# MarinTrust RS V2.0


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

The IFFO RS 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 'non-target' 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 IFFO RS for this purpose.

**Structure and layout of this document**

This document is formatted to match the structure of the IFFO RS 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. Fisher information can also be used where it can be objectively verified. 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, objectively verified fishery information 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. | | |

| | |
|---|---|
| **CB Peer Review Evaluation** | Result of peer review, usually either approve or do not approve. |
| **Fishery Assessment Peer Review Group Evaluation** | |
| **Recommendation** | Recommendation of assessment team; Approve or Not approved. |

### Table 2. Assessment Determination

| **Assessment Determination** |
| --- |
| Brief summary of the findings of the assessment.<br><br>Include a statement on each of;<br><br>• fishery management infrastructure,<br>• catch composition overview,<br>• stock assessment efforts,<br>• other research,<br>• control and enforcement,<br>• and other impacts of the fishery.<br><br>Include additional detail on any areas in which the fishery was awarded a fail rating. |
| **Fishery Assessment 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. (link to peer review report at end of document). |
| **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:<br><br>• Ensure that all landings are monitored and recorded by government officials<br><br>• Ensure that bycatch is monitored and catch composition is accurate<br><br>• Ensure that vessels details are recorded at landing.<br><br>This section is for recording any such concerns or requests for the on-site assessor. |

### Table 3 General Results

| General Clause | Outcome (Pass/Fail) |
|---|---|
| M1 - Management Framework | Indicate whether the fishery was awarded a pass or a fail rating in this section of the assessment. |
| M2 - Surveillance, Control and Enforcement | As above |
| F1 - Impacts on ETP Species | As above |
| F2 - Impacts on Habitats | As above |
| F3 - Ecosystem Impacts | As above |

### Table 4 Species- Specific Results

List all Category A and B species. List approximate total percentage (%) of landings which are Category C and D species; these do not need to be individually named here

| Category | Species | % landings | Outcome (Pass/Fail) | |
|---|---|---|---|---|
| Category A | List all Category A species assessed as part of the assessment. | Provide an indication of the percentage of total annual landings made up of each species. | A1 | Indicate whether each stock was awarded a pass or fail rating in this section. |
| | | | A2 | As above |
| | | | A3 | As above |
| | | | A4 | As above |
| Category B | List all the Category B species assessed as part of the assessment. | Provide an indication of the percentage of total annual landings made up of each species. | Indicate whether each species was awarded a pass or a fail rating. | |
| Category C | Indicate the number of Category C species covered by the assessment | Provide an indication of the percentage of total annual landings made up of category C species | Indicate whether Category C species as a whole were awarded a pass or a fail rating. All Category C species must receive a pass rating to be indicated as pass here. | |
| Category D | Indicate the number of Category D species covered by the assessment | Provide an indication of the percentage | Indicate whether Category D species as a whole were awarded a pass or a fail rating. All | |

| | | | |
|---|---|---|---|
| | | of total annual landings made up of category D species | Category D species must receive a pass rating to be indicated as pass here. |

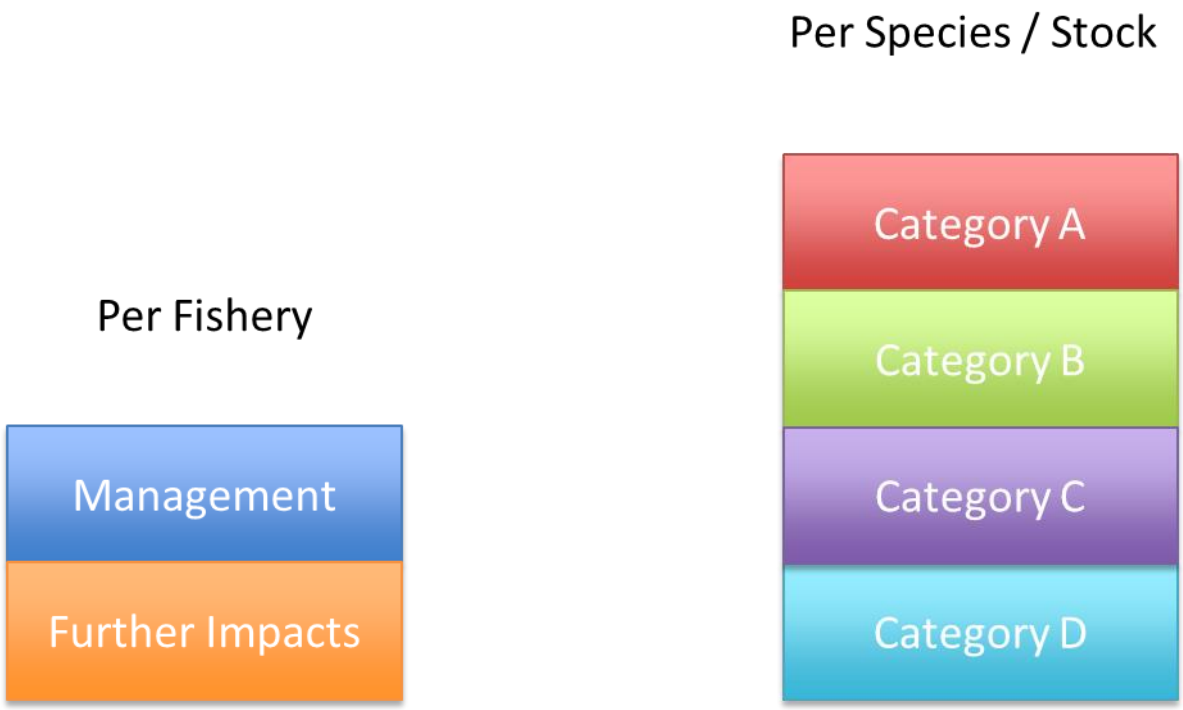
| | | |
|---|---|---|
| **M1** | **Management Framework – Minimum Requirements** | |
| | M1.1 | There is an organisation responsible for managing the fishery. |
| | M1.2 | There is an organisation responsible for collecting data and assessing the fishery. |
| | M1.3 | Fishery management organisations are publicly committed to sustainability. |
| | M1.4 | Fishery management organisations are legally empowered to take management actions. |
| | M1.5 | There is a consultation process through which fishery stakeholders are engaged in decision-making. |
| | M1.6 | The decision-making process is transparent, with processes and results publicly available. |
| **M2** | **Surveillance, Control and Enforcement - Minimum Requirements** | |
| | M2.1 | There is an organisation responsible for monitoring compliance with fishery laws and regulations. |
| | M2.2 | There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken. |
| | M2.3 | There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing. |
| | M2.4 | Compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS. |
| **A1** | **Data Collection - Minimum Requirements** | |
| | A1.1 | Landings data are collected such that the fishery-wide removals of this species are known. |

| | | |
|---|---|---|
| | A1.2 | Sufficient additional information is collected to enable an indication of stock status to be estimated. |
| **A2** | **Stock Assessment - Minimum Requirements** | |
| | A2.1 | A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species. |
| | A2.2 | The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy. |
| | A2.3 | The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status. |
| | A2.4 | The assessment is subject to internal or external peer review. |
| | A2.5 | The assessment is made publicly available. |
| **A3** | **Harvest Strategy - Minimum Requirements** | |
| | A3.1 | There is a mechanism in place by which total fishing mortality of this species is restricted. |
| | A3.2 | Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy. |
| | A3.3 | Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible). |
| **A4** | **Stock Status - Minimum Requirements** | |
| | A4.1 | The stock is at or above the target reference point, OR IF NOT:<br><br>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT: |

| | | |
|---|---|---|
| | | The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited. |
| **F1** | **Impacts on ETP Species - Minimum Requirements** | |
| | F1.1 | Interactions with ETP species are recorded. |
| | F1.2 | There is no substantial evidence that the fishery has a significant negative effect on ETP species. |
| | F1.3 | If the fishery is known to interact with ETP species, measures are in place to minimise mortality. |
| **F2** | **Impacts on Habitats - Minimum Requirements** | |
| | F2.1 | Potential habitat interactions are considered in the management decision-making process. |
| | F2.2 | There is no substantial evidence that the fishery has a significant negative impact on physical habitats. |
| | F2.3 | If the fishery is known to interact with physical habitats, there are measures in place to minimise and mitigate negative impacts. |
| **F3** | **Ecosystem Impacts - Minimum Requirements** | |
| | F3.1 | The broader ecosystem within which the fishery occurs is considered during the management decision-making process. |
| | F3.2 | There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem. |
| | F3.3 | If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals. |

# HOW TO COMPLETE THE ASSESSMENT REPORT

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




## Whole Fish

The process for completing the template for a **whole fish** assessment is as follows:

1. Complete the Species Characterisation table, to determine which categories of species are present in the fishery.

Management

2. Complete clauses M1, M2: Management.

Category A

3. IF THERE ARE CATEGORY A SPECIES IN THE FISHERY: Complete clauses A1, A2, A3, A4 for each Category A species.

Category B

4. IF THERE ARE CATEGORY B SPECIES IN THE FISHERY: Complete the Section B risk assessment for **each** Category B species.

Category C

5. IF THERE ARE CATEGORY C SPECIES IN THE FISHERY: Complete clause C1 for **each** Category C species.

Category D

6. IF THERE ARE CATEGORY D SPECIES IN THE FISHERY: Complete Section D.

Further Impacts

7. Complete clauses F1, F2, F3: Further Impacts.

A fishery must score a pass in **all applicable clauses** before approval may be recommended. To achieve a pass in a clause, the fishery/species must meet **all** of the minimum requirements.

# 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 IFFO RS raw material.

### IUCN Redlist Category

Wholefish material from a species listed by IUCN (the International Union for Conservation of Nature) under the Red List for certain 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.

Wholefish material may be used from the following categories provided that all clauses in the IFFO RS 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 5 Species Categorisation Table

| Common name | Latin name | Stock | IUCN Redlist Category | % of landings | Management | Category |
|---|---|---|---|---|---|---|
| **All** species making up more than 0.1% of the annual catch by weight should be listed | | Stock name, location. Differentiate when there are multiple biological or management stocks of one species captured by the fishery | | The '% of landings' column can include estimated ranges if there is uncertainty of variability in the catch composition. | 'Yes' or 'No': depending on whether the species is subjected to a stock-specific management regime, as described above. | Category A, B, C or D. Depending on information in previous columns and guidance |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Table 5 Species Categorisation Table** should be completed as fully as the available information permits. Any species representing more than 0.1% of the annual catch should be listed, along with an

estimate of the proportion of the catch each species represents. The species should then be divided into Type 1 and Type 2 as follows:

- **Type 1 Species** can be considered the 'target' or 'main' species in the fishery. They make up the bulk of annual landings and are subjected to a detailed assessment.

- **Type 2 Species** can be considered the 'non-target' species in the fishery. They make up a small proportion of the annual landings and are subjected to relatively high-level assessment.

**Type 1 Species must represent 95% of the total annual catch. Type 2 Species may represent a maximum of 5% of the annual catch.**

- **Category A:** "Target" species with a species-specific management regime in place.
- **Category B:** "Target" species with no species-specific management regime in place.
- **Category C:** "Non-target" species with a species-specific management regime in place.
- **Category D:** "Non-target" species with no species-specific management regime in place

The distinction between 'target' and 'non-target' species is made to enable the assessment to consider the impact of the fishery on all the species caught regularly, without requiring a full assessment be conducted for each. Thus 'target' species are subjected to a more detailed assessment, while 'non-target' species are considered more briefly. For the purposes of the MarinTrust fishery assessment, 'target' and 'non-target' species are defined by their prevalence in the catch, by weight. The assessor must review the application form and any available landings/catch data from the fishery to determine which species are considered 'target' species in the fishery, and the combined weight of these must be at least 95% of the annual catch. The remaining 5% can be made up of 'non-target' species. **NB.** References must be provided to clearly show evidence for species categorisation determination.

Note also that ETP species are considered separately, irrespective of their frequency of occurrence in the catch. Species which make up less than 0.1% of landings do not need to be listed. The table should be extended if more space is needed. Discarded species should be included when known.

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). In less clear circumstances, the rule of thumb should be that if the species meets the minimum requirements of clauses A1-A4, an adequate species-specific management regime is in place.

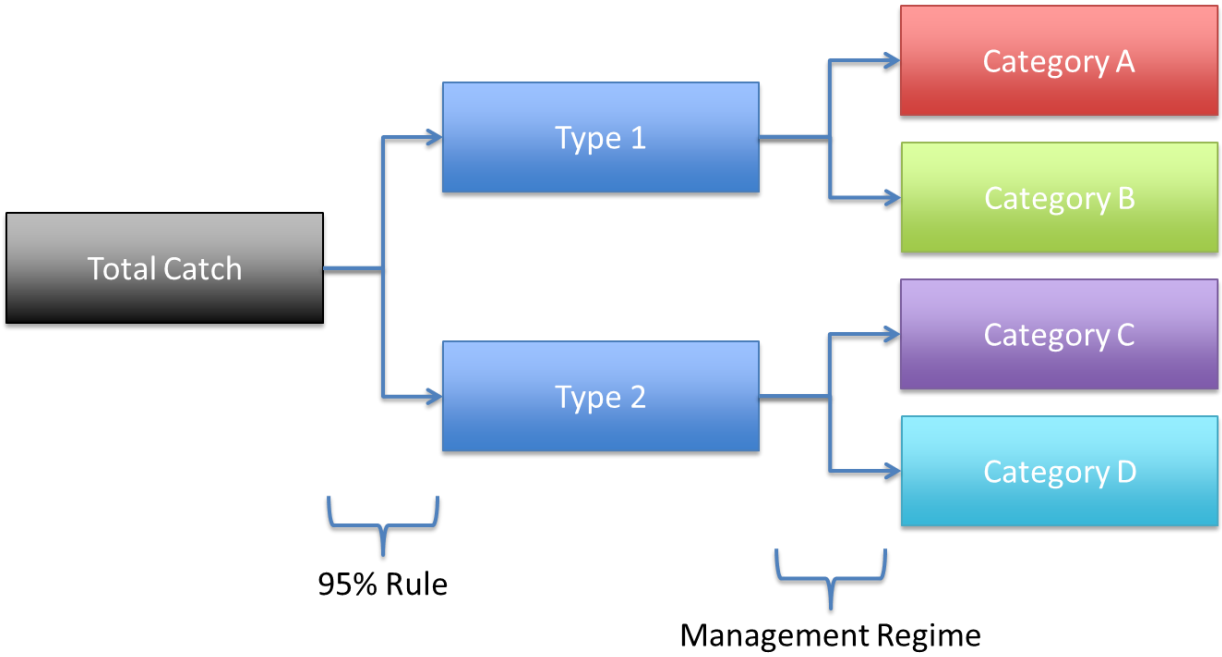



**Figure 1. Wholefish Assessment – Species Categorisation**

## The 95% Rule

At least 95 % of landings must be assessed as Type 1. Below are some figures which show different scenarios on how catch can be categorised.

**TYPE 1 SPECIES (Representing 95% of the catch or more)**

**Category A:** Species-specific management regime in place.

**Category B:** No species-specific management regime in place.

**TYPE 2 SPECIES (Representing 5% OF THE CATCH OR LESS)**

**Category C:** Species-specific management regime in place.

**Category D:** No species-specific management regime in place.

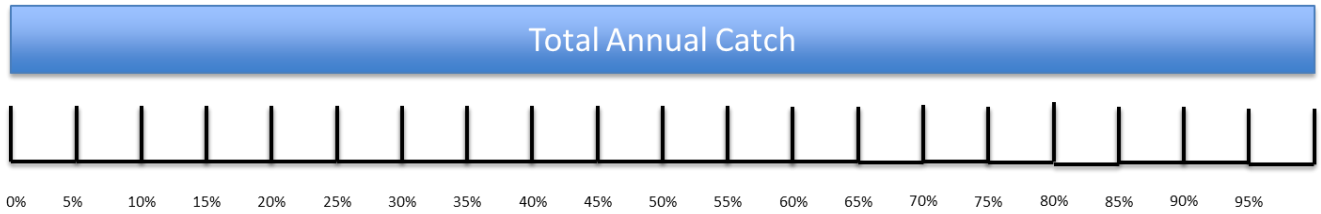



Figure 2. Total catch 100%

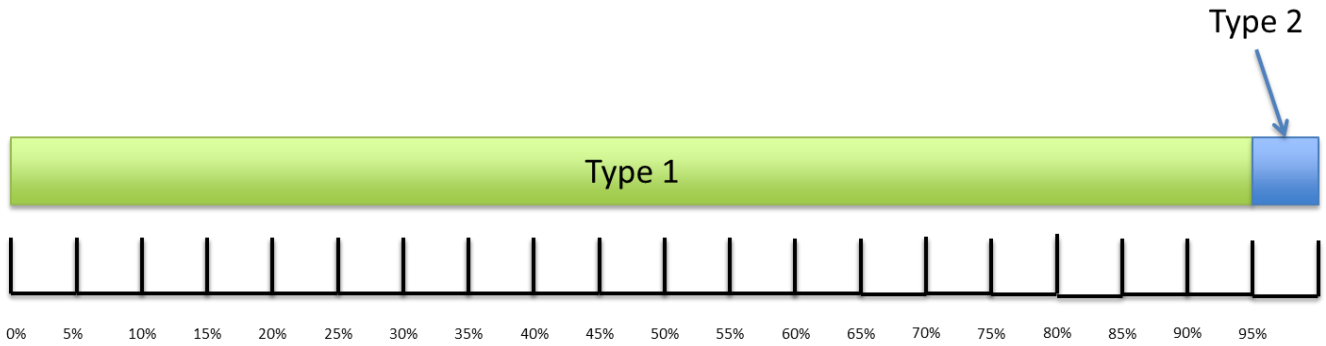



Figure 3. Total catch. Type 1: 95%, one species CAT B, Type 2: 5% one species CAT D

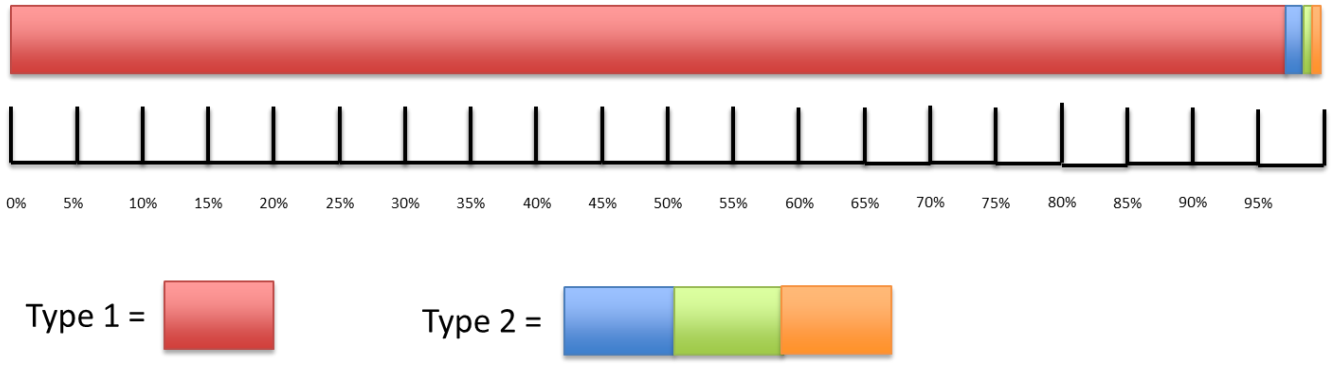



Figure 4. Total catch Type 1: 98% one species CAT A, Type 2: 2%, three species 1 CAT C, 2 CAT D

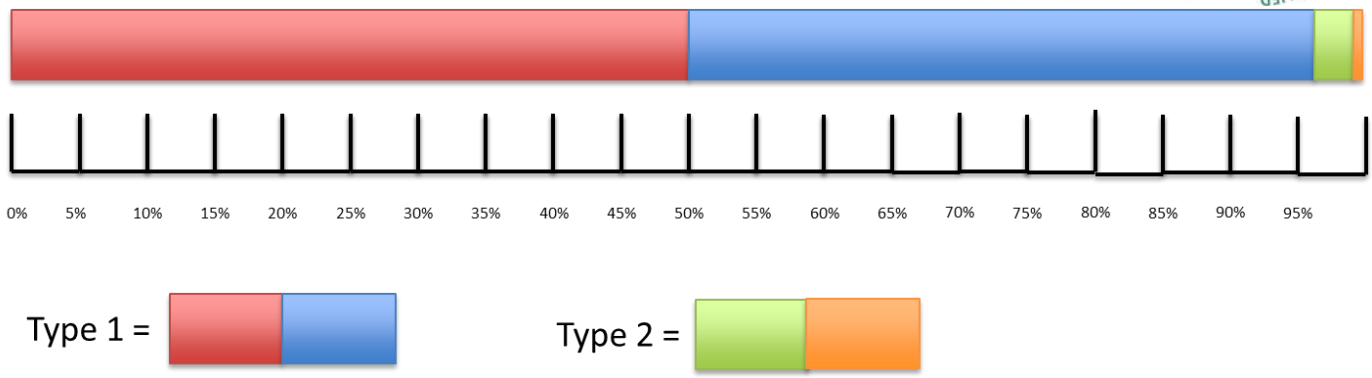



Figure 5 Total catch. Type 1: 97% 1 CAT A, 1 CAT B, Type 2: 3% 1 CAT C, 1 CAT D

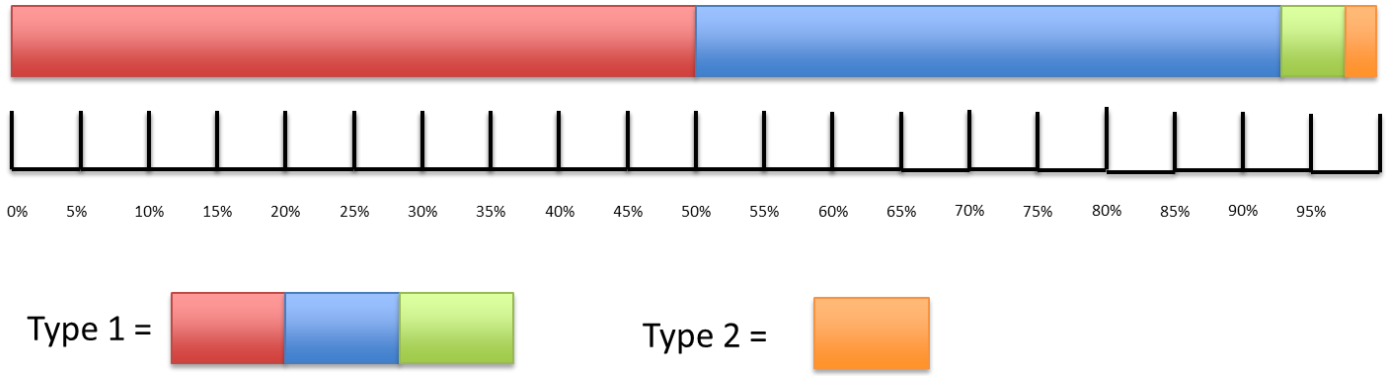



Figure 6 Total catch. Type 1: 2 CAT A species, 1 CAT B, Type 2: 3% 1 CAT C

## MANAGEMENT

The two clauses in this section (M1, M2) relate to the general management regime applied to the fishery under assessment. The clauses should be completed by providing sufficient evidence to justify awarding each of the requirements a pass or fail rating. A fishery must meet all the minimum requirements in every clause before it can be recommended for approval.

| M1 | Management Framework – Minimum Requirements | | |
|---|---|---|---|
| | M1.1 | There is an organisation responsible for managing the fishery. | |
| | M1.2 | There is an organisation responsible for collecting data and assessing the fishery. | |
| | M1.3 | Fishery management organisations are publicly committed to sustainability. | |
| | M1.4 | Fishery management organisations are legally empowered to take management actions. | |
| | M1.5 | There is a consultation process through which fishery stakeholders are engaged in decision-making. | |
| | M1.6 | The decision-making process is transparent, with processes and results publicly available. | |
| | | **Clause outcome:** | |

**M1.1 There is an organisation responsible for managing the fishery.**

Are key areas of responsibility within the fishery identified?

Are the different parties involved in the management of the fishery clearly identified and documented?

For a pass rating clear evidence to identify the key organisations involved in the management and administration of the fishery shall be publicly available. Key areas of responsibility include;

- data collection,
- science,
- licensing,
- decision-making,
- monitoring and surveillance
- administration and training.

Where there is sufficient information available publicly to conduct the MarinTrust assessment without resorting to requests for additional information, assessors should consider this evidence that the management process is adequately transparent for the purposes of this clause.

**M1.2 There is an organisation responsible for collecting data and assessing the fishery.**

Identify organisation responsible for collecting data and assessing the fishery.

**M1.3 Fishery management organisations are publicly committed to sustainability.**

A quote from the management organisations website or policy document showing their commitment to sustainability, including references. Long term fishery specific objectives consistent with the standard and the precautionary approach are implicit within the fishery-specific management system.

**M1.4 Fishery management organisations are legally empowered to take management actions.**

Assessors should also identify, where possible, the key legal instrument(s) used by these organisations as a basis for fishery management; for example:

- In Iceland, the Fisheries Management Act 1996
- In the USA, The Magnuson Stevens Fishery Conservation and Management Act (FCMA) 1976

In some cases there may not be a single over-arching legal instrument and multiple empowering documents may need to be referenced.

**M1.5 There is a consultation process through which fishery stakeholders are engaged in decision-making.**

Assessors should ensure that the management system includes mechanisms for the engagement and involvement of relevant non-governmental organisations, such as fishing industry representatives or environmental NGOs.

Does the management system include consultation processes? And are there recent relevant examples of these?

Evidence of past consultations, relevant to the fishery.

Fisheries legislation and policy documents which may state requirements for consultation with stakeholders or the need to have stakeholders involved in the management advisory process.

**M1.6 The decision-making process is transparent, with processes and results publicly available.**

Is there formal communication with fishery stakeholders explaining reasons for management actions? This could be via stakeholder meetings, direct mailing websites etc?

**References**

- Websites of Management organisations
- Fisheries legislation, policy documents, sector studies, annual reports and reports by scientists describing the fishery
- Management plans for specific fisheries often have well defined stakeholder roles and responsibilities

- Rules of procedure
- Minutes of meetings of advisory, consultation groups.
- Organisational chart and staff job descriptions

| Links | |
|---|---|
| **IFFO RS Standard clause** | 1.3.1.1, 1.3.1.2 |
| **FAO CCRF** | 7.2, 7.3.1, 7.4.4, 12.3 |
| **GSSI** | D.1.01, D.4.01, D2.01, D1.07, D1.04, |

| **M2** | **Surveillance, Control and Enforcement - Minimum Requirements** | | |
|---|---|---|---|
| | M2.1 | There is an organisation responsible for monitoring compliance with fishery laws and regulations. | |
| | M2.2 | There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken. | |
| | M2.3 | There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing. | |
| | M2.4 | Compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS. | |
| | | **Clause outcome:** | |

**M2.1 There is an organisation responsible for monitoring compliance with fishery laws and regulations.**

Does a Monitoring, control and surveillance mechanisms exist, which contains all the relevant tools/mechanisms to minimise the risk of IUU, including informal mechanisms?

**M2.2 There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken.**

Do regulations clearly state the sanctions for different infringements?

The assessors should check that sanctions to deal with non-compliance exist and there is some evidence that they are applied.

The assessment team will ensure that where fishing regulations are broken, sanctions of appropriately effective scale are invoked by the state or states controlling the fishery. The assessment team will list all the key laws and sanctions deemed to be a violation, and where possible provide examples of cases where the punishment on offending vessels has been executed.

**M2.3 There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing.**

The assessment team will determine the extent to which these measures are effective, looking in particular for any reports illustrating examples of failed enforcement. Additional evidence for this section can be obtained by on-site assessors, for example ensuring that all landings are monitored or that vessel locations are recorded.

Can it be determined that fishers comply with all relevant regulations?

Do fishers provide additional information to managers to support the effective management of the fishery? This could include voluntarily carrying observers, recording bycatch data, reporting suspected illegal activity, providing operational or economic data?

**M2.4 Compliance with laws and regulations is actively monitored, through a regime which may include at-sea**

**and portside inspections, observer programmes, and VMS.**

The assessment team will determine the effectiveness of the state organisation responsible for fishery control and enforcement, and the actions taken by that organisation. These will include, but are not limited to:

a) dockside monitoring,
b) boarding vessels,
c) on-board observers,
d) video or GPS vessel monitoring,
e) vessel licensing, and

f) assets available for enforcement eg. No. of staff, fishery coverage, sea craft, aerial enforcement

Records of infringements indicating persisting enforcement controls including the same offence occurring overtime. However, a functioning compliance system should show a lot of low-level violations being recorded.

**References**

- Fisheries legislation
- Records of court cases
- MCS plans and strategies
- MCS mechanisms in place such as VMS, vessel inspections (both at sea and on landing), logbook, sales notes and landing declarations, landing restrictions etc.
- Regional MCS reports – including reviews/ evaluations of MCS efficacy
- Conservation and management measures adopted by RFMOs
- Fishery management plans
- Any agency reports, such as fishery meetings, annual reports and stakeholder committee minutes which may detail compliance information and details of fishery offences and prosecutions.

| **Links** | |
|---|---|
| **IFFO RS Standard clause** | 1.3.1.3 |
| **FAO CCRF** | 7.7.2 |
| **GSSI** | D1.09 |

## CATEGORY A SPECIES

The four clauses in this section apply to Category A species. Clauses A1 - A4 should be completed for **each** Category A species. If there are no Category A species in the fishery under assessment, this section can be deleted. A Category A species must meet the minimum requirements of all four clauses before it can be recommended for approval. The clauses should be completed by providing sufficient evidence to justify awarding each of the requirements a pass or fail rating. The species must achieve a pass rating against all requirements to be awarded a pass overall. If the species fails any of these clauses it should be re-assessed as a Category B species.

| **Species Name** | | | |
|---|---|---|---|
| **A1** | **Data Collection - Minimum Requirements** | | |
| | A1.1 | Landings data are collected such that the fishery-wide removals of this species are known. | |
| | A1.2 | Sufficient additional information is collected to enable an indication of stock status to be estimated. | |
| | | **Clause outcome:** | |

**A1.1 Landings data are collected such that the fishery-wide removals of this species are known.**

To attain a pass rating the assessment team should be able to determine whether the research conducted on the fishery stock is sufficiently effective and informed to enable responsible management of the fishery. Stock abundance and removals should be monitored and at least one indicator should be available and monitored with sufficient frequency to support the harvest control rule. Usually the research will take three forms:

- fishery dependent (data collected by on-board observers, landings data, discard and by catch data),
- fishery independent (trawl, hydro-acoustic and other surveys), and
- 'tertiary' (other research, not necessarily directly fishery related, which contributes to the understanding of the biology and ecology of the target species and associated organisms).

**A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.**

Relevant information related to the stock structure, stock productivity and fleet composition is available to support the harvest strategy. Key sources of this information could be;

- The stock assessment and any background documents such as benchmark assessments.
- The management plan, in particular where it details the monitoring and data collection requirements.
- Any legislation which details the approach to data collection or monitoring requirements.
- Evaluations of the HCR or harvest strategy.
- Research plan
- Scientific papers

**References**

- The stock assessment and any background documents such as benchmark assessments.
- The management plan, in particular where it details the monitoring and data collection requirements.
- Any legislation which details the approach to data collection or monitoring requirements.
- Evaluations of the HCR or harvest strategy.
- Research plan
- Scientific papers

**Links**

| | |
|---|---|
| **IFFO RS Standard clause** | 1.3.2.1.1, 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2 |
| **FAO CCRF** | 7.3.1, 12.3 |
| **GSSI** | D.4.01, D.5.01, D.6.02, D.3.14 |

| **A2** | **Stock Assessment - Minimum Requirements** | | |
|---|---|---|---|
| | A2.1 | A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species. | |
| | A2.2 | The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy. | |
| | A2.3 | The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status. | |
| | A2.4 | The assessment is subject to internal or external peer review. | |
| | A2.5 | The assessment is made publicly available. | |
| | | **Clause outcome:** | |

**A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.**

The assessment team should ensure that the stock assessment is appropriate for the stock and for the harvest control rule.

Is the stock assessment a one-off, or will it continue to be carried out at appropriate intervals such as 3 or 5 years?

Given the scale and intensity and operational practices of the fishery, is the assessment appropriate to provide managers with reliable understanding of the effectiveness of the harvest strategy?

Key sources of information:

- The stock assessment and any background documents such as benchmark assessments.
- The management plan, in particular where it details the monitoring and data collection requirements.
- Any legislation which details the approach to data collection or monitoring requirements.
- Evaluations of the HCR or harvest strategy.
- Research plan
- Scientific papers

**A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.**

To meet the requirements of this clause the assessment must estimate stock status relative to generic reference points appropriate to the species category.

**A2.3 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.**

Harvest Control Rules are in place or are available that are expected to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.

**A2.4 The assessment is subject to internal or external peer review.**

The assessment of the stock status is subject to peer review. Key sources of information include:

- Any internal or external peer reviews of the stock assessment.
- Any policy or regulatory documents detailing the process of peer review.
- The fishery management plan, should this detail the process of stock assessment peer review.

**A2.5 The assessment is made publicly available.**

Fishery performance data (stock assessments and management advice etc.) are these widely communicated and available?

If the stock assessment cannot be easily obtained, the species should be awarded a Fail rating against this requirement.

**References**

- The stock assessment report
- Background documents, such as benchmark assessment
- Science working group papers
- Any internal or external peer review of the stock assessment
- Published literature demonstrating the appropriateness of the assessment.
- Management plans, defining how the HCRs will be applied
- Any evaluations of the HCR
- Any policy or regulatory documents detailing the process of peer review

| **Links** | |
|---|---|
| **IFFO RS Standard clause** | 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2 |
| **FAO CCRF** | 12.3 |
| **GSSI** | D.5.01, D.6.02, D.3.14 |

| **A3** | **Harvest Strategy - Minimum Requirements** | | |
|---|---|---|---|
| | A3.1 | There is a mechanism in place by which total fishing mortality of this species is restricted. | |
| | A3.2 | Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy. | |
| | A3.3 | Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible). | |
| | | **Clause outcome:** | |

**A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.**

There is a harvest strategy that is expected to achieve stock management objectives. Assessment is by a direct comparison of scientific advice against the published fishing quota. The assessment team will also consider final landings data and compare this to the initial scientific advice. The assessment should consider all historical data but can award a pass rating as long as the fishery removals meet the requirements outlined in A3.2.

**A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.**

Harvest control rules should be in place or available that are expected to reduce the exploitation rate as the point of recruitment impairment is approached.

Key sources of information:

- Legislation, regulations or licensing arrangements relating to the HCRs.
- Management plans, defining how the HCRs will be applied
- Monitoring and management tools are in place to ensure that the exploitation rate could and would be reduced in the event of a decline in stock status, approaching the PRI.

**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**

Management measures should 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 timeframe.

Note that all advice in this section is subject to the interpretation of all available evidence. Some states issue small quotas for scientific research purposes even when the advice is for fishery closure. Fisheries with quotas which have historically been significantly above advice may achieve a pass rating if there is a long-term plan under implementation which is making significant reductions in landings each season. The final determination is the decision of the assessment team and the guidance above is not binding.

**References**

- The stock assessment report for the fishery
- The fishery management plan and the HCR
- The fishery technical regulations (Landings and effort restrictions, technical conservation measures)
- Legislation, regulations or licencing arrangements relating to the HCRs
- Management plans, defining how the HCRs will be applied
- Any specific recovery or rebuilding plan or strategy

*Standard clause 1.3.2.1.3*

| **Links** | |
|---|---|
| **IFFO RS Standard clause** | 1.3.2.1.3, 1.3.2.1.4 |
| **FAO CCRF** | 7.2.1, 7.22 (e), 7.5.3 |
| **GSSI** | D3.04, D6.01 |

| **A4** | **Stock Status - Minimum Requirements** | | |
|---|---|---|---|
| | A4.1 | The stock is at or above the target reference point, OR IF NOT:<br><br>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT: | |

| | | | |
|---|---|---|---|
| | | The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited. | |
| | | | **Clause outcome:** |

**A4.1 The stock is at or above the target reference point, OR IF NOT:**

**The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:**

**The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.**

The clause is awarded a pass when the stock is estimated to be above the limit reference point or proxy, or there is evidence that a fall below the limit reference point or proxy would result in the fishery closure.

A Fail is awarded if the stock is below the limit reference point and fishing is occurring with no evidence of stock rebuilding within a specified timeframe.

The assessor will consider the biology of the species and the scale and intensity of the fishing and the management system and other relevant issues over which to judge fluctuations.

Proxy indicators and reference points used must be justified as reasonable indicators of stock biomass by the assessor.

Recent trends in fishing mortality rate may be used as a means of scoring stock status. The assessor must provide evidence that F has been low enough for long enough to ensure that the required biomass levels are now likely to be met.

**References**

- Stock assessment reports
- Benchmark assessments
- Management plans

| **Links** | |
|---|---|
| **IFFO RS Standard clause** | **1.3.2.1.4** |
| **FAO CCRF** | **7.2.1, 7.2.2 (e)** |
| **GSSI** | **D6 01** |

## CATEGORY B SPECIES

Category B species are those which make up greater than 5% of landings in the applicant raw material, but which are not subject to a species-specific research and management regime sufficient to pass all Category A clauses. If there are no Category B species in the fishery under assessment, this section can be deleted.

Category B species are assessed using a risk-based approach. The following process should be completed once for each Category B species.

### If there are estimates of biomass (B), fishing mortality (F), and reference points

It is possible for a Category B species to have some biomass and fishing mortality data available. When sufficient information is present, the assessment team should use the following risk matrix to determine whether the species should be recommended for approval.

Table B(a) - F, B and reference points are available

| | | | | | |
|---|---|---|---|---|---|
| **Biomass is above MSY / target reference point** | Pass | Pass | Pass | Fail | Fail |
| **Biomass is below MSY / target reference point, but above limit reference point** | Pass, but re-assess when fishery removals resume | Pass | Fail | Fail | Fail |
| **Biomass is below limit reference point (stock is overfished)** | Pass, but re-assess when fishery removals resume | Fail | Fail | Fail | Fail |
| **Biomass is significantly below limit reference point (Recruitment impaired)** | Fail | Fail | Fail | Fail | Fail |
| | **Fishery removals are prohibited** | **Fishing mortality is below MSY or target reference point** | **Fishing mortality is around MSY or target reference point, or below the long-term average** | **Fishing mortality is above the MSY or target reference point, or around the long-term average** | **Fishing mortality is above the limit reference point or above the long-term average (Stock is subject to overfishing)** |

### If the biomass / fishing pressure risk assessment is not possible

Initially, the resilience of each Category B species to fishing pressure should be estimated using the American Fisheries Society procedure described in Musick, J.A. (1999). This approach is used as the resilience values for many species and stocks have been estimated by FishBase and are already available online. For details of the approach, please refer to Appendix A. Determining the resilience provides a basis for estimating the risk that fishing may pose to the long-term sustainability of the stock. Table B(b) should be used to determine whether the species should be recommended for approval.

**Table B(b) - No reference points available. B = current biomass; $B_{av}$ = long-term average biomass; F = current fishing mortality; $F_{av}$ = long-term average fishing mortality.**

| | | | | |
|---|---|---|---|---|
| **$B > B_{av}$ and $F < F_{av}$** | Pass | Pass | Pass | Fail |
| **$B > B_{av}$ and F or $F_{av}$ unknown** | Pass | Pass | Fail | Fail |
| **$B = B_{av}$ and $F < F_{av}$** | Pass | Pass | Fail | Fail |
| **$B = B_{av}$ and F or $F_{av}$ unknown** | Pass | Fail | Fail | Fail |
| **$B > B_{av}$ and $F > F_{av}$** | Pass | Fail | Fail | Fail |
| **$B < B_{av}$** | Fail | Fail | Fail | Fail |
| **B unknown** | Fail | Fail | Fail | Fail |
| **Resilience** | **High** | **Medium** | **Low** | **Very Low** |

## Assessment Results

| **Species Name** | | |
|---|---|---|
| **B1** | Species Name | |
| | Table used (Ba, Bb) | |
| | Outcome | |

This clause should be assessed by utilising the available information and applying it to one of the tables above. An explanation of the table used, the evidence applied, and the outcome should then be provided here.

In Table B(a), proxies of reference points are acceptable.

The 'long term average' for the stock biomass and fishery fishing mortality should be estimated using an approach appropriate to the stock under assessment. This will generally be the mean of all available stock data.

Category B species are "unmanaged" and as such will generally not have a stock assessment available, and so much of the information required for the assessment may be unavailable. As an absolute minimum, a Category B species must have some indication of the long-term biomass trends, perhaps in the form of survey biomass trends or research/commercial CPUE indices, and the majority will require an indication of fishing mortality trends or indices. Category B species without any of this information must be awarded a Fail rating, as per Table B(b). If resilience for a given species is not available in the FishBase database it should be calculated based on the methodology explained.

**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** | |
|---|---|
| **IFFO RS Standard clause** | **1.3.2.2, 4.1.4** |
| **FAO CCRF** | **7.5.1** |
| **GSSI** | **D.5.01** |

## CATEGORY C SPECIES

In a whole fish assessment, Category C species are those which make up less than 5% of landings, but which are subject to a species-specific management regime. In most cases this will be because they are a commercial target in a fishery other than the one under assessment.

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.

Default values for the levels of the **PRI and BMSY,** as used in scoring the stock status are given below. They are often related to B0, the stock status that would be present in the absence of fishing. (From MSC guidance)

- In the case where neither BMSY nor the PRI are analytically determined, the following default reference points may be appropriate for measuring stock status depending on the species: BMSY=40%B0; PRI=20%B0=½BMSY.
- In the case where either BMSY or the PRI are analytically determined, those values should be used as the reference points for measuring stock status unless additional precaution is sought.
- In the case where BMSY is analytically determined to be greater than 40%B0, and there is no analytical determination of the PRI, the default PRI should be ½BMSY. This case covers the situation of low productivity stocks, where higher default PRIs may be justified.
- In the case where BMSY is analytically determined to be lower than 40%B0 (as in some highly productive stocks), and there is no analytical determination of the PRI, the default PRI should be 20%B0 unless BMSY<27%B0, in which case the default PRI should be 75%BMSY.
- For stocks with average productivity, where BMSY is not analytically determined but assumed to be 40%B0 and a management trigger reference point is set greater than 40%B0 for precautionary reasons, the default PRI should still be set at 20%B0=½BMSY unless it is analytically determined. This covers situations where the management authority has deliberately chosen a conservative target reference point, but where the default PRI is still appropriate.
- In cases where the PRI is set at 20% B0, a default value for the BMSY may be assumed to be 2xPRI. In other cases, for instance where the PRI is set at the lowest historical biomass, it cannot be assumed that BMSY = 2xPRI. Teams shall justify any reference point used as a proxy of BMSY in terms of its consistency with BMSY.

The default PRI values given above (½BMSY or 20%B0) apply to stocks with average productivity. Such points are generally consistent with being above the point at which there is an appreciable risk that recruitment is impaired, though for some short-lived stocks the actual point at which there is an appreciable risk that recruitment is impaired may be lower than 20%B0 and for some long-lived species it may be higher than this.

**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** | |
|---|---|
| **IFFO RS 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

The PSA methodology contains several modifications to previously published examples, including: 1) expanding the number of attributes scored from 13 to 22 to consider both direct and indirect impacts;
2) redefining the attribute scoring bins to align with life history characteristics of fish species found in U.S. waters;
3) developing an attribute weighting system that allows users to customize the analysis for a particular fishery;
4) developing a data quality index based on five tiers of data quality, ranging from best data to no data, to provide an estimate of information uncertainty; and
5) developing a protocol for addressing stocks captured by different sectors of a fishery (e.g., different gear types, different regions).

Table 4. The five tiers of data quality used when evaluating the productivity and susceptibility of an individual stock.

| Data quality score | Description | Example |
|---|---|---|
| 1 | (Best data) Information is based on collected data for the stock and area of interest that is established and substantial. | Data rich stock assessment, published literature that uses multiple methods, etc. |
| 2 | (Adequate data) Information with limited coverage and corroboration, or for some other reason deemed not as reliable as Tier 1 data | Limited temporal or spatial data, relatively old information, etc |
| 3 | (Limited data) Estimates with high variation and limited confidence and may be based on similar taxa or life history strategy. | Similar genus or family, etc. |
| 4 | (Very limited data) Expert opinion or based on general literature review from wide range of species, or outside of region | General data – not referenced |
| 5 | (No data) No information to base score on – not included in the PSA, but included in the DQI score. | |

| D1 | Species Name: | | |
|---|---|---|---|

| Productivity Attribute | Value | Data quality | Score |
|---|---|---|---|
| r | | | |
| Maximum Age | | | |
| Maximum Size | | | |
| von Bertalanffy Growth Coefficient (k) | | | |
| Estimated Natural Mortality | | | |
| Measured Fecundity | | | |
| Breeding Strategy | | | |
| Recruitment Pattern | | | |
| Age at Maturity | | | |
| Mean Trophic Level | | | |
| Overall | | | |

| Susceptibility Attribute | Value | Data quality | Score |
|---|---|---|---|
| Management Strategy | | | |
| Areal Overlap | | | |
| Geographic Concentration | | | |
| Vertical Overlap | | | |
| Fishing rate relative to M | | | |
| Biomass of Spawners (SSB) or other proxies | | | |
| Seasonal Migrations | | | |
| Schooling/Aggregation and Other Behavioral Responses | | | |
| Morphology Affecting Capture | | | |
| Survival After Capture and Release | | | |
| Desirability/Value of the Fishery | | | |
| Fishery Impact to EFH or Habitat in General for Non-targets | | | |
| Overall | | | |
| **PSA Risk Rating (From Table D3)** | | | **Table D4** |

| | |
|---|---|
| | **Evidence:** |
| | *Standard clauses 1.3.2.2* |

## Table D2 - Productivity / Susceptibility attributes and scores.

| Productivity Attributes | High (3) | Moderate (2) | Low (1) |
|---|---|---|---|
| **r** | >0.5 | 0.5-0.16 (mid-point 0.10) | <0.16 |
| **Maximum Age** | <10 Years | 10-30 years (mid-point 20) | > 30 years |
| **Maximum Size** | < 60 cm | 60-150 cm (mid-point 105) | >150 cm |
| **von Bertalanffy Growth Coefficient (k)** | > 0.25 | 0.15-0.25 (mid-point 0.20) | < 0.15 |
| **Estimated Natural Mortality** | > 0.40 | 0.20-0.40 (mid-point 0.30) | < 0.20 |
| **Measured Fecundity** | > 10e4 | 10e2-10e3 | < 10e2 |
| **Breeding Strategy** | 0 | between 1 and 3 | ≥4 |
| **Recruitment Pattern** | highly frequent recruitment success (> 75% of year classes are successful) | moderately frequent recruitment success (between 10% and 75% of year classes are successful) | infrequent recruitment success (< 10% of year classes are successful) |
| **Age at Maturity** | < 2 years | 2-4 years (mid-point 3.0) | > 4 years |
| **Mean Trophic Level** | <2.5 | 2.5-3.5 (mid-point 3) | >3.5 |
| **Overall** | Productivity | Scores | |

| Susceptibility Attributes | Low (1) | Moderate (2) | High (3) |
|---|---|---|---|
| **Management Strategy** | Targeted stocks have catch limits and proactive accountability measures; Non-target stocks are closely monitored. | Targeted stocks have catch limits and reactive accountability measures | Targeted stocks do not have catch limits or accountability measures; Non-target stocks are not closely monitored. |
| **Areal Overlap** | < 25% of stock occurs in the area fished | Between 25% and 50% of the stock occurs in the area fished | > 50% of stock occurs in the area fished |

| | | | |
|---|---|---|---|
| **Geographic Concentration** | stock is distributed in > 50% of its total range | stock is distributed in 25% to 50% of its total range | stock is distributed in < 25% of its total range |
| **Vertical Overlap** | < 25% of stock occurs in the depths fished | Between 25% and 50% of the stock occurs in the depths fished | > 50% of stock occurs in the depths fished |
| **Fishing rate relative to M** | <0.5 | 0.5 - 1.0 | >1 |
| **Biomass of Spawners (SSB) or other proxies** | B is > 40% of B0 (or maximum observed from time series of biomass estimates) | B is between 25% and 40% of B0 (or maximum observed from time series of biomass estimates) | B is < 25% of B0 (or maximum observed from time series of biomass estimates) |
| **Seasonal Migrations** | Seasonal migrations decrease overlap with the fishery | Seasonal migrations do not substantially affect the overlap with the fishery | Seasonal migrations increase overlap with the fishery |
| **Schooling/Aggregation and Other Behavioral Responses** | Behavioral responses decrease the catchability of the gear | Behavioral responses do not substantially affect the catchability of the gear | Behavioral responses increase the catchability of the gear [i.e., hyperstability of CPUE with schooling behavior] |
| **Morphology Affecting Capture** | Species shows low selectivity to the fishing gear. | Species shows moderate selectivity to the fishing gear. | Species shows high selectivity to the fishing gear. |
| **Survival After Capture and Release** | Probability of survival > 67% | 33% < probability of survival < 67% | Probability of survival < 33% |
| **Desirability/Value of the Fishery** | stock is not highly valued or desired by the fishery | stock is moderately valued or desired by the fishery | stock is highly valued or desired by the fishery |
| **Fishery Impact to EFH or Habitat in General for Non-targets** | Adverse effects absent, minimal or temporary | Adverse effects more than minimal or temporary but are mitigated | Adverse effects more than minimal or temporary and are not mitigated |
| **Overall** | Susceptibility | Scores | |

| D3 | | Average Susceptibility Score | | |
|---|---|---|---|---|
| | | 1.00 – 2.64 | 2.65 – 3.18 | 3.19 – 5 |
| Average Productivity Score | 1.00 – 2.64 | PASS | PASS | PASS |
| | 2.65 – 3.18 | PASS | PASS | TABLE D4 |
| | 3.19 – 5.00 | PASS | TABLE D4 | TABLE D4 |

Scoring ranges taken from Hordyk AR, Carruthers TR (2018) A quantitative evaluation of a qualitative risk assessment framework: Examining the assumptions and predictions of the Productivity Susceptibility Analysis (PSA). PLoS ONE 13(6): e0198298. https://doi.org/10.1371/journal. pone.0198298

| 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 | |
|---|---|
| **IFFO RS Standard clause** | 1.3.2.2, 4.1.4 |
| **FAO CCRF** | 7.5.1 |
| **GSSI** | D.5.01 |

## FURTHER IMPACTS

The three clauses in this section relate to impacts the fishery may have in other areas. A fishery must meet the minimum requirements of all three clauses before it can be recommended for approval.

| F1 | Impacts on ETP Species - Minimum Requirements | | |
|---|---|---|---|
| | F1.1 | Interactions with ETP species are recorded. | |
| | F1.2 | There is no substantial evidence that the fishery has a significant negative effect on ETP species. | |
| | F1.3 | If the fishery is known to interact with ETP species, measures are in place to minimise mortality. | |
| | | **Clause outcome:** | |

Endangered, Threatened and Protected (ETP) species are defined for the purposes of the MarinTrust assessment as those which either:

- Appear in the CITES appendices, or;
- Are categorised by the IUCN as Endangered or Critically Endangered.
- Appendices I and II:
  Appendix I includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances.
  Appendix II includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival.
- Appendices III:
  This Appendix contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade

**F1.1 Interactions with ETP species are recorded.**

Good practice requires quantitative information, of sufficient quality and coverage to provide a high degree of certainty of both the impact of the fishery on ETP species and the consequence to those populations.

Recording of information on interactions with ETP species e.g logbooks (whether regulatory or voluntary), observer coverage, video surveillance or specific project records. Information should be adequate to support any measures to manage the impacts on ETP species.

**F1.2 There is no substantial evidence that the fishery has a significant negative effect on ETP species.**

Good practice requires fisheries to demonstrate there are no significant effect on ETP species or the fishery is not likely to hinder the recovery of ETP species. Where there are limits set for an ETP species the effects of the fishery on the population/stock are known and are likely to be within these limits.

Possible impacts may be poorly understood, but may include entanglement, direct capture and mortality, impacts on behavioural or migratory patterns, indirect impacts due to competition for resources, loss of habitat and pollution.

Significant negative effect means that the fishery is highly likely to hinder the recovery of the ETP species.

**F1.3 If the fishery is known to interact with ETP species, measures are in place to minimise mortality**.

If the fishery is known to interact with ETP species, measures are in place to minimise mortality of the ETP species caused by the fishery. These measures are likely to achieve national and international requirements for the protection of the ETP species. Measures could include regulations covering gear design, measures such as crew training, onboard voluntary codes of conduct and voluntary reporting.

Key sources of information;

- ETP strategy, either standalone or within the fisheries management plan document
- Licence conditions or regulations on technical measures
- ETP data being used by management to inform decision making processes
- Research or evaluations of the efficacy of any of the measures which comprise the strategy.

**References**

- ETP national and international legislation
- ETP distribution maps
- National species profiles
- IUCN status
- Records of interaction with a fishery in logbooks, scientific reports, observer data etc.
- Independent observer reports
- Independent expert reports (eg. Environmental NGOs)
- Records of any testing or inspecting of any ETP mitigating management measures (eg gear modifications)

| **Links** | |
|---|---|
| **IFFO RS Standard clause** | 1.3.3.1 |
| **FAO CCRF** | 7.2.2 (d) |
| **GSSI** | D4.04, D.3.08 |

| **F2** | **Impacts on Habitats - Minimum Requirements** | | |
|---|---|---|---|
| | F2.1 | Potential habitat interactions are considered in the management decision-making process. | |
| | F2.2 | There is no substantial evidence that the fishery has a significant negative impact on physical habitats. | |
| | F2.3 | If the fishery is known to interact with physical habitats, there are measures in place to minimise and mitigate negative impacts. | |
| | | **Clause outcome:** | |

**F2.1 Potential habitat interactions are considered in the management decision-making process.**

Good practice requires there to be a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types. This strategy must be based on information on the potential habitat interactions for example:

- An understanding of the scale of the activity
- An understanding of the habitat types in the management area, their status and their key characteristics (eg vulnerability to impact or rate of recovery).
- An understanding of the scale of impact.

**F2.2 There is no substantial evidence that the fishery has a significant negative impact on physical habitats.**

To pass this clause there must be either a very low interaction of the gear with the seabed or where the gear interacts with the habitat, the interaction does not lead to significant changes in the structure and function of the habitats that are commonly encountered by the gear or if so these would be rapidly reversible.

**F2.3 If the fishery is known to interact with physical habitats, there are measures in place to minimise and mitigate negative impacts.**

To pass this clause there should be measures in place to address any negative habitat interaction that has been

identified. There should be evidence that these measures are likely to work based on general experience, theory or comparisons with similar fisheries/ habitats.

Key sources of information:

- Evidence and evaluation of spatial management measures, such as areas closed to certain gears, no take zones or measures applied to identify and protect vulnerable habitats.
- Evidence and evaluation of technical measures – restrictions on gear design or overall effort
- Any published reviews indicating the effects of any gear modifications or operational measures on the impacted habitats.

**References**

- Evidence of fishing patterns
- Seabed habitat maps
- Assessment of gear impact on commonly encountered habitats
- Assessment of rate of recovery from fishing for relevant gears and habitats
- Assessment of efficacy of any gear modifications
- Any time series that may provide an indication of changes in commonly encountered habitat status over time.

| **Links** | |
|---|---|
| **IFFO RS Standard clause** | 1.3.3.2 |
| **FAO CCRF** | 6.8 |
| **GSSI** | D.2.07, D.6.07, D3.09 |

| **F3** | **Ecosystem Impacts - Minimum Requirements** | | |
|---|---|---|---|
| | F3.1 | The broader ecosystem within which the fishery occurs is considered during the management decision-making process. | |
| | F3.2 | There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem. | |
| | F3.3 | If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals. | |
| | | | **Clause outcome:** |

**F3.1 The broader ecosystem within which the fishery occurs is considered during the management decision-making process.**

A pass rating in this clause requires that the potential impacts of the fishery on key elements of the ecosystem have been considered by the management.

Key evidence:

- Evidence of ecosystem objectives included in management plans
- Evidence of management referring to ecosystem indicators in setting fishery rules.
- Evidence of explicit ecosystem consideration in stock assessment and advice
- Ecosystem status reports, indicating state of knowledge on ecosystem health, threats and proposed management
- Ecosystem model – which is referred to by management in taking fishery decisions.

**F3.2 There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.**

To pass this clause requires that there is evidence that the operation of the fishery does not reduce those key

features that are crucial to maintaining the integrity and structure of the ecosystem and does not adversely impact ecosystem productivity.

Key evidence:

- Status of key predators of the target species and key prey of the target species
- Evidence of consideration of the ecological role of the target species in setting exploitation rates.
- Any ecosystem modelling undertaken in the area of the fishery or similar area.

**F3.3 If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals.**

To pass this clause requires that management measures exist that seek to avoid severe adverse impacts on dependent predators resulting from fishing on a stock under consideration that is a key prey species.

Key evidence:

- Status of key predators of the target species and key prey of the target species
- Evidence of consideration of the ecological role of the target species in setting exploitation rates.
- Any ecosystem modelling undertaken in the area of the fishery or similar area.

**References**

- Status of key predators of the target species and key prey of the target species
- Evidence of consideration of the ecological role of the target species in setting exploitation rates.
- Any ecosystem modelling undertaken in the area of the fishery or similar area.

| **Links** | |
|---|---|
| **IFFO RS Standard clause** | 1.3.3.3 |
| **FAO CCRF** | 7.2.2 (d) |
| **GSSI** | D.2.09, D3.10, D.6.09 |

## 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]

# Glossary

**Non-target**: Species for which the gear is not specifically set, although they may have immediate commercial value and be a desirable component of the catch. OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12

**Target:** In the context of fishery certification, the target catch is the catch of stock under consideration by the unit of certification – i.e. the fish that are being assessed for certification and ecolabelling. (GSSI)