

FISHERY ASSESSMENT REPORT

IFFO GLOBAL STANDARD FOR RESPONSIBLE SUPPLY OF FISHMEAL AND FISH OIL



R1

FISHERY:	Sardina Austral /Falkland sprat (<i>Sprattus fueguensis</i>)
LOCATION:	Chile -Region X (de los lagos), FAO 87.3.3
DATE OF REPORT:	January 2017
ASSESSOR:	Deirdre Hoare

Global Trust Certification Ltd, 3rd Floor, Block 3, Quayside Business Park, Mill Street, Dundalk, Co. Louth, Ireland Tel: 042 932 0912 Fax 042 938 6864

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1. APPLICATION DETAILS AND SUMMARY OF THE ASSESSMENT OUTCOME			
Name:			
Address:			
Country: Chile		Zip:	
Tel. No.		Fax. No.	
Email address:		Applicant Code	
Key Contact:		Title:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification Ltd.	
Assessor Name	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-certification
Deirdre Hoare	Virginia Polonio	10	Initial
Assessment Period	2016		
Scope Details			
1. Scope of Assessment		IFFO Global Standard for Responsible Supply – Issue 1	
2. Fishery		Sardina Austral /Falkland sprat (<i>Sprattus fueguensis</i>)	
3. Fishery Location		Chile – Region X (de los lagos), FAO 87.3.3	
4. Fishery Method		Purse seine	
Outcome of Assessment			
5. Overall Fishery Compliance Rating		Medium / High	
6. Sub Components of Low Compliance		None	
7. Information deficiency		None	
8. Peer Review Evaluation		Approve	
9. Recommendation		Approve	

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2. QUALITY OF INFORMATION

Good, primarily government publications.

3. COMPLIANCE LEVEL ACHIEVED

Medium

Recommendation

Approve fishery

4. GUIDANCE FOR ONSITE ASSESSMENT

• By-catch from the Chilean sardine fishery is not formally taken into account by the management organization. The Chileans operate a no discard policy for by-catch and all the catch is therefore landed. At landing the catch is sampled and weighed by SERNAPESCA; however, by-catch species are not recorded, representing a significant data shortfall. An improvement of this practice, by collecting species specific data, would allow a more thorough assessment of the impact of this fishery on the ecosystem.

On site assessors should review the following information on site.

- Verify what information fishermen need to submit in relation to landings of target and non-target species to SERNAPESCA, and what other information is collected when catches are landed.
- Ask and record how fishermen deal with birds, sea mammals, turtles, sharks and other finfish that enter/get caught within the purse seining net.
- Verify whether any type of management plan exists to address the by-catch issue in this fishery.

Based on HIGH compliance findings

Based on MEDIUM compliance findings

Based on LOW compliance findings

5. ASSESSMENT DETERMINATION

Although there have recently been concerns expressed by scientists in relation to some Chilean small pelagic stocks, the sardine austral in regions X currently appears to be exploited at sustainable levels. As when Chilean fisheries have been assessed previously, the assessment team found a fully developed legal and administrative system in place which appears to be working towards the effective and sustainable management of the resource.

The management unit reflects the biological stock, and the biology of the species is taken into account in the fishery management process. Discards and bycatch sampling takes place on landing.

There are no explicit management objectives for the fishery. However, the stock is largely managed in

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accordance with scientific advice produced using implicit management objectives based on scientifically-derived reference points. Additionally, there are generic commitments to long-term sustainability in the legislation.

Research to support the conservation and the management of the stock, non-target species and physical environment exists, however research programmes could be significantly improved to decrease scientific advice uncertainty. Additional research which would improve the reliability of the stock assessment includes an improved understanding of population structure and migration patterns, location of spawning and nursery grounds, growth and age parameters, discards and under-reported catches, fishing effort/CPUE, and environmental influence on stock parameters.

Since 2013, there has been a legal requirement for SUBPESCA's technical recommendations (including TAC) to be adopted. Scientific advice is taken into account, when designing conservation and management measures, in a comprehensive manner.

There is consideration of uncertainty and the risks associated with management actions in the Chilean management process. In recent years, TACs have been set in line with the SUBPESCA advice, and have not been exceeded. Mechanisms are established to reduce capacity to allow for the recovery of the stock to sustainable levels and there are evidences of recovery.

There are management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment. However, as it is a relatively new fishery there is a lack of scientific information.

There is a framework allowing for the application of sanctions ranging from monetary fines to revocation of licence. There is evidence of a fisheries control and enforcement regime in place in Chile, but limited information to determine how effective this regime is.

HIGH Compliance

A1, A2, B2, C1, D1, D2, E1

MEDIUM Compliance

A3, B1, D3, E2

LOW Compliance

SUMMARY OF LEVEL OF COMPLIANCE					
	The Management Framework and Procedures	Stock assessment procedures and management advice	Precautionary approach	Management measures	Implementation
legal and administrative basis	A1				
Fisheries management should be concerned with the whole stock unit	A2				
Management actions should be scientifically based	A3				
Research in support of fisheries conservation and management should exist		B1			
Best scientific evidence available should be taken into account when designing conservation and management measures		B2			
The precautionary approach is applied in the formulation of management plans			C1		
The level of fishing permitted should be set according to management advice given by research organisations				D1	
Where excess fishing capacity exist, mechanisms should be in established to reduced capacity				D2	
Management measures should ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment				D3	
A framework for sanctions of violation of laws and regulations should be efficiently exists					E1
A management system for fisheries control and enforcement should be established					E2

KEY:

Low Compliance:



Medium Compliance:



High Compliance:



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6. RATIONALE OF THE ASSESSMENT OUTCOME	
A. THE MANAGEMENT FRAMEWORK AND PROCEDURE	
LEVEL OF COMPLIANCE	
A1. The management of the fishery must include a legal and administrative basis for the implementation of measures and controls to support the conservation of the fishery.	
LOW	An administrative framework that ensures an efficient management of the fishery for its conservation is not established.
MEDIUM	An administrative framework that ensures an efficient management of the fishery for its conservation is somehow established, but there is evidence of not being efficient to ensure the conservation of the stock.
HIGH	A legal and administrative framework that ensures an efficient management of the fishery for its conservation is established and works efficiently toward the conservation of the stock.
Determination: The Chilean fisheries management framework is extensive and robust, and includes specific commitments to ensuring the sustainability of marine stocks. Primary institutional framework The Chilean institutional structure governing the fisheries and aquaculture sector centers around three key organisations, with a number of other institutions providing additional research and enforcement support (such as the Navy). These three organizations have a degree of operational independence while performing a crucial and interlinked function within the broad institutional framework. - The Subsecretariat de Pesca (Undersecretariat of Fisheries, SUBPESCA or SSP) is positioned within the Chilean Ministry of Economy, and provides the policy settings and regulatory framework for the domestic management of the sector. It also manages policy direction and provides input into international fisheries issues. Law 20.657 created eight scientific-technical fisheries committees within SUBPESCA, to act as advisory bodies in the formulation of all reference points, quotas, and other technical measures. The law also rendered their technical recommendations mandatory – thus there is a legal requirement for scientific advice to be adopted. - The Servicio Nacional de Pesca (National Fisheries Service, SERNAPESCA) is also based within the Ministry of Economy. It is responsible for executing national fisheries policy, for supervising its enforcement and for ensuring proper application of the legal rules and regulations on fishing. In practice, compliance is checked by Intertek Caleb Brett Chile SA, acting on behalf of SERNAPESCA. - The Instituto de Fomento Pesquero (Fisheries Development Institute, IFOP) is the research arm of the institutional framework. A non-profit organisation created in 1964 under a joint agreement between the Chilean government, the FAO, and the UN Development Program, it is the primary source of scientific advice to the SSP on fisheries and aquaculture agreement issues. Its work includes stock assessment, advising on total allowable catch levels for the wild fisheries, and the environmental and health aspects of aquaculture production. It draws a proportion of its funding from SUBPESCA but also has to compete for funding from a range of public funding sources. Fisheries councils The National Fisheries Council was created by the Fisheries and aquaculture Law 18.892 for the	

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purpose of managing the participation of all stakeholders in the fisheries and aquaculture sector. It is a ruling, advisory and consultative body for dealing with Fisheries and Aquaculture plans and Laws as well as for development proposals for small scale fishing. There are also five Zonal Fisheries Councils aimed at contributing to the decentralization of management measures to be taken by authorities, and to enhance regional participation of fisheries and aquaculture stakeholders. They communicate new and amended regulations through regional bulletins and acts published several times a year to fishery stakeholders. Finally, Regional Fisheries Councils are aimed at studying fisheries and aquaculture problems affecting their zones and to propose solutions and management measures to SUBPESCA. Until 2013 the Councils were responsible for approving the SUBPESCA-recommended TAC; however, the introduction of Law 20.657 (the General Law on Fisheries and Aquaculture, LGPA) in February 2013 adjusted this arrangement to render the Council as a purely consultative body for the purposes of TAC-setting.

Legal instruments

Since February 2013, the primary legal instrument for fisheries management in Chile has been Law 20.657 (LGPA). The LGPA is a modification of the previous fisheries legislation, and includes:

- A commitment to the sustainable use and conservation of marine resources.
- A commitment to make key decisions on conservation measures on the basis of scientific information above all other considerations. To this end, the recommendations of SUBPESCA's scientific-technical committees have been made mandatory.
- A commitment to develop management plans for any fishery with restricted access, and the review and updating of these plans every five years.

R2-6

LEVEL OF COMPLIANCE	
<i>A2. Fisheries management should be concerned with the whole stock unit over its entire area of distribution and take into account fishery removals and the biology of the species.</i>	
LOW	Fisheries management is not concerned with the whole stock unit over its entire area of distribution and do not take into account any of the matters listed in 'A1'.
MEDIUM	Fisheries management is concerned with matters listed in 'A1' but not entirely. Fisheries, in relation to 'A1' statement, should improve to ensure the long term conservation of the marine resource.
HIGH	Fisheries management should be concerned with the whole stock unit over its entire area of distribution and take into account: • All fishery removals • The biology of the species

Determination: The management unit reflects the biological stock, and the biology of the species is taken into account in the fishery management process. Discards and bycatch sampling takes place on landing.

There are two management units for *sardina austral* fisheries in Chilean waters:

- Regions X
- Region XI

This assessment focusses exclusively on the *sardina austral* stock in region X. *Sardina austral* is managed as a component of the multispecies small pelagic fishery.

The Patagonian sprat (*Sprattus fuegensis*) is a small pelagic clupeid with a similar spatial

distribution in both the South Pacific and Atlantic Ocean. In Chile, this species occurs from far south in the fjords and channels to approximately 42°S in the inland sea (Radl & Culik, 1999; Aranís *et al.*, 2007; Bustos *et al.*, 2008; Leal *et al.*, 2011). According to Galleguillos *et al.* (2012), at the population level in Chile, *S. fuegensis* encompasses a single genetic stock with significant reproductive cohesion.

Since 2008, the catch in this area has been regulated through an annual TAC, and since 2009, the Fisheries Development Institute of Chile (IFOP) has performed annual stock assessments and has estimated annual allowable catches through a size-structured model. The biology of the species is taken into account during assessments. IFOP utilises information associated with life history parameters, such as natural mortality, growth and maturity data. These are all factored into the modelling process for predicting potential future harvest rates.

Stock assessments are carried out separately for each management unit. The management units reflect the current best scientific understanding of the biological stocks. Although all landings of sardina austral are recorded, information provided by IFOP indicates that there are issues with underreporting and misreporting of species. There is a no-discard policy in place and so this is unlikely to be a significant source of fishery removals.

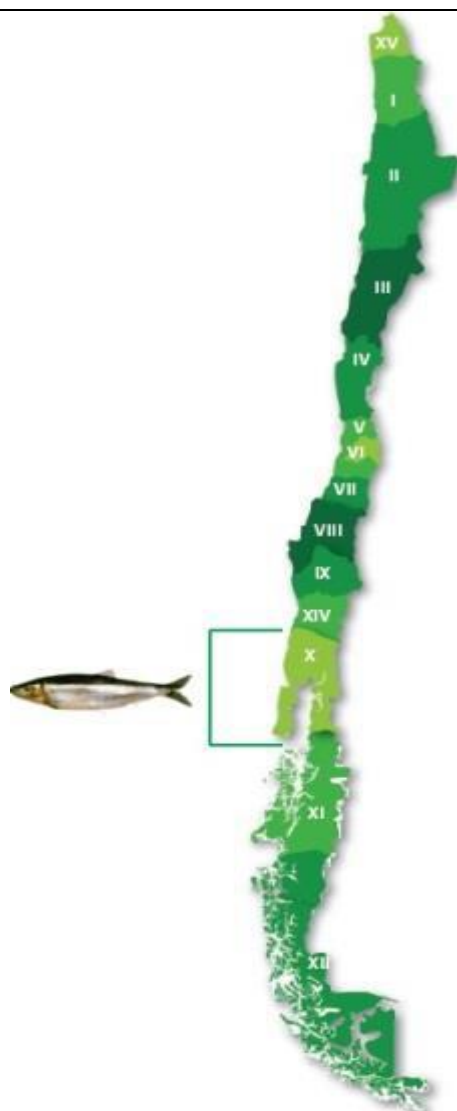


Figure 1. Map of Chile, indicating the location of administrative region X (R9).

R7, 9,11,13

LEVEL OF COMPLIANCE	
A3. Management actions should be based on long-term conservation objectives	
LOW	Management actions are not based on long term management objectives.
MEDIUM	Management actions are based on long term management objectives. However the actions are not scientifically formulated.
HIGH	Management actions are based on long term management objectives, and actions are science based.
Determination: There are no explicit management objectives for the fishery. However, the stock is largely managed in accordance with scientific advice produced using implicit management objectives based on scientifically-derived reference points. Additionally, there are generic commitments to long-term sustainability in the legislation. There is no explicit management plan in place for the fishery, and no officially implemented harvest control rules. The LGPA states that all stocks should be exploited around the MSY level, and that the MSY is the objective to be taken into account when quotas are established. In	

M

general both scientific advice and management measures are based on this generic objective. SSB reference points were recently set for the fishery, and have been used as the basis for the TAC advice. The sardine austral SSB target reference point acts as a proxy for B_{MSY} , and is equal to 55% SSB₀ (55% of the unexploited biomass). The proxy for F_{MSY} is set at $F_{60\%}$. The limit reference point is 27.5%SSB₀.

The LGPA includes a commitment to develop a management plan for any fishery with restricted access; however, the development of a management plan for the small pelagic fishery in Region X, or any of its component species, appears to be still in development. The LGPA also includes commitments to manage fisheries sustainably.

B. STOCK ASSESSMENT PROCEDURES AND MANAGEMENT ADVICE

LEVEL OF COMPLIANCE

B1. Research in support of fisheries conservation and management should exist.

LOW	Research to support the conservation and management of the stock, non-target species and physical environment does not exist
MEDIUM	Research to support the conservation and the management of the stock, non-target species and physical environment exists, however research programmes could be significantly improved to decrease scientific advice uncertainty.
HIGH	Research to support the conservation and the management of the stock, non-target species and physical environment exist, and existent research is considered most adequate for the long term conservation of the target, non-target and physical environment

Determination: Research to support the conservation and the management of the stock, non-target species and physical environment exists, however research programmes could be significantly improved to decrease scientific advice uncertainty.

Fishery-dependent data

Fishery-independent data collected from the small pelagic fishery includes total landings and age and size estimates from sampling. Information collected at landing sites and directly from fishing vessels includes location and time of catch, length, weight, sex, and age data, and size frequency distribution data.

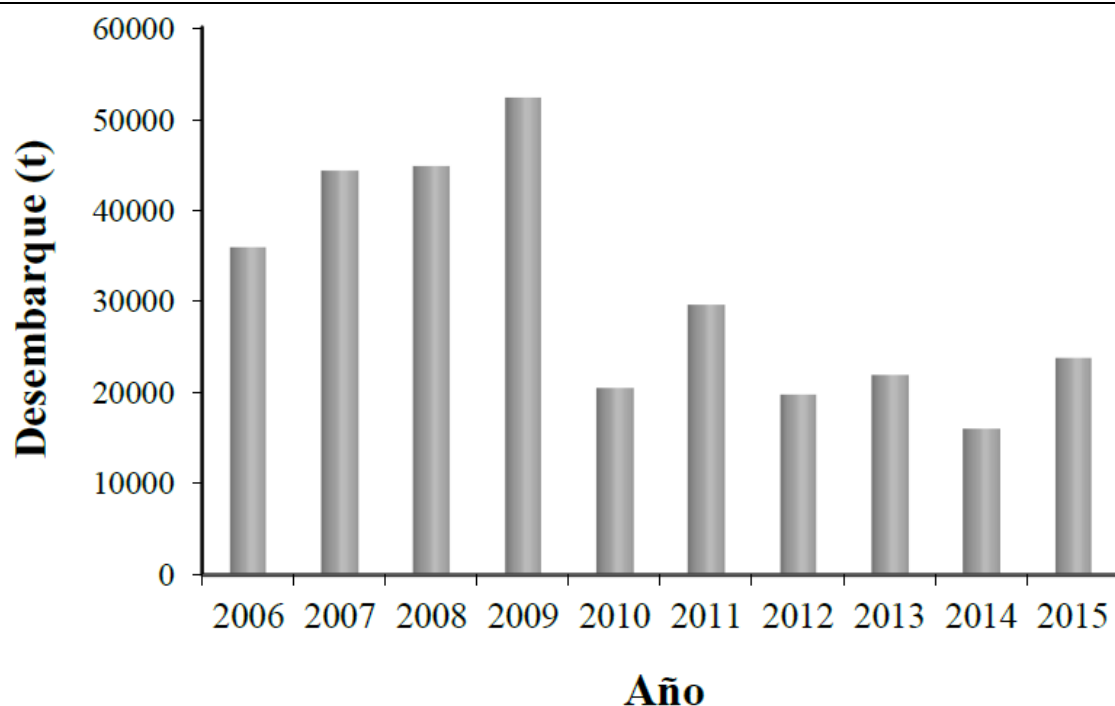


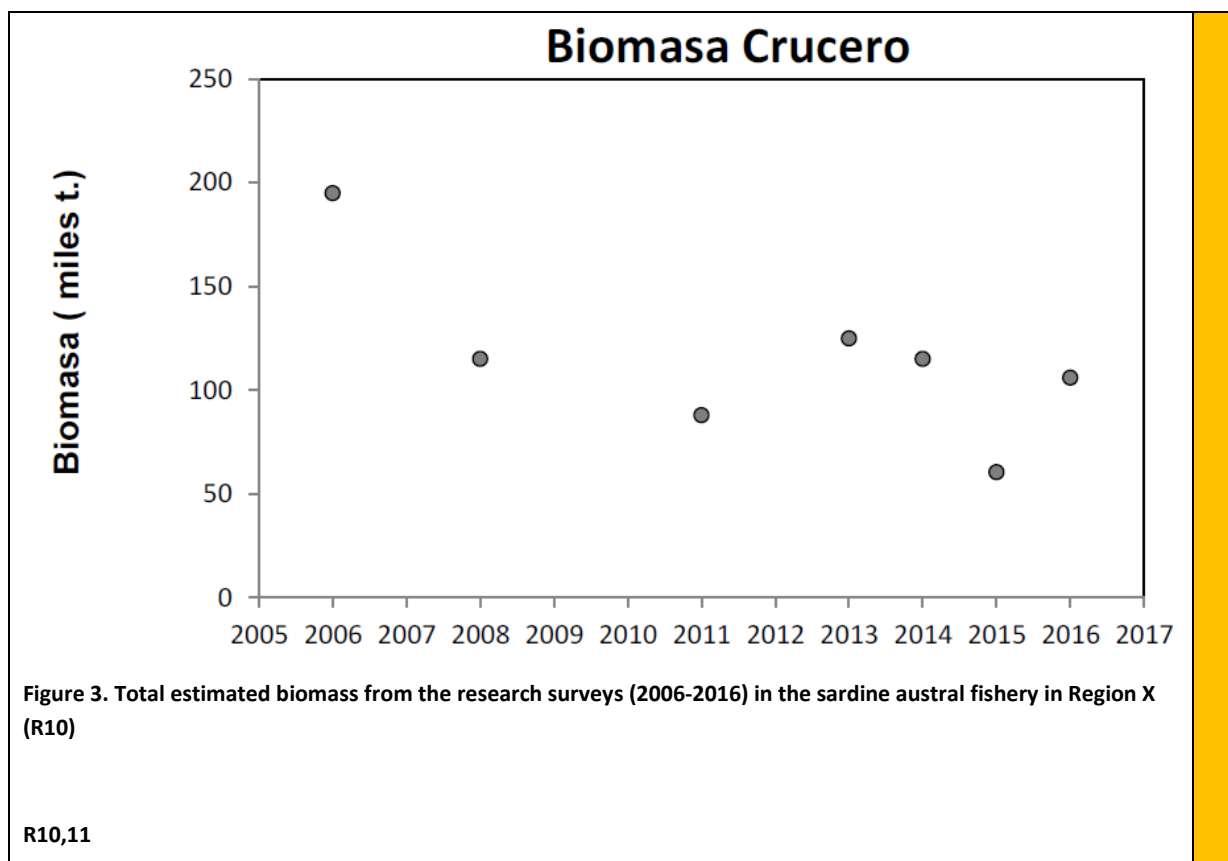
Figure 2. Official annual landings of *Sardina austral* in the interior waters of the Mar de Chiloé from 2006-2015 (R11).

Fishery-independent data

Several fishery-independent surveys have been, and are still, carried out. These include acoustic biomass surveys (2006-2016).

- Programa de seguimiento de las Pesquerías Pelágicas Zona Centro- Sur, 2015.
- Evaluación Hidroacústica de Pequeños Pelágicos en aguas interiores de la X y XI Regiones, año 2015. IFOP
- Estatus y posibilidades de explotación biológicamente sustentables de los principales recursos pesqueros nacionales 2016. IFOP.

Additional research which would improve the reliability of the stock assessment includes an improved understanding of population structure and migration patterns, location of spawning and nursery grounds, growth and age parameters, discards and under-reported catches, fishing effort/CPUE, and environmental influence on stock parameters.



LEVEL OF COMPLIANCE	
<i>B2. Best scientific evidence available should be taken into account when designing conservation and management measures.</i>	
LOW	Scientific advice is not taken into account when designing conservation and management measures.
MEDIUM	Scientific advice is taken into account, when designing conservation and management measures. However some areas of discrepancy are identified that could have a significant impact in the long term conservation of the marine environment.
HIGH	Scientific advice is taken into account, when designing conservation and management measures, in a comprehensive manner.

Determination: *Since 2013, there has been a legal requirement for SUBPESCA's technical recommendations (including TAC) to be adopted. Scientific advice is taken into account, when designing conservation and management measures, in a comprehensive manner.*

H

The main scientific advice for the fishery is the recommendation for the annual TAC, which is given in three stages each year. A pre-season recommendation is followed by an initial in-season recommendation, which makes use of landings data and an April/May survey. The results of the two surveys are also used to produce the pre-season TAC estimate for the following year. These TAC recommendations are made by IFOP to SUBPESCA, and do not appear to be made publically available. SUBPESCA then passes on its own recommendations, which are publically available, to the CNP and SERNAPESCA.

Prior to the update of the fishery management legislation in 2013, quota recommendations made by IFOP and SUBPESCA had to be approved by a majority vote in the appropriate fishery council. The update to the LGPA made it mandatory for the management recommendations of SUBPESCA's scientific/technical advisory boards to be adopted by fishery managers, including with regards to the setting of quotas. The LGPA also states that quotas should be established

using MSY as the primary technical parameter. For 2016 20,000t was recommended by IFOP which corresponds to the established quota.

C. THE PRECAUTIONARY APPROACH

LEVEL OF COMPLIANCE

C1. The precautionary approach is applied in the formulation of management plans.

LOW The precautionary approach is not applied in the formulation of management plans.

MEDIUM The precautionary approach is applied, however not all uncertainties are taken into account.

HIGH The precautionary approach is applied, taking into account uncertainties relating to the dynamic of fish population (recruitment, mortality, growth and fecundity), and the impact of the fishing activities, such as discards and by-catch of non-target species as well as on the physical environment (Habitats).

Determination: There is consideration of uncertainty and the risks associated with management actions in the Chilean management process.

H

According to the LGPA, the stated objective of fisheries management in Chile is “to foster the conservation and sustainable use of aquatic resources through the application of a precautionary approach, an ecosystem approach to fisheries regulation, and the protection of marine ecosystems”. Calculations of Biologically Acceptable Catch (BAC), which form the basis for setting catch quotas, are based on stock assessment and consideration of uncertainty, using Bayesian methods to estimate the risk associated with potential catch rates.

In its 2016 stock assessment report IFOP stresses the importance that developing fisheries such as sardina austral that have limited information should be managed using the precautionary approach. F60 is proposed as a Precautionary reference limit. In its stock assessment report IFOP takes into account a range of sources of uncertainty, eg. The variability in the CPUE data, the use of lights by some fishers can affect the capture of the fish, environmental factors, stock aggregation for habitat or reproduction, acoustic biomass estimation parameters. Life history parameters are also taken into account (growth, mortality and maturity), the process error inherent in the evaluation model and the short history of the fishery. IFOP also produces outputs which indicate the level of risk associated with potential fishery management actions.

The specific objective in relation to sardine austral is to maintain a spawning biomass equal to 60% of the level if the stock was unexploited, with a risk of failing this to be not more than 10%. A revision of these biological reference points was carried out by a group of international experts at a workshop in Vina del Mar August 2014, details of which can be found in the annex of the stock assessment.

R11

D. MANAGEMENT MEASURES

LEVEL OF COMPLIANCE

D1. The level of fishing permitted should be set according to management advice given by research organisations.

LOW The level of fishing permitted is not set according to management advice given by research organisations.

MEDIUM The level of fishing permitted is higher than management advice given by research organisations. However, the difference is not considered to have a significant impact of the sustainability of the stock

HIGH The level of fishing permitted is set according to management advice given by research organisations.

Determination: In recent years, TACs have been set in line with the SUBPESCA advice, and have not been exceeded.

H

The level of fishing in the Region X sardine austral fishery is restricted by annual quotas. Quota recommendations are initially provided by IFOP to the scientific/technical committees of

SUBPESCA. These committees in turn make recommendations for the final quota, which according to the LGPA must be adopted by fishery managers. For 2016 small percentages were deducted from the total quota for research (160t) and by-catch (50t), and the remaining TAC (19,790t) was divided: January – June (14,843t), July – December (4,947t). This corresponds to the IFOP advice of 20,000t.

The table below compares landings and quotas for fishing years 2006 – 2013. The TAC was exceeded in 2008 and 2012.

Año	Desembarque (t)	Cuota (t)
2006	35961	40522
2007	44388	50872
2008	44953	41904
2009	48589	58481
2010	20519	30966
2011	14344	17693
2012	19763	14500
2013	21888	22000
2014 (agosto)	18000	18750 *

Table 1. Historical comparison of landings (desembarque), quota (cuota) and of sardine austral in the Chilean south-central fishery, 2006-2013. R10

There are closures in place for spawning and recruitment. D. Ex. No. 950/2012: D. Ex. No.35/2013. Gear restrictions are in place which only allows artesanal vessels with nets of certain size depending on the depth of the fishing grounds.

R9, 10

LEVEL OF COMPLIANCE

D2. Where excess fishing capacity exist, mechanisms should be in established to reduce capacity to allow for the recovery of the stock to sustainable levels.

LOW	Mechanisms to allow for recovery of the stock to sustainable levels are not established.
MEDIUM	Mechanisms to allow for recovery of the stock to sustainable levels are somehow established. However there is no evidence of the efficiency of the methods used.
HIGH	Mechanisms are established to reduce capacity to allow for the recovery of the stock to sustainable levels and there are evidences of recovery.

Determination: Mechanisms are established to reduce capacity to allow for the recovery of the stock to sustainable levels and there are evidences of recovery.

There is a requirement for artisanal fishers to be registered on the National Registry for Artisanal Fishermen (NRAF) which is used to control their number per regional area. Inscription to the NRAF and the entry of new applications is suspended until the 05/07/17. (R. Ex. No. 1.840/2012).

The first 6 years of the fishery saw a decrease in the biomass and spawning biomass of *Sardina austral*. From 2010 there was an increase in biomass due to the implementation of measures to reduce fishing mortality. From 2007-2010 the fishery was in a state of overfishing and then from 2008-2012 a state of over exploitation.

Keeping in mind that the most recent years estimates are more uncertain, from the data we see that since 2013 the stock has been fished at MSY (plena explotación), which is consistent with the management objectives.

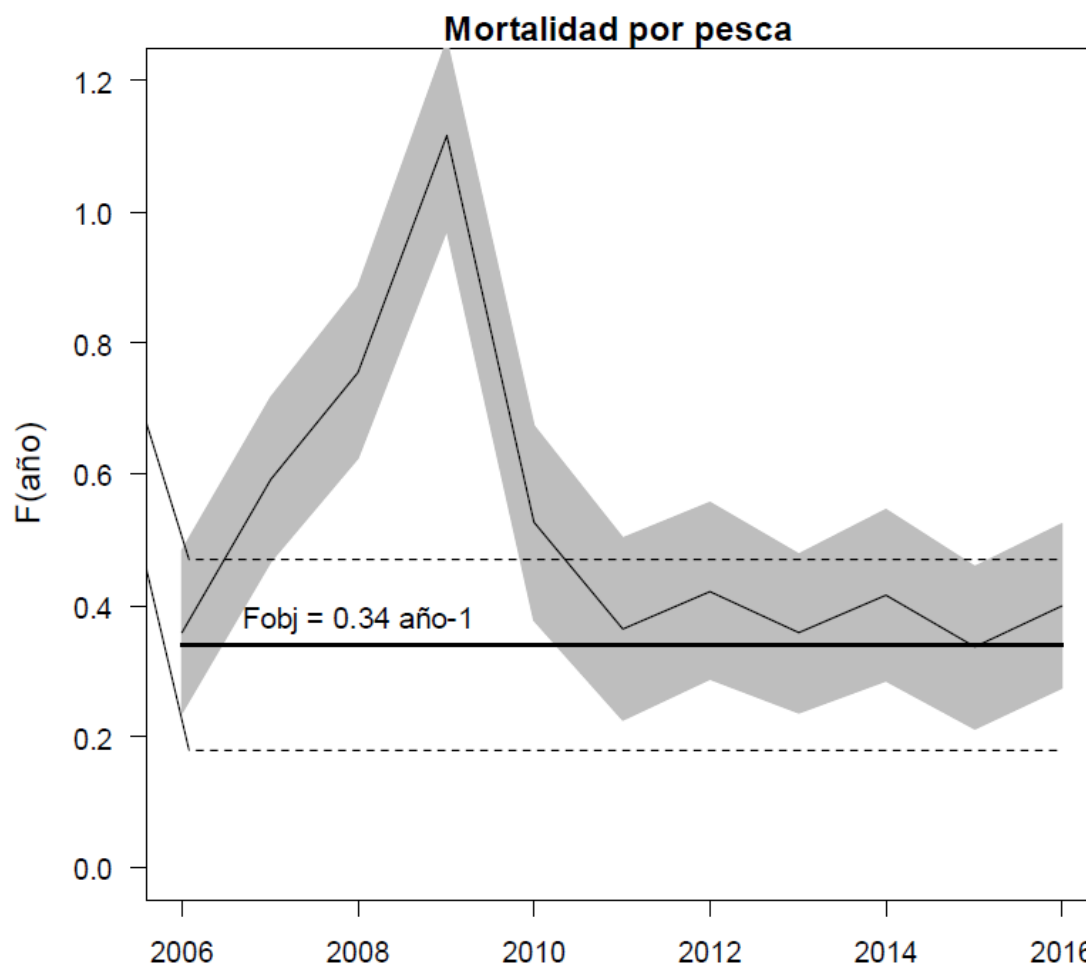


Figure 4. Annual variation (2006-2016) of F (Mortalidad por pesca -fishing mortality) of *Sardina austral* in relation to the target F (F60)

R9,10,11

LEVEL OF COMPLIANCE	
<i>D3. Management measures should ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment.</i>	
LOW	There are no management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment.
MEDIUM	There are management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment. However it is not science based.
HIGH	There are management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment. Measures are based on scientific information.
Determination: There are management measures to prevent the impact of the fishing methods	
M	

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and fishing practices on non-target species and the physical environment. However, as it is a relatively new fishery there is a lack of scientific information.

Non-target species

According to the Law D. Ex. No. 22 of 2016 the proportion of bycatch and the corresponding annual reserve associated with the fishery for sardine austral, sardina común and anchovy was established.

Table 2. Bycatch quota of sardina austral, common sardine and anchovy artisanal fisheries 2016. (R12)

Target	Bycatch	Región	Reserva anual
Sardina Austral	Anchoveta	X	60
	Sardina común		80
Anchoveta/Sardina común	Sardina austral	X	50

Bycatch information is systematically collected for the fishery with weekly monitoring by IFOP in some regions. Additionally, even when the TAC of one species has been filled but quota for the other remains, 20% bycatch of the species with no remaining quota is permitted per trip.

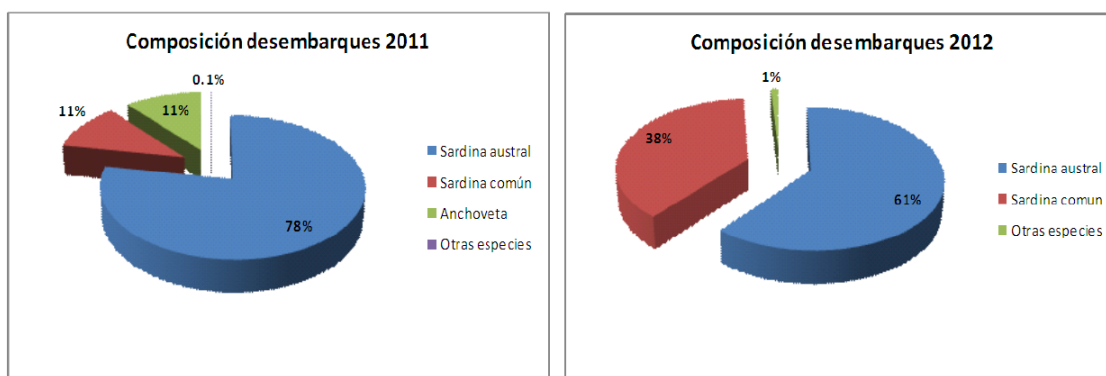


Figure 5. Landing composition by species in the artisanal fleet from Region X, 2011 and 2012.

Pesquería Artesanal de Cerco Sardina Austral X Región	
Fauna acompañante	Anchoveta Bacaladillo o mote Caballa Jurel Machuelo o tritre Pampanito Sardina común Langostino de los canales

Table 3. Bycatch species associated with the Sardina austral artisanal fisheries in Region X de Los Lagos.

Ecosystems

Forage species such as sardines and anchovy has a key role in the ecosystem forming the basis of the diet of mammals, birds and larger fish species (Pikitch et.al., 2012). The availability of sardine and anchoveta as a prey is considered to be one of the major threats to Humboldt Penguin. Chile has implemented five marine reserves, with the objective of conserving natural banks of scallop, oyster and mussel, but also dolphins and penguins. Additionally, the introduction of the five-mile artisanal-exclusive zone near the shoreline has provided significant protection to spawners and other shallow-water organisms from industrial fishing activities.

ETP species

Overall there is limited evidence available on the extent to which ETP species, are impacted by the fishery.

Physical environment

The impact of purse seine nets on the physical and biological environment of the sea floor is considered minimal, as nets are generally used at depths considerably greater than their size.

R11, 12,13

E. IMPLEMENTATION

LEVEL OF COMPLIANCE

E1. There should be a framework for sanctions of violation of Laws and regulations.

LOW A framework for sanctions of violation of Laws and regulations do not efficiently exist.

MEDIUM A framework for sanctions of violation of Laws and regulations do exist but do not work efficiently.

HIGH A framework for sanctions of violation of Laws and regulations exists and is proven to be efficient.

Determination: There is a framework allowing for the application of sanctions ranging from monetary fines to revocation of licence.

H

The LGPA defines a range of sanctions for offences including fishing with an unlicensed vessel, discarding, incorrect logbook use, failure to report landings, fishing in a region or fishery other

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than the one for which the vessel is licenced, and for industrial vessels which land more fish than they have quota for. Depending on the offence, sanctions can include one or a combination of monetary penalties dependant on tonnage; suspension of fishing licence; and revocation of licence entirely. Punitive proceedings are the responsibility of the regional SERNAPESCA director. In 2005, a national action plan was approved with the aim of preventing, deterring and eliminating IUU fishing.

LEVEL OF COMPLIANCE

E2. A management system for fisheries control and enforcement should be established.

LOW A management system for fisheries control and enforcement is not established.

MEDIUM A management system for fisheries control and enforcement is established but do not work efficiently.

HIGH A management system for fisheries control and enforcement is established and work efficiently.

Determination: There is evidence of a fisheries control and enforcement regime in place in Chile, but limited information to determine how effective this regime is.

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The guiding instrument of fisheries management in Chile is the General Law on Fisheries and Aquaculture (LPGA). No. 18.892 of 1989 Act, as amended (Decree 430) plus other intermediate laws, regulated the activities of fisheries and aquaculture until February 9, 2013 when the new Law on Fisheries and Aquaculture No. 20,657, was published in the Official Journal amending the previous one in the field of sustainability of aquatic resources, access to industrial, craft and regulations for research and monitoring fishing activity.

Article 10 of Law 19713 states that industrial vessels must submit information on capture by fishing trip in Article 63 of the General Law on Fisheries and Aquaculture, certified by concerns an Audit Institution accredited by the National Fisheries Service. The way, conditions and procedures of certification and accreditation of audit entities, shall be established by resolution of the Service.

Enforcement of fisheries legislation is the responsibility of SERNAPESCA. Industrial vessels operate under mandatory VMS monitoring.

Sernapesca;

- Carry out audits of capture fisheries and implement the surveillance and control of compliance with legal provisions relating to the fisheries.
- Health and environmental monitoring of aquaculture, surveillance. Developing strategies and procedures for prevention, surveillance and control of high-risk diseases.
- Information and sectoral statistics. Managing fisheries and aquaculture records.

Within the Exclusive Economic Zone the Chilean Navy also monitors an area covering approximately 4,542,990 Km², ensuring the prevention of depredation of natural resources in an effort to protect the ecosystem from unauthorized activities.

R3, 5, 14

7. KEY STAKEHOLDERS

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