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# FISHERY By-Product SURVEILLANCE REPORT

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

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<b>FISHERY By-Product:</b>	Chilean Jack Mackerel <i>Trachurus murphyi</i>
<b>LOCATION:</b>	Region XV-X Chile
<b>DATE OF REPORT:</b>	20 <sup>th</sup> May 2011
<b>ASSESSOR:</b>	Deirdre Hoare

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**1. APPLICATION DETAILS AND SUMMARY OF THE ASSESSMENT OUTCOME**

<b>Name: : Corpesca S.A; Camanchaca; Orizon S.A; Lota Protein S.A.; Blumar Seafoods</b>		
<b>Address:</b>		
<b>Country: Chile</b>	<b>Zip:</b>	
<b>Tel. No.</b>	<b>Fax. No.</b>	
<b>Email address:</b>	<b>Applicant Code</b>	IFFO 125; IFFO 126; IFFO 128; IFFO 130; IFFO 132
<b>Key Contact:</b>	<b>Title:</b>	

**Certification Body Details**

<b>Name of Certification Body:</b>	Global Trust Certification Ltd.	
<b>Assessor Name</b>	<b>Peer Reviewer</b>	<b>Initial/Surveillance/ Re-certification</b>
Deirdre Hoare	Mike Platt	Initial

**1. Scope of Assessment**

<b>1. Scope of Assessment</b>	By-Product surveillance
<b>2. Fishery By-Product</b>	Chilean Jack Mackerel ( <i>Trachurus murphyi</i> )
<b>3. Fishery By-Product Location</b>	Chile Region XV-X (North to South).
<b>4. Fishery Method</b>	Purse seine
<b>5. Outcome of Assessment</b>	Approve

**2. GUIDANCE FOR ONSITE ASSESSMENT**

**Auditor to ensure that fish used by the factory is obtained from Chilean-managed fisheries**

**3. ASSESSMENT DETERMINATION**

The management system for the Chilean Jack mackerel fishery, the stock assessment activities carried out for its management, and the implementation, monitoring and control activities for enforcement of legislation are solid and conducive of an organized fishery capable of managing fishery resources sustainably

**4. RATIONALE OF THE ASSESSMENT OUTCOME**

**A. THE MANAGEMENT FRAMEWORK AND PROCEDURE**

LEVEL OF COMPLIANCE	
<i>The management of the fishery used to produce the By- Product must include a legal and administrative basis for the implementation of measures and controls to support the management of the fishery.</i>	
<b>LOW</b>	An administrative framework that ensures an efficient management of the fishery is not established.
<b>MEDIUM</b>	An administrative framework that ensures an efficient management of the fishery is somehow established, but there is evidence of not being efficient to ensure the management of the stock.
<b>HIGH</b>	A legal and administrative framework that ensures an efficient management of the fishery is established and works efficiently.

**Determination:** *A legal and administrative framework for the management of the fishery is established, and works efficiently.* H

Chile has a well-established governance system in place for fisheries and aquaculture activities, both in the public and private sectors. In broad terms, the public sector sets the basic rules for these activities as they are undertaken either in public waters or refer to common property renewable resources, while the State represents public interests and views. In turn, the private industry has well organized institutions representing their own interests, while fishers also have strong representative associations that operate on their behalf. These parties, working separately and together, focus on local and international issues, and are responsible for the sustainability of the available natural resources and the environment, social development and maximization of wealth accrued by all parties directly involved, as well as that of society as a whole.

**Legislation enabling fisheries management**

The National Fisheries Council (Consejo Nacional de Pesca, CNP) was created by the Fisheries and aquaculture Law 18.892, aiming at organizing the participation of all stakeholders in the fisheries and aquaculture sector, on matters related to production issues. As stated in its by-laws, it is a ruling, advisory and consultative body for matters such as establishing fishing quotas for industry and small scale fishers, 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. Furthermore, the law has also set up Regional Fisheries Councils, which are aimed at studying fisheries and aquaculture problems affecting their zones and to propose solutions and management measures to the corresponding authorities such as the Undersecretary of Fisheries (*Subsecretariat de Pesca*, SUBPESCA or SSP).

**Institutional framework**

The Chilean institutional structure governing the fisheries and aquaculture sector centers around three key organizations, 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 of Fisheries (*Subsecretariat de Pesca*, SUBPESCA or SSP) provides the policy settings and regulatory framework for the domestic management of the sector, as well as providing policy direction and input into international fisheries issues. It is nested within the Ministry of Economy and is based in Valparaiso. Their mission is to promote the sustainable development of the fisheries and aquaculture activity, defining policies and applying regulations that increase the social and economic benefits of the sector, in order to ensure the wellbeing of the present and future generations of the country.

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- The management and enforcement of fisheries and aquaculture laws and regulations is undertaken by SERNAPESCA (*Servicio Nacional de Pesca*, or the National Fisheries Service). SERNAPESCA is also nested within the Ministry of Economy, but reports directly to the Minister of Economy rather than to the Subsecretariat of Fisheries. SERNAPESCA's mission is to contribute to the sustainable development and the competitiveness of the domestic fisheries and aquaculture sectors by enforcing the compliance of fisheries, aquaculture, health and environmental regulations that govern the activity and officially ensure the safety of exported fisheries products. It is also based in Valparaiso.
- The research arm of the institutional framework is the Fisheries Development Institute (*Instituto de Fomento Pesquero*, or IFOP). This is 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, including the stock assessment and setting of total allowable catch levels for the wild fisheries, and the environmental and health aspects of aquaculture production. The mission of IFOP is to provide scientific and technical advice for the regulation of fisheries and aquaculture and the conservation of hydrobiological resources and their ecosystems. It draws a proportion of its funds from SSP but also has to compete for funding from a range of public funding sources. Just as for the first two organisations, IFOP is based in Valparaiso.

Fisheries research at the national level is conducted not only by IFOP but also by universities and private research institutes or centers such as INPESCA. Through public bidding processes for projects, these bodies undertake state-commissioned monitoring of and research on the main fisheries resources under exploitation. Several research projects have been specifically developed for jack mackerel as part of either long-term government research programmes or the Fisheries Research Fund Annual Programme, or financed from regional funds (National Fund for Regional Development- FNDR).

The artisanal fisherman organizations, through political negotiations have obtained exclusive access rights over a five mile zone adjacent to the Chilean coastline, and have negotiated with the industrial fisheries important shares of different fisheries that straddle this zone through the Artisanal Extraction System (AES).

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

**LEVEL OF COMPLIANCE**

*B. Research in support of fisheries management should exist.*

<b>LOW</b>	Research to support the management of the stock does not exist
<b>MEDIUM</b>	Research to support the management of the stock exists, however research programmes could be significantly improved to decrease scientific advice uncertainty.
<b>HIGH</b>	Research to support the management of the stock exists, and research programmes for provision of scientific advice are considered adequate.

**Determination:** *Research to support the management of the stock exist, and existent research is considered to be adequate*

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**Research**

A permanent sampling network is in operation for data collection activities. It covers the main landing ports in the north, i.e. Arica, Iquique, Tocopilla, Mejillones, Caldera and Coquimbo; and San Antonio, Talcahuano, San Vicente, Coronel, Tomé and Corral, in the centre-south area . Biological data is also collected on board fishing ships. This is done by scientific observers posted permanently on board the vessels.

Data collection from the fleet includes updates on the technical features of the ships as well as information on operational variables. A daily record is kept of the fishing operations conducted by each vessel. Thus, data is collected on landings (by date, time, port and species), catches (by zone and/or coordinates and species) and

fishing effort in terms of the trips made (total trips, with or without fishing). Data are supplemented with information collected on board the ships and recorded in a Log Book System kept by IFOP. Samples are taken on land, every day, at the landing sites, following a statistical stratified bi-stage design. A tri-stage sampling design is applied on board the ships. In this case, the first stage covers the fishing trips, the second reflects the sets, and the third the group to be sampled.

Length sampling on a national level currently amounts to approximately 100 thousand specimens per year, out of which, around 10% are subjected to full biological sampling. Nevertheless, sampling was intensified in the period 1997 - 2001, with emphasis on monitoring the capture of recruits, so as to monitor the biological state of jack mackerel during the crisis that affected the fishery.

The direct assessment of jack mackerel in Chile is carried out by two different programs: acoustic surveys and monitoring surveys to determine reproductive conditions.

At spawning time, jack mackerel forms low density, disperse aggregations that are not easily detected by acoustic equipment. Therefore, and as a supplement to hydro-acoustic assessments, Chile began to monitor reproductive conditions of Chilean jack mackerel in 1997. This program is conducted by the Institute for Fisheries Research, Region VIII (INPESCA), the University of Concepción and IFOP. Monitoring is used to estimate the relative abundance indices of jack mackerel eggs and larvae in the centre-south ocean area of Chile and thus characterize reproductive aggregations in time and space. The results of this program provide relative estimates of the spawning biomass using the Daily Egg Production Method (DEPM). The spawning biomass thus estimated is used as a calibration index for stock assessment.

**Stock Assessment**

The assessment of mackerel combined the results obtained by the Fisheries Development Institute under the project "Research status and evaluation of strategies for sustainable exploitation mackerel 2011' and those obtained in the 9th Meeting of Science Working Group of the SPRFMO.

At the 9th Meeting of Science Working Group of the SPRFMO , advice on jack mackerel stock status was based on stock assessments conducted using the Joint Jack Mackerel (JJM) statistical catch-at-age model developed collaboratively by participants in the inter-sessional Assessment Simulation Task Team (ASTT), advised and assisted by Dr. Ianelli of NOAA. Results of an alternative assessment conducted using a Triple Instantaneous Separable Virtual Population Analysis (TISVPA) model are closely consistent with the results of the JJM assessments.

Chilean jack mackerel stock was assessed by IFOP using a statistical catch-at-age model based on a Bayesian estimate approach. This methodological approach is considered state of the art in modern stock assessment. The advantage it offers is its flexibility to include different types of information, test hypotheses and evaluate the implications of different uncertainties. The model uses data collected from the fishery as of 1975. Fishing inside and outside the EEZ is considered; with regard to the latter the catch of the former USSR fleet between 1979 and 1992, and the People's Republic of China is also included. The relevant information considered in the analysis include the age composition of the catches by zone or fleet, landings, and series of indicators such as the biomass obtained through hydroacoustic surveys and spawning biomass using the Daily Egg Production Method (DEPM).

**C. STOCK STATUS**

**LEVEL OF COMPLIANCE**

*C. The fish used to produce the fish By- Product is not considered to be critically at risk of over exploitation in accordance with the IUCN guidance.*

**LOW** The fish By-Product must not come from a species that is listed as extinct, or critically endangered.

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<b>MEDIUM</b>	The fish By- Product is from a species that is classified as vulnerable, but has a management regime in place that will control the level of fishing permitted. Or if a species is deemed to be endangered but the sub-group from where the fish By- Product is harvested is deemed scientifically to be at no risk of over exploitation.
<b>HIGH</b>	The fish By- Product comes from a fishery that is not deemed to be at risk of over exploitation from fishing activities.
<p><b><i>Determination: The fish By-Product comes from a fishery that is not deemed to be at risk of over exploitation from fishing activities.</i></b></p> <p>The IUCN places the Jack Mackerel in the 'Data Deficient' category.</p>	

**5. REFERENCES**

R1. OECD (2009), *An Appraisal of the Chilean Fisheries Sector*, OECD Publishing. doi: [10.1787/9789264073951-en](https://doi.org/10.1787/9789264073951-en). Available on Google Books.

R2. Subsecretariat de Pesca (The Undersecretariat of Fisheries). [http://www.subpesca.cl/controls/neochannels/neo\\_ch618/neoch618.aspx](http://www.subpesca.cl/controls/neochannels/neo_ch618/neoch618.aspx).

R3. Servicio Nacional de Pesca (Sernapesca). <http://www.sernapesca.cl/>.

R4. Instituto de Fomento Pesquero (IFOP). <http://www.ifop.cl/mision.html>.

R5. FishSource. Status and environmental performance of fisheries worldwide. Chilean Jack Mackerel. <http://www.fishsource.org/fishery/identification?fishery=Chilean+jack+mackerel+%28Country%3A+CL%3B+Gear%3A+TX%2C+PS%3B%29>

R6. Chilean Jack Mackerel Workshop. Instituto de Investigación Pesquera. Distribution of Chilean Jack Mackerel eggs and larvae in the Southeastern Pacific Ocean. Santiago, June 30- July 3<sup>rd</sup> 2008

R7. Government of Chile, Undersecretariat for Fisheries 2007. Research and management of Chilean Jack Mackerel (*Trachurus murphyi*) exploited in the South East Pacific Ocean.

R8. Information describing Chilean jack mackerel (*Trachurus murphyi*) fisheries relating to the South Pacific Regional Fishery Management Organisation. Working draft, 30th April 2009

R9. Subpesca November 2010. INFORME TECNICO (R. PESQ.) N° 119/2010 CUOTA GLOBAL ANUAL DE CAPTURA DE JUREL , PARA LAS UNIDADES DE PESQUERÍA DE LA XV - II, III - IV, V - IX Y XIV-X REGIONES, AÑO 2011

R10. South Pacific Regional Fisheries Management Organization. 2010. Report of the 9th Science Working Group, Viña del Mar, Chile: 21-29 October 2010.,66 pp.

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R11. Subpesca, October 2010. Annual National Report to the SPRFMO Science Working Group. Jack Mackerel Fishery in Chile.

R12. IFOP. C. Canales, Rodolfo S. 2008. Updated Status of the Chilean Jack Mackerel Stock. CHJMWS paper 6.

Serra, R. 1991. Important life history aspects of the chilean jack mackerel, *Trachurus symmetricus murphyi*, Invest. Pesq. (Chile),36:67-83.

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