

# FISHERY ASSESSMENT REPORT

## IFFO GLOBAL STANDARD FOR RESPONSIBLE SUPPLY OF FISHMEAL AND FISH OIL



<b>FISHERY:</b>	Chilean Anchovy ( <i>Engraulis ringens</i> ) Regions V-X
<b>LOCATION:</b>	Chile
<b>DATE OF REPORT:</b>	May 2014
<b>ASSESSOR:</b>	Sam Peacock

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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
Sam Peacock	David Garforth	2.5	Surveillance
Assessment Period	2014		
Scope Details			
1. Scope of Assessment		IFFO Global Standard for Responsible Supply – Issue 1	
2. Fishery		Chilean Anchovy ( <i>Engraulis ringens</i> )	
3. Fishery Location		Chile (Chilean management areas V-X)	
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			
9. Recommendation		Maintain approval	

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<b>2. QUALITY OF INFORMATION</b>
Good; primarily government websites
<b>3. COMPLIANCE LEVEL ACHIEVED</b>
Medium/High
<b>Recommendation</b>
Maintain approval
<b>4. GUIDANCE FOR ONSITE ASSESSMENT</b>
<b>Based on HIGH compliance findings</b>
<b>Based on MEDIUM compliance findings</b>
<b>Based on LOW compliance findings</b>
<b>5. ASSESSMENT DETERMINATION</b>
<p>Chile has a robust legal and administrative framework for fisheries, where decisions are informed by annual surveys and fishery-dependent data. The available evidence continues to suggest that the fishery is well monitored and management actions are largely based on best available scientific advice. However, as at the time of the initial assessment, limited data are collected on levels of bycatch in the fishery, and there is a lack of transparency in the way that quota recommendations, both initial and mid-year, are calculated.</p> <p>In both 2011 and 2012, the artisanal share of the annual quota was exceeded, and in 2011 this led to the TAC being exceeded by a substantial margin. However, landings in 2013 were substantially below the TAC and the quota for 2014 has been reduced considerably. Despite this, the fishery retains a medium compliance rating under section D1 to reflect the lack of transparency in the quota-setting process. The only other significant change was the introduction of a new fisheries law in February 2013, which has not resulted in changes to any of the compliance ratings for the fishery.</p>
<b>HIGH Compliance</b>
A1, A2, B2, D2, E1, E2
<b>MEDIUM Compliance</b>
A3, B1, C1, D1, D3
<b>LOW Compliance</b>

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.*

<b>LOW</b>	An administrative framework that ensures an efficient management of the fishery for its conservation is not established.
<b>MEDIUM</b>	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.
<b>HIGH</b>	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 2013 surveillance assessment determined the robust legal and administrative management framework identified in the initial assessment to still be in place, and this continues to be the case. The main legal instrument defining fisheries management in Chile has been updated since that time, but without any changes which would require the downgrading of the high compliance rating.***

H

The Chilean institutional structure governing the fisheries and aquaculture sector centres around three key organizations: The Subsecretariat de Pesca (Undersecretariat of Fisheries, SUBPESCA or SSP) within the Chilean Ministry of Economy, which manages policy and the regulatory framework; the Servicio Nacional de Pesca (National Fisheries Service, SERNAPESCA), also within the Ministry of Economy, responsible for executing policy and ensuring enforcement; and the Instituto de Fomento Pesquero (Fisheries Development Institute, IFOP), the research arm of the institutional framework which acts as the primary source of scientific advice to the SSP on fisheries and aquaculture agreement issues.

In February 2013, Law 20.657 was passed, modifying Law 18.892 to update the administrative and scientific processes relating to quota setting and other key aspects of management. Key adaptations include the creation of eight scientific/technical committees to advise SUBPESCA; mandatory management plans for major species, to be reviewed at least every five years; and an update to the ratio of quota received by the industrial and artisanal sectors.

For more details on these three main components of fisheries management in Chile, and information on other relevant fishery management organisations, please refer to the initial fishery assessment.

R1, R2

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>	
<b>LOW</b>	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'.
<b>MEDIUM</b>	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.
<b>HIGH</b>	Fisheries management should be concerned with the whole stock unit over its entire area of distribution and take into account: <ul style="list-style-type: none"> <li>All fishery removals</li> <li>The biology of the species</li> </ul>

**Determination: The small pelagic fishery continues to be managed using the approach described in the initial and 2013 surveillance assessments. As there have been no significant changes in the approach, including no improvement in bycatch assessment, the fishery retains a medium compliance level under this clause.**

Chilean anchovy fisheries are divided into three management units:

- Regions XV-I-II
- Regions III-IV
- Regions V-X

This assessment is concerned only with the stock in regions V-X. Stock assessment is conducted separately for each management unit, reflecting the current scientific understanding that each stock is an independent biological population. Quotas are then issued at the Regional level, initially as a preliminary quota and then updated during the fishing season to reflect the results of acoustic surveys.

There is a no discard policy in place for Chilean fisheries, meaning all bycatch is landed, but only target species appear to be sampled by SERNAPESCA. Information on the species composition and volume of bycatch is therefore likely to be unavailable for management and research organisations, preventing the ecosystem-wide impacts of fisheries from being factored into management regimes.

R1, R2

LEVEL OF COMPLIANCE	
<i>A3. Management actions should be based on long-term conservation objectives</i>	
<b>LOW</b>	Management actions are not based on long term management objectives.
<b>MEDIUM</b>	Management actions are based on long term management objectives. However the actions are not scientifically formulated.
<b>HIGH</b>	Management actions are based on long term management objectives, and actions are science based.

**Determination: There have been no significant changes to the management objectives of the Chilean anchovy fisheries since the 2013 surveillance assessment. Updates to the over-arching fisheries Law make long-term sustainability a clear, stated objective.**

Management actions generally aim at keeping spawning biomass at 60% of unfished levels to sustain the reproductive viability of the stock, according to SUBPESCA technical reports. Under the Chilean General Law for Fisheries and Aquaculture, “the provisions of the Act shall subject the preservation of aquatic resources, and all extractive fishing, aquaculture, research and sport activities, which takes place in inland waters, internal waters, territorial sea or exclusive economic zone of Chile in accordance to Chilean laws and its signed international treaties”. The Fisheries Research Fund under the Ministry of Economy is to finance research projects in aquaculture and fisheries, providing for the adoption of management

measures of fisheries and aquaculture activities, which aim at the conservation of aquatic resources, considering both the biological and socio-economic aspects of fisheries.

The updated fisheries Law 20.657 states that the purpose of the Act “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 in the world those resources”. It also states that MSY is the objective to be taken into account when quotas are established.

For more information on the long-term management objectives for this and other Chilean fisheries, please refer to the initial assessment.

R1, R2

**B. STOCK ASSESSMENT PROCEDURES AND MANAGEMENT ADVICE**

**LEVEL OF COMPLIANCE**

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

<b>LOW</b>	Research to support the conservation and management of the stock, non-target species and physical environment does not exist
<b>MEDIUM</b>	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.
<b>HIGH</b>	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: The research identified in the initial assessment continues to be carried out in support of the management of Chilean anchovy stocks. The continuing lack of bycatch data collection and analysis leads the assessment team to consider a medium compliance rating to remain appropriate.***

Spawning biomass of the Region V-X stock is estimated annually using the egg production method and acoustic survey data; managers also use fishery dependent data collected at landing. Preliminary quotas are set at the beginning of the year and then updated if necessary in response to the analysis of the in-season acoustic surveys; in recent years quotas have been substantially increased mid-season as a result of such analyses. No data is collected on bycatch of non-commercial species.

For more detail on data collection and historical landings, refer to the initial assessment report.

R1, R2

**LEVEL OF COMPLIANCE**

*B2. Best scientific evidence available should be taken into account when designing conservation and management measures.*

<b>LOW</b>	Scientific advice is not taken into account when designing conservation and management measures.
<b>MEDIUM</b>	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.
<b>HIGH</b>	Scientific advice is taken into account, when designing conservation and management measures, in a comprehensively manner.

***Determination: Scientific advice continues to be taken into account when designing conservation and management measures, including a system by which future research is prioritised according to the information needs of management organisations. There have been no significant changes since the 2013 surveillance assessment.***

Fisheries research is largely funded by the Fishery Research Fund (FIP), although money is also available from other non-specific Government funds. Research results from the FIP form the basis of regulations developed by the administration. Also involved in the process are the National Fisheries Council, the National Oceanographic Council, experts in the fishing field (including 2 from the university sector), and

representatives of producers' associations.

Each year, the Zonal and Regional Fisheries Councils give their suggestions for the annual programme of fishery and aquaculture research, including their priorities. With this information SUBPESCA proposes the annual programme of Fishery Research to the National Fisheries Council which gives the final approval. Research is sometimes constrained by funding, and importance is given to economic utility when competing research proposals are evaluated.

R1, R2

**C. THE PRECAUTIONARY APPROACH**

**LEVEL OF COMPLIANCE**

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

<b>LOW</b>	The precautionary approach is not applied in the formulation of management plans.
<b>MEDIUM</b>	The precautionary approach is applied, however not all uncertainties are taken into account.
<b>HIGH</b>	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: The 2013 surveillance assessment concluded that the precautionary approach is applied in management plans for the target stock; however not all uncertainties are taken into account. There have been no significant changes in the management of the fishery since that time.***

The biological equilibrium reference point for the stock has been set to prevent the spawning stock from decreasing to less than 60% of that which would exist in the absence of fishing. In other words, it means that the stock should be exploited keeping at least 60% of the egg production in the long term (10-year period).

In addition, given the different sources of uncertainty and high fluctuations due to environmental conditions, management measures aim to ensure that the risk of failing to reach the resource conservation objective in the long term should not exceed 10%.

The initial assessment concluded that the precautionary approach was applied in the development and implementation of management plans for this stock, although not all potential sources of error were taken into account. The 2013 surveillance assessment agreed that this conclusion was still accurate, and there have been no significant changes since that time.

R1, R2

**D. MANAGEMENT MEASURES**

**LEVEL OF COMPLIANCE**

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

<b>LOW</b>	The level of fishing permitted is not set according to management advice given by research organisations.
<b>MEDIUM</b>	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
<b>HIGH</b>	The level of fishing permitted is set according to management advice given by research organisations.

***Determination: The 2013 surveillance report noted that in recent years the artisanal sector had significantly exceeded its share of the TAC, but that recent changes to the management mechanisms which apply specifically to the sector should prevent such events in future. Landings in 2013 were considerably below the TAC, and the quota for 2014 has been reduced considerably. However, as there continues to be a lack of transparency in the TAC-setting process, a medium compliance rating is still appropriate.***

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Once SUBPESCA receives IFOP’s scientific reports, it writes its own technical report, summarising the status of the fishery and issuing its own TAC recommendation to the National Fisheries Council, along with a recommendation for the distribution of the quota. SUBPESCA’s reports, along with economic and social considerations, are discussed by the National Fisheries Council, where a final decision is made regarding the quota level and its distribution. Finally, the Minister of Economy, Development and Reconstruction proceeds to sign the TACs for each fishery unit and its distribution, in accordance with the Fisheries and Aquaculture Law. The initial IFOP reports are not made available to the public or assessors, although the remainder of the quota-setting process is fully reported upon.

The TAC allocated to the Region V-X management area in 2013 was set according to SUBPESCA advice at 120,000t. Final landings were 43,866t. The quota for 2014 was set at 42,200t.

R1 – R5

**LEVEL OF COMPLIANCE**

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

<b>LOW</b>	Mechanisms to allow for recovery of the stock to sustainable levels are not established.
<b>MEDIUM</b>	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.
<b>HIGH</b>	Mechanisms are established to reduce capacity to allow for the recovery of the stock to sustainable levels and there are evidences of recovery.

***Determination: There have been some minor changes to the capacity management mechanisms in place in Chilean fisheries, but none which require a change to the high compliance rating previously awarded in against clause.***

In 1985, all pelagic fisheries were declared to be fully exploited, and applications for new fishing permits were refused. In 2001 a new management scheme named Maximum Catch Limit per Firm (MCLF) was established, under which a high proportion of the most important Chilean fisheries became subject to a form of Individual Transferable Quota (ITQ) system. The MCLF regime caused a major reduction in fishing capacity in all regulated fisheries (without State intervention) and increased the profitability of the industrial sector.

The recent changes to the primary fisheries legislation include the introduction of tradable fishing licences. Fishers can exchange their MCLF for a tradable licence, which includes an associated share of the total quota. The objective of this change is to “facilitate the entry of new players and more efficiently utilise fisheries resources”.

R1, R2

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>		
<b>LOW</b>	There are no management measures to prevent the impact of the fishing methods and fishing practices on non-target species and the physical environment.	
<b>MEDIUM</b>	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.	
<b>HIGH</b>	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.	
<p><b><i>Determination: The initial and 2013 surveillance assessments awarded the fishery medium compliance under this clause due to a lack of bycatch data. At this time there have been no significant changes and so the scoring remains appropriate.</i></b></p> <p>Usually deployed in the upper levels of the water column, purse seine gear has virtually no impact on the benthic habitat.</p> <p>The National Action Plan for the Conservation of Sharks, approved by the Government of Chile in 2006, includes among its objectives to seek full utilization of sharks caught and detained. For compliance with that order, Chile set a target to abolish the "finning" of sharks, leading to the landing of the entire animal. A 1993 Regulation protects sea turtles, and reports suggest that marine mammals are rarely caught in Chilean nets.</p> <p>SERNAPESCA holds the landing records of each fishing vessel but these reports are not publicly available, and so it is difficult to verify how frequently large marine animals are captured. As previously noted, the lack of information on by-catch represents a considerable gap in knowledge, and severely limits what conclusions can be reached about the impact of this fishery on the marine ecosystem as a whole.</p> <p>For more information on the indirect impacts of the fishery please refer to the initial assessment.</p> <p>R1, R2</p>		<b>M</b>
<b>E. IMPLEMENTATION</b>		
LEVEL OF COMPLIANCE		
<i>E1. There should be a framework for sanctions of violation of Laws and regulations.</i>		
<b>LOW</b>	A framework for sanctions of violation of Laws and regulations do not efficiently exist.	
<b>MEDIUM</b>	A framework for sanctions of violation of Laws and regulations do exist but do not work efficiently.	
<b>HIGH</b>	A framework for sanctions of violation of Laws and regulations exists and is proven to be efficient.	
<p><b><i>Determination: The 2013 surveillance assessment confirmed the continuation of an effective framework for sanctions, and there have been no major changes since that time.</i></b></p> <p>Fishery sanctions, crimes and expirations were codified in December 1989. The law resulted in the creation of the dual structure of SUBPESCA and SERNAPESCA. Formerly, sanctions were dealt with by local Police judges at a communal level. Under the new law, these matters go before Civil Judges in normal Civil courts, a fact that assigns higher importance to these issues.</p> <p>In regards to discards and overfishing the assigned quotas, Law 19.713 states that any owner or group of owners who land and do not report their catches will be subjected to a 30% reduction on their maximum catch limit during that fishery calendar year. If the owner or group of owners has exhausted their maximum catch limit for that year, they will be deducted the following year. Owners of vessels which fish without a</p>		<b>H</b>

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license, or fish in unauthorised areas, are subject to a quota reduction of 10%.

Crimes are penalized with proportional pecuniary payments and can be imposed by Police, Marine personnel and SERNAPESCA. In 2005 a national action plan was approved with the aim of preventing, deterring and eliminating illegal, unreported and unregulated fishing.

The updated fisheries regulations similarly include a range of potential sanctions, including fines, confiscations, and suspension or revocation of the right to fish.

R1, R2

LEVEL OF COMPLIANCE	
<i>E2. A management system for fisheries control and enforcement should be established.</i>	
<b>LOW</b>	A management system for fisheries control and enforcement is not established.
<b>MEDIUM</b>	A management system for fisheries control and enforcement is established but do not work efficiently.
<b>HIGH</b>	A management system for fisheries control and enforcement is established and work efficiently.

***Determination: The management system for fishery control and enforcement remains in place and effective.***

Fisheries control and enforcement in Chile is the responsibility of SERNAPESCA, and in practice compliance is monitored by Intertek Caleb Brett Chile SA on SERNAPESCA’s behalf. Control and enforcement measures include 100% vessel monitoring in the industrial fleet, plus data on landings per vessel, species and fishing ground. SERNAPESCA recruited 250 staff in 2009 to further improve monitoring and surveillance of catches, accompanied by a 22% budget increase.

R1, R2

## 7. KEY STAKEHOLDERS

## 8. REFERENCES

- R1 – IFFO RS Chile Anchovy Regions V-X Surveillance, May 2013:  
<http://www.iffo.net/files/iffoweb/approved-raw-materials/whole-fish/chile-anchovy-v-x-surveillance-may-2013.pdf>
- R2 – Law 20.657: [http://www.subpesca.cl/normativa/605/articles-764\\_documento.pdf](http://www.subpesca.cl/normativa/605/articles-764_documento.pdf)
- R3 – 2013 landings data : <http://www.ifop.cl/wp-content/uploads/2%C2%BA-QUINCENA-DICIEMBRE-2013-N%C2%B024.pdf>

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R4 – 2013 TACs: [http://www.subpesca.cl/transparencia/documentos/RPESQ\\_16-2013\\_Modifica\\_Decreto\\_de\\_cuota\\_N1336.pdf](http://www.subpesca.cl/transparencia/documentos/RPESQ_16-2013_Modifica_Decreto_de_cuota_N1336.pdf)

R5 – 2014 TACs: [http://www.subpesca.cl/publicaciones/606/articles-82271\\_documento.pdf](http://www.subpesca.cl/publicaciones/606/articles-82271_documento.pdf)

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