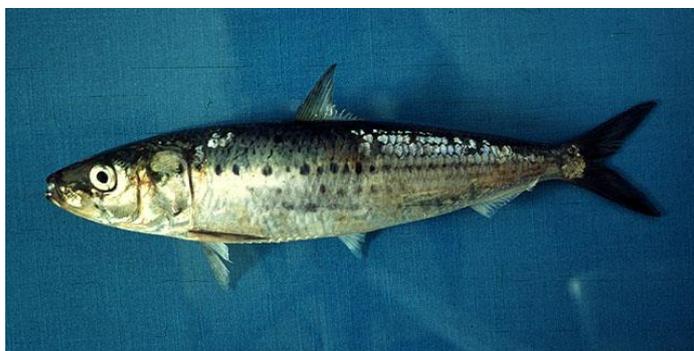


FISHERY BY-PRODUCT REPORT

IFFO GLOBAL STANDARD FOR RESPONSIBLE SUPPLY OF FISHMEAL AND FISH OIL



R1

FISHERY By-Product:	Sardine (<i>Sardinops sagax</i>)
LOCATION:	South Africa
DATE OF REPORT:	December 2016
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

Form No: 9a	Report Ref:	Page 1 of 5	CCM Code:
-------------	-------------	-------------	-----------

This report shall not be reproduced in full or in part without the permission of Global Trust Certification Ltd.

1. APPLICATION DETAILS AND SUMMARY OF THE ASSESSMENT OUTCOME		
Name:		
Address:		
Country: Western Cape, South Africa	Zip:	
Tel. No.	Fax. No.	
Email address:	Applicant Code	
Key Contact:	Title:	
Certification Body Details		
Name of Certification Body:	SAI Global (Ireland)	
Assessor Name	Peer Reviewer	Initial/Surveillance/ Re-certification
Deirdre Hoare	Virginia Polonio	Surveillance Yr 2
1. Scope of Assessment		
1. Scope of Assessment	By-Product surveillance	
2. Fishery By-Product		
2. Fishery By-Product	Sardine (<i>Sardinops sagax</i>)	
3. Fishery By-Product Location		
3. Fishery By-Product Location	South Africa	
4. Fishery Method		
4. Fishery Method	Pelagic trawl / Purse seine	
5. Outcome of Assessment		
5. Outcome of Assessment	Maintain approval	

2. GUIDANCE FOR ONSITE ASSESSMENT

3. ASSESSMENT DETERMINATION
<p>There have been no major changes in the management of the South African small pelagic fishery since the 2015 surveillance assessment. Sardine continues to be subject to a robust management framework, supported by effective data collection and stock assessment activities. The assessment team recommends maintaining the approval of this byproduct.</p>

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>		
LOW	An administrative framework that ensures an efficient management of the fishery is not established.	
MEDIUM	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.	
HIGH	A legal and administrative framework that ensures an efficient management of the fishery is established and works efficiently.	
<p><i>Determination: There is a legal and administrative fisheries management framework in place in South Africa, which is applied to sardine as a component of the broader small pelagic fishery. A high compliance rating remains appropriate.</i></p> <p>Fishery management framework:</p> <p>The legal foundation for the management of South African fisheries, including fisheries for sardine, anchovy and round herring, is the Marine Living Resources Act, 1998 (Act No. 18, 1998) of South Africa. The passing of the Marine Living Resources Amendment Bill 2013 has resulted in some changes to the basis for fisheries management since the 2013 surveillance. The Bill replaces the concept of subsistence fisheries with ‘small-scale’ fisheries, and introduces the main mechanisms by which the fisheries Minister may exert control over these; primarily, through licencing, area restrictions and quotas. The South African fishing industry is managed and regulated by the Fisheries Management Branch (FMB) of the Department of Agriculture, Forestry and Fisheries (DAFF). The FMB is the primary implementer of the Marine Living Resources Act, and its aims include the maintenance and restoration of the productive capacity and biodiversity of the marine environment, ensuring the protection of human health, and promotion of the conservation and sustainable use of marine living resources.</p> <p>The Branch conducts research and monitoring on sardine, amongst other stocks, including biannual research surveys, manned field stations, and creating Scientific Working Groups (SWGs) to gather state and invited outside specialist scientists to assess the status of the various pelagic stocks. The FMB uses this research to make recommendations regarding management measures, including total allowable catches (TACs) and fishery closures. The specific SWG relevant to the sardine stock is the Small Pelagic Scientific Working Group, which provides advice and recommendations to ensure the sustainable utilisation of South Africa's small pelagic fish resources. Management is also founded on the use of Operational Management Procedures (OMPs), which provide, amongst other components, the process by which TAC recommendations are calculated.</p> <p>Management of the sardine fishery:</p> <p>The South African sardine stock is managed in combination with other small pelagic species, including anchovy, redeye round herring, and horse mackerel. The DAFF issues an annual TAC for each seasonal fishery, along with vessel licenses and implementing other management measures. Co-management in the small pelagic fishery is necessary due to the interactions between the component species. In 2016 there was a TAC of 64,927.93t for sardine larger than 14cm in the targeted fishery, with a 5,545.02t bycatch allowance for sardine smaller than 14 cm.</p> <p>R2</p>		H

B. STOCK ASSESSMENT PROCEDURES AND MANAGEMENT ADVICE		
LEVEL OF COMPLIANCE		
<i>B. Research in support of fisheries management should exist.</i>		
LOW	Research to support the management of the stock does not exist	
MEDIUM	Research to support the management of the stock exists, however research programmes could be significantly improved to decrease scientific advice uncertainty.	
HIGH	Research to support the management of the stock exists, and research programmes for provision of scientific advice are considered adequate.	
<p><i>Determination: Research to support the management of the stock exists, and continues to be conducted at a level which permits the sustainable management of the stock.</i></p> <p>Management of the South African small pelagic fishery is supported by a range of data collection and stock assessment activities. Anchovy and sardine populations are monitored by means of hydro-acoustic surveys conducted biannually since 1984. A summer biomass survey estimates the total size of the stock and a winter recruit survey estimates the number of fish that recruit to the population. Data for the estimation of a number of other key biological parameters (e.g. age structure, stock structure) are also collected. In addition to these fishery-independent surveys, accurate data on catch statistics including landed mass, species composition, and catch position and date are obtained from the pelagic fishery. Samples from commercial catches are processed to obtain the length and age frequency distributions of harvested fish required as input in the pelagic population dynamics models, in addition to other data on biological characteristics such as sex and gonad maturity stage, and fish condition.</p> <p>The operating model for the South African sardine resource is being updated from the last assessment (de Moor and Butterworth 2015a) to take account of data collected between 2012 and 2014. Both a single and two-mixing-stock hypothesis will be considered again, although revisions to the two-mixing-stock hypothesis are also being considered. New data on the differences in infection of sardine on the west and south coasts by a digenean ‘tetracotyle-type’ metacercarian endoparasite are to be included in the model with the aim of obtaining improved estimates of sardine movement for the two stock hypothesis.</p> <p>R2, R3</p>		H
C. STOCK STATUS		
LEVEL OF COMPLIANCE		
<i>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.</i>		
LOW	The fish By-Product must not come from a species that is listed as extinct, or critically endangered.	
MEDIUM	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.	
HIGH	The fish By- Product comes from a fishery that is not deemed to be at risk of over exploitation from fishing activities.	
<p><i>Determination: As at the time of the previous assessment, the byproduct species has not been assessed by the IUCN. However, fisheries prosecuted by other countries remain certified against the MSC standard and so a high compliance rating is still appropriate.</i></p> <p>The IUCN has not assessed <i>Sardinops sagax</i>; however there are several fisheries around the world which have been certified against the MSC standard, including the Gulf of Mexico and Portugal.</p> <p>R4, R5</p>		H

5. REFERENCES

R1 – Image of *Sardinops sagax* by Béarez, P.,

<http://fishbase.org/photos/PicturesSummary.php?ID=1477&what=species>

R2 - Status and management of the South African small pelagic fishery, 2014:

<http://www.oceana.co.za/sites/default/files/2014%20Status%20of%20Small%20Pelagics.pdf>

R3 - Initial results from fitting the revised sardine two-mixing-stock model to data from 1984-2014, including consideration of parasite prevalence-by-length sampled from November surveys 2010-2014:

http://www.mth.uct.ac.za/maram/workshop/2015/MARAM_IWS_DEC15_Sardine_P3.pdf

R4 – IUCN red list: <http://www.iucnredlist.org/>

R5 – MSC Gulf of Mexico Sardine: <http://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/pacific/gulf-of-california-mexico-sardine>

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

Form No: 9a	Report Ref:	Page 5 of 5	CCM Code:
-------------	-------------	-------------	-----------

This report shall not be reproduced in full or in part without the permission of Global Trust Certification Ltd.