MarinTrust Whole fish fishery assessment report

Document TEM-002 (prev. FISH2) - Version 3.0

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Chile - Anchovy *(Engraulis ringens)* and Araucanian herring *(Strangomera bentincki)* - FAO 87, Chilean EEZ Regions V-X

Surveillance 1
WF12

Table 1: Whole fish fishery assessment scope

Fishery name	**Chile - Anchovy (*Engraulis ringens*) and Araucanian herring (*Strangomera bentincki*) - FAO 87, Chilean EEZ Regions V-X**
MarinTrust report code	**WF12**
Type 1 species (common name, Latin name)	Anchovy *(Engraulis ringens)* and Araucanian herring *(Strangomera bentincki)*
Fishery location	FAO 87, Chilean EEZ Regions V-X
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)		Iquique Sur (Corpesca SA), Sociedad Pesquera Landes SA, Coronel (Blumar SA), Lota Protein, Corral (Blumar SA), FoodCorp Chile SA, Industrias Isla Quihua SA (Alimentos Marinos SA), Coquimbo (Orizon SA), Glaciares SA (Fiordo Austral), Salmonoil SA (Fiordo Austral), Graneros SA (Fiordo Austral), Coronel (Orizon SA), San Vincente, Coronel (Camanchaca Pesca Sur SA), Arica (Corpesca SA), Mejillones (Corpesca SA), Pesquera Fiordo Austral SA	
Applicant country		Chile	
Certification Body details			
Name of Certification Body		LRQA	
Contact Information for CB (e.g. email address/address/telephone number)		E: mt-ca@lrqa.com LRQA, 4-5 Lochside Way, Edinburgh Park, EH12 9DT T: +44 800 092 0452	
Fishery Assessor name		Blanca Gonzalez	
CB Peer Reviewer name		Sam Peacock	
Number of assessment days	3	**Assessment period**	July 2025 – July 2026

Table 3: Assessment outcome

Assessment outcome (See Table 4 for a summary of assessment determination)		*Approve*
Approval validity	Valid from*: July 2025*	Valid until*: July 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

Assessment determination **Summary of assessment and outcome**
The anchovy (*Engraulis ringens*) and Araucanian herring (*Strangomera bentincki)* fishery in the South-central zone (Valparaíso to the Los Ríos region) in Chile is a direct fishery conducted by industrial and artisanal sectors, where both species are targeted. Target species represent 94.44% of the total average of the fishery in both sectors, they are Least Concern species by the IUCN, are not listed in any CITES appendix, and SUBPESCA manages the fishery. Therefore, anchovy and araucanian herring were assessed as Category A species. Mote sculpin (*Normanichthys crockery)* was assessed as a Category D species, as it represents 5.49% of the total average catch in the fishery, is not an ETP species, and its catch is not regulated. Other species were not included since they represent less than 0.1% of the fisheries' total catch. There is a robust management framework for the anchovy and araucanian herring 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 an advice on precautionary capture quotas 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 assessments include a frame of reference with proxy values that are used as reference point, and based on the results a biologically acceptable quota (CBA) is set. The last stock assessment update was carried out in May 2025. Anchovy stock is in a state of full exploitation for the biological year 2024/2025, with zero probability of depletion and less than 1% overexploitation; thus, there is no overfishing and spawning biomass is above B_{MSY} and B_{lim} reference points. Araucanian herring stock is in a condition of overexploitation, with a 39% probability of depletion and a 60% probability of overfishing; thus, spawning biomass is below BMSY but above B_{lim} reference points, but there is evidence that if the stock biomass falls below the limit reference point, the fishery will be closed, as happened in 2021. In the PSA mote sculpin awarded an average productivity score of 1.2 and an average susceptibility score of 3, passing against Table D3, indicating that the species is not vulnerable to this fishery. 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 anchovy and araucanian herring fishery do not affect the habitat either, since purse seine do not interact with any physical habitat. Fishery management framework considers an ecosystem approach to ensure the long-term conservation

and sustainable use of the resources while safeguarding the marine ecosystem. The anchovy and araucanian herring fishery in the FAO 87, Chilean EEZ Regions V-X, passed all the Marin Trust requirements in this assessment; therefore, its approval is recommended to continue to be used as a raw material in Marine Trust certified products.	
Summary of CB peer review	Overall, there have been few significant changes in the status of this fishery since the initial V3 assessment conducted last year. The assessor has assessed those changes which have occurred and the peer reviewer agrees that this fishery continues to meet the MT requirements. The most recent catch composition data indicates that mote sculpin had a substantial presence in the catch – around 10% - where in previous years the quantity was negligible; nevertheless, the peer reviewer agrees with continuing to treat this as a Type 2 species for the present assessment as the most recent catch composition data is currently anomalous. If mote sculpin continues to form a significant proportion of the catch in future years, it should be included as a Type 1 species in MT assessments. Biomass of Araucanian herring is currently close to the limit reference point, and next year's surveillance assessment should confirm that the fishery has been closed if it falls below this level.
Summary of external peer review (see Appendix 1 for the full peer review report)	*Note to assessor: Include a brief summary of the external peer review evaluation.*
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	Anchovy *(Engraulis ringens)*	A1	Pass

		A2	Pass
		A3	Pass
		A4	Pass
	Araucanian herring *(Strangomera bentincki)*	A1	Pass
		A2	Pass
		A3	Pass
		A4	Pass
Category B	NA	NA	
Category C	NA	NA	
Category D	Mote sculpin (*Normanichthys crockeri*)	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 yes/no	IUCN Red list Category	% catch composition	Management (Y/N)	Category (A, B, C or D)
Anchovy *(Engraulis ringens)*	FAO 87, Chile EEZ Regions V to X	No	Least Concern [1]	54.55%	Y	A
Araucanian herring *(Strangomera bentincki)*	FAO 87, Chile EEZ Regions V to X	No	Least Concern [2]	39.89%	Y	A
Mote sculpin *(Normanichthys crockeri)*	FAO 87, Chile EEZ Regions V to X	No	Not evaluated	5.49%	N	D

Rationale

The Fisheries Development Institute (IFOP) in Chile have a Scientific Observer Program, in which the discarding and by catch of the fisheries are researched and monitored. The IFOP Scientific Observer program report for 2023-2024 describes the catch composition of the anchovy and Araucanian herring fisheries in the South-central zone (from Valparaíso to the Los Ríos region) by both the industrial and artisanal sectors. Target species represents 100% of the catch in the industrial fishery and 88.88% of the catch in the artisanal fishery (Table 1). (IFOP 2023)

Table 1. Industrial and artisanal total catch in the anchovy and Araucanian herring fishery in the South-central zone of Chile (IFOP 2024).

Industrial				Artisanal			
Species	Common name	Tonnes	%	Species	Common name	Tonnes	%
Engraulis ringens	Anchoveta	1,362	76.43	*Strangomera bentincki*	Sardina común	280,608.20	56.21
Strangomera bentincki	Sardina común	420	23.57	*Engraulis ringens*	Anchoveta	163,134.20	32.68
	Total	1,782	100.00	*Normanichthys crockeri*	Mote	54,815.70	10.98
				Stromateus stellatus	Pampanito	477.70	0.10
				Thyrsites atun	Sierra	163.00	0.03
				Odontesthes regia	Pejerrey de mar	31.60	0.01
				Doryteuthis (Amerigo) gahi	Calamar	27.40	0.01
					Total	499,257.80	100.00

Anchovy and Araucanian herring were both assessed as Category A species, since both are a Least Concern species by the IUCN, are not listened in any CITES appendix, the fishery is managed by the Chilean Undersecretary of Fisheries and Aquaculture (SUBPESCA), and they represent in average the 94.44% of industrial and artisanal fishery´s total catch.

Mote sculpin was included in the assessment since their catch represents 11% of the total catch in the artisanal fishery and 5.49% on average in the whole fishery in 2024. On average, the last three years mote sculpin catch in this fishery is under 5%. This species hasn´t been evaluated by the IUCN, is not in any CITES appendix, and it not under a specific management regulation (SUBPESCA 2025). Therefore, it was assessed as Category D. Other species were not included since they represent less than 0.1% of the fisheries total catch.

References

1 https://www.iucnredlist.org/species/183775/102904317

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

3 https://www.iucnredlist.org/species/183520/8127584

IFOP (2024). Informe final. Programa de investigación y monitoreo del descarte y la captura de pesca incidental en pesquerías pelágicas, 2023-2024. http://biblioteca.ifop.cl/exlibris/aleph/u23_1/adam_objects/ifp01/view/5/Descarteycapturapesqueraspelgicas_000041416.pdf

SUBPESCA (2025). Subsecretaría de Pesca y Acuicultura. Nómina descarte sardina común - anchoveta 2025. Expediente cero papel N°16583/2024. https://www.subpesca.cl/portal/615/articles-124605_documento.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.

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

1.6.1. 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

There have been no substantial changes in the aspects of the fishery relevant to Section M1 since the 2024 re-assessment. Some information and references were updated.

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

Several organizations are responsible for managing the fishery:

- The Undersecretary of Fisheries and Aquaculture (SUBPESCA) is the responsible for the design and implementation of fisheries and aquaculture policies, regulations and management measures (SUBPESCA 2025a).
- The National Fisheries and Aquaculture Service (SERNAPESCA) supervises and manages the protection of the hydrobiological resources and their environment by promoting compliance with regulations (SERNAPESCA 2025a).
- The National Fisheries Society (SONAPESCA) is a union federation that brings together the main unions and actors in industrial fishing in Chile that promotes a responsible fishing with rigorous and strict compliance with the regulations established to achieve the sustainability of the resource and comprehensive care of the sea; in collaboration with the authority to eradicate non-compliance with the fishing quotas within the Chilean coasts (SONAPESCA

2025a).

- The Fisheries Development Institute (IFOP) generates the necessary information to manage and regulate the capture of resources, establish integrated management of fisheries, deploy a management and technical assistance model, develop sustainable aquaculture and fishing, and safeguard the scientific documentary heritage in Chile (IFOP 2025a).

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

References

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

SONAPESCA. (2025a). Quiénes Somos. https://www.sonapesca.cl/quienes-somos/#1471544785863-41fb10f5-a197

SUBPESCA. (2025a). Acerca de la Subsecretaría. https://www.subpesca.cl/portal/616/w3-propertyvalue-538.html

IFOP (2025a). Instituto de Fomento Pesquero. Quienes somos. https://www.ifop.cl/quienes-somos/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

In compliance to Article 4.2, SUBPESCA is legally empowered to take management actions through the General Law on Fisheries and Aquaculture No. 18.892 of 1989, and its amendments (LGPA 2023). Thus, SUBPESCA should develop management plans for any fishery with restricted access,

and to review and update these plans every five years, determine Biological Reference Points (BRP's) for all targeted stocks, determine Biologically Acceptable Catches (BAC's), and develop resource recovery plans.

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. Information and how to get the authorization can be found in SUBPESCA webpage.

The Registry of Related Activities (RAC) arises in the framework of the implementation of Law No. 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 the Undersecretariat of Fisheries and Aquaculture (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 the National Service of Fishing and Aquaculture (SERNAPESCA) which has the responsibility of carrying out training and registration in the Registry, maintaining the integrity and veracity of the data. (SUBPESCA 2024).

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 aims to establish a framework regulation for modern, transparent, sustainable, and equitable Chilean fishing activities, which will address the primary challenges faced by the industry and its future development. 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. To date, 2025, there is no evidence that this Law has entered into force.

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

FAO (2024). https://www.fao.org/legal-services/news/detail/es/c/1680976/

NLP (2024). Nueva Ley de Pesca. https://www.gob.cl/nuevaleydepesca/#:~:text=La%20nueva%20normativa%20promueve%20que,el%20tipo%20espec%C3%ADfico%20de%20pesquer%C3%ADa.

SUBPESCA (2024). MUJERES Y HOMBRES en el Sector Pesquero y Acuicultor de Chile 2024. https://www.sernapesca.cl/app/uploads/2024/12/Mujeres-y-Hombres-en-el-sector-pesq-y-acui-2024.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

SERNAPESCA compiles the required information for creating the Fisheries and Aquaculture Statistical Yearbooks, where landing information can be found (SERNAPESCA 2025a, 2025b).

The Fisheries Development Institute (IFOP) supports the sustainable development of the country's fishing and aquaculture sector by creating alliances with Chilean universities and institutions of the national and international sector for managing and collecting fishing biological data (IFOP 2025), including the Fisheries Research Institute (INPESCA), which is dedicated to developing multidisciplinary scientific research aimed at the evaluation, diagnosis, prediction and analysis of the main fisheries under exploitation specifically in the central-southern region of Chile, as well as to evaluate the environmental impact of the production process through timely and efficient environmental management. (INPESCA 2025a).

SUBPESCA has a Technical Scientific Committee for Small Pelagic Fisheries, composed of people from different institutions and organizations and sectors, which serves as an advisory and/or consultation body of the Undersecretariat on scientific matters relevant to the administration of fisheries, by providing updates on stock status and catch projections, and making official recommendations to the authorities. Acts, reports and news resulting from the Committee are transparent processes published in the SUBPESCA webpage (SUBPESCA 2025a)

References

IFOP (2025a). Quienes somos. https://www.ifop.cl/quienes-somos/

INPESCA. (2025a). Instituto de Investigación Pesquera (INPESCA). http://www.inpesca.cl/index.php/nosotros/acerca-de/

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

SERNAPESCA. (2025b). Anuarios estadísticos de pesca y acuicultura. http://www.sernapesca.cl/informacion-utilidad/anuarios-estadisticos-de-pesca-y-acuicultura

SUBPESCA (2025a). Comité Científico de Pesquerías de Pequeños Pelágicos.

https://www.subpesca.cl/portal/616/w3-propertyvalue-51142.html#

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

The General Law on Fisheries and Aquaculture No. 18.892 of 1989, and its amendments (LGPA 2023), states in Article 1° B., that the objective of this law is the conservation and sustainable use of hydrobiological resources, through the application of the precautionary approach, an ecosystem approach in fishing regulation and the safeguarding of the marine ecosystems in which these resources exist.

Within the framework of the national fisheries policy and to achieve the objective established in the previous article, the following must be taken into consideration when adopting conservation and administration measures as well as when interpreting and applying the law:

a) establish long-term objectives for the conservation and administration of fisheries and protection of their ecosystems, as well as the periodic evaluation of the effectiveness of the measures adopted.

b) apply the precautionary principle in the administration and conservation of hydrobiological resources and the protection of their ecosystems, meaning: More caution must be exercised in the administration and conservation of resources when scientific information is uncertain or unreliable. or incomplete, and the lack of sufficient, unreliable or incomplete scientific information should not be used as a reason to postpone or not adopt conservation and management measures. (LGPA 2023).

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

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 the SUBPESCA established 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 member are nominated by public competition. The Management Committee must establish the period in which the plan will be evaluated, which may not exceed five years from its formulation. (LGPA 2023)

There is a specific anchovy and Araucanian herring management committee (SUBPESCA 2025a) and a Technical Scientific Committee for Small Pelagic Fisheries (SUBPESCA 2025b) that meet regularly. Acts from the management committee are available since 2014 (SUBPESCA 2025a) and those from the Scientific Committee are available since 2013 (SUBPESCA 2025b). Documents are freely accessible and can be found on the SUBPESCA webpage.

References

SUBPESCA (2025a). Comité de manejo Anchoveta y Sardina común. https://www.subpesca.cl/portal/616/w3-propertyvalue-52833.html#collapse03

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

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

M2 Surveillance, control and enforcement

There have been no substantial changes in the aspects of the fishery relevant to Section M2 since the 2024 re-assessment. Some information and references were updated.

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 Chile, the National Fisheries and Aquaculture Service (SERNAPESCA) is the entity responsible for supervising and managing the fisheries behaviour to promote compliance with regulations. They have presence in the 16 regions of the country, thanks to a staff of 900 people and 46 provincial offices that include 2 insular offices (SERNAPESCA 2025a).

Chile has a National Supervision Plan (NSP) which has the objective of ensuring the application of the rules and requirements that must be respected by those who carry out exploitation activities of fishing resources. SERNAPESCA designs the NSP each year based on a strategic framework with guidelines on compliance priorities for each technical area (fisheries, aquaculture and foreign trade) (SERNAPESCA 2025b). The NSP establishes several inspection programs such as: satellite monitoring program, landing certification program, weighing system program, joint operations programs, and special control programs.

According to SERNAPESCA´s 2024 Report on Oversight Activities in Fishing and Aquaculture (SERNAPESCA 2024), 68, 677 inspection activities were carried out, representing an increase of 4.5% compared to 2023. The satellite tracking system enabled the monitoring of 93 industrial vessels and 402 artisanal vessels, resulting in a total of 119,823 remote inspections. The landing certification program carried out inspections at landing points, which made possible to certify 38,664 landings throughout the year. Additionally, 2,146 joint operations were conducted in commercial and recreational fishing, representing a 23% decrease from 2023.

An approximation of the level of coverage of the inspection of fishing regulations, by subsector (industrial and artisanal), can be obtained from the quotient between:

- Numerator: The total number of field inspection activities executed in the year in each subsector, carried out at all stages of the fishing activity, that is, from extraction to export or consumption; satellite monitoring is also included, carried out at 100% of the industrial fleet and the relevant artisanal fleet.

- Denominator: The total number of fishing operations that occurred in the year in each subsector, quantified as the number of landing declarations made by each subsector, that is, for

each landing reported by artisanal and industrial shipowners.

In this way, a coverage indicator is calculated with the 2024 data equal to 6.47 inspection activities carried out for every 10 artisanal landings, while 61.3 activities are carried out for every 10 industrial landings. Inspection activities coverage decreased 35% for artisanal fisheries and increased 3.7% for industrial fisheries, in contrast to 2023. (SERNAPESCA 2024c).

References

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

SERNAPESCA. (2025b). Plan de Fiscalización. https://www.sernapesca.cl/app/uploads/2023/11/mfi_20-040-00-000_plan_de_fiscalizacion.pdf

SERNAPESCA. (2024). 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 General Law on Fisheries and Aquaculture No. 18.892 of 1989, and its amendments (LGPA 2023), includes under Title 9 the framework for infringements and sanctions. Particularly, Article 108 from Title 9 states that violations of this Law, its regulations or the fishing administration measures, will be penalized by fines, suspension of the captain, closure of establishments, confiscation of gear and hydrobiological species or products derived from the infringement.

SERNAPESCA, through the fiscalization plan, monitors the compliance of the fisheries management at sea and land (SERNAPESCA 2023). Those who commit infringements will be sanctioned with a fine of one to four times the result of multiplying the penalty value of the respective species, in force on the date of the complaint, by the amount of hydrobiological resources subject to the infraction, reduced to tons of physical weight and with the confiscation of the hydrobiological species and the fishing gear and gear, or equipment and diving suit, as appropriate, with which the infraction was committed. (LGPA 2023).

According to SERNAPESCA´s 2024 Report on Oversight Activities in Fishing and Aquaculture (SERNAPESCA 2024), a total of nearly 1,280 tons of hydrobiological species were seized due to non-compliance with regulations, which represents a 5.3% decrease from the amount seized in 2023,

indicating that sanctions are being applied.

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

SERNAPESCA. (2023). Plan de Fiscalización. https://www.sernapesca.cl/app/uploads/2023/11/mfi_20-040-00-000_plan_de_fiscalizacion.pdf

SERNAPESCA. (2024). 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 complies with 4º B of the General Law of Fisheries and Aquaculture, which establishes that: “The Service must, in the month of March of each year, prepare a report on the inspection activities and actions carried out in the area of fishing and aquaculture, in the previous year (SERNAPESCA 2024). The account must also include the results of the inspection actions carried out and compliance with the administration and conservation measures of the previous year. The report must be published on its website.” (LGPA 2023). Thus, the level of compliance is documented and updated and published each year.

Article 63 of the LGPA also states that industrial or artisanal shipowners must report to the Service their catches and landings by each of the ships or vessels used- Hydrobiological resources may only be landed at the points or ports of disembarkation that the Service authorizes. Article 64 A. states that there will be an automatic positioning system for fishing and research vessels fishing at sea that will be governed by the rules of this law and its complementary regulations. The information emanating from the automatic positioning system will be public and must be updated monthly and published on the electronic site of the National Fisheries Service and Aquaculture. (LGPA 2023). These articles states that Fishers must collaborate and comply with several activities that the law

requires to demonstrate that their fishery is legal and maintain their permits.
References LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf SERNAPESCA. (2024). 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: 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

The National Fisheries and Aquaculture Service (SERNAPESCA) is responsible for operating the official landing certification program. According to the General Law on Fishing and Aquaculture (LGPA), article 63E 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." (LGPA 2023)

According to the 2024 Fisheries and Aquaculture Statistical Yearbook issued by SERNAPESCA, the total anchovy landings reported for regions V – X was 121,181t (table 1) (SERNAPESCA 2024).

Table 1. Total anchovy landing by region in 2023 (SERNAPESCA 2023)

Species	Region								Total
	V	VI	VII	XVI	VIII	IX	XIV	X	
Anchovy	-	-	-	-	101,876	-	18,789	516	121,181

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

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 anchovy 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 and used: landing indices, Catch Per Unit Effort (CPUE), size structures, and summer and fall acoustic biomass. The stock assessment incorporates recent results from the 2025 summer cruise, total biomass, and size structure.

References

SUBPESCA. (2025). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 1/2025. https://www.subpesca.cl/portal/616/articles-125985_documento.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 IFOP carries out the stock assessment at the end of each year and provides advice on precautionary capture quotas 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 the 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 an analysis is conducted to determine if the quota needs to be updated 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 1) (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.

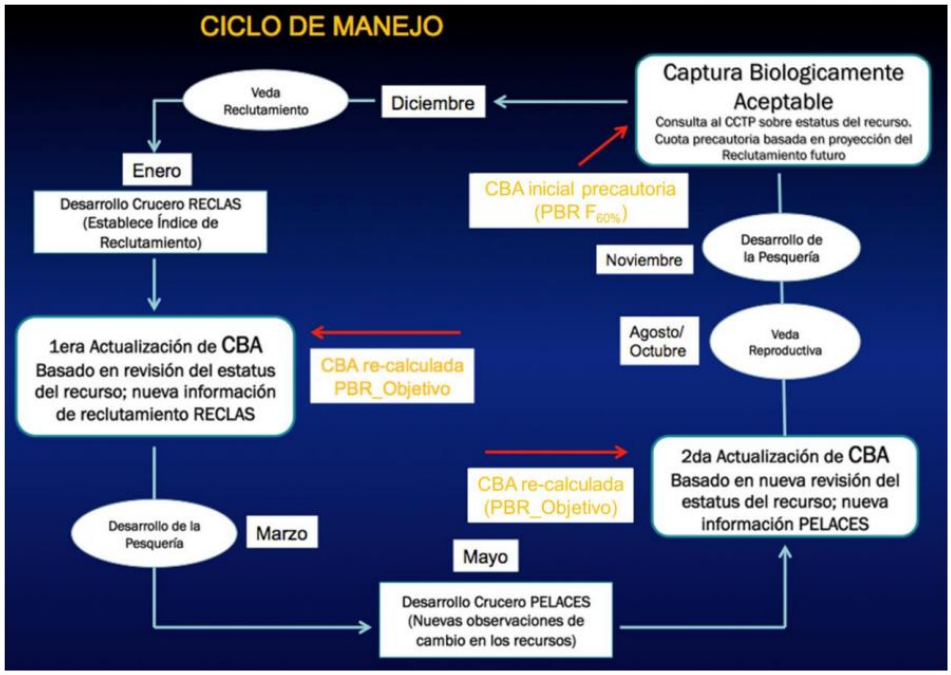

Figure 1. Management cycle of the anchovy and Araucanian herring in in the Central-Southern region of Chile (SUBPESCA 2016).

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 (Table 1) used by the CCT-PP to inform management decisions for the anchovy fishery, based on the stock assessment results (SUBPESCA, 2025a).

The CCT-PP establishes that based on the stock assessment provided by IFOP and the biological reference framework, the central-southern anchovy stock is in a state of full exploitation for the biological year 2024/2025, with zero probability of depletion and less than 1% overexploitation, thus, there is no overfishing ($F_{2024/25}$=0,33 year^{-1} < F_{MSY}=0,49 year^{-1}). Spawning biomass in 2025 was estimated in 865,000t, double the historical average, and 13% higher than 2024 and close to SSB_0 (SUBPESCA 2025b).

Table 1. Biological frame of reference used by the CCT-PT for making decisions. (SUBPESCA 2025a)

Resource	Proxy F_{MSY}	Proxy SSB_{MSY}	SSB_{lim}
Anchovy from Valparaiso to Los Lagos region	$F_{60\% SSBR}$ = 0.47	60% SSBR or 55% SSB_0 = 481,000 t	27.5% SSB_0 = 240,500 t

SSB_{MSY} = Spawning biomass at maximum sustainable yield
SSBR = Spawning Biomass per Recruit
SSB_0 = Virginal spawning biomass spawning (estimated from stock-recruitment models: biomass of equilibrium, without fishery exploitation)
SSB_{lim} = Limit reference point for Spawning Stock Biomass
F_{MSY} = the fishing mortality that will maintain a stock at maximum sustainable yield

References

SUBPESCA. (2025a). Estado de situación de las principales pesquerías chilenas, año 2024. https://www.subpesca.cl/portal/616/articles-125250_recurso_1.pdf

SUBPESCA. (2025b). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 1/2025. https://www.subpesca.cl/portal/616/articles-125985_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

Based on the stock assessment, the CCT-PP advises a biologically acceptable quota (CBA) for the fishery. The advice considered two scenarios: the potential approval of the Remnants Law, and the scenario without considering this law. The Remnants Law states that artisanal fisheries may take the remaining quotas not consumed during the year; this will apply provided that the global catch quota has a minimum of 10% of uncaptured availability in the year and that the fishery has not been declared in conditions of depletion or collapse by the Scientific Committee (DORC 2022). This law was approved as a transitory law in 2024, and it has been requested to be approved again for 2025.

2025 advices are (SUBPESCA 2024):

1. Without Law of Remnants: A total CBA that tends to the MSY equivalent to 281,066 tons, then, discounting the discard, a maximum CBA of 277,952 tons is determined, so the recommended CBA range is 222,361 to 277,952 tons.

2. With Law of Remnants: A total CBA that tends to the MSY and incorporates discard and alternative remainder of the 20%, equivalent to 222,361 tons, so the capture range recommended biologically acceptable is 178,065 to 222,582 tons.

References

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

SUBPESCA. (2024). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 5/2024. https://www.subpesca.cl/portal/616/articles-123559_documento.pdf

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

Rationale

IFOP carries out the assessment, which is then presented to the CCT-PP. The CCT-PP peer reviews all the processes and updates in regular meetings throughout the year. According to the LGPA, the CCT in Article 153 states that the CCT will be consulted and requested through the SUBPESCA, and they must determine, among others, the following matters (LGPA 2023):

- The state of the fishery.
- Determination of biological reference points.
- Determination of the range within which the global catch quota can be set, which must

maintain or bring the fishery to maximum sustainable yield. The breadth of the range will be such that the minimum value is equal to the maximum value minus 20%

These peer reviews can be considered both internal and external as members of committees may also be outside the assessment process. In the last assessment report people involved in the review process represented several institutions: Universidad Arturo Prat, Universidad de Antofagasta, INPESCA, CIAM, IFOP, SSPA and independent participants. (SUBPESCA 2025).

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

SUBPESCA. (2025). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 1/2025. https://www.subpesca.cl/portal/616/articles-125985_documento.pdf

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

Rationale

Stock assessment reports, advice on quotas, and regular session meetings of the CCT-PP, are publicly available in the SUBPESCA website (SUBPESCA 2025). Stock-recruitment and spawning period are closely monitored by IFOP and published in monthly bulletins and reports, which can be found in IFOP´s website (IFOP 2025).

References

SUBPESCA (2025). https://www.subpesca.cl/portal/616/w3-channel.html

IFOP (2025). https://www.ifop.cl/

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 mechanism to limit the total fishing mortality of anchovy, is based on the General Law of Fisheries and Aquaculture (Law No. 18,892) and the Regulation of Fishing of Hydrobiological Resources. (LGPA 2023).

Within this legal framework, the SERNAPESCA plays a crucial role in the management and regulation of fishing. The government, through SERNAPESCA, establishes catch quotas that limit the amount of anchovy that can be caught in a given period. These quotas are based on scientific assessments and stock data to ensure the sustainability of the resource.

In addition, management measures are implemented that include regulating the fishing season, setting minimum catch size restrictions, and limiting fishing effort to control total mortality. The regulations aim to strike a balance between the commercial exploitation of anchovies and the conservation of the resource and the marine ecosystem as a whole. These regulations are regularly updated in response to scientific studies and changes in the resource's status to ensure that fishing remains sustainable in the long term.

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

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

Over the last four years (2020-2024), anchovy landings in regions V-X haven't exceeded the Biologically Acceptable Catch (CBA) (table 1), which had been set below the Scientific Committee's advice (Table 2) in the last three years. (SERNAPESCA 2021, 2022, 2023, 2024; SUBPESCA 2024,2023, 2022).

Table 1. Anchovy Biologically Acceptable Catch (CBA), landing and % of quota used in the Central-Southern region in Chile fishery.

Anchovy	Industrial			Artisanal		
Year	CBA	Landing	% quota usage	CBA	Landing	% quota usage
2024	8,327	2,059	25	170,774	51,419	30
2023	2,719	1,568	58	124,898	101,468	81
2022	1,647	934	57	172,261	137,375	80
2021	219	0	0	207,546	157,815	76

Table 2. Scientific Committee's advice vs Total CBA for Anchovy in the Central-Southern region in Chile fishery.

Anchovy		
Year	Advice	CBA Total
2024	276,858	179,101
2023	185,043	127,617
2022	178,677	173,908

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. (2023). 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. (2024). 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

SUBPESCA. (2024). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 4/2024. https://www.subpesca.cl/portal/616/articles-122734_documento.pdf

SUBPESCA. (2023). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 4/2023. https://www.subpesca.cl/portal/616/articles-119536_documento.pdf

SUBPESCA. (2022). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 3/2022. https://www.subpesca.cl/portal/616/articles-116402_documento.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 LGPA states that in Article 9 that in cases where a fishery is in a state of overexploitation or depletion according to biological reference points a recovery program must be established within the management plan, with prior agreement of the Management Committee. Article 39 indicates that a recovering fishery will be understood as one that is overexploited and subject to an extractive ban of at least three years, for the purpose of its recovery, and in which it is possible to set a global catch quota. When the fishery is declared under a regime of fisheries in recovery, SUBPESCA will be authorized to award annually in public auction the right to capture each year the equivalent in tons

of ten percent of the industrial fraction of the overall catch quota. (LGPA 2023).

For example, in 2021, the industrial anchovy 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 2025).

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

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

SERNAPESCA (2025). 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 assessment of the anchovy stock from the Valparaíso to Los Lagos regions includes the stock diagnosis and the review of the Biologically Acceptable Catch (BAC) for 2025 Results indicate that recruitment in 2024/25 reached 28 billion individuals, a 78% decrease compared to 2023/24 and a 48% decrease compared to the historical average. The 2025 summer cruise decreased in total biomass and the presence of juveniles in the size structure compared to the 2024 summer cruise. However, the spawning biomass is above B_{MSY} and B_{lim} reference points (Figure 1)

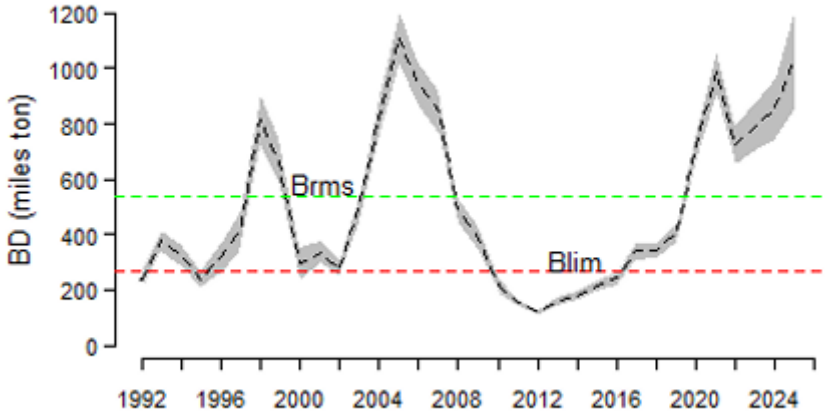

Figure 1. Anchovy spawning biomass above B_{MSY} and B_{lim}. (SERNAPESCA 2025)

References

SUBPESCA. (2025). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 1/2025. https://www.subpesca.cl/portal/616/articles-125985_documento.pdf

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

The National Fisheries and Aquaculture Service (SERNAPESCA) is responsible for operating the official landing certification program. According to the General Law on Fishing and Aquaculture (LGPA), article 63E 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." (LGPA 2023)

According to the 2024 Fisheries and Aquaculture Statistical Yearbook issued by SERNAPESCA, the total Araucanian herring landings reported for regions V – X was 129,590t (table 1) SERNAPESCA

2023.

Table 1. Total Araucanian herring landing by region in 2024 (SERNAPESCA 2024)

Species	Region								Total
	V	VI	VII	XVI	VIII	IX	XIV	X	
Araucanian herring	29	-	-	-	81,428	-	47,780	382	129,590

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

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 and used: landing indices, Catch Per Unit Effort (CPUE), size structures, and summer and fall acoustic biomass. The stock assessment incorporates recent results from the 2025 summer cruise, total biomass, and size structure.

References

SUBPESCA. (2025). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 1/2025. https://www.subpesca.cl/portal/616/articles-125985_documento.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 an 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 1) (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 an validate the advice.

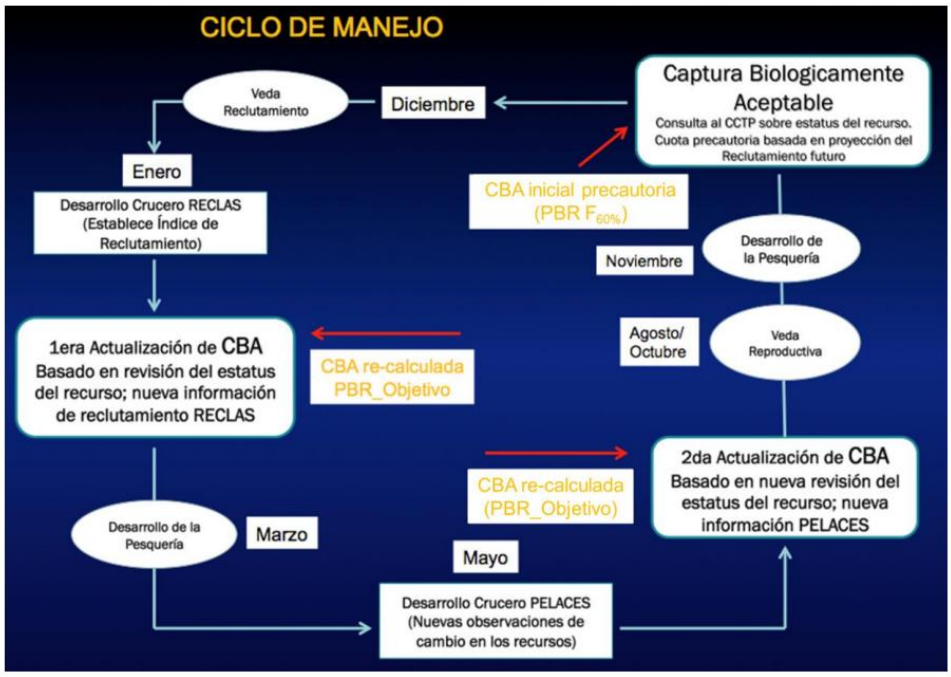

Figure 1. Management cycle of the anchovy and araucanian herring in in the Central-Southern region of Chile (SUBPESCA 2016).

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 (Table 1) used by the CCT-PP to make management decisions of the Araucanian herring fishery based on the stock assessment results (SUBPESCA, 2025a).

The CCT-PP establishes that based on the stock assessment and the biological reference framework, the central-southern Araucanian herring stock is a condition of overexploitation ($SSB<SSB_{MSY}$), with a 39% probability of depletion and a 60% probability of overfishing. The summer acoustic cruise estimated 1 million tons of total biomass in 2025, which represents a low level compared to the historical series (1.8 million tons) (SUBPESCA 2025b).

Table 1. Biological frame of reference used by the CCT-PT for taking decision. (SUBPESCA 2025b)

Resource	Proxy F_{MSY}	Proxy SSB_{MSY}	SSB_{lim}
Araucanian herring from Valparaiso to Los Lagos region	$F_{60\% SSBR} = 0.31$	60% SSBR or 55% $SSB_0 = 841{,}000$ t	27.5% $SSB_0 = 420{,}500$t t

SSB_{MSY} = Spawning biomass at maximum sustainable yield
SSBR = Spawning Biomass per Recruit
SSB_0 = Virginal spawning biomass spawning (estimated from stock-recruitment models: biomass of equilibrium, without fishery exploitation)
SSB_{lim} = Limit reference point for Spawning Stock Biomass
F_{MSY} = the fishing mortality that will maintain a stock at maximum sustainable yield

References

SUBPESCA. (2025a). Estado de situación de las principales pesquerías chilenas, año 2024. https://www.subpesca.cl/portal/616/articles-125250_recurso_1.pdf

SUBPESCA. (2025b). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 1/2025. https://www.subpesca.cl/portal/616/articles-125985_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

Based on the stock assessment, the CCT-PP advises a biologically acceptable quota (CBA) for the fishery. The advice considered two scenarios: the potential approval of the Remnants Law, and the scenario without considering this law. The Remnants Law states that artisanal fisheries may take the remaining quotas not consumed during the year; this will apply provided that the global catch quota has a minimum of 10% of uncaptured availability in the year and that the fishery has not been

declared in conditions of depletion or collapse by the Scientific Committee (DORC 2022). This law was approved as a transitory law in 2024, and it has been requested to be approved again for 2025.

2025 advices are (SUBPESCA 2024):

1. Without Law of Remnants: A total CBA that tends to the MSY equivalent to 249,044 tons, then, discounting the discard, a maximum CBA of 240,181 tons is determined, so the recommended CBA range is 192,144 to 240,181 tons.

2. With Law of Remnants: A total CBA that tends to the MSY and incorporates discard and alternative remainder of the 20%, equivalent to 180,851 tons, so the capture range recommended biologically acceptable is 144,680 to 180,851 tons.

References

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

SUBPESCA. (2024). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 5/2024. https://www.subpesca.cl/portal/616/articles-123559_documento.pdf

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

Rationale

IFOP carries out the assessment, which is then presented to the CCT-PP. The CCT-PP conducts peer reviews of all processes and updates in regular meetings throughout the year. According to the LGPA, the CCT in Article 153 states that the CCT will be consulted and requested through the SUBPESCA, and they must determine, among others, the following matters (LGPA 2023):

- The state of the fishery.
- Determination of biological reference points.
- Determination of the range within which the global catch quota can be set, which must maintain or bring the fishery to maximum sustainable yield. The breadth of the range will be such that the minimum value is equal to the maximum value minus 20%

These peer reviews can be considered both internal and external as members of committees may also be outside the assessment process. In the last assessment report people involved in the review process represented several institutions: Universidad Arturo Prat, Universidad de Antofagasta, INPESCA, CIAM, IFOP, SSPA and independent participants. (SUBPESCA 2025).

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

SUBPESCA. (2025). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 1/2025. https://www.subpesca.cl/portal/616/articles-125985_documento.pdf

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

Stock assessment reports, advice on quotas, and regular session meetings of the CCT-PP, are publicly available in the SUBPESCA website (SUBPESCA 2025). Stock-recruitment and spawning period are closely monitored by IFOP and published in monthly bulletins and reports, which can be found in IFOP´s website (IFOP 2025).

References

SUBPESCA (2025). https://www.subpesca.cl/portal/616/w3-channel.html

IFOP (2025). https://www.ifop.cl/

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

Tn Chile the mechanism to limit the total fishing mortality of herring, is based on the General Law of Fisheries and Aquaculture (Law No. 18,892) and the Regulation of Fishing of Hydrobiological Resources. (LGPA 2023).

Within this legal framework, the SERNAPESCA plays a crucial role in the management and regulation of fishing. The government, through SERNAPESCA, establishes catch quotas that limit the amount of anchovy that can be caught in a given period. These quotas are based on scientific assessments and stock data to ensure the sustainability of the resource.

In addition, management measures are implemented that include regulating the fishing season, setting minimum catch size restrictions, and limiting fishing effort to control total mortality. The regulations aim to strike a balance between the commercial exploitation of herring and the conservation of the resource and the marine ecosystem as a whole. These regulations are regularly updated in response to scientific studies and changes in the resource's status to ensure that fishing remains sustainable in the long term.

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

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 in regions V-X for industrial fishing, and in regions V-X and XIV haven't exceeded the Biologically Acceptable Catch (CBA) (Table 1), which had been set below the Scientific Committee's advice (Table 2) in the last three years. (SERNAPESCA 2021, 2022, 2023, 2024; SUBPESCA 2024,2023, 2022).

Table 1. Araucanian herring Biologically Acceptable Catch (CBA), landing and % of quota used in the Central-Southern region in Chile fishery.

Herring	Industrial			Artisanal		
Year	CBA	Landing	% quota usage	CBA	Landing	% quota usage
2024	2,899	2,553	88	170,146	54,461	32
2023	1,666	961	58	205,030	169,589	83
2022	6,075	5,446	90	246,317	110,903	45
2021	407	0	0	350,387	299	85

Table 2. Scientific Committee's advice vs Total CBA for Araucanian herring in the Central-Southern region in Chile fishery.

Herring		
Year	Advice	CBA Total
2024	296,000	173,045
2023	280,622	206,696
2022	293,852	252,392

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. (2023). 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. (2024). 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

SUBPESCA. (2024). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 4/2024. https://www.subpesca.cl/portal/616/articles-122734_documento.pdf

SUBPESCA. (2023). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 4/2023. https://www.subpesca.cl/portal/616/articles-119536_documento.pdf

SUBPESCA. (2022). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 3/2022. https://www.subpesca.cl/portal/616/articles-116402_documento.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 LGPA states in Article 9 that in cases where a fishery is in a state of overexploitation or depletion according to biological reference points a recovery program must be established within the management plan, with prior agreement of the Management Committee. Article 39 indicates that a recovering fishery will be understood as one that is overexploited and subject to an extractive ban of at least three years, for the purpose of its recovery, and in which it is possible to set a global catch quota. When the fishery is declared under a regime of fisheries in recovery, SUBPESCA will be authorized to award annually in public auction the right to capture the equivalent in tons of ten percent of the industrial fraction of the overall catch quota each year. (LGPA 2023).

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 2025).

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

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

SERNAPESCA (2025). 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 assessment of the Araucanian herring stock from the Valparaíso to Los Lagos regions includes the stock diagnosis and the review of the Biologically Acceptable Catch (BAC) for 2025. Results indicate recruitment reached 113 billion individuals, decreasing relative to the historical average but increasing relative to the 2023/24 biological year. The summer acoustic cruise estimated 1 million tons of total biomass in 2025, which represents a low level relative to the historical series (1.8 million tons). Therefore, the spawning biomass is below B_{MSY} but above B_{lim} reference points (Figure 1).

As stated in section A3.3, there is evidence that if the stock biomass falls below the limit reference point, the fishery will be closed, as happened in 2021.

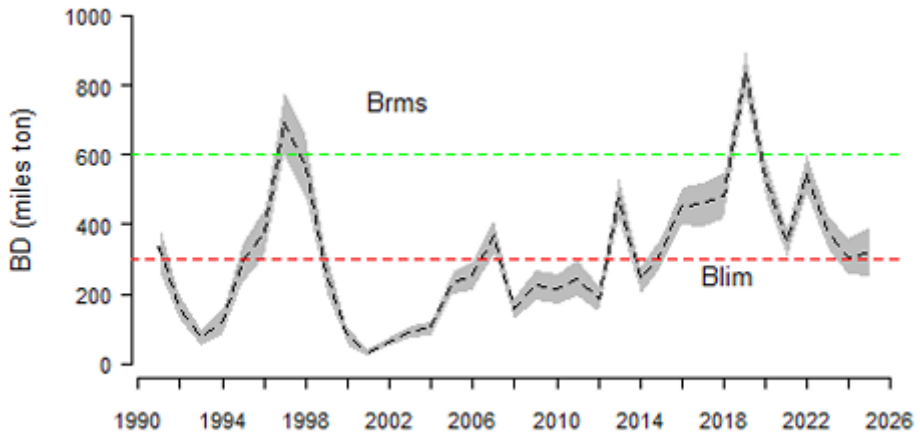

Figure 1. Araucanian herring spawning biomass below B_{MSY} but above B_{lim}. (SERNAPESCA 2025)

References SUBPESCA. (2025). Comité científico técnico de pequeños pelágicos (CCT-PP). Informa técnico No 1/2025. https://www.subpesca.cl/portal/616/articles-125985_documento.pdf

Category B species

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

2.2. 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.

2.3. 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)	**NA**
Outcome	Choose an item.
Rationale	
References	

Category C species

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

2.4.1. 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. ***NA***
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.

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

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

2.7. 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*)	
Productivity attributes	**Value**	**Score**
Average age at maturity	Unknown	-
Average maximum age	4 years 2	1
Fecundity	Unknown	-
Average maximum size	11 cm	1
Average size at maturity	7.6 cm	1
Reproductive strategy	Broadcast spawner	1
Mean Trophic Level (MTL)	2.8	2
Density dependence (to be used when scoring invertebrate species only)	NA	NA

Susceptibility attributes		
Areal overlap (availability): Overlap of the fishing effort with a species concentration of the stock	>30% overlap	3
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	High overlap	3
Selectivity of gear type: Potential of the gear to retain species	Individuals < size at maturity are frequently caught	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		1.2
Average susceptibility score		3
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. **NA**
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.

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

3.1.1. 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)

There have been no substantial changes in the aspects of the fishery relevant to Section E1 since the 2024 re-assessment. Some information and references were updated.

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. 20625 and its regulations (SUBPESCA 2025). IFOP; through the Research Program on Discard and Capture Bycatch uses the following method to collect ETP bycatch information (IFOP 2024):

- **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 2025).

Information is analysed by IFOP and results are included in their annual final report of the Scientific Observer Program (IFOP 2024).

References

IFOP (2024). INFORME FINAL. Convenio de Desempeño 2023. Programa de observadores científicos: Programa de investigación y monitoreo del descarte y de la captura de pesca incidental en pesquerías pelágicas, año 2023-2024. https://www.ifop.cl/wp-content/contenidos/uploads/RepositorioIfop/InformeFinal/2024/P-581201.pdf

SUBPESCA (2025). Implementación del Sistema de Fiscalización del Descarte. https://www.sernapesca.cl/informacion-utilidad/implementacion-del-sistema-de-fiscalizacion-del-descarte/

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 of incidental capture and mortality of birds, sea turtles and marine mammals that interacted with the fishing activities of the industrial and artisanal purse seine fleets of anchovy and araucanian herring between the Valparaíso Region and the Los Lagos Region, during the period January 2015 - December 2023, do not report any ETP (Extinct (E) and extinct in the wild (EW), Critically Endangered (CR) or Endangered (EN) (but some Near Threatened (NT) and Vulnerable (VU)), or any species included in the CITES appendices) species interaction. (IFOP 2024)

The composition of the industrial purse seine fleet bycatch was dominated by procellariform birds

(56.9%), followed by marine mammals (33.1%) and coastal seabirds (10%). The bycatch of marine mammals was composed exclusively of the common sea lion species. (Table 1). Meanwhile, artisanal fleet composition bycatch was dominated by marine mammals (48.9%), procellariform birds (42.9%) and coastal seabirds (8.2%) (table 2). (IFOP 2024)

Table 1. Composition of the industrial purse seine fleet bycatch 2015 -2023. (IFOP 2024)

Nombre común	Nombre científico	Captura	Muertos	Mort (%)	CIP	CV_{CIP}	MIP	CV_{MIP}
Lobo marino común	*Otaria flavescens*	1.461	25	1,7	4,1	212	0,07	788
Fardela blanca	*Ardenna creatopus*	1.387	983	70,9	3,9	569	2,8	771
Fardela negra	*Ardenna grisea*	959	611	63,7	2,7	620	1,7	802
Pelícano peruano	*Pelecanus thagus*	262	62	23,7	0,7	550	0,2	988
Fardela sin identificar	*Ardenna* spp.	132	0	0	0,4	1146	0	-
Piquero común	*Sula variegata*	55	55	100	0,2	1243	0,2	1.243
Pingüino de Humboldt	*Spheniscus humboldti*	46	30	65,2	0,1	531	0,08	709
Gaviota dominicana	*Larus dominicanus*	28	2	7,1	0,08	1.301	0,006	1.329
Pingüino sin identificar	*Spheniscus* spp.	27	23	85,2	0,08	694	0,06	749
Gaviota cáhuil	*Larus maculipennis*	20	0	0	0,06	1.881	0	-
Golondrina sin identificar	familia Hydrobatidae	11	11	100	0,03	1.576	0,03	1.576
Albatros de ceja negra	*Thalassarche melanophris*	7	7	100	0,02	887	0,02	887
Petrel moteado	*Daption capense*	4	4	100	0,01	1881	0,01	1881
Cormorán sin identificar	*Phalacrocorax* spp..	2	2	100	0,006	1.329	0,006	1.329
Petrel sin identificar	familia Procellariidae	2	2	100	0,006	1.881	0,006	1..881
Petrel gigante sin identificar	*Macronectes* spp.	2	2	100	0,006	1881	0,006	1881
Fardela gris	*Procellaria cinerea*	2	2	100	0,006	1.329	0,006	1.329
Petrel gigante antártico	*Macronectes giganteus*	2	0	0	0,006	1.329	0	-
Albatros chico sin identificar	*Thalassarche* spp.	1	1	100	0,003	1.881	0,003	1.881
Petrel gigante subantártico	*Macronectes halli*	1	1	100	0,003	1.881	0,003	1.881
Gaviotín sudamericano	*Sterna hirundinacea*	1	1	100	0,003	1.881	0,003	1..881
Pingüino de Magallanes	*Spheniscus magellanicus*	1	0	0	0,003	1881	0	-

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})

Table 2. Composition of the artisanal purse seine bycatch 2015 -2023. (IFOP 2024)

Nombre común	Nombre científico	Captura	Muertos	Mort (%)	CIP	CV_{CIP}	MIP	CV_{MIP}
Lobo marino común	*Otaria flavescens*	3.973	6	0,2	2,7	282	0,004	1.565
Fardela blanca	*Ardenna creatopus*	1.620	1170	72,2	1,1	862	0,8	916
Fardela negra	*Ardenna grisea*	1.831	1512	82,6	1,2	1.058	1,0	1.116
Pelícano peruano	*Pelecanus thagus*	381	29	7,6	0,3	837	0,02	1341
Gaviota dominicana	*Larus dominicanus*	205	96	46,8	0,1	848	0,07	1.288
Fardela blanca de más a tierra	*Pterodroma defilippiana*	38	38	100	0,03	2.847	0,03	2.847
Pingüino de Humboldt	*Spheniscus humboldti*	23	0	0	0,02	1.725	0	-
Piquero común	*Sula variegata*	11	11	100	0,007	2.541	0,007	2.541
Gaviota de Franklin	*Leucophaeus pipixcan*	9	0	0	0,006	3.106	0	-
Gaviota garuma	*Leucophaeus modestus*	8	0	0	0,005	3.841	0	-
Fardela blanca de Juan Fernández	*Pterodroma externa*	7	7	100	0,005	3.337	0,005	3.337
Pingüino de Magallanes	*Spheniscus magellanicus*	8	5	62,5	0,005	1.661	0,003	2.303
Orca	*Orcinus orca*	6	0	0	0,004	3.841	0	-
Cormorán yeco	*Phalacrocorax brasilianus*	5	1	20	0,003	1.715	0,0007	3.841
Gaviota cáhuil	*Chroicocephalus maculipennis*	2	2	100	0,001	3.841	0,001	3.841
Gaviotín monja	*Larosterna inca*	1	0	0	0,0007	3.841	0	-
Pingüino sin identificar	*Spheniscus spp.*	12	0	0	0,008	1.691	0	-

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})

References

IFOP (2024). INFORME FINAL. Convenio de Desempeño 2023. Programa de observadores científicos: Programa de investigación y monitoreo del descarte y de la captura de pesca incidental en pesquerías pelágicas, año 2023-2024. 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

To manage the ETP interaction with the fishery, there is a plan for reducing discards and incidental catches for the industrial and artisanal fishery of anchovy and Araucanian herring in Valparaiso-Los Lagos regions. R.Ex 2463/2017. (SUBPESCA 2017)

There are also specific regulations to reduce the capture and incidental mortality of seabirds during fishing operations, through Exempt Resolutions No. 2110/2014, 2941/2019, and 2569/2021, the mandatory use of deterrent devices such as bird scaring lines was established, together with the application of codes of good fishing practices such as night setting, management of discards to avoid attracting birds, among others, covering industrial and artisanal longline fleets, and industrial trawler fleets. (SUBPESCA 2024). In the case of purse seine these practices are suggested, but not mandatory, since this fishery does not have a National Plan for Bird Conservation.

In the case of incidental catches of marine mammals, in 2021 various measures were enacted for industrial purse seine fisheries, artisanal traps, industrial trawling, and artisanal gillnets - through exempt resolutions No. 2667 of 2021, No. 2827 of 2021, No. 3120 of 2021 and No. 3122 of 2021 - in which the use of devices together with the application of fishing maneuvers for the release of specimens into the water, on-board management protocols, codes of good practice and reporting of incidental catches in logbooks, among others, were established. (SUBPESCA 2024)

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 (LGPA 2023):

- 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.

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

SUBPESCA (2017). Plan de reducción del descarte y la captura de pesca incidental para la pesquería industrial y artesanal de sardina común y anchoveta en regiones V-X. https://www.subpesca.cl/portal/615/articles-97874_documento.pdf

SUBPESCA (2024). Estado de situación de las principales pesquerías chilenas, año 2023. https://www.subpesca.cl/portal/618/articles-121344_recurso_1.pdf

E2 Impact on the habitat

There have been no substantial changes in the aspects of the fishery relevant to Section E2 since the 2024 re-assessment. Some information and references were updated.

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

The anchovy and Araucanian herring fishery use 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 very little effect. (MSC 2025, FAO 2025, Sustain 2025, SUBPESCA 2003).

Taking into account the lack of interaction of the purse seine with any kind of habitat, fishery using this gear does not pose a risk of serious or irreversible harm to any habitat type.

References

FAO. (2025). Fishing gear type. Purse seines. https://www.fao.org/fishery/en/geartype/249/en

MSC. (2025). Purse seine. https://www.msc.org/what-we-are-doing/our-approach/fishing-

methods-and-gear-types/purse-seine SUBPESCA. (2003). Cerco con jareta. https://www.subpesca.cl/portal/616/articles-9188_documento.pdf Sustain. (2025). 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 (MSC 2025, FAO 2025, Sustain 2025, SUBPESCA 2003); therefore, no evidence was found during the assessment about any kind of negative impact on physical habitats by the anchovy and Araucanian herring fishery activity.		
References FAO. (2025). Fishing gear type. Purse seines. https://www.fao.org/fishery/en/geartype/249/en MSC. (2025). Purse seine. https://www.msc.org/what-we-are-doing/our-approach/fishing-methods-and-gear-types/purse-seine SUBPESCA. (2003). Cerco con jareta. https://www.subpesca.cl/portal/616/articles-9188_documento.pdf Sustain. (2025). 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 (MSC 2025, FAO 2025, Sustain 2025,		

SUBPESCA 2003); hence 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.
References FAO. (2025). Fishing gear type. Purse seines. https://www.fao.org/fishery/en/geartype/249/en MSC. (2025). Purse seine. https://www.msc.org/what-we-are-doing/our-approach/fishing-methods-and-gear-types/purse-seine SUBPESCA. (2003). Cerco con jareta. https://www.subpesca.cl/portal/616/articles-9188_documento.pdf Sustain. (2025). Purse seines. https://www.sustainweb.org/goodcatch/purse_seines/

E3 Impact on the ecosystem

There have been no substantial changes in the aspects of the fishery relevant to Section E3 since the 2024 re-assessment. Some information and references were updated.

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

The anchovy and Araucanian herring management plan recognizes that this species are essential in food webs, being key in the transfer of energy from plankton to large predators, since they are the main source of food for birds, marine mammals and larger wild fish that provide other fishing opportunities for human consumption. In Chile, studies have shown that anchovy and Araucanian herring are species that represent an important component in the diet of sea lions, sharks and other species of economic importance such as horse mackerel and hake (SUBPESCA 2016).

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 ete al. 2012).

The management of this fishery has a permanent annual research program by law (Article 91 LGPA) which is executed by the IFOP. This program is made up of research and monitoring projects for this fishery in regions V to X, such as (SUBPESCA 2016):

- 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

Pikitch, E., Boersma, P. D., Boyd, I. L., Conover, D. O., Cury, P., Essington, T., ... & Steneck, R. S. (2012). Little fish, big impact: managing a crucial link in ocean food webs. Lenfest Ocean Program, Washington, DC, 108.

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

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

No evidence was found that the anchovy and Araucanian herring fishery is impacting negatively the marine ecosystem. The approval of the previous sections in this assessment demonstrates that this fishery is regulated in different aspects, which allows minimizing the negative impacts that anchovy and Araucanian herring extraction could have on the ecosystem.

The historical status of the fishery indicates that the anchovy, after being depleted for several years, recovered, and since 2020, it has been considered under full exploitation. The Araucanian herring has been a fishery under full exploitation since 2014, except for 2021 and 2024, when it is overexploited. (Figure 1) (SUBPESCA 2025).

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. Meanwhile an overexploited fishery is that in which the current biological point is lower if the biomass criterion is considered or higher if the exploitation rate or fishing mortality criteria are considered, than the expected value of the maximum sustainable yield, which is not sustainable in the long term, without potential for higher yields and with risk of being exhausted or collapsing if corrective measures are not implemented. (SUBPESCA 2016, LGPA 2023). However, as described in section A3.3 and A4, there is evidence that if the stock biomass falls below the limit reference point, the fishery will be closed, as happened in 2021, to avoid a negative impact on the ecosystem.

Figure 1. Status of the pelagic fisheries in Chile from 2014 to 2024. Dark green = underexploited fishery, green = fully exploited fishery, yellow = overexploited fishery, and red = depleted or collapsed fishery. In the purple square the anchovy and Araucanian herring fishery status. (SUBPESCA 2025).

References

LGPA. (2023). Ley General de Pesca y Acuicultura. https://www.subpesca.cl/portal/615/articles-88020_documento.pdf

SUBPESCA (2025). Estado de situación de las principales pesquerías chilenas, año 2024. https://www.subpesca.cl/portal/616/articles-125250_recurso_1.pdf

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

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 adopts an ecosystem approach, considering the recommendations of the FAO and other fisheries forums, with the goal of ensuring ocean sustainability and food security. The adoption of plans to reduce discards and bycatch, along with other related regulations (explained in previous sections of this assessment), combined with the maintenance of a robust system of scientific monitoring and enforcement, has led to significant decreases in discards and bycatch levels. (SUBPESCA 2024).

Additionally, to ensure the sustainability of the anchovy and Araucanian herring stocks, two biological bans are in place. The first aims to protect the recruitment process, while the second aims to protect the maximum reproductive process. The application of both prohibitions is subject to a decision criterion based on biological indicators, which are established by the CTT-PP. Likewise, each species has a reference period of ban, at the beginning and end of which the condition of the biological indicator is evaluated to initiate the respective ban, and a fixed period included within the previous one, during which an effective ban is developed for all events. (SUBPESCA 2016)

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. (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

SUBPESCA (2024). Estado de situación de las principales pesquerías chilenas, año 2023. https://www.subpesca.cl/portal/618/articles-121344_recurso_1.pdf

Annex 1: External Peer Review report

Assessment and determination summary

Fishery name	**Chile - Anchovy (Engraulis ringens) and Araucanian herring (Strangomera bentincki) - FAO 87, Chilean EEZ Regions V-X**
MarinTrust report code	**WF12**
Type 1 species (common name, Latin name)	*Anchovy (Engraulis ringens) and Araucanian herring (Strangomera bentincki)*
Fishery location	*FAO 87, Chilean EEZ Regions V-X*
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 report is well-written, and references are mostly provided throughout to support scoring decisions (see Cat D species scoring). Very few minor comments are made below, where further clarification could be provided. This is mainly to do with how the fishery is defined and the gear types under assessment. Overall, the report mostly follows the MT guidance.
General comments on the draft report provided to the peer reviewer
Some of the scoring justifications across different management areas are the same, which is reasonable given the same management system. However, in A3.1 for herring, you mention quotas set for anchovies, so the name needs changing. Also, in the opening table, please clarify that this assessment covers both the artisanal and industrial purse seine fleet. I'd assumed it was industrial and was getting confused while checking references, wondering what data was included or not from the reports. CB RESPONSE: Typo in A3.1 has been corrected. Regarding the comment about "clarify that this assessment covers both the artisanal and industrial purse seine fleet". We never specify the fleet in Table 1, as the template only asks for gear type. However, in Table 4, a clarification was included regarding the assessment that covers both fleets.

Peer reviewers should review the fishery assessment report with the primary objective of answering the key questions listed in the table below. When the situation is more complicated, reviewers may answer "See Notes" instead.

1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance?	See notes

2. Does the Species Categorisation section of the report reflect the best current understanding of the catch composition of the fishery?	See notes
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	See notes
Category A Species	Yes
Category B Species	Yes
Category C Species	Yes
Category D Species	See notes
Section E – Ecosystem Impacts	Yes

Detailed Peer Review Justification

Peer reviewers should provide support for their answers in the boxes provided, by referring to specific scoring issues and any relevant documentation as appropriate.
Detailed justifications are only required where answers given are one of the 'No' options. In other (Yes) cases, either confirm 'scoring agreed' or identify any places where weak rationales could be strengthened (without any implications for the scores).
Boxes may be extended if more space is required.

1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance?	Yes
Yes, the scoring within the report is consistent with the Marin Trust V3 standard for whole fishery assessment. The report is well-written, with references, accessible web links, and relevant figures and tables provided throughout to support scoring. Very few minor comments are made below, where further clarification could be provided.	
Certification Body response	
NA	

2. Does the species categorisation section of the report reflect the best current understanding of the catch composition of the fishery?	Yes
The species categorisation appears accurate; however, checking the reference report was challenging due to its length (400-500 pages) and language (Spanish). Although I can translate, it requires more time, and incorporating page numbers or table numbers to the reference would facilitate peer review, particularly for extensive reports. This is also where I got confused about what's under assessment. The report referenced talks about gillnet, artisanal, and industrial, but I didn't see descriptions that confirmed the artisanal fleet was exclusively purse seine. I would have taken to include a lot of different gear types, handlines, rod and line, etc., Table 1. Says 'Industrial and artisanal total catch' not industrial and artisanal purse seine catch… Finally, regarding Mote sculpin, if both fleets	

are under assessment, why isn't it scored as a category A species now? Furthermore, where you say 'whole fishery', is this just artisanal and industrial purse seine, or does the gillnet fishery also catch these species and therefore included in the definition of 'whole fishery'? I wasn't sure if the gillnet predominantly catches horse mackerel. For final clarification, it would be beneficial to confirm if the stocks under assessment are not transboundary, or at least small enough % it isn't considered in the scoring but kept under review. For example, the anchovy stock has less than 5% mixing from the southern Peru stock - https://www.fishsource.org/stock_page/1382
Certification Body response
-Information about catch composition can be found in pages 115-119. -The report states in the ejecutive summary that pelagic fisheries assessed are exlcuive caugh with purse seine.Also, at the end of the introcution states that "This document presents the results obtained by the research and monitoring program on discards in pelagic fisheries (small pelagic purse seine and swordfish net) at the national level between January and December 2023." -Table 1 caption now specify that data are from purse seine catch -Mote sculpin was not assessed as category A species since it represents only 5.49% of the total catch of the whole fishery. By whole fishery I´m refering to the industrial and artisanal fishery together exploiting the same anchovy and herring stock. -I don't understad the comment about horse mackerel and gillnets, this is not part of the asessment.

3. Is the scoring of the fishery consistent with the MarinTrust requirements, and clearly based on the evidence presented in the assessment report?	Yes
It is apparent that the Marin Trust whole fishery v3 assessment methodology and associated guidance have been followed.	
Certification Body response	
NA	

3a. Are the "Category A Species" scores clearly justified?	Yes
Scoring of both Anchovy and herring stock is well scored and justified. Biomass for the herring stock is close to the limit reference point, but this is well covered in terms of management measures in place to respond if the stock does fall below this limit. And historical evidence suggests the fishery would be closed if this were the case. Anchovy & herring A1.1 – The landings tables cover the stock area, but what about vessels landing catch from stock areas outside of these management regions? Or is it the case that most vessels fish and land in the same area?	
Certification Body response	

Fishing regulations in Chile establish specific ports of arrival depending on the area in which fishing takes place, and this is a fundamental part of the organization and control of the fishing sector.

3b. Are the “Category B Species” scores clearly justified?	n/a
Certification Body response	
NA	

3c. Are the “Category C Species” scores clearly justified?	n/a
Certification Body response	
NA	

3d. Are the “Category D Species” scores clearly justified?	No
The scoring is consistent with the MT guidance, in that where information is unknown, it doesn’t contribute to the average. However, there are no references provided to support the scoring. Opening paragraphs of the MT guidance = The CB and/or fishery assessors shall provide the relevant key information to justify the pass or fail rating being awarded for each criterion. Information should always be from reliable sources, such as official government websites, internationally recognised scientific organisations, objectively verified fishery information and NGOs. Fisher information can also be used where it can be objectively verified.	
Certification Body response	
Justifications were included	

Are the scores in “Section M – Management Requirements” clearly justified?	No
M1.2 – Scoring justification doesn’t cover M1.2.3 The management system has a mechanism in place for the resolution of legal disputes. M1.2 – Final paragraph, I believe this is in support of M1.2.4 - legal right of people dependent on fishing – but I would have thought if the artisanal purse seine is under assessment here too, it is important to mention this again here? M2.2 – It is stated that in terms of non-compliance, there was a 5.3% decrease from the amount seized in 2023, but what was the total level of non-compliance? And is this specific to industrial and artisanal purse seine? If not, what can be said about the vessels	

under assessment? Finally same comment about including pages in the references to facilitate peer review.
Certification Body response
-Information about M1.2.3 was included -The text mentions "total of nearly 1,280 tons of hydrobiological species were seized due to non-compliance with regulations", so information about the total level of non-compliance is already included. Information can be found in page 41. The text indicates that this is in total for all fishing activities in Chile.Information about anchovy as one of the most seized species was added.

Are the scores in “Section E – Ecosystem Impacts” clearly justified?	The text
This fishery is well managed in terms of its impacts on ETP, habitats and ecosystems. Scoring is well presented and referenced. The only suggestion is to revisit this scoring once the ‘fishery’ and gear types are better defined, i.e., are the artisanal fleets which I imagine fish further inshore using gears that interact with the seabed?	
Certification Body response	
The report only include purse seine gear, so there is no need to revisit this scoring.	

Optional: General peer reviewer comments on the draft report
N/A
Certification Body response
NA