FISHERY ASSESSMENT REPORT

IFFO GLOBAL STANDARD FOR RESPONSIBLE SUPPLY OF FISHMEAL AND FISH OIL

FISHERY:	**Redeye Herring (*Etrumeus whiteheadi*)**
LOCATION:	**South Africa**
DATE OF REPORT:	**July 2014**
ASSESSOR:	**Sam Peacock**

1. APPLICATION DETAILS AND SUMMARY OF THE ASSESSMENT OUTCOME			
Name:			
Address:			
Country:		**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	Deirdre Hoare	2	Surveillance
Assessment Period	July 2014		
Scope Details			
1. Scope of Assessment	IFFO Global Standard for Responsible Supply – Issue 1		
2. Fishery	Redeye Herring (*Etrumeus whiteheadi*)		
3. Fishery Location	South Africa		
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	Maintain approval		

2. QUALITY OF INFORMATION

Good; primarily government reports and websites.

3. COMPLIANCE LEVEL ACHEIVED

Medium/High

Recommendation

Approve fishery

4. GUIDANCE FOR ONSITE ASSESSMENT

Based on HIGH compliance findings

Based on MEDIUM compliance findings

Based on LOW compliance findings

5. ASSESSMENT DETERMINATION

The South African redeye herring fishery continues to be managed as described in the initial fishery assessment. There have been no substantial changes made to either the frameworks or practices applied in the management process. Landings continue to be substantially below TAC, which is set according to the scientifically-derived Operational Management Procedure. In 2014 a new Operational Management Procedure (OMP-14) for the small pelagic fishery, and a fisheries act amendment Bill for South African fisheries in general, were implemented and reviewed during this assessment. At the time of this assessment, the assessment team considers that the fishery should remain approved against the IFFO RS standard.

HIGH Compliance

A1, B1, B2, D2, D3, E1, E2

MEDIUM Compliance

A2, A3, C1, D1

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:

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: There have been some minor changes to the legal basis for fisheries management with regard to small-scale fishers; however a high compliance rating remains appropriate. H

The legal basis for the management of fisheries in South Africa, including the redeye round herring fishery, is the Marine Living Resources Act, 1998 (Act No. 18, 1998) of South Africa (MLRA). The objectives of the Act include the optimum utilisation and ecologically sustainable development of marine living resources, the application of the precautionary approach, and the preservation of the ecosystem as a whole, not just exploited species. 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 responsible for the implementation of the MLRA, and also carries out the majority of scientific research on South African fishery stocks.

For more information on the legal and administrative framework in South African fisheries, please refer to the initial fishery assessment (R1).

LEVEL OF COMPLIANCE	
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.	
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: Although the management unit is considered by scientists to reflect the biological stock fairly well, fishery removals are not factored into the management process (although they are monitored). A medium compliance rating remains appropriate. M

The redeye round herring occurring over the continental shelf region from Walvis Bay on the west coast (Namibia) to about the Thukela River on the east coast is considered to be a single stock. Although some fishing is carried out by Namibian and international vessels, the large majority of redeye herring landings

are by South African vessels.

As the targeted redeye fishery is still considered underdeveloped, and information on the species is comparatively limited, fishery removals are not currently factored in to its management. However, landings data are recorded, and total catch is monitored and used to ensure fishing does not exceed the precautionary upper catch limit. The initial assessment awarded a medium compliance rating despite fishery management not taking into account fishery removals or biomass estimates because exploitation rates have been very low for more than a decade. The PUCL is set at around 10% of estimated biomass, and so as long as landings remain below the PUCL (which they have to date), the exploitation rate will remain fairly low. Landings vary between 30,000 to 55,000 tonnes annually (FishStat 2009). Landings for 2013 were 32,000t.

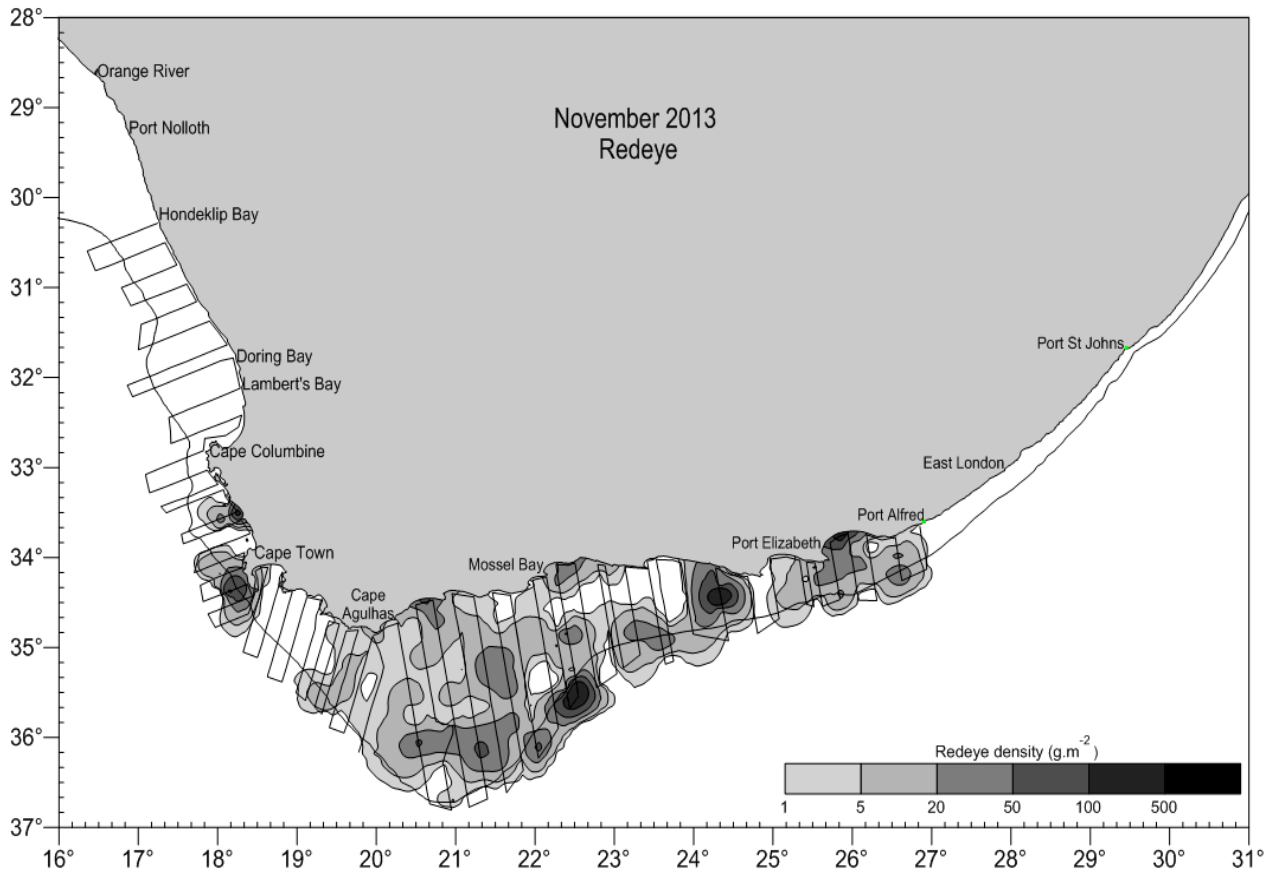

Figure 1. South African red-eye *E. whiteheadi* distribution and relative density for the 2013 spawner biomass survey (Mhlongo et al., 2013)

R5

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 have been no substantial changes to the management approach applied to M

the redeye stock, which is still to ensure annual catch remains below 100,000t.

The long-term conservation objectives of the management of the South African small pelagic fishery are set out in the Operational Management Procedure (OMP). At the time of the initial and first surveillance assessments, the active OMP was OMP-08, which was due to be replaced by OMP-13 towards the end of 2013. A new OMP-14 has been implemented, however it does not mention redeye herring.

The only long-term objective for redeye herring in OMP-08 was to ensure the total fishing level did not exceed 100,00t per year, which represented a conservative estimate of a sustainable level of fishing given the stock data available. The previous assessments concluded that as the long-term aims for the primary target species in the pelagic fishery are specific and risk-based, and it is likely that as the redeye fishery develops similar aims will also be developed. This management action seems to be still in place as TACs for 2014 and 2015 were capped at 100,000t.

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: Fishery dependent and fishery independent data collection continues in support of fishery management. H

Fishery-dependent data are collected from the small pelagic fishery at landing, including catch species composition, weight, and location. Observers have been deployed on vessels in the pelagic fishery since 1999, to provide data relating to catch weight and locality, catch composition, and length frequencies of important species, in addition to collecting some biological data. Observer data has been used to validate catch data (primarily catch weight and species composition) recorded by fisheries inspectors at landing sites, and to compare the fishing behaviour of observed versus unobserved vessels. Fishery-independent data are primarily sourced from hydro-acoustic surveys.

For more details on the research efforts applied to the South African small pelagic fishery, and on redeye herring specifically, refer to the initial assessment (R1).

LEVEL OF COMPLIANCE	
B2. Best scientific evidence available should be taken into account when designing conservation and management measures.	
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 comprehensively manner.

Determination: Scientific Working Groups (SWGs) continue to be involved throughout the management process. There do not appear to have been any substantial changes to the implementation of scientific advice in the management of the stock since the 2013 surveillance assessment. H

By constituting various scientific working groups, such as the Ecosystems Effects of Fishing Working Group

and the Small Pelagic Scientific Working Group, the Fisheries Management Branch ensures that the best available scientific evidence is taken into account when designing conservation and management measures. The scientific working group for the sustainable management of small pelagic resources produces recommendations, including seasonal and sub-seasonal TACs and TABs, and other management measures where relevant. For example, the marine areas around the largest penguin breeding colony in the Eastern Cape (St Croix Island off Port Elizabeth) have been closed to pelagic fishing for several years as a result of scientific advice. These closures are codified in the pelagic fishing permits.

Although the quantity of information available for redeye appears to be limited, what information is available is utilised in management decisions, and scientific understanding appears to be fully utilised in the management of the primary target species of the small pelagic fishery.

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: The small pelagic fishery is managed by Operational Management Plan, the most recent of which was implemented in 2014. As there is no mention of redeye herring we can only assume that the level of precautionality applied in the management of this fishery has not changed.

M

The Marine Living Resources Act, 1998 includes as one of its recognised principals "the need to apply precautionary approaches in respect of the management and development of marine living resources".

At the time of the initial and first surveillance assessments, the small pelagic fishery was managed by OMP-08. This OMP performed a risk analysis, which allowed results to be expressed as the probability that a defined event will occur (e.g. the biomass falling below a specified threshold level or the fishery collapsing) within a fixed period for the two main target species, sardine and anchovy. The lack of information, plus the comparatively small commercial interest in the species, meant that no such analysis is carried out for redeye herring. However, A 2006 study stated 'The present stock control method of setting a Precautionary Upper Catch Limit (PUCL) seems to be a conservative way of protecting a stock that is not very well researched and that forms a portion (up to 30%) of the catch of a large pelagic fishery.'

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: The initial and first surveillance assessments determined that the annual Precautionary Upper Catch Limit of 100,000t had never been breached and that fishing effort was largely self-regulating. There is currently no new landings information available to the assessment team since the 2013 surveillance, so it is not clear whether this is still the case.

M

Redeye round herring is not allocated a Total Allowable Catch (TAC), but rather a Precautionary Upper

Catch Limit (PUCL). The PUCL is set at 100,000t per annum, which is 10% of the conservative estimate of stock size and as of 2013 had never been exceeded since the inception of the fishery in 1958. On-site questioning conducted as part of the initial assessment of the fishery confirmed that the entire small pelagic fishery would be closed if the PUCL were exceeded at any point; however there are no new landings data available to the assessment team since the 2013 surveillance (32,000t) and so it is not clear whether the increasing trend in landings observed at that time has continued. It is known that the PUCL currently remains at 100,000t.

The PUCL is not allocated to individual vessels, which therefore have no specific catch limit. Small pelagic vessel preferentially fish for anchovy and sardine, and the total redeye fishing effort appears to be largely self-limiting.

South African small pelagic fishery TACs and TABs set for 2014 (DAFF, 2013)

Round Herring PUCL : Target round herring PUCL (not allocated to specific rights holders)	100 000t
Round Herring Target TAB : **Adult** sardine TAB permitted in directed round herring and anchovy fishing	7 000t
Round Herring Target TAB : **Juvenile** sardine TAB with directed round herring fishing	1 000t

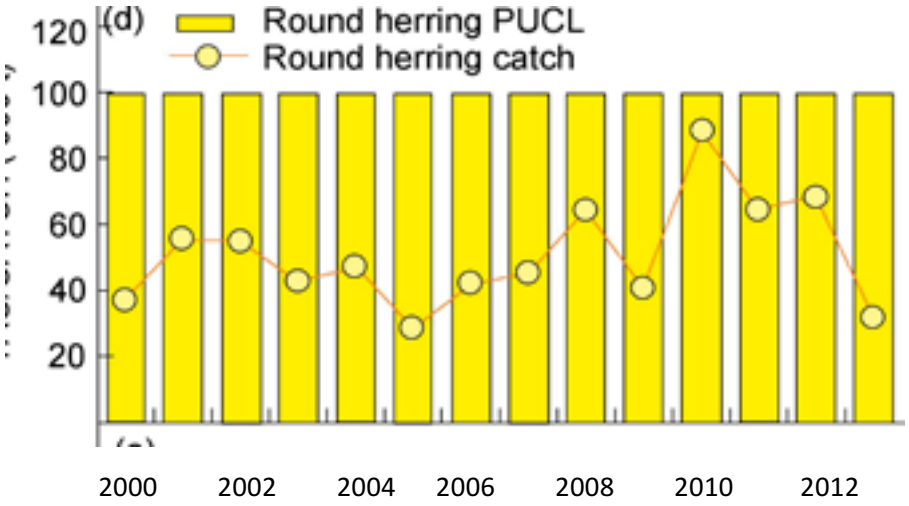

Figure 2: Precautionary Upper Catch Limits (PUCLs), and subsequent landings for the South African round herring 2000–2013.

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.	
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: There is no evidence of any substantial changes to the capacity management systems in place for South African fisheries. Capacity is managed primarily through quotas, vessel registration and commercial fishing licenses. According to the information available to the assessment team, there is currently not considered to be excess fishing capacity in the small pelagic fishery. H

Any commercial fishing in South Africa requires an annually-renewed license. Commercial fishers are

considered to be exercising a fishing right. The right must first be applied for and granted, to exploit, harvest fish or engage in a fishing related activity for trade purposes. It also includes engagement in fishing related and non-consumptive activities. Commercial fishing permits are granted by the Minister of Department of Agriculture, Forestry and Fisheries (or the delegated authority). Fishing is also restricted by the application of TACs and Total Allowable Effort (TAE), although the redeye stock is managed by Precautionary Upper Catch Limit (PUCL, see section D1).

For more information on South African capacity management systems, please refer to the initial assessment (R1).

LEVEL OF COMPLIANCE	
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.	
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 have been no substantial changes in the approaches utilised by fishery managers to minimise the impacts of the fishery on non-target species and the physical environment. H

Bycatch in the small pelagic fishery is less than 10% due to the schooling nature of the target species. The major bycatch species are subject to annual quotas, and small pelagic fishing permits set out a detailed plan for regional closures should bycatch exceed pre-defined levels. DAFF scientists have stated that there is no PET bycatch in the fishery. Small pelagic species such as redeye are recognised as an important part of the food chain in the Bengeula Current, and the ecosystem in general. Specific measures have been implemented to minimise the effects of the fishery on the African Penguin, an endangered species reliant upon pelagic fish for food. Purse-seine nets are not considered to have a substantial negative effect on the physical environment.

For more details on the management measures utilised to minimise the effects of the fishery on non-target species, please refer to the initial assessment report (R1).

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: ***A high compliance rating remains appropriate as there have been no substantial changes to the framework of sanctions since the 2013 surveillance assessment.*** H

A framework of sanctions for violations of laws and regulations is established by the Marine Living Resources Act, 1998 (Act No. 18, 1998) of South Africa, with jurisdiction throughout the South-African EEZ. There are numerous other Acts that add to the marine legislative framework that work in conjunction with the MLRA. These include the National Environmental Management: Protected Areas Act (No. 57 of 2003),

the National Environmental Management: Biodiversity Act (No. 10 of 2004), the Maritime Zones Act (No. 15 of 1994), Sea Birds and Seals Protection Act (No. 46 of 1973), Sea Shore Act (No. 21 of 1935) and the Nature and Environmental Conservation Ordinance, (Ordinance 19 of 1974). The Marine Living Resources Amendment Bill 2013 did not contain any changes to the sanctions framework.

Sanctions include the suspension or removal of fishing rights, the seizure of gear or vessels, fines of up to 5 million rand (approx. US$500,000), or imprisonment for up to five years. A detailed list of sanctions is presented in Chapter 7 of the Marine Living Resources Act.

The conditions for small pelagic fishing permits include a section detailing the process of sanctions for violations.

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.

H

Determination: ***There have been no substantial changes in fisheries control and enforcement since the 2013 surveillance assessment, and so a high compliance rating remains appropriate.***

Enforcement is the responsibility of the Fisheries Management Branch of the Department of Agriculture, Forestry and Fisheries. Compliance is maintained through a comprehensive monitoring, control and surveillance strategy, 4 fishery patrol vessel warships and one chase vessel (used for all South African fisheries), officers and vessel monitoring systems. Vessel monitoring systems are presently on board every pelagic vessel and provide data on location (with a temporal resolution of six hours), and are used for compliance purposes to ensure that vessels do not fish in restricted areas. Both the skipper and holder of fishing rights of vessels detected fishing in closed or restricted areas are subject to fines. Fish must be landed in the presence of a Fishery Control Officer, who completes a pelagic landing report for each vessel. Skippers also complete a report, which must match the monitor's figures to within 10%. Samples are taken of landings every 30 minutes to check bycatch composition. Excessive bycatch of certain species leads to area closures, as described above. Fishing permits also contain restrictions on where fish can be landed.

Catch data are recorded at landing, and observers are present on approximately 8% of fishing trips. All commercial fishing vessels are required by law to have a license and fishing permit, and all licensed vessels are required to permit observers and fishery control officers on board when requested. Full details of the powers of fishery control officers are set out in Chapter 6 of the Marine Living Resources Act, 1998.

7. KEY STAKEHOLDERS

8. REFERENCES

R1 – South Africa Redeye Herring initial IFFO RS assessment, 2011:
http://www.iffo.net/files/iffoweb/approved-raw-materials/whole-fish/red-eye-herring-south-africa.pdf

R2 – South Africa Marine Living Resources Amendment Bill, 2013:
https://jutalaw.co.za/media/filestore/2013/11/B30B_2013.pdf

R3 – Letter from DAFF to small pelagic quota holders, final TACs 2014. Provided by IFFO.

R4 – Status of the South Africa Marine Fishery Resources 2014:
http://www.nda.agric.za/doaDev/sideMenu/fisheries/03_areasofwork/Resources%20Research/STATUS%20OF%20THE%20SOUTH%20AFRICAN%20MARINE%20FISHERY%20RESOURCES%202014%20WEB.pdf

R5- Mhlongo N, Coetzee J, Shabangu F, Merkle D, Hendricks M, Geja Y (2013) Results of the 2013 Spawner Biomass Survey. Fisheries Management Scientific Working Group – Small pelagics. FISHERIES/2013/DEC/SWG-PEL/45