MarinTrust RS V2.0

BYPRODUCT FISHERY ASSESSMENT INTERPRETATION & GUIDANCE DOCUMENT

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MarinTrust

VISION

All Marine Ingredients produced globally will be sourced from responsibly sourced fisheries products and produced in a safe manner.

MISSION

To enable Marine Ingredient producers to demonstrate to all stakeholders their commitment to responsible practices in the areas of raw material procurement and food/feed safety.

INTRODUCTION

The MARINTRUST Global Standard and Certification Programme for the Responsible Supply of Fishmeal and Fish Oil (MARINTRUST) was developed with international consultation with stakeholders and meets global best practice guidelines for certification and ecolabelling programs.

The MARINTRUST Global Standard for responsible supply has the following core objectives:

- To ensure that whole fish used come from fisheries managed according to the FAO Code of Conduct for Responsible Fisheries.
- To ensure no Illegal, Unreported and Unregulated fishery raw materials are used.
- To ensure pure and safe products are produced under a recognised Quality Management System, thereby demonstrating freedom from potentially unsafe and illegal materials.
- To ensure full traceability throughout production and the supply chain.

Guidance

Source fisheries are assessed against version 2 of the MarinTrust standard using a modular assessment template, which awards a pass or fail rating under a number of sections. The precise structure of the assessment report is determined by the nature of the catch in the fishery (species categorisation), utilising different modules for 'target' and 'bycatch' species, and for those stock with or without stock-specific management regimes.

The purpose of this document is to provide guidance to the CBs to help interpret the fisheries standard and how to complete the fisheries assessment template.

1. Clarify the requirements of each assessment section.
2. Recommend determinations based on possible fishery circumstances.
3. Improve consistency by listing previous key assessment decisions.

It is important to note that the guidance contained within this document is not binding; final interpretation of the adequacy of a fishery at meeting each clause of the standard, and the approval decision for the fishery as a whole, rests with the certification body and their fishery assessment team.

Fishery management has as many variations in approach as there are fisheries, and so this document is not intended to cover all eventualities but rather provide advice for fishery assessors under commonly-encountered scenarios. It is intended to remain under development and will be updated as additional fisheries are assessed, and additional scenarios encountered.

Note that the format of this document should not be used as a template for conducting fishery assessments; assessors should use the fishery assessment template prepared by MarinTrust for this purpose.

Structure and layout of this document

This document is formatted to match the structure of the MarinTrust fishery assessment template. The first half contains information on how to complete the pre-amble, including the application details, quality of information, assessment determination, guidance for on-site assessment, and result summary sections. Many of these are self-explanatory and so guidance is minimal.

The main body of the interpretation document provides guidance advice on a section-by-section basis. Each section is broken into three components:

1. An explanation of how to complete the section.
2. Requirements for a 'pass' rating / general guidance.
3. Recommended information sources, references

General Fishery Assessment guidance

The Certification Body assessment team will provide in the evidence section enough information to justify the pass or fail rating being awarded for each clause. Information should always be from reliable sources, preferably recognised scientific or governmental organisations or NGOs. References will need to be provided under each clause to show the source of all information used. Fisheries must achieve a pass rating in all applicable sections to achieve approval overall.

Where there is an information or evidence deficiency, the fishery assessment team will have two options.

a) Firstly, the client can be approached directly to provide answers or additional evidence.

b) Secondly, in some cases additional information or evidence can be sought by the on-site auditors during the factory assessment.

If there is sufficient information to award the fishery a pass rating under every clause, the fishery should be provisionally approved and ratings updated when the additional information becomes available. Where information deficiency prevents the assessment of a clause, or leads to an implied fail rating, the fishery should not be approved until additional information is made available to the assessment team.

ALL REFERENCES should be documented

Information provided throughout the assessment should be from reliable sources, such as official government websites, internationally recognised scientific organisations, and NGOs. The reference will include the author, the title of the report, the page number and a hyperlink to the internet source (If applicable).

Table 1 Application details and summary of the assessment outcome

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:			
Assessor Name	**CB Peer Reviewer**	**Assessment Days**	**Initial/Surveillance/ Re-approval**
Assessment Period	Dates between which assessment was carried out		
Scope Details			
Management Authority (Country/State)	The country or state/province with primary responsibility for managing the fishery. In assessments where there are multiple relevant management authorities, a separate Section M should be completed for each.		
Main Species	Common names of the Category A and Category B species covered by the assessment.		
Fishery Location	Marine region where the fishery is conducted, e.g. ICES area, national EEZ, FAO area, specific coastline.		
Gear Type(s)	Gear type(s) used in the fishery under assessment. Where there are multiple gear types, a separate Section F should be completed for each. If the catch composition of the gear types differs substantially, a full separate assessment should be carried out for each.		
Outcome of Assessment			
Overall Outcome	Pass or fail – all relevant sections must achieve a pass rating to pass overall.		
Clauses Failed	Indicate which clauses, if any, received a fail rating.		

Peer Review Evaluation	Result of peer review, usually either approve or do not approve.
Recommendation	Recommendation of assessment team; Approve or Not approved.

Table 2. Assessment Determination

Assessment Determination
Brief summary of the findings of the assessment. Include a statement on each of; • fishery management infrastructure, • catch composition overview, • stock assessment efforts, • other research, • control and enforcement, • and other impacts of the fishery. Include additional detail on any areas in which the fishery was awarded a fail rating.
Peer Review Comments
Any additional thoughts from the peer reviewer on the accuracy of the assessment decision, the ratings throughout the assessment, and the adequacy of the evidence supporting these.
Notes for On-site Auditor
Under some circumstances, there may be areas of the fishery assessment which need to be confirmed during the on-site audit. These could include: • Ensure that all landings are monitored and recorded by government officials • Ensure that bycatch is monitored and catch composition is accurate • Ensure that vessels details are recorded at landing. This section is for recording any such concerns or requests for the on-site assessor.

HOW TO COMPLETE THE ASSESSMENT REPORT

The fishery assessment template uses a modular approach to assessing fisheries against the MarinTrust standard.

By-products

The process for completing the template for **by-product raw material** is as follows:

1. ALL ASSESSMENTS: Complete the Species Characterisation table with the names of the by-product species and stocks under assessment. The '% landings' column can be left empty; all by-products are considered as Category C and D.
2. IF THERE ARE CATEGORY C BYPRODUCTS UNDER ASSESSMENT: Complete clause C1 for **each** Category C by-product.
3. IF THERE ARE CATEGORY D BYPRODUCTS UNDER ASSESSMENT: Complete Section D.

By-product approval is awarded on a species-by-species basis. Each by-product species scoring a pass under the appropriate section may be approved against the MARINTRUST Standard.

SPECIES CATEGORISATION

NB: If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in CITES Appendix 1, it **cannot** be approved for use as an MARINTRUST raw material.

IUCN Redlist Category

Byproduct material from a species listed by IUCN (the International Union for Conservation of Nature) under the Red List for the following categories shall immediately fail the assessment;

- EXTINCT (E) AND EXTINCT IN THE WILD (EW)
- CRITICALLY ENDANGERED (CR) facing an extremely high risk of extinction in the wild.
- ENDANGERED (EN) facing a very high risk of extinction in the wild.

Byproduct material may be used from the following categories provided that all clauses in the MarinTrust standard are passed.

- VULNERABLE (VU) facing a high risk of extinction in the wild.
- NEAR THREATENED (NT) does not qualify for above now, but is close or is likely to qualify for, a threatened category in the near future.
- LEAST CONCERN (LC) Widespread and abundant.
- DATA DEFICIENT (DD) and NOT EVALUATED (NE)

Table 3 Species Categorisation Table

Common name	Latin name	Stock	Management	Category	IUCN Red List Category[1]	CITES Appendix 1[2]
All species should be listed		Stock name, location. Differentiate when there are multiple biological or management stocks of one species captured by the fishery	'Yes' or 'No': depending on whether the species is subjected to a stock-specific management regime, as described above.	Category C or D. Depending on information in previous columns and guidance		

[1] https://www.iucnredlist.org/
[2] https://cites.org/eng/app/appendices.php

Table 3 Species Categorisation Table should be completed as fully as the available information permits.

- **Category C:** Byproduct species with a species-specific management regime in place.
- **Category D:** Byproduct species with no species-specific management regime in place

The '**management'** column should be used to indicate whether there is an adequate management regime specifically aimed at the individual species/stock. In some cases it will be immediately clear whether there is a species-specific management regime in place (for example, if there is an annual TAC).

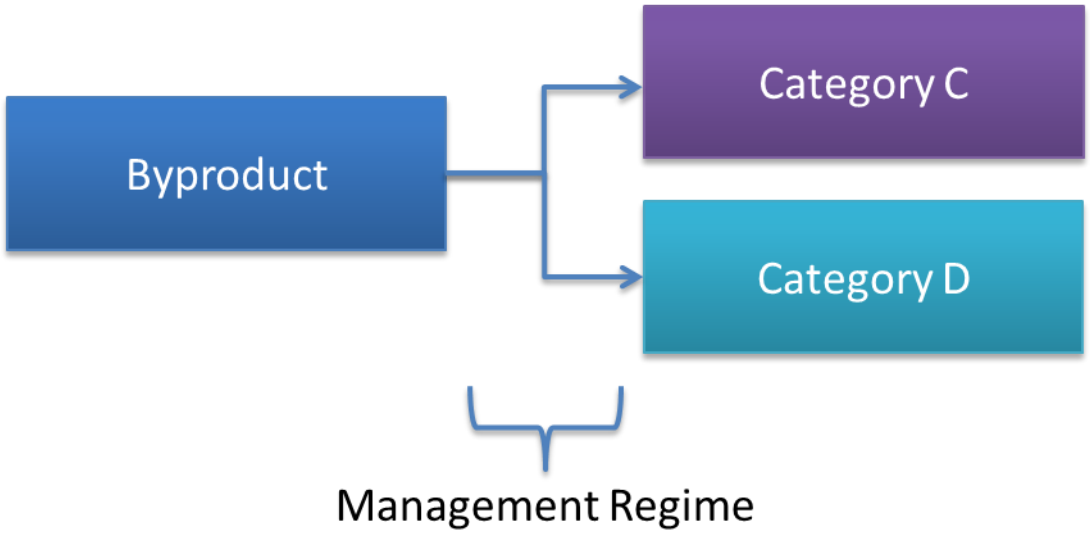

Figure 1. Byproduct Assessment – Species Categorisation

CATEGORY C SPECIES

In a by-product assessment, Category C species are those which are subject to a species-specific management regime and are usually targeted species in fisheries for human consumption.

Clause C1 should be completed for **each** Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. Where a species fails this Clause, it may be assessed as a Category D species instead, EXCEPT if there is evidence that it is currently below the limit reference point.

Species Name			
C1	**Category C Stock Status - Minimum Requirements**		
	C1.1	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.	
	C1.2	The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.	
		Clause outcome:	

C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.

Stock assessments rarely specify if fishery removals are negligible. Here the assessor must look for evidence such as management measures being implemented for stock rebuilding and that the management measures are not contradicting scientific advice.

Examples of management measures: reduction in landings and effort, may also include increased landing controls, technical measures (such as gear modification or changes to minimum landing sizes) or spatial or temporal closures.

C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.

The stock should be assessed in terms of the overall outcome objectives i.e to pass this clause there should be evidence that the stock status is above the point at which there is an appreciable risk that recruitment is impaired and will be at or above Blim.

Where historical estimates of stock size and resulting recruitment are available, the PRI may be identifiable as the point below which reduced recruitment has been observed in the past, and above which recruitment appears to be more related to environmental factors than to stock size.

The standard requires that management measures specify the actions to be taken in the event that the status of the stock under consideration drops below levels consistent with achieving management objectives that allow for the restoration of the stock to such levels within a reasonable time frame. This requires the specification in advance of decision rules that mandate remedial management actions to be taken if target reference points are exceeded and/or limit reference points are approached or exceeded or the desired directions in key indicators of stock status are not achieved. For example, decreasing fishing mortality (or its proxy) if the stock size approaches its limit reference point. This is a central component of the Precautionary Approach.

References

- Catch composition data

• Stock assessments • Management measures for any stocks shown to be depleted • Evidence that the fishery is not hindering the recovery of the species below the PRI, such as evidence indicating a lack of gear interaction, or evidence pointing to an unrelated cause (or fishery) limiting recovery.	
Links	
MARINTRUST Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

CATEGORY D SPECIES

Category D species are those which make up less than 5% of landings and are not subject to a species-specific management regime. In the case of mixed trawl fisheries, Category D species may make up the majority of landings. The comparative lack of scientific information on the status of the population of the species means that a risk-assessment style approach must be taken.

The process for assessing Category D species involves the use of a Productivity-Susceptibility Analysis (PSA) to further subdivide the species into 'Critical Risk', 'Major Risk' and 'Minor Risk' groups. If there are no Category D species in the fishery under assessment, this section can be deleted.

Productivity and susceptibility ratings are calculated using a process derived from the APFIC document "Regional Guidelines for the Management of Tropical Trawl Fisheries, which in turn was derived from papers by Patrick *et al* (2009) and Hobday *et al* (2007). Table D1 should be completed for each Category D species as follows:

- Firstly, the best available information should be used to fill in values for each productivity and susceptibility attribute.
- Table D2 should be used to convert each attribute value into a score between 1 and 3.
- The average score for productivity attributes and the average for susceptibility attributes should be calculated.
- Table D3 should be used to determine whether the species is required to meet the requirements of Table D4. A species which does not need to meet the requirements of D4 is automatically awarded a pass.
- Table D4 should be used to assess those species indicated by Table D3 to determine a pass/fail rating.
- Any Category D species which has been categorised by the IUCN Red List as Endangered or Critically Endangered, or which appears in the CITES appendices, automatically results in a fail.

Category =D species

D1	Species Name		
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)		
	Average maximum age (years)		
	Fecundity (eggs/spawning)		
	Average maximum size (cm)		
	Average size at maturity (cm)		
	Reproductive strategy		
	Mean trophic level		
		Average Productivity Score	
	Susceptibility Attribute	**Value**	**Score**
	Overlap of adult species range with fishery		
	Distribution		
	Habitat		
	Depth range		
	Selectivity		
	Post-capture mortality		
		Average Susceptibility Score	
		PSA Risk Rating (From Table D3)	
		Compliance rating	
References			
Standard clauses 1.3.2.2			

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	Low productivity/ High risk	Medium productivity/ Medium risk	High productivity/ Low risk
	Score 3	Score 2	Score 1
Average age at maturity (years)	>4	2 to 4	<2
Average maximum age (years)	>30	10 to 30	<10
Fecundity (eggs/spawning)	<1 000	1 000 to 10 000	>10 000
Average maximum size (cm)	>150	60 to 150	<60
Average size at maturity (cm)	>150	30 to 150	<30
Reproductive strategy	Live bearer, mouth brooder or significant parental investment	Demersal spawner "berried"	Broadcast spawner
Mean trophic level	>3.25	2.5–3.25	<2.5

Susceptibility attributes		High susceptibility/ High risk	Medium susceptibility/ Medium risk	Low susceptibility/ Low risk
		Score 3	Score 2	Score 1
Availability	1) Overlap of adult species range with fishery	>50% of stock occurs in the area fished	Between 25% and 50% of the stock occurs in the area fished	<25% of stock occurs in the area fished
	2) Distribution	Only in the country/ fishery	Limited range in the region	Throughout region/ global distribution
Encounterability	1) Habitat	Habitat preference of species make it highly likely to encounter trawl gear (e.g. demersal, muddy/sandy bottom)	Habitat preference of species make it moderately likely to encounter trawl gear (e.g. rocky bottom/reefs)	Depth or distribution of species make it unlikely to encounter trawl gear (e.g. epi-pelagic or meso-pelagic)
	2) Depth range	High overlap with trawl fishing gear (20 to 60 m depth)	Medium overlap with trawl fishing gear (10 to 20 m depth)	Low overlap with trawl fishing gear (0 to 10 m, >70 m depth)
Selectivity		Species >2 times mesh size or up to 4 m length	Species 1 to 2 times mesh size or 4 to 5 m length	Species <mesh size or >5 m length
Post capture mortality		Most dead or retained Trawl tow >3 hours	Alive after net hauled Trawl tow 0.5 to 3 hours	Released alive Trawl tow <0.5 hours

Note: Availability 2 is only used when there is no information for Availability 1; the most conservative score between Encounterability 1 and 2 is used.

D3		Average Susceptibility Score		
		1 - 1.75	1.76 - 2.24	2.25 - 3
Average Productivity Score	1 - 1.75	PASS	PASS	PASS
	1.76 - 2.24	PASS	PASS	TABLE D4
	2.25 - 3	PASS	TABLE D4	TABLE D4

D4	Species Name		
	Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements		
	D4.1	The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.	
	D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.	
		Outcome:	

Evidence

D4.1: The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.

Is there a quantitative breakdown of catches in the fishery?
Are there any ecosystem descriptions or catch composition time series available that may provide some empirical evidence of relative status of any such species?
Are there management measures in place for any stocks shown to be depleted?

D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.

Some quantitative information on that enables the assessment of the impact of the fishery on the species should be available. Management measures, ecosystem descriptions etc.

References

- FishBase.org
- Management measures
- Time series of catch and effort
- Ecosystem descriptions
- Life history characteristics providing indications of species productivity, vulnerability and susceptibility to capture.
- Observer reports

Links	
MARINTRUST Standard clause	1.3.2.2, 4.1.4
FAO CCRF	7.5.1
GSSI	D.5.01

SOCIAL CRITERION

In addition to the scored criteria listed above, applicants must commit to ensuring that vessels operating in the fishery adhere to internationally recognised guidance on human rights. They must also commit to ensuring there is no use of enforced or unpaid labour in the fleet(s) operating upon the resource.

Appendix A - Determining Resilience Ratings

The assessment of Category B species described in this assessment report template utilises a resilience rating system suggested by the American Fisheries Society. This approach was chosen because it is also used by FishBase, and so the resilience ratings for many thousands of species are freely available online. As described by FishBase, the following is the process used to arrive at the resilience ratings:

"*The American Fisheries Society (AFS) has suggested values for several biological parameters that allow classification of a fish population or species into categories of high, medium, low and very low resilience or productivity (Musick 1999). If no reliable estimate of r_m (see below) is available, the assignment is to the lowest category for which any of the available parameters fits. For each of these categories, AFS has suggested thresholds for decline over the longer of 10 years or three generations. If an observed decline measured in biomass or numbers of mature individuals exceeds the indicated threshold value, the population or species is considered vulnerable to extinction unless explicitly shown otherwise. If one sex strongly limits the reproductive capacity of the species or population, then only the decline in the limiting sex should be considered. We decided to restrict the automatic assignment of resilience categories in the Key Facts page to values of K, t_m and t_{max} and those records of fecundity estimates that referred to minimum number of eggs or pups per female per year, assuming that these were equivalent to average fecundity at first maturity (Musick 1999). Note that many small fishes may spawn several times per year (we exclude these for the time being) and large live bearers such as the coelacanth may have gestation periods of more than one year (we corrected fecundity estimates for those cases reported in the literature). Also, we excluded resilience estimates based on r_m (see below) as we are not yet confident with the reliability of the current method for estimating rm. If users have independent r_m or fecundity estimates, they can refer to Table 1 for using this information*."

Parameter	High	Medium	Low	Very low
Threshold	0.99	0.95	0.85	0.70
r_{max} (1/year)	> 0.5	0.16 - 0.50	0.05 - 0.15	< 0.05
K (1/year)	> 0.3	0.16 - 0.30	0.05 - 0.15	< 0.05
Fecundity (1/year)	> 10,000	100 - 1000	10 - 100	< 10
t_m (years)	< 1	2 - 4	5 - 10	> 10
t_{max} (years)	1 - 3	4 - 10	11 - 30	> 30

[Taken from the FishBase manual, "Estimation of Life-History Key Facts", http://www.fishbase.us/manual/English/key%20facts.htm#resilience]

Appendix B: From MARINTRUST Standard V2.0 Annex 2: Fish By-product Assessment Methodology

Definition of a Fish By-product

A by-product is a useful and marketable product that is not the primary product being produced. A marketable by-product is from a process that can technically not be avoided. This includes materials that may be traditionally defined as waste such as industrial scrap that is subsequently used as a raw material in a different manufacturing process.

"Fish By-products" refers to commodities that are manufactured from fish, including shellfish, and crustaceans in a form that is different than conventional foods and which are intended for human consumption (either directly or as a food ingredient). Fish By-products include, but are not limited to:

- By-products derived from fish, including fish cartilage, fish oils, and fish proteins; and
- By-products derived from the carapaces of crustaceans; but do not include marine plants or marine plant products.

(Canadian Food Inspection Agency Definition)

In addition, a whole fish which is rejected on an intrinsic quality ground e.g. does not meet the specification for human consumption due to physical damage or the quality is substandard. These whole fish shall in these cases be classified as a by-product from the human consumption fishery, and can be used for marine ingredients production.

A whole catch of fish that is rejected by a fish processing factory on economic grounds is not considered to be a fish by-product. This fish can only be used for marine ingredients production if the fishery has been assessed and approved under the requirements of the IFFO Responsible Sourcing Standard.

Why utilise Fish By-products?

FAO Code of Conduct for Responsible Fisheries

General Principles Article 6

6.7 The harvesting, handling, processing and distribution of fish and fishery products should be carried out in a manner which will maintain the nutritional value, quality and safety of the products, reduce waste and minimize negative impacts on the environment.

Responsible fish utilisation Article 11.1

11.1.8 States should encourage those involved in fish processing, distribution and marketing to reduce post-harvest losses and waste.

Benefits of Including Fish By-Products in the MARINTRUST Standard:

1. Improved fish resource utilisation

2. Reduction in waste for nutritional value

3. 35% of fish by-products are currently used to make quality fishmeal and oil

4. Excellent Economic return

5. Better compliance with FAO Code of Conduct for Responsible Fisheries

What Fish By-products cannot be used?

1. IUCN

Fishery By-products shall Not be taken from a species listed by IUCN (the International Union for Conservation of Nature) under the Red List for certain categories;

- EXTINCT (E) AND EXTINCT IN THE WILD (EW)
- CRITICALLY ENDANGERED (CR) facing an extremely high risk of extinction in the wild.
- ENDANGERED (EN) facing a very high risk of extinction in the wild.

Fish By-product material may be used from the vulnerable category, but it shall incur a fishery surveillance conducted by the certification body prior to it being included in the scope of this standard.

- VULNERABLE (VU) facing a high risk of extinction in the wild.

The Fish By-product material from these species will be acceptable for use in the scope of this standard;

- NEAR THREATENED (NT) does not qualify for above now, but is close or is likely to qualify for, a threatened category in the near future.
- LEAST CONCERN (LC) Widespread and abundant.

Fish By-product material may be used from the following category, but it shall incur a fishery surveillance prior to it being included in the scope of this standard;

- DATA DEFICIENT (DD) and NOT EVALUATED (NE)

The fishery surveillance conducted by the certification body will review the following areas:

Stock Assessment

- From a recognised Institution
- Fisheries are recognised as legal
- Fisheries do not contradict scientific opinion

2. FAO Code of Conduct for Responsible Fisheries

In addition the Fish By-products shall not come from fisheries that do not comply with the following criteria;

1. Fisheries should prohibit dynamiting, poisoning and other comparable destructive fishing practices.

2. Fishery material shall not be from IUU fishing activity nor sourced from vessels officially listed as engaging in illegal, unreported and unregulated (IUU) fishing activity.

Sources of Information

1. Food Standards Agency

2. Canadian Food Inspection Agency

3. DEFRA

4. GAA Feed mill BAP standard

5. EU Commission

6. IUCN