishing activity that is responsible for responding to the main challenges that the activity and the sector has and will have. Among the main axes of the law initiative stand out: sustainable development of fishing activity, equity in the sector, social protection for artisanal fishermen, scientific-technical approach, and incentive for human consumption. In June 2025, Law 21.752 was published, modifying the General Law of Fishing and Aquaculture and establishing a new division between the artisanal and industrial fishing sector. No change to the Falkland sprat fishery was included in this Law. However, there were implications to the type 1 stock of this assessment, Araucanian herring (*Strangomera bentincki*) and anchovy (*Engraulis ringens*) in the Los Lagos region. The division of the total allowable catch between the small-scale (artisanal) and industrial fishing sectors, for the following hydrobiological resources and areas, based on scientific and technical criteria and in force from 1st January 2026 until 31

December 2040, shall be as follows:

- Araucanian herring in the maritime area from the regions of Valparaíso, Libertador General Bernardo O'Higgins, Maule, Ñuble, Biobío, La Araucanía, Los Ríos and Los Lagos: 90% for the artisanal fishing sector and 10% for the industrial fishing sector
- Anchovy in the maritime area from the regions of Valparaíso, Libertador General Bernardo O'Higgins, Maule, Ñuble, Biobío, La Araucanía, Los Ríos and Los Lagos: 90% for the artisanal fishing sector and 10% for the industrial fishing sector.

Thus, fishery management organisations are legally empowered to take management actions, **clause M1.2 is met**.

References

FAO, 2024. Servicio de Derecho para el Desarrollo. La FAO presentó su parecer técnico al proyecto de "Nueva Ley General de Pesca" de Chile. https://www.fao.org/legal-services/news/detail/es/c/1680976/

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770

Ley 20.249, Crea espacios costeros marinos para pueblos originarios. https://www.bcn.cl/leychile/navegar?idNorma=269291

Ley 19.880, Ley de Procedimiento Administrativo. https://www.bcn.cl/leychile/navegar?idNorma=210676

Ley 21.752, Fija un Nuevo Fraccionamiento Entre el Sector Pesquero Artesanal e Industrial. (Publicado en Página Web 25-06-2025) (F.D.O. 25-06-2025) https://www.subpesca.cl/portal/normativa/Leyes/126247:Ley-21-752-Fija-un-Nuevo-Fraccionamiento-Entre-el-Sector-Pesquero-Artesanal-e-Industrial-Publicado-en-Pagina-Web-25-06-2025-F-D-O-25-06-2025

NLP, 2024. Nueva Ley de Pesca. https://www.gob.cl/nuevaleydepesca/

SUBPESCA, 2023. MUJERES Y HOMBRES en el Sector Pesquero y Acuicultor de Chile 2023. https://www.subpesca.cl/portal/618/articles-121456_recurso_1.pdf

M1.3	**M1.3**	**There is an organisation responsible for collecting data and (scientifically) assessing the fishery.** *In reaching a determination for M1.3, the assessor should consider if the following is in place:*
	M1.3.1	The organisation(s) responsible for collecting data and assessing the fishery is/are clearly identified.
	M1.3.2	The management system receives scientific advice regarding stock, non-target species and ecosystem status.
	M1.3.3	Scientific advice is independent from the management organisation(s) and transparent in its formulation through a clearly defined process.

Clause outcome	*Pass*

Rationale

The Fisheries Development Institute - IFOP, established in 1964 through a joint agreement between the Chilean government, FAO, and the United Nations Development Program (UNDP), is the technical body specialized in scientific research on fisheries and aquaculture. It provides continuous support and advice to SUBPESCA on sustainable fishery resource management and marine environment conservation, as outlined in the amendment to the LGPA (Law No. 20.657 of 2013). The institute conducts ongoing studies based on the annual research program defined by SUBPESCA and oversees the management of fisheries research and monitoring data. IFOP is responsible for sampling fish stocks, conducting acoustic surveys, and collecting biological data, ensuring science-based fisheries management. It also collaborates with Chilean universities and various national and international institutions to strengthen data management and research efforts in the sector. The research databases are state-owned, publicly accessible, and adhere to quality standards established in consultation with the CCT.

The CCT serves as an advisory and consultative body to SUBPESCA, established under Law No. 20.657 of 2013 (Paragraph 3, Title XII, LGPA). It provides scientific guidance on managing closed-access fisheries and environmental or conservation issues deemed necessary by the Undersecretariat of Fisheries. As outlined in Article 153 of the LGPA, the CCT is tasked with assessing the fishery's status, defining biological reference points, and setting the range for catch quotas. Additionally, it may advise on other matters, including the development of management and conservation measures and the creation of management plans. The CCT for the Falkland sprat fishery is part of the Scientific Committee for Small Pelagic Fisheries, which, in addition to Falkland sprat, deals with other small pelagic fisheries in the area.

The LGPA, under Articles 8 and 9 bis, mandates the development of a Management Plan for fisheries with closed access or those declared as fully exploited, under recovery or in early development regimes. Falkland sprat fishery in the Los Lagos Region operates under a general access regime, associated to a fully exploited state and access for new users has been suspended since 2012. Initially, this suspension began with R. Ex. No. 1840 on July 9, 2012. It was later renewed for three years via R. Ex. No. 2337 on July 18, 2017. During this renewal process, a brief window between July 10 and 17 allowed new users to register. Finally, after the expiration of R. Ex. No. 2337/2017, R. Ex. No. 1498 came into effect on June 25, 2020, extending the suspension of new user registration until June 25, 2025 (R.Ex No. 1498/2020). To comply with the law, a Management Committee was formed for the creation of a Management Plan, which was approved in November 2023, along with a Recovery Program (Res. Ex. CERO PAPEL N° 00358-2023) [SUBPESCA, 2023].

The Management Committee is an advisory body created by Law No. 20.657 of 2013. One of its main functions is to prepare the proposed Management Plan for the fisheries under its jurisdiction, including its implementation, evaluation, and adaptation, if applicable. It is made up of representatives from artisanal fishing, industrial fishing, processing plants, the National Fisheries Service and SUBPESCA.

Meanwhile, SERNAPESCA (the National Fisheries Service) compiles the necessary data for creating the Fisheries and Aquaculture Statistical Yearbooks, which include detailed landing information.

Thus, there is an organisation responsible for collecting data and (scientifically) assessing the

fishery, **clause M1.3 is met.**
References Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770 SUBPESCA, 2023. Plan de Manejo y Programa de Recuperación para la Pesquería de Sardina Austral, Aguas Interiores, Región de Los Lagos. https://www.subpesca.cl/portal/616/w3-propertyvalue-56295.html#collapse05 Resolución Exenta 1498 de 2020, suspende transitoriamente la inscripción en el registro artesanal de la pesquería de sardina austral, región de los Lagos. https://www.subpesca.cl/portal/normativa/Medidas-de-administracion-y-regimenes-de-acceso/Cierres-de-Registro-y-Suspensiones-de-acceso/108023:Res-Ex-N-1498-2020-Suspende-Transitoriamente-la-Inscripcion-en-el-Registro-Artesanal-de-la-Pesqueria-de-Sardina-Austral-Region-de-Los-Lagos-Publicado-en-Pagina-Web-02-07-2020-F-D-O-09-07-2020 Res. Ex. CERO PAPEL N° 00358 de 2023 Aprueba Plan de Manejo y Programa de Recuperación para la Pesquería de Sardina Austral, Aguas Interiores, Región de Los Lagos. https://www.subpesca.cl/portal/normativa/Medidas-de-administracion-y-regimenes-de-acceso/Planes-de-Manejo/119694:Res-Ex-CERO-PAPEL-N-00358-2023-Aprueba-Plan-de-Manejo-y-Programa-de-Recuperacion-para-la-Pesqueria-de-Sardina-Austral-Aguas-Interiores-Region-de-Los-Lagos-Publicado-en-Pagina-Web-14-11-2023-F-D-O-25-11-2023

M1.4	**M1.4 The fishery management system is based on the principles of sustainable fishing and a precautionary approach.** *In reaching a determination for M1.4, the assessor should consider if the following is in place:*	
	M1.4.1	A policy or long-term management objective for sustainable harvesting based on the best scientific evidence and a precautionary approach is publicly available and implemented for the fishery.
Outcome	*Pass*	

Rationale

LGPA along with its amendments underscores this mission in Article 1° B. It establishes the law's primary objective as the conservation and sustainable use of hydrobiological resources through the application of a precautionary and ecosystem-based approach in fishing regulation, as well as the safeguarding of the marine ecosystems in which these resources exist.

To achieve this objective within the framework of national fisheries policy, the law mandates several guiding principles for adopting conservation and management measures:

- Long-term Objectives: Establish long-term goals for the conservation and administration of fisheries and the protection of their ecosystems, with periodic evaluations to assess the effectiveness of the measures implemented.
- Precautionary Principle: Exercise increased caution in the administration and conservation

of resources when scientific information is uncertain, unreliable, or incomplete. The absence of sufficient scientific data should not be used as a justification for delaying or failing to adopt necessary conservation and management measures.

These principles align with SUBPESCA and IFOP's mission to ensure the sustainable use of Chile's marine resources through a science-based, precautionary approach. Moreover, the Management Plan and recovery program recently approved for Falkland sprat in the Los Lagos Region adopted the general principles of LGPA, stating its objective with the conservation and sustainable use of the resource, through the application of the precautionary and ecosystem-based approaches (SUBPESCA, 2023).

Thus, the fishery management system is based on the principles of sustainable fishing and a precautionary approach, **clause M1.4 is met**.

References

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770

SUBPESCA, 2023. Plan de Manejo y Programa de Recuperación para la Pesquería de Sardina Austral, Aguas Interiores, Región de Los Lagos. https://www.subpesca.cl/portal/616/w3-propertyvalue-56295.html#collapse05

M1.5	**M1.5**	**There is a clearly defined decision-making process which is transparent, with processes and results made publicly available.** *In reaching a determination for M1.5, the assessor should consider if the following is in place:*
	M1.5.1	There is participatory engagement through which fishery stakeholders and other stakeholders can access, provide information, consult with, and respond to, the management systems' decision-making process.
	M1.5.2	The decision-making process is transparent, with results made publicly available.
	M1.5.3	The fishery management system is subject to periodic internal or external review to validate the decision-making process, outcomes and scientific data.
Outcome	*Pass*	

Rationale

By law SUBPESCA establishes Fishery Management Committees, which are consultative and advisory bodies of the fishing authority conformed by stakeholders from the main sectoral representatives of each fishery, as well as officials of SUBPESCA and SERNAPESCA; and Technical Scientific Committees who are advisory and/or consultation bodies of the SUBPESCA where members are nominated by public competition.

There is a specific Management Committee for Falkland sprat and Technical Scientific Committee for Small Pelagic Fisheries that meet regularly. Acts from the management committee are available since 2016 (SUBPESCA, 2025b) and those from the Scientific Committee are available since 2013 (SUBPESCA, 2025c), documents are free access and can be found on the SUBPESCA webpage.

Thus, there is a clearly defined decision-making process which is transparent, with processes and results made publicly available, **clause M1.4 is met.**
References Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770 SUBPESCA, 2025b. Comité de manejo Sardina austral. https://www.subpesca.cl/portal/616/w3-propertyvalue-56295.html#collapse03 SUBPESCA, 2025c. Comité Científico de Pesquerías de Pequeños Pelágicos. https://www.subpesca.cl/portal/616/w3-propertyvalue-51142.html#collapse06

M2 Surveillance, control and enforcement

M2.1	**M2.1**	**There is an organisation responsible for monitoring compliance with fishery laws and regulations.** *In reaching a determination for M2.1, the assessor should consider if the following is in place:*
	M2.1.1	There is an organisation responsible for monitoring compliance with specific monitoring, control and surveillance (MCS) mechanisms in place.
	M2.1.2	There are relevant tools or mechanisms used to minimise IUU fishing activity.
	M2.1.3	There is evidence of monitoring and surveillance activity appropriate to the intensity, geography, management control measures and compliance behaviour of the fishery.
Outcome	*Pass*	

Rationale

In 2025, the framework of sanctions which is applied when infringements against laws and regulations are discovered remains in place in Chile.

1. SERNAPESCA - Legal Framework (Article 108, Title 9 of LGPA): Violations of the LGPA, its regulations, or fisheries management measures are subject to administrative sanctions, including fines, suspension of vessel captains, closure of facilities, and confiscation of gear and hydrobiological products.

Roles & Activities:

- Audits and Inspections:
  - Conducts field audits of capture fisheries.
  - Oversees surveillance and enforces all fisheries-related legal provisions.
  - Implements programs to prevent and control high-risk diseases in aquaculture.
  - Manages fisheries and aquaculture records and publishes sectoral statistics.
- Provincial Coverage:
  - Operates 46 provincial offices nationwide (including two insular offices) with a staff of

approximately 900 personnel.

2. Chilean Navy - Maritime Surveillance:

- Monitors approximately 4,542,990 km² of Chile's EEZ to detect and prevent unauthorized activities that could threaten marine ecosystems or illegally exploit resources.
- Coordinates with SERNAPESCA to intercept vessels operating outside approved regulations or in prohibited zones.

3. Observer Programme:

- Bycatch Reduction & Monitoring:
  - Implements an observer plan to monitor incidental catch (bycatch) in major fisheries
  - Observers collect species composition, bycatch quantities, and compliance data.
  - Results inform bycatch-reduction measures and help set limits on incidental catches.

4. Vessel Tracking (Vessel Monitoring System – VMS)

  - Satellite Monitoring Requirements (Article 64, LGPA):
  - Any vessel ≥ 15 m LOA (length overall) must carry an operational satellite tracking device.
  - Artisanal vessels ≥ 12 m LOA and those < 15 m registered as pelagic purse-seine must also be equipped with VMS.

- Real-Time Oversight:
  - Vessel positions are compared daily against declared landing sites to detect discrepancies or unauthorized transits.
  - Alerts are generated if a vessel deviates from its authorized fishing grounds or exceeds spatial/temporal restrictions.

5. National Supervision Plan (NSP): Each year, SERNAPESCA publishes a National Supervision Plan (NSP) outlining priority compliance areas for fisheries, aquaculture, and foreign trade sectors. The NSP's guiding principles focus on risk-based allocation of inspection resources (SERNAPESCA 2024b) focusing on "Fishing and Landing Zone" inspections in high-traffic ports and combating Illegal Fishing in the Value Chain with targeted inspections at fish-meal plants and export terminals to intercept illicit product flows. Key Inspection Programs include:

- Satellite Monitoring Program (VMS oversight)
- Landing Control Program (in-person and remote checks of offloaded catch for a continued focus on "Fishing and Landing Zone" inspections in high-traffic ports)
- Weighing System Program (verification of scales at landing sites and processing plants)
- Joint Operations Program collaborative inspections with the Navy, Customs, and environmental authorities)
- Special Control Programs (targeted compliance checks for specific high-risk fisheries or zones)

According to SERNAPESCA's 2024 Report on Oversight Activities in Fishing and Aquaculture, a total of 68,777 inspection activities were conducted. The satellite tracking system played a significant role, monitoring 87 industrial vessels and 281 artisanal vessels, resulting in 119,823 remote inspections (SERNAPESCA, 2025c).

In 2024, the satellite monitoring program tracked an average of 87 industrial fishing vessels daily, fluctuating between 80 and 93 vessels. For the artisanal sector, an average of 280 vessels were monitored daily, with a range between 165 and 402 vessels transmitting their positions (SERNAPESCA, 2025c).

In 2024, the inspection coverage decreased 35% for artisanal fisheries and increased 3.7% for industrial fisheries compared to 2023 (SERNAPESCA, 2025c).

Thus, there is an organisation responsible for monitoring compliance with fishery laws and regulations, **clause M2.1 is met.**
References Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770 SERNAPESCA, 2025c. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2025/04/IFPA_2024_v8-0F.pdf

M2.2	**M2.2 There is a framework of sanctions which are applied when infringements against laws and regulations are discovered.** *In reaching a determination for M2.2, the assessor should consider if the following is in place:*	
	M2.2.1 The laws and regulations provide for penalties or sanctions that are adequate in severity to act as an effective deterrent.	
	M2.2.2 There is no evidence of systematic non-compliance.	
Outcome	*Pass*	

Rationale

The LGPA specifies a range of sanctions for violations, including fines, suspension or revocation of fishing licenses, and confiscation of catch and gear. Offenses, such as industrial vessels landing more fish than their allocated quota, face penalties ranging from monetary fines to license suspension or revocation, depending on the severity of the infraction.

In 2024, there were 824 court summonses issued in the commercial fishing sector (excluding recreational fishing), 12.7% of these in Los Lagos Regions. 32.3% of the 626 court summonses were related to issues with certifying the origin of the product, 20.5% were due to non-compliance with fishing bans, and 16.5% were for violations of authorization requirements (SERNAPESCA 2025c).

According to the SERNAPESCA´s 2024 Report on Oversight Activities in Fishing and Aquaculture (SERNAPESCA, 2025c), a total of close to 1,280 tons of hydrobiological species were confiscated due to non-compliance with regulations. The Falkland sprat was not on the ten species with the highest levels of seizures (SERNAPESCA, 2025c).

In conclusion, there is a framework of sanctions which are applied when infringements against laws and regulations are discovered, **clause M2.2 is met**.

References

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770

SERNAPESCA, 2025c. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2025/04/IFPA_2024_v8-0F.pdf

M2.3	**M2.3 There is substantial evidence of widespread compliance in the fishery, and no substantial evidence of IUU fishing.** *In reaching a determination for M2.3, the assessor should consider if the following is in place:*	
	M2.3.1	The level of compliance is documented and updated routinely, statistically reviewed and available.
	M2.3.2	Fishers provide additional information and cooperate with management/enforcement agencies/organisations to support the effective management of the fishery.
	M2.3.3	The catch recording and reporting system is sufficient for effective traceability of catches per vessel and supports the prevention of IUU fishing.
Outcome	*Pass*	

Rationale

SERNAPESCA's Report on Oversight Activities in Fishing and Aquaculture (SERNAPESCA, 2025c), fulfils the requirements set forth in Article 4 B of the LGPA, which mandates: "*The Service must, in the month of March each year, prepare a report on the inspection activities and actions carried out in the area of fishing and aquaculture during the previous year. The report must also include the results of these inspection actions and the level of compliance with administration and conservation measures from the previous year. It must be published on the Service's website*". By complying with this requirement, SERNAPESCA ensures that the level of compliance is documented, updated, and made publicly available each year.

Additionally, Article 63 of the LGPA requires industrial and artisanal shipowners to report their catches and landings for each vessel to the Service. Hydrobiological resources may only be landed at points or ports authorized by SERNAPESCA. Article 64 A further stipulates that fishing and research vessels operating at sea must have an automatic positioning system. The data generated by this system must be publicly accessible, updated monthly, and published on SERNAPESCA's website.

These articles emphasize the legal obligations of fishers to collaborate with SERNAPESCA and comply with various activities required by law. This compliance is essential to demonstrate the legality of their operations and to maintain their fishing permits.

In conclusion, there is substantial evidence of widespread compliance in the fishery, and no substantial evidence of IUU fishing, **clause M2.3 is met**.

References

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770

SERNAPESCA, 2025c. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2025/04/IFPA_2024_v8-0F.pdf

Species requirements

This section, or module, comprises of four species categories. Each species in the catch is subject to an assessment against the relevant species category in this section (see clauses 1.2 and 1.3 and Table 6).

Type 1 species can be considered the 'target' or 'main' species in the fishery under assessment. They make up the bulk of the catch and a subjected to a detailed assessment. Type 1 species must represent 95% of the total annual catch. If a species-specific management regime is in place for a Type 1 species, it shall be assessed under Category A. If there is no species-specific management regime in place for a Type 1 species, it shall be assessed under Category B.

Type 2 Species can be considered the 'non-target' species in the fishery under assessment. They comprise a small proportion of the annual catch and are subjected to a relatively high-level assessment. Type 2 species may represent a maximum of 5% of the annual catch. If a species-specific management regime is in place for a Type 2 species, it shall be assessed under Category C. If there is no species-specific management regime in place for a Type 2 species, it shall be assessed under Category D.

Species that comprise less than 0.1% of the catch are not required to be assessed or listed here.

Category A species

2.1. All clauses must be met for a species to pass the Category A assessment.

2.1.1. If a species fails any of the Category A clauses, it should be re-assessed as a Category B species.

Species Name: Falkland sprat (*Sprattus fuegens*)

A1 Data collection

A1.1	**A1.1 Landings data are collected such that the fishery-wide removals of this species are known.**
Outcome	*Pass*
Rationale SERNAPESCA is responsible for operating the official landing certification program. Article 63E of LGPA establishes that: "*The holders of any instrument that authorizes the extraction of the industrial fraction of the global quota or fishing authorizations, as well as the artisanal owners of vessels of a length equal to or greater than 12 meters, the artisanal owners of vessels registered in pelagic fisheries with the purse seine gear, whatever their length, and the owners of transport vessels must submit to the Service the landing information by fishing trip referred to in article 63 of this law, submitting to the certification procedure established by the Service*." Prior to 2006, following the recommendation from the peer review process (Ernst *et al*., 2015) and prioritized by the Scientific and Technical Committees for Small Pelagic fish (CCT-PP), landings of Falkland sprat were estimated from official landings of common sardine, assuming that 70%	

corresponded to Falkland sprat. This percentage was based on findings from research fishing conducted by IFOP between 2006 and 2012, where this proportion of species was observed in the catches on average (Aranis *et al*., 2012). After being identified as a distinct species from the common sardine, official records of Falkland sprat stock began in 2006, reporting average catches of around 43 thousand tons until 2009. Between 2018 and 2022, a decrease in landings was observed, averaging around 11,000 tons. The lowest catches recorded in the series (~3,000 tons) were registered in the last two years [Figure 1] (IFOP, 2025b).

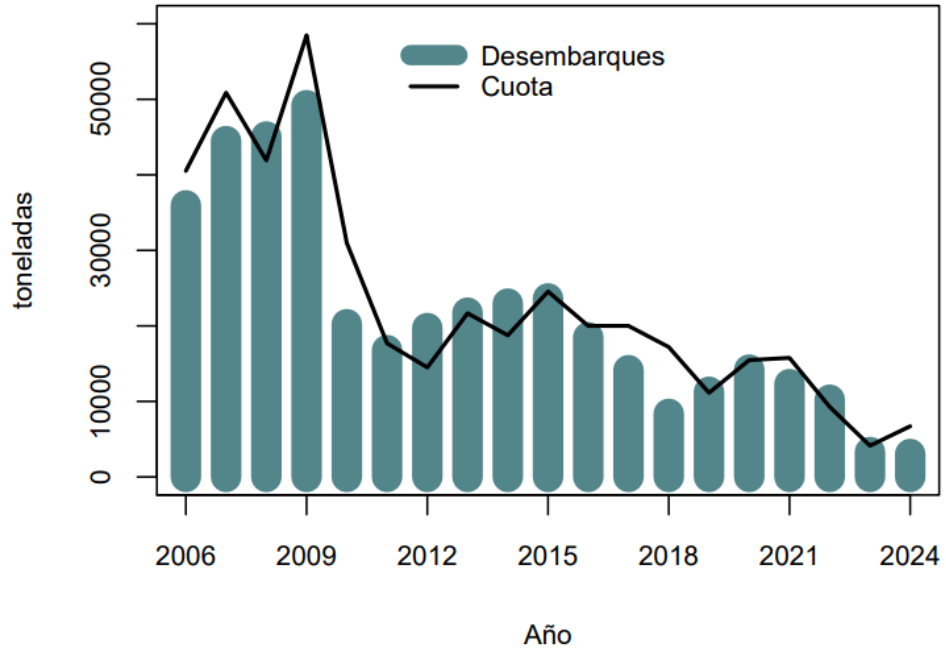


Figure 1. Official landings and catch quotas established for the southern sardine in the Los Lagos Region between 2006 and 2024 provided by SERNAPESCA (IFOP, 2025b).

In conclusion, landings data are collected such that the fishery-wide removals of this species are known, **clause A1.1 is met**.

References

Aranis, Meléndez, R., Pequeño, G., & Cerna, F., 2007. *Sprattus fuegensis* en aguas interiores de Chiloe, Chile (Osteichthyes: Clupeiformes: Clupeidae). Gayana (Concepción), 71(1), 102–113. https://doi.org/10.4067/S0717-65382007000100011

Ernst, B., Valero, J., & Hamel, O., 2015. Programa anual de revisión experta a la asesoría científica de las principales pesquerías nacionales, año 2013: sardina austral (*Sprattus fuegensis*). (Informe Final Proyecto N° 2013-125-FAP-20).

IFOP, 2025b. Informe Técnico Final. Estatus y posibilidades de explotación biológicamente sustentable de sardina austral, Región de Los Lagos, año 2025. Subsecretaría de Economía y EMT. Septiembre 2024. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2024/P-483278.pdf

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770

A1.2	A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.
Outcome	*Pass*

Rationale

The evaluation of the biological status of the Falkland sprat is made using several kinds of data. The stock assessment model is based on a statistical analysis of annual age structure dynamics, incorporating biological and fishery data aggregated by calendar year. The data input into the model includes total landings obtained from SERNAPESCA's official records, annual size composition data, and mean weights by size from the pelagic fishery monitoring program. Additionally, hydroacoustic surveys provide information on vulnerable biomass during the autumn season, along with their respective length compositions (IFOP, 2025b).

In the last stock assessment, the population dynamics was modeled using an age-structured approach, covering the period from 2002 to 2025, with complete data available up to 2024. This includes total landings (2002-2024), the length structure of the fleet (2005-2023), standardized catch per unit effort (CPUE, 2007-2024), and biomass estimates from the PELAGUIN acoustic surveys, along with their respective size compositions (2006, 2008, 2011, 2013-2024). For 2025, the results from the most recent PELAGUIN acoustic survey conducted in April 2025 were available, and it was assumed that the catch would be equivalent to the initial quota [IFOP, 2025b].

In October 2025, the CCT-PP pointed that the stock was in under-exploitation condition without overfishing (BD/BDRMS=1.64; F/FRMS=0.13)(CCT-PP, 2025).

In conclusion, sufficient additional information is collected to enable an indication of stock status to be estimated, and **clause A1.2 is met**.

References

CCT-PP, 2025. Acta Sesión N°06/2025. https://www.subpesca.cl/portal/616/articles-127529_documento.pdf

IFOP, 2025b. Informe Técnico Final. Estatus y posibilidades de explotación biológicamente sustentable de sardina austral, Región de Los Lagos, año 2025. Subsecretaría de Economía y EMT. Agosto 2025. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2024/P-483278.pdf

A2 Stock assessment

A2.1	A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock) and considers all fishery removals and the biological characteristics of the species.
Outcome	*Pass*

Rationale

The stock assessment is carried out by the IFOP at the end of each year and establishes some advice on precautionary capture quota based on projections of future recruitment. This evaluation is updated twice a year as data are generated from the annual research cruises that carry out

hydroacoustic evaluation monitoring program, which allows estimating the abundance and biomass of recruits. The hydroacoustic surveys are usually carried out in April and March for the Falkland sprat fishery (IFOP, 2025b). The results generated by the IFOP from each stock assessment are presented to the CCT-PP of the SUBPESCA, who review the information and validate the advice.

In conclusion, a stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock) and considers all fishery removals and the biological characteristics of the species. Consequently, **clause A2.1 is met**.

References

IFOP, 2025b. Informe Técnico Final. Estatus y posibilidades de explotación biológicamente sustentable de sardina austral, Región de Los Lagos, año 2025. Subsecretaría de Economía y EMT. Agosto 2025. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2025/P-483298.pdf

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

Rationale

In the context of the LGPA, fisheries must reach or remain around the MSY, considering the biological characteristics of the exploited resources. The MSY occurs when the spawning stock biomass is significantly reduced before recruitment is impacted, on average. To achieve this, the PBRs must be estimated:

Spawning Biomass at Maximum Sustainable Yield (BDSY or $B_{RMS,}$ in Spanish): Below this level, the resource is classified as overexploited (*sobre-explotación*).
Fishing Mortality at Maximum Sustainable Yield (FMSY or $F_{RMS,}$ in Spanish): Above this level, the resource is classified as subject to overfishing.
Spawning biomass limit (Blim): Below this level, a fishery is classified as depleted or collapsed (*agotada* or *colapsada*).
Fishing Mortality limit (Flim): Above this level, the resource is classified as subject to overfishing.

There is a biological frame of reference that establishes the proxy values used by the CCT-PP to take management decision of the Falkland sprat fishery according to the stock assessment results. The procedures for calculating PBR and species-specific reference frameworks are based on the study "Revision of Biological Reference Points (Maximum Sustainable Yield) in National Fisheries" (Payá *et al*., 2014). During its first workshop, conducted in collaboration with international experts, a three-tier system was developed to derive species-specific MSY for Chilean fisheries.

The Falkland sprat population in the Los Lagos Region is classified as Tier 1b. Payá *et al*. (2014) proposed to use a fishing mortality level that reduces the virgin spawning biomass to 55% (55%BD0) as the management target. This level of reduction corresponds to 60% of the spawning biomass per recruit (60%BDPR). Therefore, the equilibrium F60% from the spawning biomass per recruit (BDPR) analysis is used as the target, serving as a proxy for MSY. A spawning biomass limit of 27.5% of the virginal biomass was also proposed. The CCT-PP accepted the recommendations of the PBRs on the Session N°5/2014.

In the last CCT-PP session available for the Falkland sprat stock published in the end of October

2025 (CCT-PP N°06/2025), the PBRs presented on Table 2 were considered for establishing the CBA 2025.

Table 2. Criteria for CBA 2026 used by the CCT-PP (CCT-PP 2025). F_{RMS}= Fishing Mortality at Maximum Sustainable Yield. B_{RMS} = Spawning Biomass at Maximum Sustainable. Blim= Spawning biomass limit.

RECURSO	*Proxy* F_{RMS} ($año^{-1}$)	*Proxy* B_{RMS} (toneladas)	$B_{lím}$ (toneladas)
Anchoveta Zona Norte Regiones (AyP - TPCA – ANTOF)	$F_{55\% BDPR}$ 0,13 ($semestre^{-1}$)	$55_{\% BDPR}$ (ó 50%BD_0) 624.000	25% BD_0 312.000
Anchoveta Zona Centro Norte, Regiones Atacama y Coquimbo.	$F_{60\% BDPR}$ 0,65	60% $_{BDPR}$ (ó 55 %BD_0) 57.900	27,5% BD_0 29.000
Anchoveta Regiones Valparaíso a Los Lagos.	$F_{60\% BDPR}$ 0,62	60% $_{BDR}$ (ó 55 %BD_0) 465.000	27,5% BD_0 232.500
Sardina Común Regiones Valparaíso a Los Lagos.	$F_{60\% BDPR}$ 0,31	60% $_{BDPR}$ (ó 55 %BD_0) 859.000	27,5% BD_0 429.500
Sardina Austral Región de Los Lagos Aguas Interiores (A.I.)	$F_{60\% BDPR}$ 0,30	60% BDPR (ó 55 %BD_0) 28.900	27,5% BD_0 14.450

In conclusion, the assessment provides an estimate of the status of the biological stock relative to a reference point or proxy. Consequently, **clause A2.2 is met**.

References

Payá, I., Canales, C., Bucarey, D., Canales, M., Contreras, F., Leal, E., Tascheri, R., Yáñez, A., Zúñiga, M. J., Clark, W., Dorn, M., Dunn, M., Fernández, C., Haddon, M., Klaer, N., & Sissenwine, M. (2014). Revisión de los puntos biológicos de referencia (Rendimiento Máximo Sostenible) en las pesquerías nacionales. Informe Final. Convenio II: Estatus y posibilidades de explotación biológicamente sustentables de los principales recursos pesqueros nacionales 2014. Subsecretaría de Economía y EMT / IFOP, Chile (pp. 1–49 +Anexos). https://www.researchgate.net/publication/301698303_Revision_de_los_puntos_biologicos_de_referencia_Rendimiento_Maximo_Sostenible_en_las_pesquerias_nacionales_Review_of_Biological_Reference_Points_for_main_chilean_fisheries

CCT-PP, 2014. Acta Sesión N°5/2014. https://www.subpesca.cl/portal/616/articles-86241_documento.pdf

CCT-PP, 2025. Acta Sesión N°06/2025. https://www.subpesca.cl/portal/616/articles-127529_documento.pdf

A2.3	**A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.**
Outcome	*Pass*
Rationale	

The assessments conducted by IFOP provides a robust framework for establishing biologically sustainable fishery removal volumes for the Falkland stock in the Los Lagos region. It leverages continuous quality improvement programs such as the Continuous Improvement Program for the Quality of Scientific Advice - PMCCAC, addressing data gaps and aligning with expert recommendations to refine stock evaluation methods. Updates to the stock assessment model, including age-based dynamics and improved selectivity indices, enhance the accuracy of biomass and abundance projections while accommodating uncertainties like recruitment variability and demographic shifts (IFOP, 2025b). This ensures that advisory outputs remain relevant to current stock conditions.

By implementing iterative methodological advancements and incorporating peer-reviewed feedback, the assessments support informed decision-making about catch limits and stock status. Recent efforts highlight improvements in retrospective pattern corrections, reference point estimations, and the integration of recruitment scenarios, ensuring that catch projections reflect ecological realities (IFOP, 2025b). These measures enable adaptive management practices, aligning exploitation rates with stock productivity and sustaining fishery resources for future use

Based on the stock assessments performed by IFOP, the CCT-PP advices a biologically acceptable quota (CBA) for the fishery. The last CCT-PP advice available for 2025 (CCT-PP, 2025) considered two scenarios:

1. Without Law of Remnants: A total CBA that tends to the MSY equivalent to 12,957 tons, then, discounting the discard (3.7%), a maximum CBA of 12,360 tons is determined, so the recommended CBA range is 9,888 to 12,360 tons.
2. With Law of Remnants: A total CBA that tends to the MSY and incorporates discard and alternative remainder of the 15%, equivalent to 10,777 tons, so the capture range recommended biologically acceptable is 8,622 to 10,777 tons.

For the determination of both CBA ranges, a 3.7% discount for discards, medium recruitments, and a 20% risk were considered, equivalent to a 21% and 23% reserve, without and with remnants, respectively; and a 2025 capture projection according to seasonality.

The Law of Remnants (Law No. 21.525) plays a key role in shaping the quotas available to artisanal fisheries. It allows unused quotas from the previous year to be transferred, provided certain conditions are met: at least 10% of the global catch quota must remain uncaptured, and the fishery must not be declared depleted or collapsed by the Scientific Committee. However, the transferred remainder cannot exceed 30% of the global quota from the preceding year (DORC, 2022). This law emerged in response to challenges faced during 2021 due to the Covid-19 pandemic, which resulted in significant unextracted quotas. Supported by biomass studies ensuring the sustainability of the resource, the law aims to alleviate economic pressures on artisanal fishing communities, allowing them to recover from the pandemic's effects while adhering to conservation principles (CDDC, 2023).

Together, these measures reflect the balance sought between sustainable resource management and the socioeconomic needs of fishing communities. By integrating scientific advice with legal mechanisms such as the Law of Remnants, fisheries management seeks to maintain long-term sustainability while addressing immediate challenges.

In conclusion, the assessment provides an indication of the volume of fishery removals which is

appropriate for the current stock status. Consequently, **clause A2.3 is met**.
References CCT-PP, 2025. Acta Sesión N°06/2025. https://www.subpesca.cl/portal/616/articles-127529_documento.pdf CDDC, 2023. Cámara de Diputadas y Diputados Chile. Boletín No. 16386-21. https://www.camara.cl/verDOC.aspx?prmID=75507&prmTipo=FICHAPARLAMENTARIA&prmFICHATIPO=DIP&prmLOCAL=0 DORC, 2022. Diario Oficial de la República de Chile. Ministerios de Economía, Fomento y Turismo. Ley Num. 21.525. https://www.subpesca.cl/portal/615/articles-117122_documento.pdf IFOP, 2025b. Informe Técnico Final. Estatus y posibilidades de explotación biológicamente sustentable de sardina austral, Región de Los Lagos, año 2025. Subsecretaría de Economía y EMT. Agosto 2025. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2024/P-483278.pdf

A2.4	**A2.4 The assessment is subject to internal or external peer review.**
Outcome	*Pass*
Rationale Stock assessments are conducted by the IFOP and then the results presented to the relevant management and scientific and technical scientific committees, where the information provided is reviewed, discussed and the advice is validated. These committees comprise representatives from both the artisanal and industrial fishing sectors across various regions, along with SERNAPESCA, SUBPESCA, and other relevant institutions. These peer reviews can be considered both internal and external as members of committees may also be outside the assessment process. When necessary, it is common practice of Chilean authorities' commission external reviews for validating the studies, measures and methodologies applied in the management of the fisheries. For example, the procedures for calculating Biological Reference Points and species-specific reference frameworks for national fisheries were discussed in workshops in collaboration with international and national experts (Payá *et al*., 2014, CCT-PP, 2014 and IFOP, 2025b). In conclusion, the assessment is subject to internal or external peer review. Consequently, **clause A2.4 is met**.	
References Payá, I., Canales, C., Bucarey, D., Canales, M., Contreras, F., Leal, E., Tascheri, R., Yáñez, A., Zúñiga, M. J., Clark, W., Dorn, M., Dunn, M., Fernández, C., Haddon, M., Klaer, N., & Sissenwine, M. (2014). Revisión de los puntos biológicos de referencia (Rendimiento Máximo Sostenible) en las pesquerías nacionales. Informe Final. Convenio II: Estatus y posibilidades de explotación biológicamente sustentables de los principales recursos pesqueros nacionales 2014. Subsecretaría de Economía y EMT / IFOP, Chile (pp. 1–49 +Anexos). https://www.researchgate.net/publication/301698303_Revision_de_los_puntos_biologicos_de_referencia_Rendimiento_Maximo_Sostenible_en_las_pesquerias_nacionales_Review_of_Biological_Reference_Points_for_main_chilean_fisheries CCT-PP, 2014. Acta Sesión N°5/2014. https://www.subpesca.cl/portal/616/articles-86241_documento.pdf	

IFOP, 2025b. Informe Técnico Final. Estatus y posibilidades de explotación biológicamente sustentable de sardina austral, Región de Los Lagos, año 2025. Subsecretaría de Economía y EMT. Agosto 2025. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2024/P-483278.pdf

A2.5	**A2.5 The assessment is made publicly available.**
Outcome	*Pass*

Rationale

Stock assessment reports and other scientific data, including monitoring programs, are available on IFOP website: https://www.ifop.cl/en/busqueda-de-informes/Information on decisions made by the Scientific and Technical and Management Committees can be found on SUBPESCA website (SUBPESCA 2025b,c)

Therefore, the assessment is made publicly available and **clause A2.5 is met**.

References

SUBPESCA, 2025b. Comité de manejo Sardina austral. https://www.subpesca.cl/portal/616/w3-propertyvalue-56295.html#collapse03

SUBPESCA, 2025c. Comité Científico de Pesquerías de Pequeños Pelágicos. https://www.subpesca.cl/portal/616/w3-propertyvalue-51142.html#collapse06

A3 Harvest strategy

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

Rationale

In Chile, the management of Falkland sprat fishing is governed by the LGPA and the Regulation of Fishing of Hydrobiological Resources. SERNAPESCA plays a key role in regulating the fishery by providing authorizations for vessels to carry out extractive fishing activities and by setting catch quotas based on scientific assessments and stock data to ensure the sustainability of the resource. These quotas, reviewed and updated annually, are based on scientific recommendations, historical data, and biannual surveys. Total Allowable Catches (TACs) are divided into categories for research, industrial, and artisanal fisheries. While TACs are set at the start of the fishing season, they can be adjusted mid-year based on acoustic and fishery surveys. The LGPA mandates that catch recommendations be provided as a range, with the lower boundary set at 80% of the MSY.

Additional management measures include regulating the fishing season, enforcing minimum catch, and controlling fishing effort to limit total mortality. Temporary closures are imposed when high numbers of juvenile Falkland sprat are detected. Workshops provided by the government also promote best fishing practices, including measures to reduce discards and bycatch. These regulations are continuously updated in response to scientific studies and changes in the status of the resource, ensuring the long-term sustainability of the Falkland sprat fishery and the broader marine ecosystem.

The LGPA, under Articles 8 and 9, mandates the development of a Management Plan for fisheries with closed access or those declared as fully exploited, under recovery or in early development regimes. Falkland sprat fishery in the Los Lagos Region operates under a general access regime, associated to a fully exploited state and access for new users has been suspended since 2012. To comply with the law, a Management Committee was formed for the creation of a Management Plan, which was approved in November 2023, along with a Recovery Program (Res. Ex. CERO PAPEL N° 00358-2023) [SUBPESCA, 2023].

In conclusion, there is a mechanism in place by which total fishing mortality of this species is restricted. Consequently, **clause A3.1 is met**.

References

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770

SUBPESCA, 2023. Plan de Manejo y Programa de Recuperación para la Pesquería de Sardina Austral, Aguas Interiores, Región de Los Lagos. https://www.subpesca.cl/portal/616/w3-propertyvalue-56295.html#collapse05

Resolución Exenta 1498 de 2020, suspende transitoriamente la inscripción en el registro artesanal de la pesquería de sardina austral, región de los Lagos. https://www.bcn.cl/leychile/navegar?idNorma=1149153&idVersion=2020-09-04

Res. Ex. CERO PAPEL N° 00358 de 2023 Aprueba Plan de Manejo y Programa de Recuperación para la Pesquería de Sardina Austral, Aguas Interiores, Región de Los Lagos. https://www.subpesca.cl/portal/normativa/Medidas-de-administracion-y-regimenes-de-acceso/Planes-de-Manejo/119694:Res-Ex-CERO-PAPEL-N-00358-2023-Aprueba-Plan-de-Manejo-y-Programa-de-Recuperacion-para-la-Pesqueria-de-Sardina-Austral-Aguas-Interiores-Region-de-Los-Lagos-Publicado-en-Pagina-Web-14-11-2023-F-D-O-25-11-2023

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

Rationale

The last 4 years (2020- 2024) the Falkland sprat landings in regions X and XI have not exceed the CBA, which is set according to the Scientific Committee advice. (Table 3) [SERNAPESCA 2021, 2022, 2024, 2025c].

Table 3. Falkland sprat Biologically Acceptable Catch (CBA), landing and % of quota used in regions X and XI in Chile

fishery (SERNAPESCA 2021, 2022, 2024, 2025c).

Falkland sprat	Artisanal		
Year	CBA	Landing	% quota usage
2021	19.912	15.863	80%
2022	12.142	11.108	91%
2023	8.752	3.255	37%
2024	10,714	3,101	29%

Thus, total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Consequently, **clause A3.2 is met**.

References

SERNAPESCA, 221. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2023/10/ifpa_2021_0.pdf

SERNAPESCA, 2022. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2023/11/ifpa_2022.pdf

SERNAPESCA, 2024. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2024/03/IFPA_2023_v20240522-1.pdf

SERNAPESCA, 2025c. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2025/04/IFPA_2024_v8-0F.pdf

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

Rationale

The Fisheries Act (LGPA) does not establish prohibitions of commercial fisheries when stocks are below the spawning biomass limit. Instead, a resource recovery plan must be implemented. Management committees are required to elaborate and implement such recovery plans (Article 9 of LGPA); implying reductions in fishing mortality at levels below or equal to FMSY. Several closures on the fishery have been established over the year, mostly related to the achievement of the TAC for the period (SERNAPESCA, 2025d).

Thus**, clause A3.3 is considered to be met.**

References

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770

SERNAPESCA, 2025d. Cierre de Cuotas.https://www.sernapesca.cl/informacion-utilidad/cierre-de-cuotas/

A4 Stock status

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

Rationale

In 2024, the stock was estimated to be underexploited by 2024, with complete data and no evidence of overfishing. This was characterized by a spawning biomass 37% above the BDRMS target and fishing mortality well below the FRMS (BD/BDRMS=1.37; F/FRMS=0.19. For 2025, with still incomplete data, in October 2025, the CCT-PP (CCT-PP, 2025) pointed that the underexploitation condition without overfishing was found to be maintained, with a spawning biomass 64% above the BDRMS target and fishing mortality similarly below the reference limit (BD/BDRMS=1.64; F/FRMS=0.13), under the same seasonal catch projection assumption in Figure 2. As explained in A.3.1 and A.4.1, Chilean has a system for restraining catches, which does not imply on prohibitions of commercial fisheries when stocks are below the spawning biomass limit. Instead, a resource recovery plan must be implemented. A Management Plan along with a Recovery Program was approved in November 2023 for this stock (Res. Ex. CERO PAPEL N° 00358-2023) [SUBPESCA, 2023], as the stock was considered depleted in 2022.

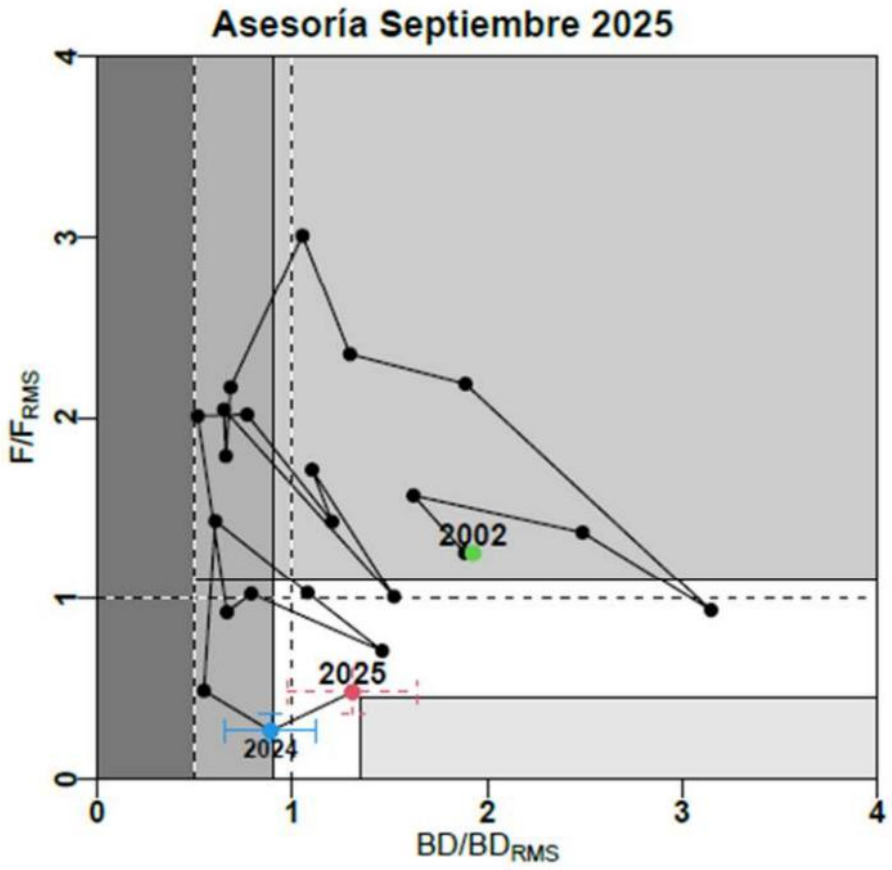


Figure 2. Phase diagram of the exploitation of southern sardine, Los Lagos Region. The axes are standardized to the

values that generate the RMS proxy. The blue cross corresponds to the confidence intervals of the BD/BDRMS and F/FRMS ratios to 2024 (complete information). The year with a dashed cross corresponds to "Preliminary Status" (Technical Report. Update of the Status and CBA 2026 of southern sardine, Los Lagos Region, year 2026) (CCT-PP, 2025)

Thus, the stock is above the target reference point and **clause A4.1 is met.**

References

CCT-PP, 2025. Acta Sesión N°06/2025. https://www.subpesca.cl/portal/616/articles-127529_documento.pdf

SUBPESCA, 2023. Plan de Manejo y Programa de Recuperación para la Pesquería de Sardina Austral, Aguas Interiores, Región de Los Lagos. https://www.subpesca.cl/portal/616/w3-propertyvalue-56295.html#collapse05

Res. Ex. CERO PAPEL N° 00358 de 2023 Aprueba Plan de Manejo y Programa de Recuperación para la Pesquería de Sardina Austral, Aguas Interiores, Región de Los Lagos. https://www.subpesca.cl/portal/normativa/Medidas-de-administracion-y-regimenes-de-acceso/Planes-de-Manejo/119694:Res-Ex-CERO-PAPEL-N-00358-2023-Aprueba-Plan-de-Manejo-y-Programa-de-Recuperacion-para-la-Pesqueria-de-Sardina-Austral-Aguas-Interiores-Region-de-Los-Lagos-Publicado-en-Pagina-Web-14-11-2023-F-D-O-25-11-2023

Species Name: Araucanian herring (*Strangomera bentincki*)

A1 Data collection

A1.1	**A1.1**	**Landings data are collected such that the fishery-wide removals of this species are known.**
Outcome	*Pass*	

Rationale

SERNAPESCA is responsible for operating the official landing certification program. Article 63E of LGPA establishes that: "*The holders of any instrument that authorizes the extraction of the industrial fraction of the global quota or fishing authorizations, as well as the artisanal owners of vessels of a length equal to or greater than 12 meters, the artisanal owners of vessels registered in pelagic fisheries with the purse seine gear, whatever their length, and the owners of transport vessels must submit to the Service the landing information by fishing trip referred to in article 63 of this law, submitting to the certification procedure established by the Service*."

According to the 2024 Fisheries and Aquaculture Statistical Yearbook issued by SERNAPESCA, the total Araucanian herring landings reported for regions V – X by the artisanal fleet was 127,066t, being 382t in Los Lagos (see Table 4).

Table 4. Total Araucanian herring landing by region by the artisanal fleet in 2024 (SERNAPESCA 2024).

CHILE, DESEMBARQUE ARTESANAL AÑO 2024
POR ESPECIE Y REGIÓN
(En toneladas)

ESPECIE	XV	I	II	III	IV	V	VI	VII	XVI	VIII	IX	XIV	X	XI	XII	Total
Sardina Comun	-	-	-	-	-	29	-	-	-	78.875	-	47.780	382	-	-	127.066

In conclusion, landings data are collected such that the fishery-wide removals of this species are known. Consequently, **clause A1.1 is met**.
References Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770 SERNAPESCA (2024). Anuarios Estadísticos de Pesca y Acuicultura. Chile, desembarque artesanal por especie y región, 2024. https://www.sernapesca.cl/informacion-utilidad/anuarios-estadisticos-de-pesca-y-acuicultura/

A1.2	**A1.2**	**Sufficient additional information is collected to enable an indication of stock status to be estimated.**
Outcome	*Pass*	
Rationale The evaluation of the biological status of the Araucanian herring stock in the Central Southern region of Chile (Valparaíso Region to Los Lagos Region) is based on a biological scale model, for which the following information was collected for the last stock assessment (IFOP, 2025c): 1. SERNAPESCA landing statistics corrected by IFOP for the years 1998 to 2001, corresponding to the period 1990/91-2024/25 2. Series of discard percentages between 2015-2023 3. Catch information at age and individual weights at age, from the "Monitoring Program for the Main National Fisheries (Pelagic Fisheries)" from 1990/91-2024/25 4. Series of acoustic biomasses and age compositions from summer (years 2000-2025) and autumn (years 2003-2025) cruises from the IFOP cruise program on hydroacoustic evaluation of Araucanian herring recruitment between the Valparaíso and Los Lagos Regions. 5. Scientific and technical publications related to life cycle parameters (natural mortality and maturity). In conclusion, sufficient additional information is collected to enable an indication of stock status to be estimated. Consequently, **clause A1.2 is met**.		
References IFOP, 2025c. Informe Técnico Final. Estatus y Posibilidades de Explotación Biológicamente Sustentable de Sardina Común, Región de Valparaíso a la Región de Los Lagos, año 2024. Subsecretaría de Economía y EMT | Agosto 2025https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2025/P-483292.pdf		

A2 Stock assessment

A2.1	**A2.1**	**A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock) and considers all fishery removals and the biological characteristics of the species.**
Outcome	*Pass*	
Rationale The stock assessment is carried out by the IFOP at the end of each year and establishes advice on		

precautionary capture quota based on projections of future recruitment. This evaluation is updated twice a year as data are generated from the annual research cruises that carry out hydroacoustic evaluation monitoring program, which allows estimating the abundance and biomass of recruits. The first cruise takes place in January (RECLAS), after which the first update of the advice is carried out and analyzes the need to update the quota before the fishery season begins in March. In May, another cruise is carried out (PELACES) and with these results the second update of the advice is carried out, which is applied for the rest of the year of the fishery operation during the exploitation season (Figure 3) (SUBPESCA, 2016).

The results generated by the IFOP from each stock assessment are presented to the CCT-PP of the SUBPESCA, who review the information and validate the advice.

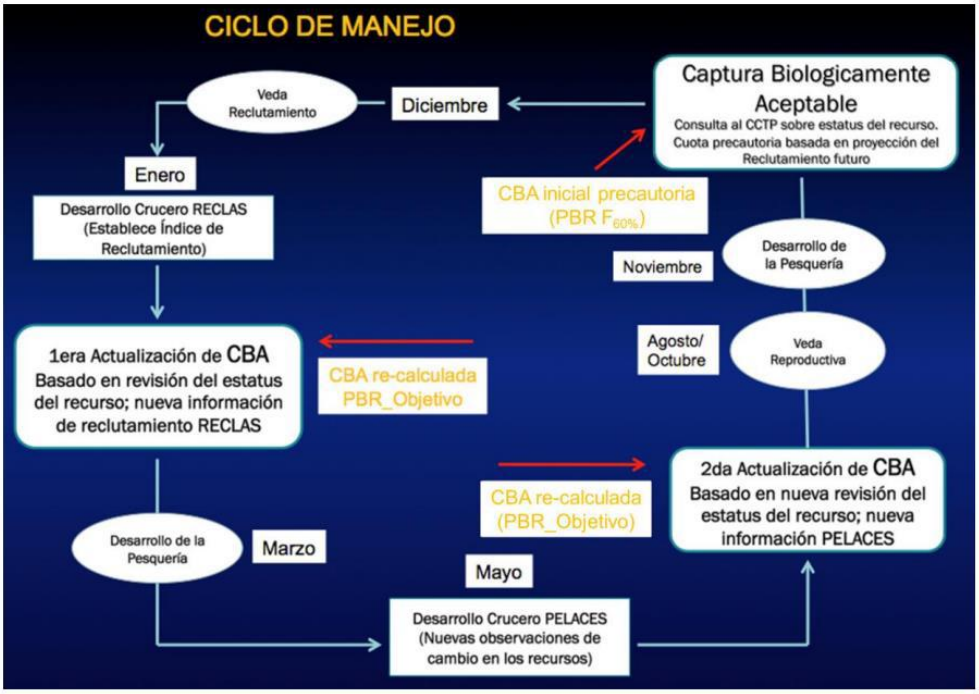


Figure 3. Management cycle of the Araucanian herring in in the Central-Southern region of Chile (SUBPESCA, 2016).

Thus, a stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock) and considers all fishery removals and the biological characteristics of the species. Consequently, **clause A2.1 is met**.

References

SUBPESCA, 2016. Comité de manejo Anchoveta y Sardina común. Plan de manejo para la pesquería de sardina común y anchoveta V a la X regiones. https://www.subpesca.cl/portal/616/w3-propertyvalue-52833.html#collapse05

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

Rationale

There is a biological frame of reference that establishes the proxy values used by the CCT-PP to take management decision of the Araucanian herring fishery according to the stock assessment results.

The procedures for calculating PBR and species-specific reference frameworks are based on the study "Revision of Biological Reference Points (Maximum Sustainable Yield) in National Fisheries" (Payá *et al*., 2014). During its first workshop, conducted in collaboration with international experts, a three-tier system was developed to derive species-specific MSY for Chilean fisheries. Payá *et al*. (2014) proposed to use a fishing mortality level that reduces the virgin spawning biomass to 55% (55%BD0) as the management target. This level of reduction corresponds to 60% of the spawning biomass per recruit (60%BDPR). Therefore, the equilibrium F60% from the spawning biomass per recruit (BDPR) analysis is used as the target, serving as a proxy for MSY. A biomass limit of 27.5% of the virginal biomass was also proposed. The CCT-PP accepted the recommendations of the PBRs on the Session N°5/2014.

In the last CCT-PP session available for the Araucanian herring stock published in the end of October 2025 (CCT-PP N°06/2025), the PBRs presented on Table 2 were considered for establishing the CBA 2025. The CCT-PP pointed out that the stock of Araucanian herring is in a state of overexploitation and has a 0.74 probability of being overfished (BD/BDMSY=0,7 y F/FMSY=1,3) (CCT-PP, 2025).
Thus, the assessment provides an estimate of the status of the biological stock relative to a reference point or proxy. Consequently, **clause A2.2 is met**.

References

Payá, I., Canales, C., Bucarey, D., Canales, M., Contreras, F., Leal, E., Tascheri, R., Yáñez, A., Zúñiga, M. J., Clark, W., Dorn, M., Dunn, M., Fernández, C., Haddon, M., Klaer, N., & Sissenwine, M. (2014). Revisión de los puntos biológicos de referencia (Rendimiento Máximo Sostenible) en las pesquerías nacionales. Informe Final. Convenio II: Estatus y posibilidades de explotación biológicamente sustentables de los principales recursos pesqueros nacionales 2014. Subsecretaría de Economía y EMT / IFOP, Chile (pp. 1–49 +Anexos). https://www.researchgate.net/publication/301698303_Revision_de_los_puntos_biologicos_de_referencia_Rendimiento_Maximo_Sostenible_en_las_pesquerias_nacionales_Review_of_Biological_Reference_Points_for_main_chilean_fisheries

CCT-PP, 2014. Acta Sesión N°5/2014. https://www.subpesca.cl/portal/616/articles-86241_documento.pdf

CCT-PP, 2025. Acta Sesión N°06/2025. https://www.subpesca.cl/portal/616/articles-127529_documento.pdf

A2.3	**A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.**
Outcome	*Pass*

Rationale

The assessments conducted by IFOP provides a robust framework for establishing biologically sustainable fishery removal volumes for the Araucanian herring stock in Valparaíso region to Los Lagos. It leverages continuous quality improvement programs such as the Continuous Improvement Program for the Quality of Scientific Advice - PMCCAC, addressing data gaps and aligning with expert recommendations to refine stock evaluation methods.

Based on the stock assessments performed by IFOP, the CCT-PP advices a CBA for the fishery. The last CCT-PP advice available for 2025 (CCT-PP, 2025) considered two scenarios:

1. Without Law of Remnants: A total CBA that tends to the MSY equivalent to 221,420 tons, then, discounting the discard, a maximum CBA of 213,800 tons is determined, so the recommended CBA range is 171,040 to 213,800 tons.
2. With Law of Remnants: A total CBA that tends to the MSY and incorporates discard and alternative remainder of the 15%, equivalent to 177,780 tons, so the capture range recommended biologically acceptable is 142,224 to 177,780 tons.

For the estimation of both CBA ranges, a discard discount equivalent to 3.44% was considered, a scenario of low recruitments (1992-2007) and a 20% risk of not reaching the management objective, equivalent to a 20% safeguard for the scenario that does not incorporate remnants, and 34% for the scenario that incorporates them.

The Law of Remnants (Law No. 21.525) plays a key role in shaping the quotas available to artisanal fisheries. It allows unused quotas from the previous year to be transferred, provided certain conditions are met: at least 10% of the global catch quota must remain uncaptured, and the fishery must not be declared depleted or collapsed by the Scientific Committee. However, the transferred remainder cannot exceed 30% of the global quota from the preceding year (DORC, 2022). This law emerged in response to challenges faced during 2021 due to the Covid-19 pandemic, which resulted in significant unextracted quotas. Supported by biomass studies ensuring the sustainability of the resource, the law aims to alleviate economic pressures on artisanal fishing communities, allowing them to recover from the pandemic's effects while adhering to conservation principles (CDDC, 2023).

Together, these measures reflect the balance sought between sustainable resource management and the socioeconomic needs of fishing communities. By integrating scientific advice with legal mechanisms such as the Law of Remnants, fisheries management seeks to maintain long-term sustainability while addressing immediate challenges.

In conclusion, the assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status. Consequently, clause A2.3 is met.

References

CCT-PP, 2025. Acta Sesión N°06/2025. https://www.subpesca.cl/portal/616/articles-127529_documento.pdf

CDDC, 2023. Cámara de Diputadas y Diputados Chile. Boletín No. 16386-21. https://www.camara.cl/verDOC.aspx?prmID=75507&prmTipo=FICHAPARLAMENTARIA&prmFICHATIPO=DIP&prmLOCAL=0

DORC, 2022. Diario Oficial de la República de Chile. Ministerios de Economía, Fomento y Turismo.

Ley Num. 21.525. https://www.subpesca.cl/portal/615/articles-117122_documento.pdf

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

Rationale

Stock assessments are conducted by the IFOP and then the results presented to the relevant management and scientific and technical scientific committees, where the information provided is

reviewed, discussed and the advice is validated. These committees comprise representatives from both the artisanal and industrial fishing sectors across various regions, along with SERNAPESCA, SUBPESCA, and other relevant institutions. These peer reviews can be considered both internal and external as members of committees may also be outside the assessment process. When necessary, it is common practice of Chilean authorities' commission external reviews for validating the studies, measures and methodologies applied in the management of the fisheries. For example, the procedures for calculating Biological Reference Points and species-specific reference frameworks for national fisheries were discussed in workshops in collaboration with international and national experts (Payá *et al*., 2014, CCT-PP, 2014).

In conclusion, the assessment is subject to internal or external peer review and **clause A2.4 is met**.

References

Payá, I., Canales, C., Bucarey, D., Canales, M., Contreras, F., Leal, E., Tascheri, R., Yáñez, A., Zúñiga, M. J., Clark, W., Dorn, M., Dunn, M., Fernández, C., Haddon, M., Klaer, N., & Sissenwine, M. (2014). Revisión de los puntos biológicos de referencia (Rendimiento Máximo Sostenible) en las pesquerías nacionales. Informe Final. Convenio II: Estatus y posibilidades de explotación biológicamente sustentables de los principales recursos pesqueros nacionales 2014. Subsecretaría de Economía y EMT / IFOP, Chile (pp. 1–49 +Anexos).
https://www.researchgate.net/publication/301698303_Revision_de_los_puntos_biologicos_de_referencia_Rendimiento_Maximo_Sostenible_en_las_pesquerias_nacionales_Review_of_Biological_Reference_Points_for_main_chilean_fisheries

CCT-PP, 2014. Acta Sesión N°5/2014. https://www.subpesca.cl/portal/616/articles-86241_documento.pdf

A2.5	**A2.5 The assessment is made publicly available.**
Outcome	*Pass*

Rationale

Stock assessment reports and other scientific data, including monitoring programs, are available on IFOP website: https://www.ifop.cl/en/busqueda-de-informes/Information on decisions made by the Scientific and Technical and Management Committees can be found on SUBPESCA website (SUBPESCA 2025c,d).

Thus, the assessment is made publicly available and **clause A2.5 is met**.

References

SUBPESCA, 2025d. Comité de manejo Anchoveta y Sardina común. https://www.subpesca.cl/portal/616/w3-propertyvalue-52833.html

SUBPESCA (2025c). Comité Científico de Pesquerías de Pequeños Pelágicos. https://www.subpesca.cl/portal/616/w3-propertyvalue-51142.html#collapse06

A3 Harvest strategy

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

Outcome	*Pass*

Rationale

In Chile, the management of Araucanian herring fishing is governed by the LGPA and the Regulation of Fishing of Hydrobiological Resources. SERNAPESCA plays a key role in regulating the fishery by providing authorizations for vessels to carry out extractive fishing activities and by setting catch quotas based on scientific assessments and stock data to ensure the sustainability of the resource. These quotas, reviewed and updated annually, are based on scientific recommendations, historical data, and biannual surveys. Total Allowable Catches (TACs) are divided into categories for research, industrial, and artisanal fisheries. While TACs are set at the start of the fishing season, they can be adjusted mid-year based on acoustic and fishery surveys. The LGPA mandates that catch recommendations be provided as a range, with the lower boundary set at 80% of the MSY.

Additional management measures include regulating the fishing season, enforcing minimum catch, and controlling fishing effort to limit total mortality. Temporary closures are imposed when high numbers of juvenile Araucanian herring are detected. Workshops provided by the government also promote best fishing practices, including measures to reduce discards and bycatch. These regulations are continuously updated in response to scientific studies and changes in the status of the resource, ensuring the long-term sustainability of the Araucanian herring fishery and the broader marine ecosystem.

The LGPA, under Articles 8 and 9, mandates the development of a Management Plan for fisheries with closed access or those declared as fully exploited, under recovery or in early development regimes. Araucanian herring in the Valparaíso region to Los Lagos operates under a general access regime, associated to a fully exploited state and access for new users has been suspended since 2000. To comply with the law, a Management Committee was formed for the creation of a Management Plan, which was approved in 2016 (Res. Ex. N° 2746-2016).

Thus, there is a mechanism in place by which total fishing mortality of this species is restricted, and **clause A3.1 is met.**

References

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770

Plan de manejo para la pesquería de sardina común y anchoveta V a la X regiones. https://www.subpesca.cl/portal/616/articles-94523_documento.pdf

Res. Ex. N° 2746-2016 Aprueba Plan de Manejo para la Pesquería Sardina Común y Anchoveta V a X Redión. https://www.subpesca.cl/portal/normativa/Medidas-de-administracion-y-regimenes-de-acceso/Planes-de-Manejo/94526:Res-Ex-N-2746-2016-Apruerba-Plan-de-Manejo-para-la-Pesqueria-Sardina-Comun-y-Anchoveta-V-a-X-Redion-Publicado-en-Pagina-Web-08-09-2016-F-D-O-14-09-2016

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

Outcome	*Pass*

Rationale

The last 4 years (2020- 2024) the Araucanian herring landing for artisanal fishing, and in regions V-X and XIV have not exceeded the CBA (Table 5)(SERNAPESCA, 2021, 2022, 2023, 2024, 2025c).

Table 5. Araucanian herring Biologically Acceptable Catch (CBA), landing and % of quota used in the Central-Southern region in artisanal Chile fishery (SERNAPESCA 2021, 2022, 2024, 2025c).

Araucanian herring	Artisanal		
Year	CBA	Landing	% quota usage
2021	350.387	299	85%
2022	246.317	110,903	45%
2023	205.060	169,589	83%
2024	170.146	54.461	32%

Thus, total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Consequently, **clause A3.2 is met**.

References

SERNAPESCA, 2021. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2023/10/ifpa_2021_0.pdf

SERNAPESCA, 2022. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2023/11/ifpa_2022.pdf

SERNAPESCA, 2024. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2024/03/IFPA_2023_v20240522-1.pdf

SERNAPESCA, 2025c. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2025/04/IFPA_2024_v8-0F.pdf

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

Outcome	*Pass*

Rationale

The Fisheries Act (LGPA) does not establish prohibitions of commercial fisheries when stocks are below the spawning biomass limit. Instead, a resource recovery plan must be implemented. Management committees are required to elaborate and implement such recovery plans (Article 9 of LGPA); implying reductions in fishing mortality at levels below or equal to F_{MSY}. Several closures on the fishery have been established over the year, mostly related to the achievement of the TAC for the period (SERNAPESCA, 2025d).

As example, in 2021 the industrial Araucanian herring fishing was suspended to prevent further overexploitation because the stock's biomass was below the limit reference point. The assessment of the status of the stock and the subsequent decision to suspend industrial fishing was based on

scientific studies, recommendations to protect the resource, and according to the LGPA. The temporary suspension of fishing is a measure that is implemented to ensure resource recovery. (IFOP, 2021; SERNAPESCA, 2025d).

Thus, **clause A3.3 is considered to be met.**

References

IFOP, 2021. Informe Anual de Evaluación del Estado de los Recursos Pesqueros. Instituto de Fomento Pesquero. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2021/P-581168.pdf

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770

SERNAPESCA, 2025d. Cierre de Cuotas.https://www.sernapesca.cl/informacion-utilidad/cierre-de-cuotas/

A4 Stock status

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

Rationale

The CCT-PP pointed out in October 2025 that the stock of Araucanian herring is in a state of overexploitation and has a 0.74 probability of being overfished (BD/BDMSY=0,7 y F/FMSY=1,3) [Figure 4] (CCT-PP, 2025). This situation is attributed to the declining trend in recruitment, which has negatively affected spawning biomass in recent years. The Management Committee was urged to advance the development of an HCR to more clearly define the recruitment levels that underpin the determination of the CBA (CCT-PP, 2025). Nevertheless, the biomass is still above the Blim (Figure 5).

The Fisheries Act (LGPA) does not establish catch restrictions when stocks are below the spawning biomass limit. Instead, a resource recovery plan must be implemented. Management committees are required to elaborate and implement such recovery plans (Article 9 of LGPA); implying reductions in fishing mortality at levels below or equal to FMSY. Several closures on the fishery have been established over the year, mostly related to the achievement of the TAC for the period and also when high proportions of juvenile Araucanian herring have been detected (SERNAPESCA 2025d). Moreover, in 2021 the industrial Araucanian herring fishing was suspended to prevent further overexploitation because the stock's biomass was below the limit reference point.

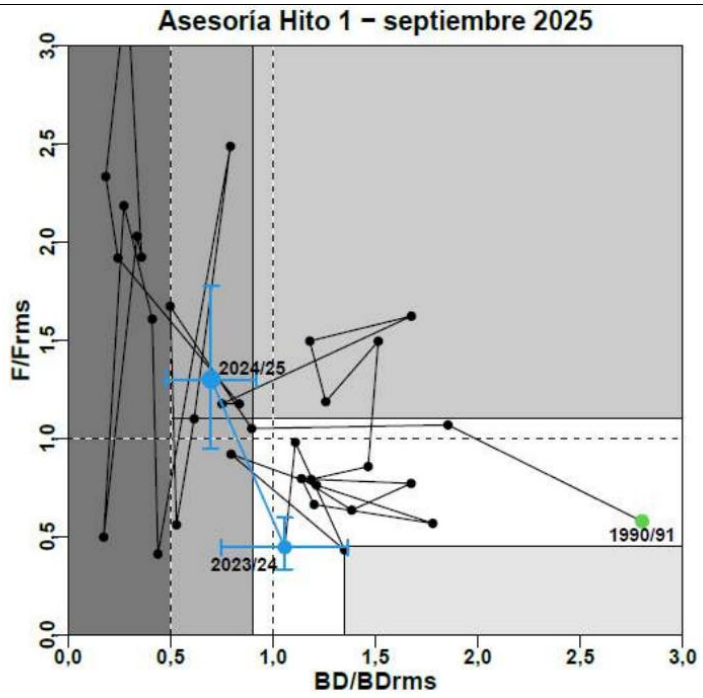


Figure 4. Kobe diagram for the Araucanian herring in Valparaíso region to Los Lagos. The blue dot represents the condition for the year 2023/24 and more recently 2024/25 and the lines represent the 95% confidence intervals for this estimate (CCT-PP, 2025).

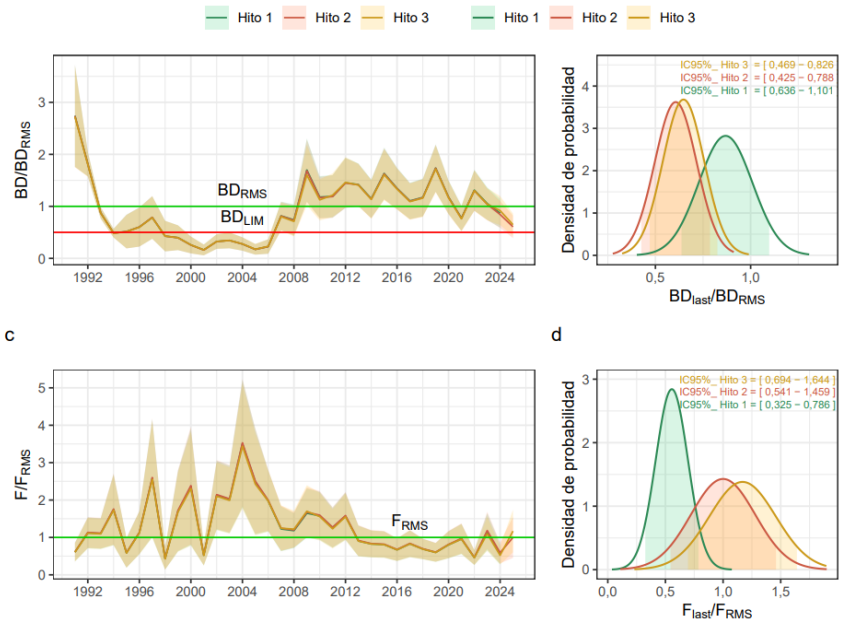


Figure 5. a) BD/BDMSY ratio,b) the probability distribution of BDlast/BDMSY, c) F/FMSY ratio, and d) the probability distribution of Flast/FMSY for the surveys conducted in September 2024 (Milestone 1), March 2025 (Milestone 2), and July 2025 (Milestone 3). The shaded area corresponds to the confidence interval (CI) (IFOP, 2025c).

Based on the above, the stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure, thus **clause A4.1 is met**.

References

CCT-PP, 2025. Acta Sesión N°06/2025. https://www.subpesca.cl/portal/616/articles-127529_documento.pdf

IFOP, 2021. Informe Anual de Evaluación del Estado de los Recursos Pesqueros. Instituto de Fomento Pesquero. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2021/P-581168.pdf

IFOP, 2025c. Informe Técnico Final. Estatus y Posibilidades de Explotación Biológicamente Sustentable de Sardina Común, Región de Valparaíso a la Región de Los Lagos, año 2024. Subsecretaría de Economía y EMT | Agosto 2025https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2025/P-483292.pdf

SERNAPESCA, 2025d. Cierre de cuotas. https://www.sernapesca.cl/informacion-utilidad/cierre-de-cuotas/

Species Name: Anchovy (*Engraulis ringes*)

A1 Data collection

A1.1	**A1.1 Landings data are collected such that the fishery-wide removals of this species are known.**
Outcome	*Pass*

Rationale

SERNAPESCA is responsible for operating the official landing certification program. Article 63E of LGPA establishes that: "*The holders of any instrument that authorizes the extraction of the industrial fraction of the global quota or fishing authorizations, as well as the artisanal owners of vessels of a length equal to or greater than 12 meters, the artisanal owners of vessels registered in pelagic fisheries with the purse seine gear, whatever their length, and the owners of transport vessels must submit to the Service the landing information by fishing trip referred to in article 63 of this law, submitting to the certification procedure established by the Service*."

According to the 2024 Fisheries and Aquaculture Statistical Yearbook issued by SERNAPESCA (SERNAPESCA, 2024), the total anchovy landings reported for regions V – X was 299,914 tons (Table 6).

Table 6. Total Anchovy landing by region by the artisanal fleet in 2024 (SERNAPESCA 2024).

CHILE, DESEMBARQUE ARTESANAL AÑO 2024
POR ESPECIE Y REGIÓN
(En toneladas)

ESPECIE	XV	I	II	III	IV	V	VI	VII	XVI	VIII	IX	XIV	X	XI	XII	Total
Anchoveta	171.253	9.539	-	-	-	-	-	-	-	99.817	-	18.789	516	-	-	299.914

Thus, landings data are collected such that the fishery-wide removals of this species are known. Consequently, **clause A1.1 is met**.

References

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-

Modificacion-Ley-N-21-770 SERNAPESCA, 2024. Anuarios Estadísticos de Pesca y Acuicultura. https://www.sernapesca.cl/informacion-utilidad/anuarios-estadisticos-de-pesca-y-acuicultura/

A1.2	**A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.**
Outcome	*Pass*

Rationale

The evaluation of the biological status of the Araucanian herring stock in the Central Southern region of Chile (Valparaíso Region to Los Lagos Region) is based on a biological scale model, for which the following information was collected for the last stock assessment (IFOP, 2024d):

1. SERNAPESCA landing statistics corrected by IFOP for the years 1998 to 2001, corresponding to the period 1996/97-2023/24 (catch assumption 2023/24).
2. Series of discard percentages updated between 2017/18 to 2021/22.
3. Catch information at age and individual weights at age, from the "Monitoring Program for the Main National Fisheries (Pelagic Fisheries)" from 1996/97 to 2023/24.
4. Series of acoustic biomasses and age compositions from summer (years 2000-2024) and autumn (years 2003-2024) cruises from the IFOP cruise program on hydroacoustic evaluation of Araucanian herring recruitment between the Valparaíso and Los Lagos Regions.
5. Scientific and technical publications related to life cycle parameters (natural mortality and maturity).

According to CCT-PP (2025), spawning biomass is estimated to be 43% above BDMSY, while fishing mortality is 49% below FMSY. This favorable status results from stronger recruitment since 2018/2019, declining fishing mortality, and steady increases in both total and spawning biomass over the last four years of the time series.

Thus, sufficient additional information is collected to enable an indication of stock status to be estimated and **clause A1.2 is met**.

References

CCT-PP, 2025. Acta Sesión N°06/2025. https://www.subpesca.cl/portal/616/articles-127529_documento.pdf

IFOP, 2024d. Tercer Informe (Consolidado). Estatus y posibilidades de explotación biológicamente sustentable de anchoveta, Región de Valparaíso a la Región de Los Lagos, año 2024. Subsecretaría de Economía y EMT Julio, 2024. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2024/P-483274.pdf

A2 Stock assessment

A2.1	**A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock) and considers all fishery removals and the biological characteristics of the species.**

Outcome	*Pass*

Rationale

The stock assessment is carried out by IFOP at the end of each year and establishes advice on precautionary capture quota based on projections of future recruitment. This evaluation is updated twice a year as data are generated from the annual research cruises that carry out hydroacoustic evaluation monitoring program, which allows estimating the abundance and biomass of recruits.

The first cruise takes place in January (RECLAS), after which the first update of the advice is carried out and analyzes the need to update the quota before the fishery season begins in March. In May, another cruise is carried out (PELACES) and with these results the second update of the advice is carried out, which is applied for the rest of the year of the fishery operation during the exploitation season (Figure 6) [SUBPESCA, 2016].

The results generated by the IFOP from each stock assessment are presented to the CCT-PP of the SUBPESCA, who review the information and validate the advice.

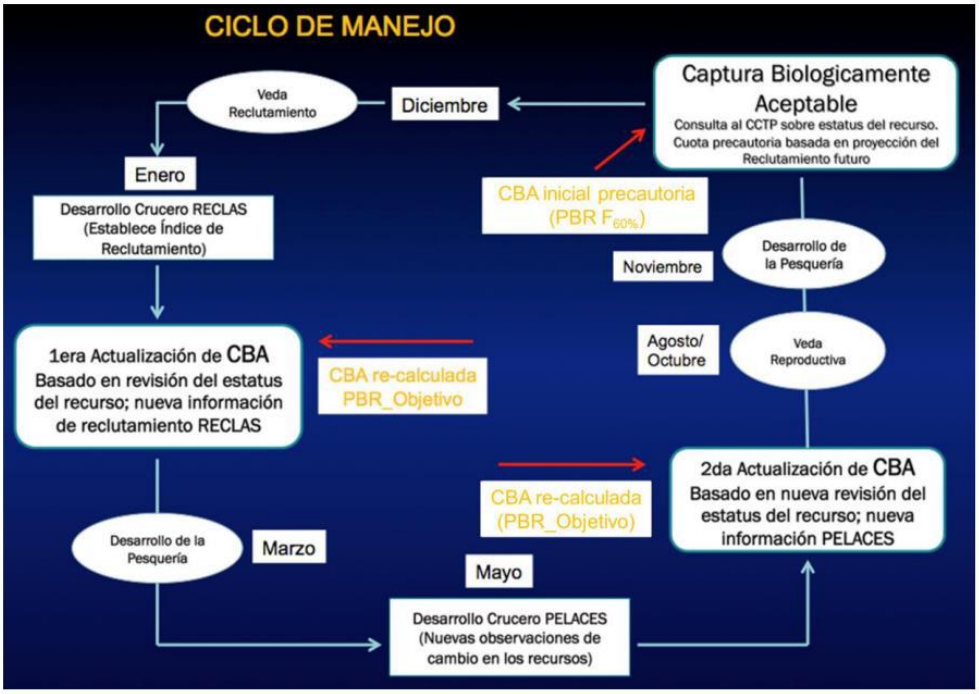


Figure 6. Management cycle of the anchovy in the Central-Southern region of Chile (SUBPESCA 2016).

Thus, a stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock) and considers all fishery removals and the biological characteristics of the species. Consequently, **clause A2.1 is met**.

References

SUBPESCA, 2016. Comité de manejo Anchoveta y Sardina común. Plan de manejo para la pesquería de sardina común y anchoveta V a la X regiones. https://www.subpesca.cl/portal/616/w3-propertyvalue-52833.html#collapse05

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

Rationale

There is a biological frame of reference that establishes the proxy values used by the CCT-PP to take management decision of the anchovy fishery according to the stock assessment results. The procedures for calculating PBR and species-specific reference frameworks are based on the study "Revision of Biological Reference Points (Maximum Sustainable Yield) in National Fisheries" (Payá *et al*., 2014). During its first workshop, conducted in collaboration with international experts, a three-tier system was developed to derive species-specific MSY for Chilean fisheries. Payá *et al*. (2014) proposed to use a fishing mortality level that reduces the virgin spawning biomass to 55% (55%BD0) as the management target. This level of reduction corresponds to 60% of the spawning biomass per recruit (60%BDPR). Therefore, the equilibrium F60% from the spawning biomass per recruit (BDPR) analysis is used as the target, serving as a proxy for MSY. A biomass limit of 27.5% of the virginal biomass was also proposed. The CCT-PP accepted the recommendations of the PBRs on the Session N°5/2014.

In the last CCT-PP session available for the central-southern anchovy stock published in the end of October 2024 (CCT-PP N°06/2024), the PBRs presented on Table 2 were considered for establishing the CBA 2025. The Committee concluded that the central–southern anchoveta stock remains in a fully exploited condition, consistent with recent years (BD/BDMSY = 1.428 and F/FMSY = 0.512). The probability of the stock being overexploited is low (p = 0.009), and no overfishing is expected for 2024/25 (CCT-PP, 2025).

Thus, the assessment provides an estimate of the status of the biological stock relative to a reference point or proxy. Consequently, **clause A2.2 is met**.

References

CCT-PP, 2025. Acta Sesión N°06/2025. https://www.subpesca.cl/portal/616/articles-127529_documento.pdf

Payá, I., Canales, C., Bucarey, D., Canales, M., Contreras, F., Leal, E., Tascheri, R., Yáñez, A., Zúñiga, M. J., Clark, W., Dorn, M., Dunn, M., Fernández, C., Haddon, M., Klaer, N., & Sissenwine, M. (2014). Revisión de los puntos biológicos de referencia (Rendimiento Máximo Sostenible) en las pesquerías nacionales. Informe Final. Convenio II: Estatus y posibilidades de explotación biológicamente sustentables de los principales recursos pesqueros nacionales 2014. Subsecretaría de Economía y EMT / IFOP, Chile (pp. 1–49 +Anexos). https://www.researchgate.net/publication/301698303_Revision_de_los_puntos_biologicos_de_referencia_Rendimiento_Maximo_Sostenible_en_las_pesquerias_nacionales_Review_of_Biological_Reference_Points_for_main_chilean_fisheries

CCT-PP, 2014. Acta Sesión N°5/2014. https://www.subpesca.cl/portal/616/articles-86241_documento.pdf

CCT-PP, 2024. Acta Sesión N°06/2024. https://www.subpesca.cl/portal/616/articles-123560_documento.pdf

A2.3	**A2.3**	**The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.**
Outcome	*Pass*	

Rationale

The assessments conducted by IFOP provides a robust framework for establishing biologically sustainable fishery removal volumes for the anchovy in Valparaíso region to Los Lagos. It leverages continuous quality improvement programs such as the Continuous Improvement Program for the Quality of Scientific Advice - PMCCAC, addressing data gaps and aligning with expert recommendations to refine stock evaluation methods.

Based on the stock assessments performed by IFOP, the CCT-PP advices a CBA for the fishery. The last CCT-PP advice available for 2026 (CCT-PP, 2025) considered two scenarios:

1. Without Law of Remnants: A total CBA that tends to the MSY equivalent to 230,481 tons, then, discounting the discard, a maximum CBA of 225,869 tons is determined, so the recommended CBA range is 147,343 to 184,179 tons.
2. With Law of Remnants: A total CBA that tends to the MSY and incorporates discard and alternative remainder of the 40%, equivalent to 114,699 tons, so the capture range recommended biologically acceptable is 91,759 to 114,699 tons.

For estimating the CBA ranges, a 1.02% discard adjustment was applied, along with average recruitment values and a 30% risk of not meeting the management target. This risk level corresponds to precautionary buffers of 12% for the scenario without carryover, and 29% and 56% for scenarios that include 15% and 40% carryover, respectively.

The Law of Remnants (Law No. 21.525) plays a key role in shaping the quotas available to artisanal fisheries. It allows unused quotas from the previous year to be transferred, provided certain conditions are met: at least 10% of the global catch quota must remain uncaptured, and the fishery must not be declared depleted or collapsed by the Scientific Committee. However, the transferred remainder cannot exceed 30% of the global quota from the preceding year (DORC, 2022). This law emerged in response to challenges faced during 2021 due to the Covid-19 pandemic, which resulted in significant unextracted quotas. Supported by biomass studies ensuring the sustainability of the resource, the law aims to alleviate economic pressures on artisanal fishing communities, allowing them to recover from the pandemic's effects while adhering to conservation principles (CDDC, 2023).

Together, these measures reflect the balance sought between sustainable resource management and the socioeconomic needs of fishing communities. By integrating scientific advice with legal mechanisms such as the Law of Remnants, fisheries management seeks to maintain long-term sustainability while addressing immediate challenges.

Thus, the assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status. Consequently, **clause A2.3 is met**.

References

CCT-PP, 2025. Acta Sesión N°06/2025. https://www.subpesca.cl/portal/616/articles-127529_documento.pdf

CDDC, 2023. Cámara de Diputadas y Diputados Chile. Boletín No. 16386-21. https://www.camara.cl/verDOC.aspx?prmID=75507&prmTipo=FICHAPARLAMENTARIA&prmFICHATIPO=DIP&prmLOCAL=0

DORC, 2022. Diario Oficial de la República de Chile. Ministerios de Economía, Fomento y Turismo.Ley Num. 21.525. https://www.subpesca.cl/portal/615/articles-117122_documento.pdf

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

Rationale

Stock assessments are conducted by the IFOP and then the results presented to the relevant management and scientific and technical scientific committees, where the information provided is reviewed, discussed and the advice is validated. These committees comprise representatives from both the artisanal and industrial fishing sectors across various regions, along with SERNAPESCA, SUBPESCA, and other relevant institutions. These peer reviews can be considered both internal and external as members of committees may also be outside the assessment process. When necessary, it is common practice of Chilean authorities' commission external reviews for validating the studies, measures and methodologies applied in the management of the fisheries. For example, the procedures for calculating Biological Reference Points and species-specific reference frameworks for national fisheries were discussed in workshops in collaboration with international and national experts (Payá *et al*., 2014 ; CCT-PP, 2014).

Thus, the assessment is subject to internal or external peer review and **clause A2.4 is met**.

References

Payá, I., Canales, C., Bucarey, D., Canales, M., Contreras, F., Leal, E., Tascheri, R., Yáñez, A., Zúñiga, M. J., Clark, W., Dorn, M., Dunn, M., Fernández, C., Haddon, M., Klaer, N., & Sissenwine, M. (2014). Revisión de los puntos biológicos de referencia (Rendimiento Máximo Sostenible) en las pesquerías nacionales. Informe Final. Convenio II: Estatus y posibilidades de explotación biológicamente sustentables de los principales recursos pesqueros nacionales 2014. Subsecretaría de Economía y EMT / IFOP, Chile (pp. 1–49 +Anexos). https://www.researchgate.net/publication/301698303_Revision_de_los_puntos_biologicos_de_referencia_Rendimiento_Maximo_Sostenible_en_las_pesquerias_nacionales_Review_of_Biological_Reference_Points_for_main_chilean_fisheries

CCT-PP, 2014. Acta Sesión N°5/2014. https://www.subpesca.cl/portal/616/articles-86241_documento.pdf

A2.5	A2.5 The assessment is made publicly available.
Outcome	*Pass*

Rationale

Stock assessment reports and other scientific data, including monitoring programs, are available on IFOP website https://www.ifop.cl/en/busqueda-de-informes/Information. Information on decisions made by the Scientific and Technical and Management Committees can be found on SUBPESCA website (SUBPESCA 2024c,d).

Thus, the assessment is made publicly available and **clause A2.5 is met**.

References

SUBPESCA, 2025d. Comité de manejo Anchoveta y Sardina común. https://www.subpesca.cl/portal/616/w3-propertyvalue-52833.html

SUBPESCA, 2025c. Comité Científico de Pesquerías de Pequeños Pelágicos. https://www.subpesca.cl/portal/616/w3-propertyvalue-51142.html#collapse06

A3 Harvest strategy

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

Rationale

In Chile, the management of anchovy fishing is governed by the LGPA and the Regulation of Fishing of Hydrobiological Resources. SERNAPESCA plays a key role in regulating the fishery by providing authorizations for vessels to carry out extractive fishing activities and by setting catch quotas based on scientific assessments and stock data to ensure the sustainability of the resource. These quotas, reviewed and updated annually, are based on scientific recommendations, historical data, and biannual surveys. TACs are divided into categories for research, industrial, and artisanal fisheries. While TACs are set at the start of the fishing season, they can be adjusted mid-year based on acoustic and fishery surveys. The LGPA mandates that catch recommendations be provided as a range, with the lower boundary set at 80% of the MSY.

Additional management measures include regulating the fishing season, enforcing minimum catch, and controlling fishing effort to limit total mortality. Temporary closures are imposed when high numbers of juvenile Araucanian herring are detected. Workshops provided by the government also promote best fishing practices, including measures to reduce discards and bycatch. These regulations are continuously updated in response to scientific studies and changes in the status of the resource, ensuring the long-term sustainability of the Araucanian herring fishery and the broader marine ecosystem.

The LGPA, under Articles 8 and 9, mandates the development of a Management Plan for fisheries with closed access or those declared as fully exploited, under recovery or in early development regimes. Anchovy in the Valparaíso region to Los Lagos operates under a general access regime, associated to a fully exploited state and access for new users has been suspended since 2000. To comply with the law, a Management Committee was formed for the creation of a Management Plan, which was approved in 2016 (Res. Ex. N° 2746-2016).

Thus, there is a mechanism in place by which total fishing mortality of this species is restricted and **clause A3.1 is met.**

References

Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770

Plan de manejo para la pesquería de sardina común y anchoveta V a la X regiones. https://www.subpesca.cl/portal/616/articles-94523_documento.pdf

Res. Ex. N° 2746-2016 Aprueba Plan de Manejo para la Pesquería Sardina Común y Anchoveta V a X Redión. https://www.subpesca.cl/portal/normativa/Medidas-de-administracion-y-regimenes-de-acceso/Planes-de-Manejo/94526:Res-Ex-N-2746-2016-Apruerba-Plan-de-Manejo-para-la-Pesqueria-Sardina-Comun-y-Anchoveta-V-a-X-Redion-Publicado-en-Pagina-Web-08-09-2016-F-D-O-14-09-2016

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

Rationale

The last 4 years (2020-2024) the anchovy landings in regions V-X for artisanal fishing have not exceed the CBA (Table 7) [SERNAPESCA 2021, 2022, 2024,2025].

Table 7. Anchovy Biologically Acceptable Catch (CBA), landing and % of quota used in the Central-Southern region in Chile fishery by the artisanal fleet (SERNAPESCA 2021, 2022, 2024, 2025).

Anchovy	Artisanal		
Year	**CBA**	**Landing**	**% quota usage**
2021	207,546	157,815	76%
2022	172,261	137,375	80%
2023	154,898	101,468	81%
2024	170,774	51,419	30%

Based on the above, total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment and **clause A3.2 is met**.

References

SERNAPESCA, 2021. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2023/10/ifpa_2021_0.pdf

SERNAPESCA, 2022. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2023/11/ifpa_2022.pdf

SERNAPESCA, 2024. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2024/03/IFPA_2023_v20240522-1.pdf

SERNAPESCA, 2025c. Fiscalización en Pesca y Acuicultura, Informe de Actividades, Servicio Nacional de Pesca y Acuicultura. https://www.sernapesca.cl/app/uploads/2025/04/IFPA_2024_v8-0F.pdf

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

Rationale

The Fisheries Act (LGPA) does not establish catch restrictions when stocks are below limit biomass (for social and economic reasons and to facilitate further research). Instead, a resource recovery plan must be implemented. Management committees are required to elaborate and implement such recovery plans (Article 9 of LGPA); implying reductions in fishing mortality at levels below or equal to F_{MSY}. There is a mechanism of TAC in place, which involves three estimations and a review

per year. Corrections of the TAC for the year are made when necessary and this information is available every March 15 and July 15. Several closures on the fishery have been established over the year, mostly related to the achievement of the TAC for the period and also when high proportions of juvenile Araucanian herring have been detected (SERNAPESCA, 2025d).

For exemplify, the relationship between the condition of the stock and the establishment of TACs, from 2011 to 2018, the lowest quotas in the historical series have been assigned due to the decrease in the anchovy population indicators. When it was identified an increase in anchovy biomass levels in 2020 and 2021 the assigned quota was the highest in the last 11 years (IFOP, 2023b).

Thus, **clause A3.3 is considered to be met.**

References

IFOP, 2023b. TERCER INFORME (FINAL). Convenio de Desempeño 2022. Estatus y Posibilidades de Explotación Biológicamente Sustentable de Anchoveta, Región de Valparaíso a la Región de Los Lagos, año 2023 SUBSECRETARIA DE ECONOMIA Y EMT / Julio 2023. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2023/P-483260_Anchoveta_centro_sur.pdf

SERNAPESCA, 2025d. Cierre de Cuotas. https://www.sernapesca.cl/informacion-utilidad/cierre-de-cuotas/

A4 Stock status

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

Rationale

Based on the stock assessment provided by IFOP— which applies an age-structured biological-year model and annual scale, together with the biological reference framework - the Committee concludes that the central–southern anchoveta stock remains in a fully exploited condition, consistent with recent years (BD/BDMSY = 1.428 and F/FMSY = 0.512). The probability of the stock being overexploited is low (p = 0.009), and no overfishing is expected for 2024/25.

Spawning biomass is estimated to be 43% above BDMSY, while fishing mortality is 49% below FMSY. This favorable status results from stronger recruitment since 2018/2019, declining fishing mortality, and steady increases in both total and spawning biomass over the last four years of the time series. (CCT-PP, 2025).

Thus, the stock is at or above the target reference point and **clause A4.1 is met.**

References

CCT-PP, 2025. Acta Sesión N°06/2024. https://www.subpesca.cl/portal/616/articles-123560_documento.pdf

Category B species

There are no category B species in this fishery.

Category B species are assessed using a risk-based approach.

1.1. The risk matrix in Table B(a) shall be used when assessing a Category B species when estimates of Fishing mortality (F), Biomass (B) and reference points are available.

1.2. The risk matrix in Table B(b) shall be used when assessing a Category B species when no reference points are available.

B1	**A3.3**	**Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**
Table used B(a) or B(b)		
Outcome	Choose an item.	
Rationale		
References		

Category C species

There are no category C species in this fishery.

1.3. All clauses must be met for a species to pass the Category C assessment.

1.3.1. Where a species fails this Category C clause, it should be assessed as a Category D species instead, except if there is evidence that the species is currently below the limit reference point.

C1.1	**C1.1**	**Fishery removals of the species in the fishery under assessment are included in the stock assessment process OR are considered by scientific authorities to be negligible.**
Outcome	Choose an item.	
Rationale		
References		

C1.2	**C1.2**	**The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the**

	fishery under assessment are considered by scientific authorities to be negligible.
Outcome	Choose an item.
Rationale	
References	

Category D species

Category D species are assessed against a risk-based approach.

1.4. The Productivity-Susceptibility Analysis (PSA) in Table D(a) shall be used when assessing Category D species.

1.5. Table D(b) shall be used to calculate the overall PSA risk rating for the Category D species.

1.6. Should the PSA indicate a high risk, further assessment shall be completed against the requirements in Table D(C).

Productivity Susceptibility Analysis (PSA) and scores

Table D(a) provides detailed values and scores for the species productivity and susceptibility attributes and attributes, the assessor shall use Table D(a) to the PSA table.
Table D(b) is used to calculate the overall PSA risk rating for the Category D species.

Species name	Mote sculpin (*Normanichthys crockeri*) [*mote*][4]	
Productivity attributes	**Value**	**Score**
Average age at maturity	Unknown	-
Average maximum age	Unknown	-
Fecundity	Unknown	-
Average maximum size	11	1
Average size at maturity	Unknown	1
Reproductive strategy	Broadcast spawner	1
Mean Trophic Level (MTL)	2.8	2
Density dependence (to be used when scoring invertebrate species only)	NA	-
Susceptibility attributes		
Areal overlap (availability): Overlap of the fishing effort with a species concentration of the stock	>30% (The fish is endemic of the southeast Pacific)	3
Encounterability: The position of the stock/ species	Precautionary (lack of data)	3

[4] Data obtained from Froese, R. and D. Pauly. Editors. 2024.FishBase. World Wide Web electronic publication. *Normanichthys crockeri* Clark, 1937 Mote sculpin https://fishbase.se/summary/4313

within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear		
Selectivity of gear type: Potential of the gear to retain species	Precautionary (lack of data)	3
Post-capture mortality (PCM): The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival	Retained	3
Average productivity score		1.25
Average susceptibility score		3.00
PSA risk rating (from Table D(b))		Pass
Compliance rating		Pass

Productivity Susceptibility Analysis (PSA) and scores

Table D(a) provides detailed values and scores for the species productivity and susceptibility attributes and attributes, the assessor shall use Table D(a) to the PSA table.
Table D(b) is used to calculate the overall PSA risk rating for the Category D species.

Species name	Swarming squat lobster (*Munida gregaria*) [*langostino de los canales*]	
Productivity attributes	**Value**	**Score**
Average age at maturity	Unknown	-
Average maximum age	Unknown	-
Fecundity	500-7,545 eggs[5]	2
Average maximum size	7.5 cm[6]	1
Average size at maturity	Females: 9 - and 12mm CL and males: 6 and 8mm CL[4]	1
Reproductive strategy	Demersal egg layers	2
Mean Trophic Level (MTL)	Unknown	-
Density dependence (to be used when scoring invertebrate species only)	Unknown	-
Susceptibility attributes		
Areal overlap (availability): Overlap of the fishing effort with a species concentration of the stock	<10%	1
Encounterability: The position of the stock/ species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear	Precautionary (lack of data)	3
Selectivity of gear type:	Precautionary (lack of data)	3

[5] Vinuesa J.H, Reproduction of *Munida Gregaria* (Decapoda: Galatheidae) in San Jorge Gulf, Southwest Atlantic Ocean. Journal of Crustacean Biology, Volume 27, Issue 3, 1 July 2007, Pages 437–444, https://doi.org/10.1651/S-2787.1

[6] https://www.sealifebase.se/summary/Munida-gregaria.html

Potential of the gear to retain species		
Post-capture mortality (PCM): The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival	Retained	3
Average productivity score		1.50
Average susceptibility score		2.50
PSA risk rating (from Table D(b))		Pass
Compliance rating		Pass

Further assessment for Category D species

Should the PSA indicate a high risk, further assessment shall be completed against the requirements D1 and D2 – Table D(c).

D1	**D1. The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.**
Outcome	Choose an item.
Rationale	
References	

D2	**D2. There is no substantial evidence that the fishery has a significant negative impact on the species.**
Outcome	Choose an item.
Rationale	
References	

Ecosystem requirements

This section, or module, assesses the impacts that the fishery under assessment may have on key ecosystem components: ETP species, habitat and the wider ecosystem.

2.1. All ecosystem criteria must be met (pass) for a fishery to pass the Ecosystem Requirements.

2.1.1. The sub-criteria offer a structured evidence base to demonstrate that the fishery sufficiently meets the ecosystem criteria, it is not expected that sub-criteria are assessed independently of the main criterion.

E1 Impact on Endangered, Threatened or Protected species (ETP species)

E1.1	**E1.1 Information on interactions between the fishery and ETP species is collected.** *In reaching a determination for E1.1, the assessor should consider if the following is in place:*	
	E1.1.1 ETP species which may be directly affected by the fishery have been identified.	
	E1.1.2 Interactions between the fishery and ETP species are recorded and reported to management organisations.	
	E1.1.3 Collection and analysis of ETP information is adequate to provide a reliable indication of the impact the fishery has on ETP species.	
Outcome	*Pass*	

Rationale

Since 2012, Chile has developed a process of diagnosis, reduction, and control of discards and incidental catches in its fisheries, based on the application of Law No. 20.625 and its regulations. IFOP; through the Research Program on Discard and Capture Bycatch uses the following method to collect ETP bycatch information (SUBPESCA, 2025e):

- Scientific observers on board: personnel properly trained and qualified to observe and record onboard commercial fishing operations, and various data (fishery/operational, biological, environmental) in specially designed forms. These forms recorded logbook information, records of accompanying fauna, biological sampling, proportion of species, discard activities, and incidental capture and mortality of birds, mammals, and sea turtles. When animals are caught, the observer determines the species, how many specimens ended up dead, and how many managed to survive.
- Self-reporting log: This is a form designed by the project that was delivered to fishing operators in all the ports where the fleets operate. Its delivery is mandatory in fisheries that are in a research program and volunteers that are in the monitoring phase in purse seine fisheries. The last section of the form requests information on the capture and incidental mortality of birds, sea turtles, and marine mammals.

Additionally, considering the challenges of controlling and recording discards and incidental catches at sea, the use of Image Recording Devices (DRI) (on-board cameras) and Electronic Logging Systems (SIBE) was recently made mandatory to monitor compliance with the measures to reduce these practices, with differentiated application depending on the type of fleet. (SUBPESCA, 2025e).

Information is analyzed by IFOP and results are included in their annual final report of the Scientific Observer Program.

The records, made by scientific observers, of incidental capture and mortality of birds, sea turtles, and marine mammals that interacted with the fishing activities of artisanal purse seine fleets targeting Falkland sprat in Los Lagos Region in 204 hauls during the period between 2017 - 2023 reported only species classified as “Near Threatened” or “Least Concern” by IUCN and none of these species are included in the CITES appendices (BirdLife International, 2018a,b, Cárdenas-Alayza *et al*., 2016) [IFOP, 2024]. Nevertheless, one of these species, the kelp gull (*Larus dominicanus*) is considered Endangered by Chile (DS 50/2008 MINEGPRES).

Thus, information on interactions between the fishery and ETP species is collected. **E.1.1 is met.**

References

BirdLife International, 2018a. *Larus dominicanus*. The IUCN Red List of Threatened Species 2018: e.T22694329A132542863. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22694329A132542863.en. Accessed on 19 December 2024.

BirdLife International, 2018b. *Larus maculipennis*. The IUCN Red List of Threatened Species 2018: e.T22694417A132548388. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22694417A132548388.en. Accessed on 19 December 2024.

Cárdenas-Alayza, S., Crespo, E. & Oliveira, L., 2016. *Otaria byronia.* The IUCN Red List of Threatened Species 2016: e.T41665A61948292. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T41665A61948292.en. Accessed on 19 December 2024.

IFOP, 2024. INFORME FINAL. Programa de investigación y monitoreo del descarte y la captura de pesca incidental en pesquerías pelágicas, 2023-2024. SUBSECRETARÍA DE ECONOMÍA Y EMT / Agosto 2024. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2024/P-581201.pdf

SUBPESCA, 2025e. Estado de situación de las principales pesquerías chilenas, año 2024. https://www.subpesca.cl/portal/618/articles-125250_recurso_1.pdf

E1.2	**E1.2 The fishery has no significant negative impact on ETP species.** *In reaching a determination for E1.2, the assessor should consider if the following is in place:*
	E1.2.1 The information collected in relation to E1.1.3 indicates that the fishery does not have a significant negative impact on ETP species.
Outcome	*Pass*

Rationale

The records, made by scientific observers, of incidental capture and mortality of birds, sea turtles, and marine mammals that interacted with the fishing activities of artisanal purse seine fleets targeting Falkland sprat in Los Lagos Region in 204 hauls during the period between 2017 - 2023 reported only species classified as “Near Threatened” or “Least Concern” by IUCN and none of these species are included in the CITES appendices (BirdLife International, 2018a,b, Cárdenas-Alayza *et al*., 2016) [IFOP, 2024]. Nevertheless, one of these species, the kelp gull (*Larus dominicanus*) is considered Endangered by Chile (DS 50/2008 MINEGPRES).

During the study period, 258 marine mammals (94.2%) and 16 coastal seabirds (5.8%) were recorded as incidental captures, with no interactions reported involving procellariiformes (All marine mammal bycatch corresponded to the South American sea lion species, while the kelp gull and Franklin's gull represented 56% and 44%, respectively, of the seabirds caught incidentally by this fleet. Incidental mortality affected 2 sea lions (0.3%), 7 kelp gulls (78%), and all brown-hooded gull captured by this fleet (Table 8). All these species are considered “Least Concern” by IUCN, which demonstrate that this fishery does not have significant negative impact on ETP species (IFOP, 2024).

Table 8. Incidental capture and mortality by species in the artisanal purse seine fleet operating in the Los Lagos Region. Data from the scientific observers' registry of 138 fishing hauls, during the period January 2017 - December 2023.

Nombre común	Nombre científico	Captura	Muertos	Mort (%)	TCI	CV_{TCI}	TMI	CV_{TMI}
Lobo marino común	*Otaria flavescens*	258	2	0,8	1,9	214	0,01	1..175
Gaviota cáhuil	*Chroicocephalus maculipennis*	7	7	100	0,05	687	0,05	687
Gaviota dominicana	*Larus dominicanus*	9	7	78	0,07	722	0,05	869

Mort (%) = Mortalidad = Número de animales muertos/Número de animales capturados
Captura Incidental Promedio (CIP) = Número de animales capturados/Número de lances observados
Coeficiente de Variación Captura Incidental Promedio (CV_{CIP})
Mortalidad Incidental Promedio (MIP) = Número de animales muertos/Número de lances observados
Coeficiente de Variación Mortalidad Incidental Promedio (CV_{MIP})

Thus, the fishery has no significant negative impact on ETP species. E1.2 is met.

References

BirdLife International, 2018a. *Larus dominicanus*. The IUCN Red List of Threatened Species 2018: e.T22694329A132542863. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22694329A132542863.en. Accessed on 19 December 2024.

BirdLife International, 2018b. *Larus maculipennis*. The IUCN Red List of Threatened Species 2018: e.T22694417A132548388. https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22694417A132548388.en. Accessed on 19 December 2024.

Cárdenas-Alayza, S., Crespo, E. & Oliveira, L., 2016. *Otaria byronia.* The IUCN Red List of Threatened Species 2016: e.T41665A61948292. https://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T41665A61948292.en. Accessed on 19 December 2024.

IFOP, 2024. INFORME FINAL. Programa de investigación y monitoreo del descarte y la captura de pesca incidental en pesquerías pelágicas, 2023-2024. SUBSECRETARÍA DE ECONOMÍA Y EMT / Agosto 2024. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2024/P-581201.pdf

E1.3	**E1.3 There is an ETP management strategy in place for the fishery.** *In reaching a determination for E1.3, the assessor should consider if the following is in place:*	
	E1.3.1	There are measures applied to the fishery which are designed to manage the impacts of the fishery on ETP species.
	E1.3.2	The measures are considered likely to achieve the objectives of regional, national and international legislation relating to ETP species.
Outcome	*Pass*	

Rationale

Chile is a member country of several agreements for the conservation of ETP species such as Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Convention on Biological Diversity (CBD), Convention on Migratory Species (CMS), Agreement on the Conservation of Albatrosses and Petrels (ACAP), International Convention for the Regulation of Whaling (ICRW), Ramsar Convention on Wetlands, Agreement on Measures for the Conservation of Sharks in the South Pacific (SPIMA), Western and Central Pacific Fisheries Commission, CODEFF

BirdLife international, *Convención de las Naciones Unidas por los Derechos del Mar* (CONVEMAR), Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and different international agreements with countries around the world to preserve the marine life as "Chile - United States Memorandum of Understanding on Cooperation for the Conservation and Management of Terrestrial and Marine Protected Areas" under which the sea lion is also protected.

There are 70 protected species in Chile, according to the Decree N ° 225 of 1995, amended by Decree N° 135 of 2005 and N°434 of 2007, all from Ministry of Economy. The species are protected by a total ban for a period of 30 years, from November 11th, 1995, and until November 10th, 2025.

The LGPA establishes the requirements that must be met regarding to administrative and conservation measures, monitoring program of the plan and measures evaluation, training program and measures dissemination, code of good practices to reduce the catch of incidental fishing, and innovation and technological improvements in fishing gear that reduce bycatch. Following articles are relevant in this matter:

- Article 7° C, the return to the sea of all bycatch shall be mandatory, under handling protocols approved by the National Fisheries and Aquaculture Service.
- Article 4 letter c), is mandatory to carry on boats and ships devices or utensils to avoid or minimize by catch.
- Article 4 letter d), is mandatory to carry on boats to release specimens caught incidentally by fishing gear.

On 18 March 2017, the Executive Branch issued Supreme Decree N° 76 of 2015, establishing the use of DRI on industrial vessels and artisanal vessels of 15 meters or more to detect and record discards. The DRI system includes video cameras, vessel monitoring systems, and digital recorders, among others.

The list of protected species applicable for the bottom-trawling and purse-seine fisheries was updated by SUBPESCA in December 2019, through Resolution N° 3917-2019, in light of the results of the Research Programs for Discards in those fisheries. The list includes several species of chondrichthyans (sharks, rays, and chimaera). Moreover, the Exempt Resolution 3120/2021 established the mandatory release to the sea of chondrichthyans caught incidentally in purse seine, trawl, longline, spinel, and gillnet fisheries, at the national level.

To monitor and manage the ETP interaction with this fishery, there is a plan for reducing discards and incidental catches for the artisanal fishery of Falkland and its accompanying fauna, in the maritime area corresponding to the inland waters of the Los Lagos Region (R.Ex 2490/2021). All incidental catches must be reported and the plan orientates best practices, including changing the fishing area and communicating with the rest of the fleet when incidental catches occur, avoiding setting nets in areas with high incidental catch presence and suspending the fishing operation and discard the catches, allowing the incidental catch to be released back into the sea unharmed (SUBPESCA, 2021).

Specific regulations have been implemented to reduce seabird capture and incidental mortality during fishing operations, as outlined in Exempt Resolutions No. 2110/2014, 2941/2019, and 2569/2021. These regulations mandate the use of deterrent devices, such as bird scaring lines, and the adoption of best fishing practices, including night setting and proper management of discards to prevent attracting birds. These measures apply to both industrial and artisanal longline fleets, as

well as industrial trawler fleets (SUBPESCA, 2025). For purse seine fisheries, these practices are recommended but not mandatory, as there is no specific conservation plan for birds, nor is it included in the National Action Plan to Reduce Incidental Catches of Birds in Longline Fisheries (PAN-AM). Established in Chile in 2007, PAN-AM is currently being updated to include purse seine, trawl, and longline fisheries operating in both Chilean waters and the high seas. The updated plan aims to reduce incidental bird catches to below the Potential Biological Removal (PBR) level for species with available data. For species lacking sufficient data, the goal is a 20% reduction in marine bird mortality within five years for each impacted fishery (SBWG11, 2023). Exempt Decree 202100004 established a harvesting ban for sea lion up to 27th January 2031. Thus, there is an ETP management strategy in place for the fishery. **E.1.3 is met.**
References Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/normativa/Leyes/Ley-de-pesca-y-acuicultura/88020:Ley-General-de-Pesca-y-Acuicultura-Texto-Actualizado-Incorpora-Modificacion-Ley-N-21-770 SBWG11, 2023. Eleventh Meeting of the Seabird Bycatch Working Group. Actualización Plan de acción Nacional para reducir las capturas incidentales de aves marinas en Chile (PAN-AM/Chile). Edinburgh, United Kingdom, 15 - 17 May 2023. https://www.bmis-bycatch.org/system/files/zotero_attachments/library_1/BMJKDSVN%20-%202023%20-%20.pdf SUBPESCA, 2021. Plan de Reducción del Descarte y de la Captura de Pesca Incidental para Pesquería Artesanales de Sardina Austral, y su Fauna Acompañante, Región de Los Lagos. SUBPESCA, 2025e. Estado de situación de las principales pesquerías chilenas, año 2024. https://www.subpesca.cl/portal/publicaciones/Publicaciones/Cuentas-Publicas/Cuenta-Publica-de-Estado-de-Recursos/125250:Estado-de-situacion-de-las-principales-pesquerias-chilenas-ano-2024

E2 Impact on the habitat

E2.1	**E2.1**	**Information on interactions between the fishery and marine habitats is collected.** *In reaching a determination for E2.1, the assessor should consider if the following is in place:*
	E2.1.1	Habitats which may be directly affected by the fishery have been identified, including any habitats which may be particularly vulnerable.
	E2.1.2	Information on the scale, location and intensity of fishing activity relative to habitats is collected.
	E2.1.3	Collection and analysis of habitat information is adequate to provide a reliable indication of the impact the fishery has on marine habitats.
Outcome	*Pass*	
Rationale		

During the SO156 cruise in March 2001, Melo et al. (2007) investigated sediments along the Chilean continental margin from Iquique to Chiloé at depths of 100–4600 m, revealing strong latitudinal variability in sediment composition, grain size, and organic matter content (Table 9). Sediments are predominantly fine-grained, rich in clays and authigenic deposits such as phosphorites and carbonates, with higher organic content in the north (30–35%) and lower values in the south (10–20%). However, shallow areas and zones associated with submarine canyons show muddy sediments with high organic matter content across latitudes. Sedimentation rates increase southward and with depth, influenced by marine productivity and terrestrial inputs enhanced by higher rainfall in southern regions. Shelf width, bottom topography, oxygen conditions, and riverine and canyon-mediated inputs control sediment distribution and habitat characteristics, with low-oxygen conditions affecting bottom sediments mainly in the south.

Table 9. Background of the Chilean habitat coast (MOT: Total organic matter, COT: Total organic carbon, Bottom OD: Dissolved oxygen in bottom waters, Surface Density = density based on porosity at the surface of the sediments) (Melo et al. (2007).

Latitud	Localidad	Profundidad (m)	Granulometria	MOT (%)	$\delta^{13}C$	COT %	$CaCO_3$ %	SiO_2 %	OD fondo (ml L^{-1})	Densidad sup. (g cm^{-3})	Otros antecedentes	Referencias
22°S	sur de Iquique	111-517 891	fango 55-92%	15-22	-30 a -25 -25 a -20				0.24-0.97	0.4-0.5	50-98.8 µg g^{-1} Cl-a	7,11
18-22°S	Arica-Tocopilla	180-523						1.4			Restos orgánicos: escamas de peces y huesos	6,12
23°S	Mejillones	75				~10.3		25	0.15		Sedimentos color verde oliva y presencia de restos orgánicos	15,16
23°S	Antofagasta	142 295 518	arenas (>94%) fango (73.8%) arenas (94%) fango (5.5%)	14		4.8			0.02-0.05 0.06 0.90	1.2	4.8-7.8 µg g^{-1} Cl-a en todas las profunidades	11,12
27-28°S	Caldera al sur	100-500 400-500	> arenas fina-muy fina y < rocas y arenas gruesas	6.4-16.3 (<4.7)[a]				0.7-1.4				2,17
27-33°S	Caldera a Valparaiso zona profunda	>969 1947	5 phi, bien sorteado, distribucion leptokurtica				4.3 - 20.6 16				Bajo contenido de Fe/Al, aporte de rocas plutonicas ácidas del borde costero	1,12
29-33°S	Norte de Coquimbo a Valparaiso	100-200 400-600 1498	arenas finas a muy finas <6.5 phi, limo arcillas	<3 a ~5				0.1-2.4	0.6-2 2.1		Alta intemperizacion rocas del borde costero, predominancia de illitas ricas en Al y cloritas en las zonas profundas	3,12,18
34-38°S	Pichilemu al sur	160-3100									huesos de ballena, escamas de peces	6
35-42°S	Constitución a Chiloé	>680					2.3 - 11.6				Alto contenido de Fe/Al indica alto aporte de rocas basalticas-andesiticas	1
36°S	Concepción	64 122-365 535	limo arcillas, arenas (<5%) y alto contenido de fango limo arcillas, arenas (27%)	18 13-18 (6^b)	-20 a -30 en todo rango de profundidades	12.06 1.13- 3.06 2.06		3.7	0.19 0.13-0.79 2.92	0.2-0.5 en todo rango de profundidades	10.3-35.7 µg g^{-1} Cl-a en zonas mas someros 2.3-3.5 µg g^{-1} en zonas más profundas	7,8,9,10, 11,12, 13
41-42°S	Chiloé	160-480 852	58-45% arenas, resto fango limo arcillas			1.3-1.6 2.1-4.5	3-12	2.6 4.0- 4.5	1.28-2.79		1.5-2.50 µg g^{-1} Cl-a color verde oliva	4,5,10, 11,12,14

[a] zonas de arena gruesa

[b] cerca de la desembocadura del rio Itata a los 201 m

Referencias:

1. Klump et al., 2000
2. Lamy et al., 1998a
3. Lamy et al., 1999
4. Lamy et al., 2001
5. Lamy et al., 2002
6. Mliessi et al., 2005 y ref. incluidas
7. Muñoz et al., 2004
8. Neira et al., 2001
9. Niggemann & Schubert, 2006
10. Palma et al., 2005
11. Quiroga et al., 2005
12. Romero & Hebbeln, 2002
13. Schubert et al., 2000
14. Silva & prego, 2002
15. Valdes et al., 1998
16. Valdés et al., 2003
17. Proyecto FIP97-25
18. Proyecto FIP99-08

The spatial information of the fishing operations is gathered through onboard observers and self-reports submitted by the fleet via fishing logbooks. Additionally, research and monitoring programs on discards and incidental catches in pelagic fisheries have been conducted annually as part of the plan to reduce discards and incidental catches in the artisanal fishery of sprat Falkland and its accompanying fauna. These programs focus on the maritime area corresponding to the inland waters of the Los Lagos Region. Spatial-temporal information about the fishery's operations has been collected and published in IFOP reports, providing estimates of the habitats encountered by these fisheries (Figure 7). Thus, the fishing footprint of the vessels is well-documented and shows similar fishing grounds across all fishing seasons.

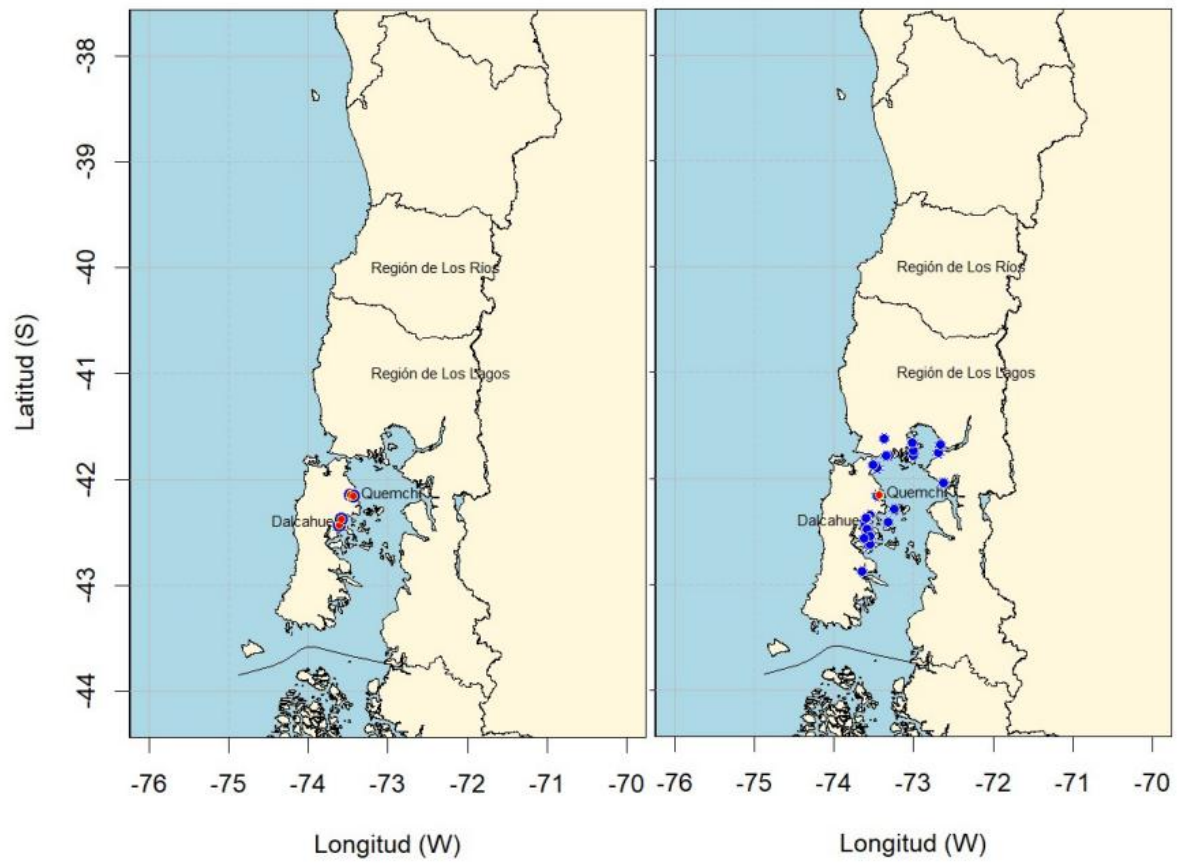


Figure 7. Geographic distribution of sets with bycatch (blue) and incidental mortality (red) reported in the artisanal purse seine fleet that operated in the Los Lagos Region during the period January 2017-December 2023. Left: coastal seabirds; right: common sea lions (IFOP, 2024).

Recently, Law No. 21.600 of 2023 created the Biodiversity and Protected Areas Service and the National System of Protected Areas. The Law has as objective the conservation of biological diversity and the protection of the country's natural heritage, through the preservation, restoration and sustainable use of genes, species, and ecosystems. It will depend administratively on the Ministry of the Environment, and will have as its main instrument the National System of Protected Areas. The new public service consolidates the powers and responsibilities related to biodiversity conservation, which are currently spread across various public and private entities. The law introduces mechanisms to protect biodiversity not only within protected areas but also beyond them, while also providing increased funding to support conservation efforts.

The Falkland sprat artisanal fishery uses purse seine gear, which is a surface gear used from coastal marine waters to ocean waters; thus, a purse seine does not come into contact with the seabed and it is considered a fishing gear that does not generate any impact in the habitat. Very occasionally in shallow water, the bottom of the net may lay on the seabed but as the gear is not dragged across the seabed there should little effect (FAO, 2024; Sustain, 2024; Chuenpagdee *et al*., 2003). Thus, information collected of the fishing footprint of the vessels is sufficient for providing a reliable indication of the impact that the fishery has on marine habitats.

Thus, information on interactions between the fishery and marine habitats is collected. **E.2.1 is met.**

References

Chuenpagdee, R.; Morgan, L.E.; Maxwell, S.M.; Norse, E.A.; Pauly, D., 2003. Shifting gears: Assessing collateral impacts of fishing methods in US waters. Front. Ecol. Environ., 1, 517–524

FAO, 2024. Fishing Gear types. Drifting longlines. Technology Fact Sheets. Fisheries and Aquaculture Division [online]. Rome. https://www.fao.org/fishery/en/geartype/233/en

IFOP, 2023. INFORME FINAL. Convenio de Desempeño 2022. Programa de investigación y monitoreo del descarte y la captura de pesca incidental en pesquerías pelágicas, 2022-2023. SUBSECRETARÍA DE ECONOMÍA Y EMT / Agosto 2023.

Ley núm. 21.600. Crea el servicio de biodiversidad y áreas protegidas y el sistema nacional de áreas protegidas.
https://www.diariooficial.interior.gob.cl/publicaciones/2023/09/06/43646/01/2373337.pdf

Melo, T., N. Silva, P. Muñoz, J. Díaz-Naveas, J. Sellanes, A. Bravo, J. Lamilla, J. Sepúlveda, R. Vogler, Y. Guerrero, C. Bustamante, M. Alarcón, D. Queirolo, F. Hurtado, E. Gaete, P. Rojas, I. Montenegro, R. Escobar, and V. Zamora. 2007. Caracterización del fondo marino entre la III y X Regiones. Informe Final Proyecto FIP No 2005-61. Estud. Doc. No 22/2007. 287 pp.

Sustain, 2024. Purse seines. https://www.sustainweb.org/goodcatch/purse_seines/

E2.2	**E2.2 The fishery has no significant impact on marine habitats.** *In reaching a determination for E2.2, the assessor should consider if the following is in place:*
	E2.2.1 The information collected in relation to E2.1.3 indicates that the fishery does not have a significant negative impact on marine habitats.
Outcome	*Pass*

Rationale

Purse seine does not interact with any physical habitats (FAO, 2024; Sustain, 2024; Chuenpagdee *et al*., 2003), therefore, no evidence was found during the assessment about any kind of negative impact on physical habitats by the Falkland sprat fishery activity. The fishing grounds are well-defined, and the fishing footprint indicates that the vessels operate in the same areas year after year without moving to new positions. Consequently, the habitats typically affected are those that recover easily, allowing the fishing activity to continue in the same grounds year after year.

References

Chuenpagdee, R.; Morgan, L.E.; Maxwell, S.M.; Norse, E.A.; Pauly, D., 2003. Shifting gears: Assessing collateral impacts of fishing methods in US waters. Front. Ecol. Environ., 1, 517–524

FAO, 2024. Fishing Gear types. Drifting longlines. Technology Fact Sheets. Fisheries and Aquaculture Division [online]. Rome. https://www.fao.org/fishery/en/geartype/233/en

Sustain, 2024. Purse seines. https://www.sustainweb.org/goodcatch/purse_seines/

E2.3	**E2.3 There is a habitat management strategy in place for the fishery.** *In reaching a determination for E2.3, the assessor should consider if the following is in place:*
	E2.3.1 There are measures applied to the fishery which are designed to manage the impact of the fishery on marine habitats.

	E2.3.2 The measures are considered likely to prevent the fishery from having a significant negative impact on marine habitats.
Outcome	*Pass*
Rationale Purse seine does not interact with any physical habitats (FAO, 2024; Sustain, 2024; Chuenpagdee *et al*., 2003), therefore, there is no need for measures to be in place to minimize and mitigate negative impacts related to the interaction of the fishery with physical habitats. Nevertheless, there are some regulations and management measures in place. Recently, Law No. 21.600 of 2023 created the Biodiversity and Protected Areas Service and the National System of Protected Areas. The Law has as objective the conservation of biological diversity and the protection of the country's natural heritage, through the preservation, restoration and sustainable use of genes, species, and ecosystems. It will depend administratively on the Ministry of the Environment, and will have as its main instrument the National System of Protected Areas. The new public service consolidates the powers and responsibilities related to biodiversity conservation, which are currently spread across various public and private entities. The law introduces mechanisms to protect biodiversity not only within protected areas but also beyond them, while also providing increased funding to support conservation efforts.	
References Chuenpagdee, R.; Morgan, L.E.; Maxwell, S.M.; Norse, E.A.; Pauly, D., 2003. Shifting gears: Assessing collateral impacts of fishing methods in US waters. Front. Ecol. Environ., 1, 517–524 FAO, 2024. Fishing Gear types. Drifting longlines. Technology Fact Sheets. Fisheries and Aquaculture Division [online]. Rome. https://www.fao.org/fishery/en/geartype/233/en Ley núm. 21.600. Crea el servicio de biodiversidad y áreas protegidas y el sistema nacional de áreas protegidas. https://www.diariooficial.interior.gob.cl/publicaciones/2023/09/06/43646/01/2373337.pdf Sustain, 2024. Purse seines. https://www.sustainweb.org/goodcatch/purse_seines/	

E3 Impact on the ecosystem

E3.1	**E3.1**	**Information on the potential impacts of the fishery on marine ecosystems is collected.** *In reaching a determination for E3.1, the assessor should consider if the following is in place:*
	E3.1.1	The main elements of the marine ecosystems in the area(s) where the fishery takes place have been identified.
	E3.1.2	The role of the species caught in the fishery within the marine ecosystem is understood, either through research on this specific fishery or inferred from other fisheries.
	E3.1.3	Collection and analysis of ecosystem information is adequate to provide a reliable indication of the impact the fishery has on marine ecosystems.
Outcome	*Pass*	
Rationale In Chile, studies have shown that small pelagic fish represent an important component in the diet		

of sea lions, birds, marine mammals, sharks, and other species of economic importance, such as horse mackerel and hake. These small pelagic fishes are crucial to coastal food webs as they transfer energy from plankton to large predators (Utne-Palm *et al*, 2009, Pikitch *et al*., 2012, Neira *et al.*, 2014). Falkland sprat is a key and highly vulnerable species in the southern channels. It plays a fundamental role in sustaining the ecosystem of the inner sea of Chiloé, as it is the most productive and dominant species among small pelagic fish. This importance has also contributed to the development and growth of the artisanal purse seine fishery in the region (Neira *et al*., 2004; Neira *et al*., 2004a; Medina *et al*., 2007; Neira *et al*., 2014), and the importance of this species has been recognized and considered in the management and recovery plan (SUBPESCA, 2023)

Globally, it has been indicated that a reduction in the availability of these species can have direct and long-term impacts that can change the structure and functioning of an ecosystem (Pikitch *et al*., 2012).

The management of this fishery has a permanent annual research program by law (Article 91 LGPA) which is executed by IFOP. This program is made up of research and monitoring projects for this fishery in Los Lagos region, such as (SUBPESCA, 2023):

- Status and possibilities of biologically sustainable exploitation
- Hydroacoustic evaluation of stocks in summer and autumn cruises
- Evaluation of spawning stock
- Monitoring of pelagic fisheries
- Basic fishery biological studies.

The data collected in these projects allow monitoring of the establishment and compliance of fishery management so that it is carried out in a sustainable manner and with the least possible impact on the ecosystem.

References

Medina, M., H. Arancibia, S. Neira, 2007. Un modelo trófico preliminar del ecosistema pelágico del norte de Chile (18°20'S – 24°00'S). Investigaciones Marinas (Valparaíso, Chile), 35(1): 25–38.

Neira, S., and Arancibia, H., 2004. Trophic interactions and community structure in the central Chile marine ecosystem (33°Se39°S). Journal of Experimental Marine Biology and Ecology, 312: 349–366.

Neira, S., Arancibia, H., and Cubillos, L., 2004a. Comparative analysis of trophic structure of commercial fishery species off central Chile in 1992 and 1998. Ecological Modelling, 172: 233–248.

Neira, S., Arancibia, H., Barros, M., Castro, L., Cubillos, L., Niklitschek, E., Alarcón, R., 2014. Rol ecosistémico de sardina austral e impacto de su explotación en la sustentabilidad de otras especies de interés comercial. Informe Final Proyecto FIP 2012–15 (agosto). Universidad de Concepción, 242 pp + Anexos.

Pikitch, E., Boersma, P.D., Boyd, I.L., Conover, D.O., Cury, P., Essington, T., Heppell, S.S., Houde, E.D., Mangel, M., Pauly, D., Plagányi, É., Sainsbury, K., and Steneck, R.S., 2012. Little Fish, Big Impact: Managing a Crucial Link in Ocean Food Webs. Lenfest Ocean Program. Washington, DC. 108 pp.

SUBPESCA, 2023. Plan de Manejo y Programa de Recuperación para la Pesquería de Sardina Austral, Aguas Interiores, Región de Los Lagos. https://www.subpesca.cl/portal/616/w3-propertyvalue-56295.html#collapse05

Utne-Palm, A. C., A. Salvanes, B. Currie, S. Kaartvedt, G. Nilsson, V. Braithwaite, J. Stecyk, M. Hundt, M. van der Bank, B. Flynn, G. Sandvik, T. Klevjer, A. Sweetman, V. Brüchert, K. Pittman, K. Peard, I. Lunde, R. Strandabø, M. Gibbons, 2010. Trophic structure and community stability in an overfished ecosystem. Science, 329 (5989), 333–336.

E3.2	**E3.2 There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.** *In reaching a determination for E3.2, the assessor should consider if the following is in place:*	
	E3.2.1	The information collected in relation to E3.1.3 indicates that the fishery does not have a significant negative impact on marine ecosystems.
Outcome	*Pass*	

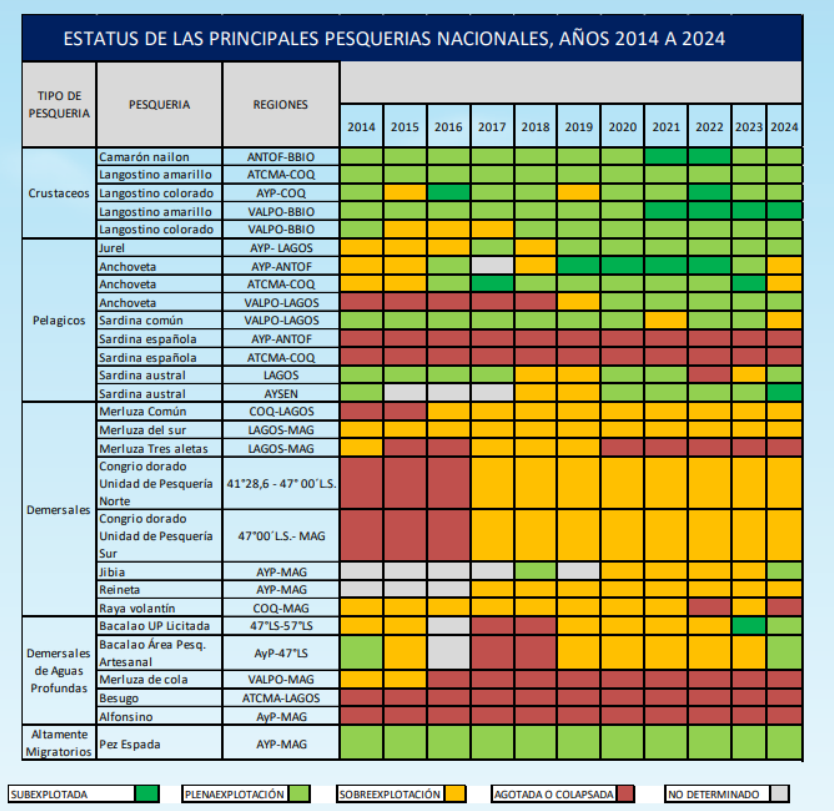
Rationale

The most likely mechanisms for the fishery to impact the ecosystem is through the removal of the target species; through impacts on non-target species & ETP species; and through physical impacts on marine habitats. These impacts are low for this fishery and there are measures in place to address the potential impacts that Falkland sprat could have on the ecosystem, as demonstrated on E1 and E2 sections above.

Historically, in most of the years the status of Falkland sprat fishery has been in “full exploitation” status (Table 10) (SUBPESCA, 2025e). A fully exploited fishery is one whose biological point is at or near its maximum sustainable performance; considering that limit reference points (such as biomass limits and yield targets) are based on scientific studies that assess the status of the stock and its role in the ecosystem by taking into consideration how the exploitation of these fish affects other species and the overall balance of the marine ecosystem (SUBPESCA, 2025e). Then, the extraction of the resource has not affected the ecosystem. In 2022, the species was considered depleted and a recovery plan was built for addressing this situation (SUBPESCA, 2023), showing the commitment of the country on avoiding a significant impact on marine ecosystem with the removal of the species.

Table 10. Status of fisheries in Chile from 2014 to 2024. Dark green = underexploited fishery, green = fully exploited

fishery, yellow = overexploited fishery, and red = depleted or collapsed fishery (SUBPESCA, 2025e).



References

SUBPESCA, 2023. Plan de Manejo y Programa de Recuperación para la Pesquería de Sardina Austral, Aguas Interiores, Región de Los Lagos. https://www.subpesca.cl/portal/616/w3-propertyvalue-56295.html#collapse05

SUBPESCA, 2025e. Estado de situación de las principales pesquerías chilenas, año 2023. https://www.subpesca.cl/portal/618/articles-121344_recurso_1.pdf

E3.3	**E3.3 There is an ecosystem management strategy in place for the fishery.** *In reaching a determination for E3.3, the assessor should consider if the following is in place:*	
	E3.3.1	There are measures applied to the fishery which are designed to manage the impacts of the fishery on marine ecosystems.
	E3.3.2	The measures are considered likely to prevent the fishery from having a significant negative impact on marine ecosystems.
Outcome	*Pass*	

Rationale

In Chile, the implementation of a fisheries management strategy has an ecosystem approach and considered the recommendations of FAO and other fisheries forums, aimed at ensuring ocean sustainability and food security. The adoption of plans to reduce discards and bycatch, and other related regulations (explained in previous sections of this assessment), together with the maintenance of a robust system of scientific monitoring and enforcement, have led to significant

decreases in the levels of discards and bycatch (SUBPESCA, 2025e).

Also, to ensure the sustainability of the Falkland sprat stock, the species is subject to two biological bans, one with the objective of protecting the recruitment process and the second to protect the maximum reproductive process. The application of both bans is subject to a decision criterion based on biological indicators, which are established by the CTT-PP (SUBPESCA, 2023). These bans go hand-in-hand with the biologically acceptable quota (CBA) determination and re-evaluation process for the fishery, which ensures that the exploitation of the resources remains within the appropriate limits to avoid overexploitation and the triggering of impacts on the ecosystem.

References

SUBPESCA, 2023. Plan de Manejo y Programa de Recuperación para la Pesquería de Sardina Austral, Aguas Interiores, Región de Los Lagos. https://www.subpesca.cl/portal/616/w3-propertyvalue-56295.html#collapse05

SUBPESCA, 2025e. Estado de situación de las principales pesquerías chilenas, año 2024. https://www.subpesca.cl/portal/618/articles-125250_recurso_1.pdf

Annex 1: External Peer Review report

Assessment and determination summary

Fishery name	**Chile - Falkland sprat (Sprattus fuegensis) in FAO 87.3.3, Chilean EEZ Region X (Los Lagos)**
MarinTrust report code	**WF21**
Type 1 species (common name, Latin name)	*Falkland sprat (Sprattus fuegensis), Araucanian herring (Strangomera bentincki) and anchovy (Engraulis ringens)*
Fishery location	*FAO 87.3.3, Chilean EEZ Region X (Los Lagos)*
Gear type(s)	*Purse seine*
Management authority (country/state)	*Chilean Undersecretary of Fisheries and Aquaculture (SUBPESCA)*
Certification Body recommendation	*Approved*
FAPRG reviewer recommendation	Agree with CB determination

Summary of peer review outcomes

Summary *Provide any information about the fishery that the reviewers feel is significant to their decision. This summary is used by the Certification Body in the Fishery Assessment Report.*
The assessor has carried out thorough work, producing a clear, well-referenced report with comprehensive justification for all scoring decisions. The peer reviewer concurs with all assessment outcomes and scores. Just a brief note: it is interesting that Falkland sprat was considered “depleted” in 2022 but recovered to “underexploited” status within only two years.
General comments on the draft report provided to the peer reviewer
Thank you.

1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance?	Yes
2. Does the Species Categorisation section of the report reflect the best current understanding of the catch composition of the fishery?	Yes
3. Are the scores in the following sections consistent with the MarinTrust requirements (i.e. do the scores reflect the evidence provided)?	Yes
Section M – Management Requirements	Yes
Category A Species	Yes
Category B Species	n/a
Category C Species	n/a
Category D Species	Yes
Section E – Ecosystem Impacts	Yes

Detailed Peer Review Justification

1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance?	Yes
Yes, the MT assessment methodology has been adequately used.	
Certification Body response	
No comments.	

2. Does the species categorisation section of the report reflect the best current understanding of the catch composition of the fishery?	Yes
The Chilean Fisheries Development Institute (IFOP) Scientific Observer Program was used for species categorisation, which is considered the most reliable source of information. The data cover the period 2017–2021, which is somewhat dated. However, I understand that catch composition is unlikely to have changed significantly in recent years, provided there have been no major modifications to the fishery. Three Category A species were identified, representing up to 99.5% of the total catch. The assignment of the remaining species to Category D appears appropriate and is well justified in the accompanying rationale. Just a minor comment: the Spanish name of Falkland sprat is sardina austral or "Sur" (?!) "sardina del sur" you mean.	
Certification Body response	
Thank you for noticing, the majority of the time is used as "sardina austral".	

3. Is the scoring of the fishery consistent with the MarinTrust requirements, and clearly based on the evidence presented in the assessment report?	Yes
The fishery's scoring is consistent with the MT standard and its requirements. The evidence provided is adequate, and the scores assigned in each section are clearly and well justified.	
Certification Body response	
No comments.	

3a. Are the "Category A Species" scores clearly justified?	Yes
Three Category A species were identified: Falkland sprat, Araucanian herring, and anchovy. Stock assessments are conducted annually, and all three stocks are currently above Blimit, with Araucanian herring being the most concerning (overexploited). A catch-based advice (CBA) is set by the authorities based on the stock assessment results. Landings of sprat have been low in recent years. No major issues were identified, and the justifications and associated scores appear appropriate.	
Certification Body response	
No comments.	

3b. Are the "Category B Species" scores clearly justified?	n/a
No category B species identified in the catch.	
Certification Body response	
No comments.	

3c. Are the "Category C Species" scores clearly justified?	n/a
No category C species identified in the catch.	
Certification Body response	
No comments.	

3d. Are the “Category D Species” scores clearly justified?	Yes

Two Category D species were identified, consistent with the species categorisation table presented at the beginning of the report (which is not always the case), and a PSA was conducted for each species. While some productivity attributes are missing, these species are not particularly relevant from a fisheries perspective, and available research on them is limited. I therefore understand the results to be appropriate, particularly given that a number of precautionary scores were applied for susceptibility.

Certification Body response

No comments.

Are the scores in “Section M – Management Requirements” clearly justified?	Yes

A robust management framework is in place, the only (very) relevant change since the last assessment has been the approval of the new fisheries law. Over the past few months, I’ve read extensively about both the positive and negative aspects of this new law, which I remain cautious about, as the real challenge is always in implementation. Compliance seems to be adequate. No specific issues found.

Certification Body response

No comments.

Are the scores in “Section E – Ecosystem Impacts” clearly justified?	Yes

The information provided and scores given are considered adequate.
E1.2: No interactions with ETP species have been reported by the fishery. This appears to be a very clean fishery, with low levels of bycatch and interactions. In addition, a plan to reduce discards and interactions is in place.
E1.3: Purse seines are not expected to interact with the seabed or sensitive habitats.
E1.4: Sprat plays a key role in the ecosystem, supporting several predator species that depend on it. However, the stock is currently above the target reference point, and therefore no additional comments are required.
Yes, the information provided is adequate.
E1.2 No interactions with ETP species reported by the fishery, this seems to be a very clean fishery with low bycatch and interactions. a plan for reducing discard and intercation is in place in the fishery.
E.2 Purse seine are not expected to interact with the seabed/habitats.
E.3 Sprat has a key role in the ecosysetm, supporting several predator species which rely on the species, but it is true that the species is now over the target. So, no comments needed.

Certification Body response

No comments.

Optional: General peer reviewer comments on the draft report
Just a few minor comments, overall, the assessment appears very thorough and complete.Only minor comments, the assessment seems very complete.
Certification Body response
Thank you.