



FISHERY ASSESSMENT REPORT

IFFO GLOBAL STANDARD FOR RESPONSIBLE SUPPLY OF FISHMEAL AND FISH OIL



FISHERY:	Chilean Sardine [Common Sardine (<i>Strangomera bentincky</i>)], Regions V-X
LOCATION:	Chile
DATE OF REPORT:	15 th January 2013
ASSESSOR:	Sam Peacock

Global Trust Certification Ltd, quayside Business Centre, Dundalk, Co. Louth, Ireland Tel: 042 932 0912 Fax 042 938 6864

Issue No; 2; Issue Date; Nov 09

Report Ref: Common Sardine 5 to 10

CCM Code:

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1. Application Details and Summary of the Assessment Outcome			
Name: Corpesca S.A; Camanchaca; Orizon S.A; Lota Protein S.A.; Blumar Seafoods			
Address:			
Country: Chile		Zip:	
Tel. No.		Fax. No.	
Email address:		Applicant Code IFFO 125; IFFO 126; IFFO 128; IFFO 130; IFFO 132	
Key Contact:		Title:	
Certification Body Details			
Name of Certification Body:			
Assessor Name: Sam Peacock	Peer Reviewer: Mike Platt	Assessment Days: 3	Initial/Surveillance/Re-certification: Surveillance
Assessment Period	January 2013		
Scope Details			
1. Scope of Assessment:		IFFO Global Standard for Responsible Supply – Issue 1	
2. Fishery		Chilean Sardine [common sardine (<i>Strangomera bentincky</i>)] regions V-X	
3. Fishery Location		Chile, regions 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		Agree with review	
9. Recommendation		Maintain approval	

2. Quality of Information
Good; primarily government publications.

3. Compliance Level Achieved
Medium/high
Recommendation
Maintain fishery approval

4. Guidance for On-site Assessment
Based on High Compliance Findings
Maintain requirements stated from the initial approval
Based on Medium Compliance Findings
Key Stakeholders of the Fishery

5. Assessment Determination
<p>The Chilean sardine fishery in regions V-X has seen no substantial management changes since the time of the initial assessment. 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 enforced and that the stock is not currently subject to overfishing.</p> <p>The initial assessment identified five sections under which a medium compliance rating was deemed appropriate, and the issues which led to this scoring remain. Limited data are collected on levels of bycatch in the fishery, and there is a significant lack of transparency in the way that quota recommendations, both initial and mid-year, are calculated.</p> <p>As this is a surveillance report and there have been no significant changes in fishery management, the assessment team recommends maintaining the approval of the fishery.</p>
HIGH COMPLIANCE
A1, A2, B2, D2, E1, E2
MEDIUM COMPLIANCE
A2, B1, C1, D1, D3

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	High Compliance	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance
Fisheries management should be concerned with the whole stock unit	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance
Management actions should be scientifically based	High Compliance	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance
Research in support of fisheries conservation and management should exist	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance
Best scientific evidence available should be taken into account when designing conservation and management measures	Medium Compliance	High Compliance	Medium Compliance	Medium Compliance	Medium Compliance
The precautionary approach is applied in the formulation of management plans	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance
The level of fishing permitted should be set according to management advice given by research organisations	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance
Where excess fishing capacity exist, mechanisms should be in established to reduced capacity	Medium Compliance	Medium Compliance	Medium Compliance	High Compliance	Medium Compliance
Management measures should ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance
A management system for fisheries control and enforcement should be established	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance	High Compliance
A framework for sanctions of violation of laws and regulations should be efficiently exists	Medium Compliance	Medium Compliance	Medium Compliance	Medium Compliance	High Compliance

KEY: Low Compliance [Red Box] Medium Compliance [Yellow Box] High Compliance: [Green Box]

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6. Rationale of the Assessment Outcome

a. The Management Framework and Procedure

LEVEL OF COMPLIANCE	a.i. 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.	References	Rating
LOW	<p>Determination: <i>The initial fishery assessment described a robust legal and administrative framework for the management of the fishery, and awarded a high compliance rating for this clause. There have been no significant changes in the framework or fishery management organisations in Chile since that time.</i></p> <p>The Chilean institutional structure governing the fisheries and aquaculture sector centers 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.</p> <p>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.</p>	R1	HIGH
MEDIUM			HIGH
HIGH			HIGH

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	a.ii. 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	References	Rating
LOW	<p>Determination: <i>The small pelagic fishery continues to be managed using the approach described in the initial fishery assessment. 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.</i></p> <p>Common sardine in Region V-X is managed using landings data and the results of an annual hydroacoustic summer cruise. The cruise is executed by IFOP aboard the Abate Molina, plus artisanal vessels equipped with the appropriate technical gear to perform acoustic quantification in traditional reserve areas. The stock assessment in this region takes into account the total number of sardine individuals, as well as total and recruitment biomass in tonnes and spawning potential. There is a no discard policy in place for Chilean fisheries, meaning all by-catch is landed, but only target species appear to be sampled by SERNAPESCA. Information on the species composition and volume of by-catch is therefore likely to be unavailable for management and research organisations, preventing the ecosystem-wide impacts of fisheries from being factored into management regimes.</p>	R1-R3	MEDIUM
MEDIUM			
HIGH			
	a.iii .Management actions should be based on long-term conservation objectives	References	Rating
LOW	<p>Determination: <i>There have been no significant changes in the management objectives since the time of the initial assessment.</i></p> <p>The initial fishery assessment found that management actions generally aim at keeping spawning biomass at 60% of unfished levels to sustain the reproductive viability of the stock, and there have been no significant changes in the approach to managing Chilean fisheries in general nor the sardine fishery in region V-X specifically. For more information on the long-term management objectives for this and other Chilean fisheries, please refer to the initial assessment.</p>	R1-R3	HIGH
MEDIUM			
HIGH			

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b. Stock Assessment Procedures and Management Advice

LEVEL OF COMPLIANCE	bi. Research in support of fisheries conservation and management should exist.	References	Rating
LOW	<p>Determination: <i>Research to support the conservation and the management of the stock continues to be conducted, and is considered adequate for the long term conservation of the target species. However, the continuing lack of information on the effects of the fishery on non-target species means a score of medium compliance remains appropriate.</i></p> <p>The annual summer cruise carried out hydro-acoustic assessment of common sardine in region V-X as usual. The cruise was executed by IFOP aboard the <i>Abate Molina</i>, plus artisanal vessels equipped with the appropriate technical gear to perform acoustic quantification in traditional reserve areas. The stock assessment in this region takes into account the estimated total number of sardine individuals, as well as total and recruitment biomass in tonnes and spawning potential. The model used for stock assessment of anchovy and sardine is a statistical model of catch by age. Research to support the conservation and the management of non-target species associated with anchovy catch is virtually non-existent and not considered adequate for the long term conservation of these species.</p>	R1-R3	MEDIUM
MEDIUM			
HIGH			

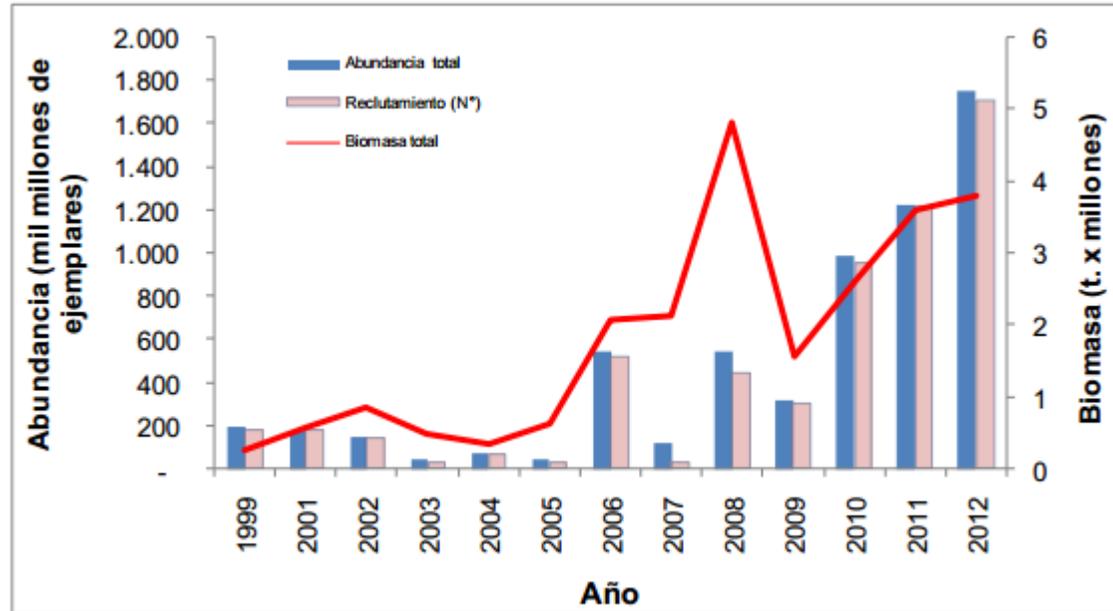
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Total abundance ('Abundancia total'), total biomass ('Biomasa total') and recruitment ('Reclutamiento') of common sardine in regions V-X. Estimates from direct evaluations (i.e. acoustic surveys), years 1999-2012. From the SUBPESCA technical report, Nov 2012 (R3).

LEVEL OF COMPLIANCE	b.ii Best scientific evidence available should be taken into account when designing conservation and management measures	References	Rating
LOW	<p>Determination: <i>The administrative processes by which conservation and management measures are informed by scientific evidence, and the feedback loop by which future research is informed by the requirements of fishery managers, remain in place.</i></p>	R1-R3	HIGH
MEDIUM			
HIGH			
<p>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.</p> <p>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.</p> <p>Research is sometimes constrained by funding. Importance is given to economic utility when competing research proposals are evaluated. It is not considered desirable for the State to maintain large and expensive research infrastructure, so joint public-private co-operation in research is very important.</p>			

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c. The Precautionary Approach

LEVEL OF COMPLIANCE		c.i The precautionary approach is applied in the formulation of management plans.	References	Rating
LOW		<p>Determination: <i>Management of the stock has not substantially changed since the time of the initial assessment, meaning that the precautionary approach is still applied in management plans but that not all uncertainties are taken into account.</i></p> <p>The stated management objective for Chilean pelagic fisheries is to ensure the spawning biomass levels remain above the critical and / or precautionary level, so as to allow the generation of new age classes and consequently ensure annual average yields are adequate and sustained over time. The initial assessment found that the biological equilibrium reference point for the fishery has been set at a level that prevents the spawning stock from decreasing to less than 60% of that which would exist in the absence of fishing, and concluded that the precautionary approach was applied in the development and implementation of management plans for this stock. However, not all potential sources of error were taken into account, a situation which remains the case.</p>	R1-R3	MEDIUM
MEDIUM				
HIGH				

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d. Management Measures

LEVEL OF COMPLIANCE	d.i The level of fishing permitted should be set according to management advice given by research organisations.	References	Rating
LOW	<p>Determination: <i>As at the time of the initial report, the management advice provided by the primary scientific advisory organisation, IFOP, is not publically available. However, 2012 quotas were once again set in accordance with the advice published by SUBPESCA, which is based on the IFOP reports. Initial TACs are updated mid-season to reflect updated survey data. These updated quotas have not been exceeded in recent years. A rating of medium compliance remains appropriate due to the lack of transparency with regards to the process used to derive quota recommendations.</i></p> <p>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.</p> <p>The issues identified in the initial assessment with regards to scientific transparency remain; the original IFOP advice to SUBPESCA was not available for review by the assessment team, but the November 2011 SUBPESCA report makes the following points:</p> <ul style="list-style-type: none"> • The total and spawning biomass shows a general downward trend between 1996 and 2001 	R1-R5	MEDIUM
MEDIUM			
HIGH			

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	<p>due to the presence of weak year classes (low recruitment); however, there has been a positive change in both population indicators, following the entry strong year classes in 2005/06, 2007/08, 2008/09, 2009/10 and 2010/11, and estimates of abundance were higher in 2011 than at any time since 1990.</p> <ul style="list-style-type: none"> The current spawning biomass levels are above the absolute limit (350,000 tons) and precautionary level (585,000 tons), with low probabilities estimated of falling below this level. Fishing mortality has shown a downward trend since 2001 to date, with recent years reaching the lowest values in the series from 1990 to 2011 (around 0.22). <p>The 2012 TAC was initially set late in 2011 at 605,000t, which was in line with the advice provided by SUBPESCA. This quota was subsequently increased mid-season to 1,042,837t on the basis of acoustic survey results. Total sardine landings in 2012 were reported at 850,170t. The final 2011 TAC of 1,050,587t led to total landings of 894,836t.</p> <p>The 2013 initial TAC was set at 605,000t, as recommended in the SUBPESCA advice.</p>		
LEVEL OF COMPLIANCE	d.ii Where excess fishing capacity exist, mechanisms should be in established to reduced capacity to allow for the recovery of the stock to sustainable levels.	References	Rating
LOW	<p>Determination: <i>Mechanisms to reduce excess fishing capacity are in place and have been utilised in the fishery, and have not changed significantly since the time of the initial assessment.</i></p> <p>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</p>	R1-R3	HIGH
MEDIUM			
HIGH			

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	<p>increased the profitability of the industrial sector.</p> <p>The initial assessment identified the lack of effective artisanal effort controls as a potential future issue for the fishery; however the assessment team did not consider the issue to be significant enough to warrant anything less than high compliance in this clause, and so as there have been no significant changes since that time the rating remains unchanged.</p>		
LEVEL OF COMPLIANCE	d.iii Management measures should ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment.	References	Rating
LOW	<p>Determination: <i>The initial assessment awarded the fishery medium compliance under this clause due to a lack of bycatch data, the improvement of which formed a condition of the original approval. At this time there have been no significant changes and so the scoring remains appropriate; however at the next full assessment of the fishery the assessment team will require demonstrated compliance with the condition.</i></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>	R1-R3	MEDIUM
MEDIUM			
HIGH			

e. Implementation

LEVEL OF COMPLIANCE	e.i There should be a framework for sanctions of violation of Laws and regulations.	References	Rating
LOW	Determination: <i>The initial fishery assessment found an effective framework for sanctions and there have been no major changes since that time.</i>	R1-R3	HIGH
MEDIUM	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.		
HIGH	<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 license, or fish in unauthorised areas, are subject to a quota reduction of 10%.</p> <p>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.</p>		

LEVEL OF COMPLIANCE		e.ii A management system for fisheries control and enforcement should be established.	References	Rating
LOW		<p>Determination: <i>The management system for fishery control and enforcement remains in place and effective.</i></p> <p>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.</p>	R1-R3	HIGH
MEDIUM				
HIGH				

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References

R1 - IFFO RS scheme initial assessment: Chile, Common sardine V-X, July 2011:

[http://www.iffo.net/downloads/IFFO%20RS/Whole%20Fish/IFFO_Chile_Sardine_Assessment_Report_2011_FINAL%20\(1\)%20sept%202011.pdf](http://www.iffo.net/downloads/IFFO%20RS/Whole%20Fish/IFFO_Chile_Sardine_Assessment_Report_2011_FINAL%20(1)%20sept%202011.pdf)

R2 – SUBPESCA technical report on Anchovy and Common Sardine in regions V-X, Nov 2011:

http://www.subpesca.cl/transparencia/documentos/RPESQ_115-2011.pdf

R3 – SUBPESCA technical report on Anchovy and Common Sardine in regions V-X, Nov 2012:

http://www.subpesca.cl/transparencia/documentos/RPESQ210-2012Cuota_sardina_comun_y_anchoveta_2013.pdf

R4 – Landings data, small pelagic fishery regions V-X, to end 2012: <http://www.ifop.cl/wp-content/uploads/2%C2%BA-QUINCENA-DICIEMBRE-2012-N%C2%B024.pdf>

R5 – 2013 Chilean TACs set: <http://www.fis.com/fis/worldnews/worldnews.asp?monthyear=12-2012&day=17&id=57628&l=e&country=&special=&ndb=1&df=1>

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