



# MarinTrust whole fish fishery assessment criteria guidance

Version 3.0

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## Version control and available language(s)

MarinTrust is the owner of this document.

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### Version control

Date	Issue	Amendment	Authorised by
April 2024	V3.0	<p>Guidance to the whole fish fishery assessment criteria. New document.</p> <p>Significant re-structuring of the guidance document, removal of template sections.</p> <p>Aligned fully with revisions to whole fish fishery assessment criteria V3.0, including revised management and ecosystem sections.</p> <p>No major changes to species category assessment.</p>	Governing Body Committee

### Available language(s)

The official version of this document is English. MarinTrust may translate this document into additional languages as necessary. Translations will be available on the MarinTrust website. In case of any inconsistencies or discrepancies between the available translation(s) and the English version, the online English version (in PDF format) will prevail.

# Introduction

## About this document

This document provides interpretation guidance for the MarinTrust whole fish fishery assessment criteria V3.0 (effective from 1<sup>st</sup> May 2023) (hereafter referred to as MarinTrust fisheries guidance). The MarinTrust whole fish fishery assessment criteria defines what shall be achieved for the approval of whole fish raw material against the 'MarinTrust Global Standard for Responsible Supply of Marine Ingredients Version 3.0' (the 'MarinTrust Standard').

The MarinTrust fisheries guidance is provided to help Certification Bodies (CBs) and fishery assessors interpret the MarinTrust whole fish fishery assessment criteria.

MarinTrust maintains the guidance as a separate document.

The headings and numbering in the MarinTrust fisheries guidance, when included, match those in the MarinTrust whole fish fishery assessment criteria.

## Auditability of the fisheries guidance

The guidance contained in the MarinTrust fisheries guidance is not directly auditable. It is important to note that the guidance contained within this document is not binding; the approval decision for the whole fish fishery rests with the Certification Body and their fishery assessment team.

## Responsible raw material sourcing

As an essential pre-requisite to the audit against the MarinTrust Standard, facilities demonstrate that they source approved raw materials (whole fish or by-products) that are:

- Not from Illegal, unreported and unregulated (IUU) fishing activity
- Not an endangered species
- For whole fish, sourced from responsibly managed fisheries aligned with the FAO Code of Conduct for Responsible Fisheries

## Aligned with the FAO Code of Conduct for Responsible Fisheries

The criteria developed and presented in this document are based on the relevant requirements in the FAO Code of Conduct for Responsible Fisheries and on the FAO Guidelines for the Eco-labelling of Fish and Fishery Products from Marine Capture Fisheries. These guidelines are based on a set of agreed-upon international instruments addressing fisheries, in particular the 1982 UN Convention on the Law of the Sea, the 1995 UN Fish Stocks Agreement as well as other relevant sources. MarinTrust considers fisheries that meet these criteria to be responsibly managed and in alignment with the FAO Code of Conduct for Responsible Fisheries.

## Normative references

This document draws upon the following normative documents:

- United Nations Convention on the Law of the Sea. 1982.
- FAO Code of Conduct for Responsible Fisheries (FAO CCRF). 1995.
- FAO Guidelines for the Eco-labelling of Fish and Fishery Products from Marine Capture Fisheries. Rev 1, 2009.
- FAO. Implementation of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. FAO Technical Guidelines for Responsible Fisheries. No. 9. 2002.
- Council Regulation (EC) No. 1005/2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing, amending Regulations (EEC) No. 2847/93, (EC) No. 1936/2001 and (EC) No. 601/2004 and repealing Regulations (EC) No. 1093/94 and (EC) No. 1447/1999.

## Definitions

Definitions and terms are published on the MarinTrust website.

# Whole fish fishery assessment criteria

## General guidance

MarinTrust uses the term “species”. This term could mean an entire species, stock or population, as appropriate to the species and the context of the fishery under assessment.

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 CBs and 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; CBs and assessors should use the fishery assessment reporting template prepared by MarinTrust for this purpose.

The CB and/or fishery assessors shall provide the relevant key information to justify the pass or fail rating being awarded for each criterion. Information should always be from reliable sources, such as official government websites, internationally recognised scientific organisations, objectively verified fishery information and NGOs. Fisher information can also be used where it can be objectively verified.

“Key information” should be interpreted to mean information that is essential to properly review the logic that the assessor(s) have used in the rationales.

References shall be provided to show the source information is used. The reference(s) should include the author, the title of the report/document, the page number. If an online source is used, where possible provide include a hyperlink, and include additional details that can be used to find the information if the hyperlink breaks.

The assessment process should take into account any fishery assessments that overlap or are duplicated. The aim is to ensure consistency in both the assessment process and its outcomes, especially when the assessments are based on the same evidence base. If inconsistent outcomes are identified, the CB and/or fishery assessor should provide a clear explanation for the difference in the assessment report.

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

1. Complete the species categorisation process (whole fish assessment requirements clauses 1.3-1.4) to determine which species categories are present in the fishery.
2. Complete the fishery assessment of Management sections M1 and M2.
3. If there are category A species in the fishery: Complete the assessment against A1, A2, A3 and A4 for each category A species.
4. If there are category B species in the fishery: Complete the category B risk assessment for each category B species.
5. there are category C species in the fishery: Complete assessment against C1 for each category C species.
6. If there are category D species in the fishery: Complete the category D assessment for each category D species.
7. Complete the assessment of the Ecosystem sections E1, E2 and E3.

Note the scoring guidance is provided under whole fish assessment requirement 1.5.

## Guidance to the whole fish fishery assessment requirements

- 1.1. Species cannot be approved for use as a MarinTrust raw material if the species:
  - 1.1.1. Is a marine mammal, reptile, amphibian or bird, or
  - 1.1.2. Stems from fisheries that use dynamiting, poisoning and other comparable destructive fishing practices, or
  - 1.1.3. Appears in CITES Appendix 1 or 2<sup>1</sup>, or
  - 1.1.4. Is categorised as Endangered or Critically Endangered on the IUCN Red List<sup>2</sup>.

### Guidance

#### 1.1.3 CITES

The assessor shall review if the species is listed on CITES Appendix 1 or 2 using the CITES database [Species+ \(speciesplus.net\)](https://speciesplus.net) and record the information in the reporting template.

Whole fish from a species listed in Appendix 1 or Appendix 2 of CITES shall immediately fail the assessment.

If the species is not on CITES Appendix 1 or Appendix 2, it is eligible for assessment.

#### 1.1.4 IUCN red list category

The fishery assessor shall review if the species is listed on the IUCN Red List of Threatened Species <https://www.iucnredlist.org/> and record the IUCN category in the reporting template.

If the species is listed by IUCN (the International Union for Conservation of Nature) under the Red List for the following categories the species shall immediately fail the assessment:

- Extinct (E) and extinct in the wild (EW)
- Critically endangered (CR)
- Endangered (EN)

If the species is listed by IUCN under the Red List for the following categories, the species is eligible for assessment.

- Vulnerable (VU)
- Near threatened (NT)
- Least concern (LC)
- Data deficient (DD)

If the species was last assessed on IUCN Red List more than 5 years ago. The species is assessed under the relevant species category, and the assessor should review stock assessment and other relevant information sources, such as latest stock assessment, ICES advice or national ETP lists.

If the species is not listed on IUCN Red List it is assumed to pass this requirement.

<sup>1</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora. CITES database: [Species+ \(speciesplus.net\)](https://speciesplus.net)

<sup>2</sup> International Union for Conservation of Nature (IUCN) Red List of Threatened Species: <https://www.iucnredlist.org/>

- 1.2. No materials from illegal, unreported and unregulated (IUU) fishing activity shall be used as MarinTrust raw material.

**Guidance**

The approval of the fishery under assessment, in combination with the controls in place at a certified marine ingredients facility will together to mitigate the risk of sourcing IUU fishery raw material.

- 1.3. Total annual catch estimates shall be used to identify the species composition and to determine the relevant species category against which each species in the fishery should be assessed (clause 1.4).
  - 1.3.1. Endangered, threatened, or protected species (ETP species) are considered separately (under the Ecosystem section), irrespective of their frequency of occurrence in the catch.
  - 1.3.2. Species which make up less than 0.1% of catches do not need to be assessed.

**Guidance**

**1.3 Total annual catch estimates**

Catch data must be used. Information can be sourced from relevant government catch statistics when available online. Marine Stewardship Council (MSC) reports and other fishery data sources can be used. Catch composition or landings details may be provided by the applicant or certificate holder. All information sources must be referenced in the assessment report.

Discarded species should be included when known.

Given possible fluctuations in catch composition, it is recommended to use data from at least the previous 3 years (or a more extended period if data is accessible) when determining the suitable species category. Depending on data availability, a different length of time series can be used. The assessor should provide a rationale for the duration chosen.

**1.3.2 Species make up less than 0.1% catches**

All species in the catch should be identified and reported in the assessment, as fully as the available information permits. However, species that individually make up 0.1% of catch or less are not required to be assessed.

- 1.4. The species in the catch are assessed as follows:
  - 1.4.1. **Type 1 Species** can be considered the ‘target’ or ‘main’ species in the fishery under assessment. They make up the bulk of the catch and are subjected to a detailed assessment.
    - 1.4.1.1. Type 1 species must represent at least 95% of the total annual catch.
    - 1.4.1.2. If a species-specific management regime is in place for a Type 1 species, it shall be assessed under Category A.
    - 1.4.1.3. If there is no species-specific management regime in place for a Type 1 species, it shall be assessed under Category B.



- 1.4.2. **Type 2 Species** can be considered the ‘non-target’ species in the fishery under assessment. They comprise a small proportion of the annual catches and are subjected to a relatively high-level assessment.
- 1.4.2.1. Type 2 species may represent a maximum of 5% of the annual catch.
  - 1.4.2.2. If a species-specific management regime is in place for a Type 2 species, it shall be assessed under Category C.
  - 1.4.2.3. If there is no species-specific management regime in place for a Type 2 species, it shall be assessed under Category D.

### Guidance

Both the terms ‘target species’ and ‘bycatch’ carry multiple definitions and this can lead to confusion and misinterpretation. To avoid adding to this confusion, MarinTrust chooses to apply terms ‘Type 1’ and ‘Type 2’ species to classify assessment needed, defining species categories by their prevalence in the catch, by weight.

The distinction between Type 1 and Type 2 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 Type 1 species are subjected to a more detailed assessment, while Type 2 species are considered more briefly.

The assessor should identify the relevant unit to assess, i.e. determine if it is the entire species, or a stock or population of a species, e.g. considering the species population dynamics or the management context of the fishery under assessment.

### The 95% rule

The species should then be divided into Type 1 and Type 2 species as follows:

- Type 1 Species can be considered the ‘target’ or ‘main’ species in the fishery. They make up the bulk of annual catches 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 catches and are subjected to relatively high-level assessment.

Type 1 species must represent at least 95% of the total annual catch.

Type 2 species may represent a maximum of 5% of the annual catch.

Species that comprise less than 0.1% of the annual catch do not need to be assessed.

### Managed or not managed

Species are further categorised by the presence or absence of an adequate management regime in place, that is specifically aimed at the individual species or stock.

### 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.

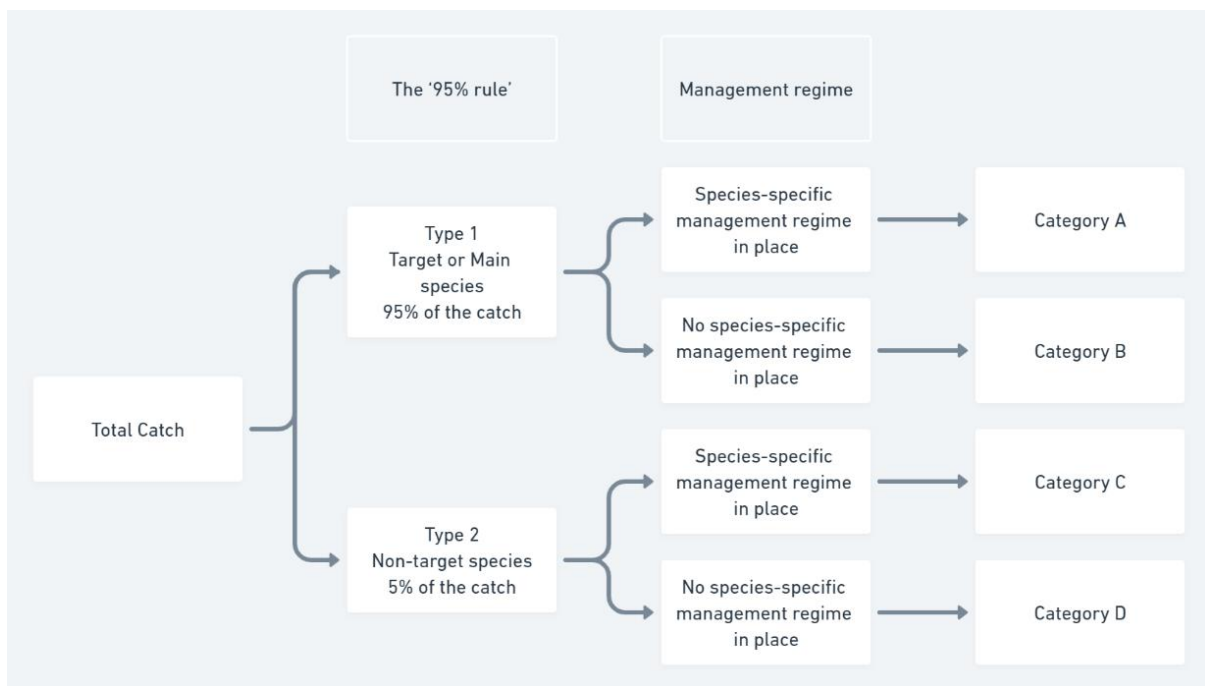
Category D: No species-specific management regime in place.

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 illustrates the species categorisation.

After allocating each species to a species category (A, B C or D), the assessor shall complete the relevant species category assessment for each species.

ETP species are considered separately (under Ecosystem Impacts, E1), irrespective of their frequency of occurrence in the catch.



**Figure 1 - Decision tree to support the species categorisation for whole fish fishery assessment**

1.5. For a whole fish fishery to be MarinTrust approved, all assessment criteria shall achieve a 'pass' determination.

1.5.1. If a single criterion fails, the whole fish fishery shall **not** be approved.

1.5.1.1. It is not expected that sub-criteria are assessed independently of the main criterion, they not given a 'pass' or 'fail' determination.

## Guidance

### 1.5. Scoring

The assessor shall score all applicable assessment criteria (i.e. within each module and for each relevant species category) using a binary pass/fail score.

Scoring categories – all criteria shall be met for the fishery to pass each species category.

#### 1.5.1.1. Sub-criteria

The sub-criteria offer a structured evidence base to demonstrate that the fishery sufficiently meets the management criteria. It is not expected that sub-criteria are assessed independently of the main criterion.

The sub-criteria are not given a pass or fail score. The intention of sub-criteria is to focus the assessor towards most relevant evidence required to determine if the fishery or species meets the whole fish assessment criteria. The assessor shall use their expert judgment to determine if the evidence collected at sub-criteria is sufficient to demonstrate that the fishery or species meets the relevant assessment criterion.

#### Final assessment determination

Once the assessor has completed the assessment (i.e. all relevant clauses are assessed), the assessor shall reach a final assessment determination to either **approve** or **not approve** the fishery under assessment.

The decision to approve a whole fish fishery means that whole fish from this fishery are approved for use by a MarinTrust certified facility. If the fishery is not approved, the whole fish under assessment is not approved for use by a MarinTrust certified site (and would be treated as non-conforming raw material) and no species caught in that fishery shall be used to produce marine ingredients carrying the MarinTrust claim.

## Guidance

### Different gear types

The assessor should take into account the effect of different gear types in the assessment outcome. For example, bottom trawl gears have a much greater impact on benthic habitats than purse seine gears. Therefore, the assessor should clearly state which gear types were evaluated.

# Guidance to the whole fish fishery assessment criteria

## 1. Guidance for module 1: management requirements

This section assesses the general management regime applied to the fishery under assessment.

1.6 All management criteria must be met (pass) for a fishery to pass the Management Requirements.

1.6.1 The sub-criteria offer a structured evidence base to demonstrate that the fishery sufficiently meets the management criteria. It is not expected that sub-criteria are assessed independently of the main criterion.

### Guidance

Assessment applies to the entire fishery.

## M1 Management Framework

<p><b>M1.1 There is an organisation responsible for managing the fishery.</b></p>	<p>Are key areas of responsibility within the fishery identified? Are the different parties involved in the management of the fishery clearly identified and documented? 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.</p>
<p>In reaching a determination for M1.1, the assessor should consider if the following is in place:</p>	
<p>M1.1.1 The management and administration organisations within the fishery are clearly identified.</p>	<p>Is there an organisation responsible for the management and administration of the fishery?  Identify who the main management organisation(s) is/are and where it/they were identifiable (e.g. via websites and/or official published information).  Identify any additional departments/organisations that have roles in the management system.  Where the stock is transboundary, identify the States that conduct fisheries on the same stock, where these are identified and the RFMO/forum under which they co-operate/co-ordinate.</p>
<p>M1.1.2 The functions and responsibilities of the management organisations include the overall</p>	<p>Identify the basic functions and responsibilities with the management system (and reference websites or available documents) including:</p>

<p>regulation, administration, science and data collection and enforcement roles, and are documented and publicly available.</p>	<ul style="list-style-type: none"> <li>• Overall management responsibility including decision making, administration</li> <li>• Licensing</li> <li>• Science and data collection that are known and available</li> <li>• Enforcement agencies/departments responsible for monitoring and surveillance</li> <li>• International agencies (if relevant) such as RFMO's.</li> </ul>
<p>M1.1.3 Fishers have access to information and/or training materials through nationally recognised organisations.</p>	<p>Identify websites or other publicly available documents that demonstrate some basic evidence of training such as dissemination of information to fishers.</p> <p>This could include: Posters, guides/manuals, workshops and other training materials to good practice, including advisory information on any licensing or legal requirements, fishing techniques, conservation measures, etc.</p>

<p><b>M1.2 Fishery management organisations are legally empowered to take management actions.</b></p>	<p>Are fishery management organisations legally empowered to take management actions? Are legal instruments in place?</p>
<p>In reaching a determination for M1.2, the assessor should consider if the following is in place:</p>	
<p>M1.2.1 There are legal instruments in place to give authority to the management organisation(s) which can include policies, regulations, acts or other legal mechanisms.</p>	<p>Identify the legal instrument(s) - Acts, Regulations or Policies - and identify if they:</p> <ul style="list-style-type: none"> <li>• Are currently enforceable within the governance/administrative and legal framework of the Country/State/Region</li> <li>• Include by definition or jurisdiction (or other implicit reference) the region where the fishery operates</li> <li>• Reference the entity(ies) that has/have been identified as responsible for managing the fishery.</li> <li>• Empower management organisation(s) to implement fishery regulations, including restricting total fishery removals where appropriate.</li> <li>• Empower management organisation(s) to adapt management measures, including restrictions on fishery removals, in a timely manner and in line with scientific advice.</li> </ul>
<p>M1.2.2 Vessels wishing to participate in the fishery must be authorised by the management organisation(s).</p>	<p>For the fishery as a whole, is there evidence that vessels operating within the fishery are required to register with and/or obtain a licence from the fishery management organisation(s)?</p>

	<p>Note: This criterion is assessed by determining whether or not fishing activity is restricted to those vessels which are authorised. The extent to which the total level of fishing effort applied is appropriate for the stock status is considered on a stock-by-stock basis in Category A and Category C.</p>
<p>M1.2.3 The management system has a mechanism in place for the resolution of legal disputes.</p>	<p>Is there any evidence of historical disputes in the fisheries managed by the authority and how they were managed? The most common dispute relates to access and the sharing of fishing opportunities (rights and quotas). Whilst all legal disputes relate to management organisation(s), to categorise for assessment purposes, they include:</p> <ul style="list-style-type: none"> <li>• Disputes between different management systems from nations that fish on the same stock (because it is transboundary, straddling, migratory, or has a complex stock structure).</li> <li>• Disputes between different fishery segments e.g. by gear (pelagic trawl/long-line) or scale (industrial/artisanal/offshore/inshore).</li> <li>• Disputes between single fishing entities and the management organisation (e.g., where sanctions are contested).</li> </ul> <p>Examples of dispute resolution by the fishery management authority in other fisheries could be used as evidence, such as mechanisms in place for fishers to be represented and to appeal decisions that affect their livelihood.</p> <p>If relevant, provide evidence of management measures within any RFMOs.</p> <p>The assessment should focus on the impact of disputes on the effectiveness of the management system on sustaining fishery resources. Provide evidence that:</p> <ul style="list-style-type: none"> <li>• Management systems should have mechanisms (continual fishery involvement, effective dialogue, transparent processes and decision making) that work to avoid disputes.</li> <li>• Whether The management system is subject to, and bound by, the national legal system (e.g., national courts) which can be accessed in the event of legal disputes.</li> </ul>

	Transboundary and high seas stocks (if relevant) should have trans-national agreements or RFMO's that can serve to resolve disputes.
M1.2.4 There is evidence of the legal rights of people dependent on fishing for food or livelihood.	<p>Is there evidence of people dependent on fishing for food or livelihood such as indigenous and artisanal fisheries?</p> <p>Does the management system considers the rights of, and commitments to, these citizens including access to information and protecting any established customary rights and/or their long-term interests in sustainably accessing the resource?</p> <p>Where no such indigenous or artisanal fisheries are apparent, the fishery management system should be able to identify for all fisheries and segments that catch fish (e.g. commercial, recreational, incidental etc.).</p>

<b>M1.3 There is an organisation responsible for collecting data and (scientifically) assessing the fishery.</b>	<p>Are key areas of responsibility within the fishery identified?</p> <p>Are the different parties involved in the data collection and assessment of the fishery clearly identified and documented?</p>
In reaching a determination for M1.3, the assessor should consider if the following is in place:	
M1.3.1 The organisation(s) responsible for collecting data and assessing the fishery is/are clearly identified.	<p>Is there an organisation responsible for collecting data and assessing the fishery?</p> <p>Identify the main scientific organisation (s) and where it is identifiable (e.g. via websites and/or official published information).</p>
M1.3.2 The management system receives scientific advice regarding stock, non-target species and ecosystem status.	<p>Is formal advice is provided on a regular (e.g., annually), timely basis to coincide with the setting of fishing opportunities, fishing measures/restrictions and other input/output rules that are implemented to effectively regulate the fishery in a sustainable way?</p> <p>Ecosystem status can be considered within context of stock assessment through including data such as:</p> <ul style="list-style-type: none"> <li>• Information on the effects of large-scale climate processes (e.g. El Nino) or climate change.</li> <li>• Information on species habitats and the impacts of fishing on habitats.</li> <li>• predator-prey and other studies that may provide values for important stock assessment parameters like mortality.</li> <li>• time series or physical or environmental data, information.</li> </ul>



M1.3.3 Scientific advice is independent from the management organisation(s) and transparent in its formulation through a clearly defined process.	Is the scientific advice objective and based on the outcome of the analysis of stock and ecosystem health, and not subject to (political) influence? Science and data collection should be known and accessible.

<b>M1.4 The fishery management system is based on the principles of sustainable fishing and a precautionary approach.</b>	
In reaching a determination for M1.4, the assessor should consider if the following is in place:	
M1.4.1 A policy or long-term management objective for sustainable harvesting based on the best scientific evidence and a precautionary approach is publicly available and implemented for the fishery.	<p>Assessors should provide evidence that the policy is described within the management system, either separately or explicit within regulations or other documents. Management objectives may be general for all fisheries but should use best scientific information and the precautionary approach.</p> <p>Evidence can be in the form of 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.</p> <p>Reference to a precautionary approach is often within high level objectives that are generic across all fisheries, and while the evidence should be provided to this, further evidence of implementation in the fishery under assessment should also be presented.</p> <p>Note: The precautionary approach shall be interpreted to mean being cautious when information is uncertain, unreliable or inadequate and that in the absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures (The UN Fish Stocks Agreement, 1995).</p>

<b>M1.5 There is a clearly defined decision-making process which is transparent, with processes and results made publicly available.</b>	Is the decision-making process clearly defined and transparent and the processes and results are publicly available?
In reaching a determination for	



<p>M1.5, the assessor should consider if the following is in place:</p>	
<p>M1.5.1 There is participatory engagement through which fishery stakeholders and other stakeholders can access, provide information, consult with, and respond to, the management systems' decision-making process.</p>	<p>Does the management system include 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?</p> <p>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. Evidence that management organisation(s) provide fishery stakeholders access to can include:</p> <ul style="list-style-type: none"> <li>• The evaluation and outcome of scientific stock assessments</li> <li>• Other related evaluations relevant to management decisions</li> </ul> <p>Provide evidence/recent examples of:</p> <ul style="list-style-type: none"> <li>• The management system consultation processes/mechanism with fishery stakeholders prior to adoption of management decisions</li> <li>• Consultations with relevant non-governmental organisations, such as fishing industry representatives or environmental NGOs, or similar examples of participatory engagement with fishery stakeholder and other stakeholders engaged with decision-making processes.</li> </ul> <p>Note: A defined decision-making process may include a process that is documented in statutes, or some other way described. Evidence of consistent use and recognition by stakeholders also supports the evidence.</p>
<p>M1.5.2 The decision-making process is transparent, with results made publicly available.</p>	<p>Is there formal communication with fishery stakeholders explaining reasons for management actions? This could be via stakeholder meetings, direct mailing websites, etc.</p> <p>Do management organisation(s) publish information on the decision-making process and on decisions made on government websites or otherwise make them available via representative organisations or at a minimum on request, in a timely fashion?</p>
<p>M1.5.3 The fishery management</p>	<p>Is there a management review period (which should be no</p>

<p>system is subject to periodic internal or external review to validate the decision-making process, outcomes and scientific data.</p>	<p>more than every 5 years) and is there an organisation responsible for the review?</p> <p>External review means external to the management system, but not necessarily international.</p> <p>Periodic reviews can be interpreted relative to the scale and intensity of the fishery.</p> <p>Periodic review can consider components of the management system over time and include one or more of:</p> <ul style="list-style-type: none"> <li>• The same or other departments of the management agencies</li> <li>• Other national agencies or organisations within the country</li> <li>• Separate review or audit from a recognised national or international agency</li> <li>• External expert reviewers appointed by the management organisation(s).</li> </ul> <p>Note: A2.4 evaluates the external review of the stock assessment.</p>
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**Examples of sources of evidence, information or references to support assessment of M1:**

- 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

**M2 Surveillance, Control and Enforcement**

<p><b>M2.1 There is an organisation responsible for monitoring compliance with fishery laws and regulations.</b></p>	<p>Do monitoring, control and surveillance mechanisms exist, which contain all the relevant tools/mechanisms to minimise the risk of IUU, including informal mechanisms?</p>
<p>In reaching a determination for M2.1 the assessor should consider if the following is in place:</p>	
<p>M2.1.1 There is an organisation responsible for monitoring compliance with specific</p>	<p>Is there an organisation responsible for monitoring compliance with specific monitoring, control and surveillance (MCS) mechanisms in place?</p>

<p>monitoring, control and surveillance (MCS) mechanisms in place.</p>	<p>Identify the main organisation (s) responsible for MCS and where it/they are identifiable (e.g. via websites and/or officially published information).</p> <p>This can include a separate department or section of the management organisation or a separately appointed organisation. In all cases, evidence should be provided that the entity is legally mandated to perform the functions of MCS.</p>
<p>M2.1.2 There are relevant tools or mechanisms used to minimise IUU fishing activity.</p>	<p>Is there evidence that there is both implicit mechanisms within the management system and explicit MCS related tools to deter, detect and prevent IUU and account for IUU fishing mortality in the reporting, stock assessment and management system?</p> <p>This can include:</p> <ul style="list-style-type: none"> <li>• Specific rules for prosecution of IUU fishing activity.</li> <li>• Checks and rules to identify, impound and prosecute the owners of vessels that are IUU blacklisted.</li> <li>• Checks on the MarinTrust Applicant that they have procedures to identify and avoid catches from IUU vessels.</li> <li>• An evaluation of the risk of IUU in the fishery and its impact on stock and ecosystem health and management.</li> </ul>
<p>M2.1.3 There is evidence of monitoring and surveillance activity appropriate to the intensity, geography, management control measures and compliance behaviour of the fishery.</p>	<p>Provide evidence of the level and type of MCS activity. MCS activity can consist of at sea, at port or other remote monitoring mechanisms. MCS should be used to assess compliance behaviour and establish future management measures needed based on historical compliance behaviour and risk, including:</p> <ul style="list-style-type: none"> <li>• Inspection of landed catches, catch composition and catch documentation from fishers and catches purchased by buyers.</li> <li>• At sea observation through boarding vessels</li> <li>• At sea observation through compliance checks of catches versus landed catches for vessels under review</li> <li>• At sea information provided by scientific observers</li> <li>• Fisher whistle blowing on suspected illegal fishing</li> <li>• Electronic/remote monitoring mechanisms – VMS/AIS/satellite observation</li> <li>• At sea reporting by fishers</li> <li>• Targets for % coverage of the various MCS activities</li> </ul>

<p><b>M2.2 There is a framework of sanctions which are applied when infringements against laws and regulations are discovered.</b></p>	<p>Do regulations clearly state the sanctions for different infringements? Are there sanctions to deal with non-compliance exist and there is some evidence that they are applied? Where fishing regulations are broken, sanctions of appropriately effective scale are invoked by the state or states controlling the fishery?</p>
<p>In reaching a determination for M2.2, the assessor should consider if the following is in place:</p>	
<p>M2.2.1 The laws and regulations provide for penalties or sanctions that are adequate in severity to act as an effective deterrent.</p>	<p>Is there evidence of a framework of sanctions, in the form of fines, penalties or other disincentives exists within the management system and are enforceable by law?  Regulations indicate the sanctions for different infringements, including removal of the entitlement to fish.  Identify if the sanctions are graduated in severity based on the severity of offences.</p>
<p>M2.2.2 There is no evidence of systematic non-compliance.</p>	<p>Provide evidence that can be in the form of information of sanctions issued and prosecutions administered by the court or legal authority.  Where repeat offences occur, sanctions should escalate, or other disincentives issued to deter further offences. Where possible, provide examples of cases where the punishment on offending vessels has been executed.  Determine the extent to which these measures are effective, looking in particular for any reports illustrating examples of failed enforcement.</p>
<p><b>M2.3 There is substantial evidence of widespread compliance in the fishery, and no substantial evidence of IUU fishing.</b></p>	<p>Are measures effective in identifying and dealing with incidents of IUU fishing activity?</p>
<p>In reaching a determination for M2.3, the assessor should consider if the following is in place:</p>	
<p>M2.3.1 The level of compliance is documented and updated routinely, statistically reviewed and available.</p>	<p>Are annual or periodic review(s) available and describe to what extent MCS is directed by intelligence from previous violations and risk of non-compliance? Evidence should, where possible, include reports illustrating examples of the performance of enforcement.</p>

	Additional evidence can include, for example, ensuring that all landings are monitored or that vessel locations are recorded.
M2.3.2 Fishers provide additional information and cooperate with management/enforcement agencies/organisations to support the effective management of the fishery.	<p>Is there evidence of fisher cooperation in supporting activities that support management of the fishery and/or detect and deter IUU? Such as:</p> <ul style="list-style-type: none"> <li>• Reporting of suspicious vessel activity</li> <li>• Self-monitoring and reporting</li> <li>• Participation in observer programs</li> <li>• Recording additional data on catches/bycatches</li> <li>• Collecting operational/economic data</li> </ul>
M2.3.3 The catch recording and reporting system is sufficient for effective traceability of catches per vessel and supports the prevention of IUU fishing.	<p>Is there evidence that there is a legal requirement to identify by vessel the following information?</p> <ul style="list-style-type: none"> <li>• catch composition/landed catches by species,</li> <li>• quantity of catch,</li> <li>• date of catch,</li> <li>• location of catch (e.g., fishing area),</li> <li>• place of landing,</li> <li>• total catch discharged at each landing, and</li> <li>• the recipient of the landed catches.</li> </ul>

**Examples of sources of evidence, information or references to support assessment of M2:**

- 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.

## 2. Guidance for module 2: species requirements

Each species in the catch is subject to an assessment in this section (see clauses 1.2 and 1.3).

### Category A species

2.1. All clauses must be met for a species to pass the Category A assessment.

2.1.1. If a species fails any of the Category A clauses, it should be re-assessed as a Category B species.

#### Guidance

Category A species are Type 1 species (they make up more than 5% of the catch - see the 95% rule) that have a species-specific management regime in place.

These criteria are assessed separately for each category A species.

Sufficient evidence shall be provided to justify a pass or fail decision.

If a species fails to meet the category A criteria, the species is re-assessed against category B.

### Guidance to support category A species assessment

Assessment criteria	Guidance
<b>A1. Data Collection</b>	
A1.1 Landings data are collected such that the fishery-wide removals of this species are known.	<p>Is the research conducted on the fishery stock is sufficiently effective and informed to enable responsible management of the fishery?</p> <p>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:</p> <ul style="list-style-type: none"> <li>• fishery dependent (data collected by on-board observers, landings data, discard and by catch data),</li> <li>• fishery independent (trawl, hydro-acoustic and other surveys), and</li> <li>• '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).</li> </ul>
A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.	Is relevant information related to the stock structure, stock productivity and fleet composition is available to support the harvest strategy?

	<p>Key sources of this information can include:</p> <ul style="list-style-type: none"> <li>• The stock assessment and any background documents such as benchmark assessments.</li> <li>• The management plan, in particular where it details the monitoring and data collection requirements.</li> <li>• Any legislation which details the approach to data collection or monitoring requirements.</li> <li>• Evaluations of the HCR or harvest strategy.</li> <li>• Research plan. Scientific papers,</li> </ul>
<p><b>A2 Stock Assessment</b></p>	
<p>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.</p>	<p>Is the stock assessment is appropriate for the stock and for the harvest control rule?</p> <p>Is the stock assessment a one-off, or will it continue to be carried out at appropriate intervals such as 3 or 5 years?</p> <p>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?</p> <p>Key sources of information can include:</p> <ul style="list-style-type: none"> <li>• The stock assessment and any background documents such as benchmark assessments.</li> <li>• The management plan, in particular where it details the monitoring and data collection requirements.</li> <li>• Any legislation which details the approach to data collection or monitoring requirements.</li> <li>• Evaluations of the HCR or harvest strategy.</li> <li>• Research plan</li> <li>• Scientific papers</li> </ul>
<p>A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.</p>	<p>Is the estimate of stock status relative to generic reference points appropriate to the species category?</p>
<p>A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.</p>	<p>Are Harvest Control Rules in place or are Harvest Control Rules available that are expected to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached?</p>
<p>A2.4 The assessment is subject to internal or external peer review.</p>	<p>Is the assessment of the stock status subject to peer review?</p> <p>Key sources of information can include:</p>



	<ul style="list-style-type: none"> <li>• Any internal or external peer reviews of the stock assessment.</li> <li>• Any policy or regulatory documents detailing the process of peer review.</li> <li>• The fishery management plan, should detail the process of stock assessment peer review.</li> </ul>
<p>A2.5 The assessment is made publicly available.</p>	<p>Are fishery performance data (stock assessments and management advice etc.) widely communicated and available?</p> <p>Is the stock assessment easily obtained?</p>
<p><b>A3 Harvest Strategy</b></p>	
<p>A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.</p>	<p>Is there a harvest strategy that is expected to achieve stock management objectives?</p> <p>Assessment is by a direct comparison of scientific advice against the published fishing quota. Consider final landings/catch data and compare this to the initial scientific advice.</p> <p>Should consider all historical data but a fishery can meet this criteria as long as the fishery removals meet the requirements outlined in A3.</p> <p>If relevant, consider mechanisms in place for transboundary stocks.</p>
<p>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.</p>	<p>Are Harvest Control Rules in place or available that are expected to reduce the exploitation rate as the point of recruitment impairment is approached?</p> <p>Key sources of information:</p> <ul style="list-style-type: none"> <li>• Legislation, regulations or licensing arrangements relating to the HCRs.</li> <li>• Management plans, defining how the HCRs will be applied</li> <li>• 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.</li> </ul>
<p>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</p>	<p>Do 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 timeframe?</p>



<p>fisheries are permissible).</p>	<p>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.</p>
<p><b>A4 Stock Status</b></p>	
<p>A4.1 The stock is at or above the target reference point, OR IF NOT:</p> <p>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:</p> <p>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</p>	<p>Is the stock 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?</p> <p>if the stock is below the limit reference point and fishing is occurring with no evidence of stock rebuilding within a specified timeframe this criteria is not met</p> <p>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.</p> <p>Proxy indicators and reference points used must be justified as reasonable indicators of stock biomass.</p> <p>Recent trends in fishing mortality rate may be used as a means of scoring stock status. Must provide evidence that fishing mortality (F) has been low enough for long enough to ensure that the required biomass levels are now likely to be met.</p>

**Examples of sources of evidence, information or references to support assessment of A1:**

- 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

**Examples of sources of evidence, information or references to support assessment of A2:**

- 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

**Examples of sources of evidence, information or references to support assessment of A3:**

- 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

**Examples of sources of evidence, information or references to support assessment of ample sources of evidence to support A4:**

- Stock assessment reports
- Benchmark assessments
- Management plans

## Guidance to support Category B species assessment

Category B species are assessed using a risk-based approach.

- 2.2. The risk matrix in Table B(a) shall be used when assessing a Category B species when estimates of Fishing mortality (F), Biomass (B) and reference points are available.
- 2.3. The risk matrix in Table B(b) shall be used when assessing a Category B species when no reference points are available.

### Guidance

Category B species are Type 2 species (which make up more than 5% of the catch) and are not subject to a species-specific research and management regime sufficient to pass all category A criteria.

These criteria are assessed separately for each category B species.

A category B species shall be demonstrated to be a low risk to achieve a pass rating.

Sufficient evidence shall be provided to justify a pass or fail decision.

Category B species are assessed using a risk-based approach.

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 shall 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 below.

The category B species should be assessed by utilising the available information and applying it to the method detailed in either Table B(a) or Table B(b). An explanation of the table used, the evidence applied, and the outcome should then be provided in the template.

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

A category B species can have some biomass and fishing mortality data available. When sufficient information is present, the assessor shall use the risk matrix in Table B(a) to determine whether the species should be recommended for approval.

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.

**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 (FishBase : A Global Information System on Fishes). Details of this methodology is provided in Box 1.

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 meets the category B assessment.

**Examples of sources of evidence, information or references to support assessment of Category B species:**

- FishBase – A Global Information System on Fisheries: [FishBase.org](http://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

**Table B(a) – Biomass/fishing pressure risk assessment.**

	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)
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

**Table B(b) – Biomass resilience ratings, assessing Category B species when no reference points available.**

Key: B = current biomass; Bav = long-term average biomass; F = current fishing mortality; Fav = long-term average fishing mortality.

Resilience	High	Medium	Low	Very Low
B > Bav and F < Fav	Pass	Pass	Pass	Fail
B > Bav and F or Fav unknown	Pass	Pass	Fail	Fail
B = Bav and F < Fav	Pass	Pass	Fail	Fail
B = Bav and F or Fav unknown	Pass	Fail	Fail	Fail
B > Bav and F > Fav	Pass	Fail	Fail	Fail
B < Bav	Fail	Fail	Fail	Fail
B unknown	Fail	Fail	Fail	Fail

**Box 1 Determining Resilience Ratings in Category B**

The assessment of Category B species 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 is 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  $r_m$ . 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
rmax (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
tm (years)	< 1	2 – 4	5 – 10	> 10
tmax (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>

## Guidance to support Category C species assessment

- 2.4. All clauses must be met for a species to pass the category C assessment.
  - 2.4.1. Where a species fails this category C clause, it should be assessed as a category D species instead, except if there is evidence that the species is currently below the limit reference point.

### Guidance

Category C species are those which make up less than 5% of catch, 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.

These criteria are assessed separately for each category C species.

Sufficient evidence shall be provided to justify a pass or fail decision.

If a species fails to meet the category C criteria, the species is re-assessed against category D.

<p><b>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.</b></p>	<p>Are fishery removals of this species included in the stock assessment?</p> <p>Stock assessments rarely specify if fishery removals are negligible. Look for evidence such as management measures being implemented for stock rebuilding and that the management measures are not contradicting scientific advice.</p> <p>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.</p>
<p><b>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.</b></p>	<p>The stock should be assessed in terms of the overall outcome objectives i.e. Is there 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?</p> <p>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.</p> <p>The assessment 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</p>



	<p>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.</p> <p>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 <math>B_0</math>, the stock status that would be present in the absence of fishing.</p> <ul style="list-style-type: none"> <li>• 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: <math>BMSY=40%B_0</math>; <math>PRI=20%B_0=1/2BMSY</math>.</li> <li>• 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.</li> <li>• In the case where BMSY is analytically determined to be greater than <math>40%B_0</math>, and there is no analytical determination of the PRI, the default PRI should be <math>1/2BMSY</math>. This case covers the situation of low productivity stocks, where higher default PRIs may be justified.</li> <li>• In the case where BMSY is analytically determined to be lower than <math>40%B_0</math> (as in some highly productive stocks), and there is no analytical determination of the PRI, the default PRI should be <math>20%B_0</math> unless <math>BMSY &lt; 27%B_0</math>, in which case the default PRI should be <math>75%BMSY</math>.</li> <li>• For stocks with average productivity, where BMSY is not analytically determined but assumed to be <math>40%B_0</math> and a management trigger reference point is set greater than <math>40%B_0</math> for precautionary reasons, the default PRI should still be set at <math>20%B_0=1/2BMSY</math> 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.</li> <li>• In cases where the PRI is set at <math>20%B_0</math>, a default value for the BMSY may be assumed to be <math>2xPRI</math>. In other cases, for instance where the PRI is set at the lowest historical biomass, it cannot be assumed that <math>BMSY = 2xPRI</math>. Provide justification for any reference point used as a proxy of BMSY in terms of its consistency with BMSY.</li> </ul>
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	<p>The default PRI values given above (<math>\frac{1}{2}</math>BMSY 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.</p>
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**Examples of sources of evidence, information or references to support assessment of category C species:**

- 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.

## Guidance to support category D species assessment

Category D species are assessed against a risk-based approach.

- 2.5. The Productivity-Susceptibility Analysis (PSA) in Table D(a) shall be used when assessing category D species.
- 2.6. Table D(b) shall be used to calculate the overall PSA risk rating for the category D species.
- 2.7. Should the PSA indicate a high risk, further assessment shall be completed against the requirements in Table D(c).

**Guidance**

Category D species are Type 2 species (those which make up less than 5% of catches) and are not subject to a species-specific management regime.

In the case of multi-species fisheries (e.g. tropical trawl fisheries), category D species may make up the majority of catches. 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.

These criteria are assessed separately for each category D species. Sufficient evidence shall be provided to justify a pass or fail decision.

The process for assessing category D species involves the use of a Productivity-Susceptibility Analysis (PSA) to further subdivide the species into high, medium and low risk groups. A PSA measures, using predetermined attributes, the vulnerability of a species to the impacts from fishing.

Productivity and susceptibility attributes and scores are calculated using a PSA methodology taken

from the Marine Stewardship Council (MSC) , See MSC Fisheries Standard Toolbox v1.0 (date of issue 26 October 2022).

Table D1 shall be completed by the assessor as follows:

- Use the best available information to fill in values for each productivity and susceptibility attribute.
- Use Table D(a) to convert each Productivity attribute value and each Susceptibility attribute value into a score between 1 and 3 (this is the risk rating provided in Table D(a)).
- Calculate the average score for productivity attributes and the average for susceptibility attributes and record this in Table D1 in the reporting template. Average scores are calculated using the arithmetic mean.
- If information cannot be found for an attribute on Fishbase.org or any other reliable source, then this value is described as unknown, and the score is not factored into the average productivity.
- Where there is uncertainty affecting the assessor’s decision when scoring the susceptibility attributes this should be noted in Table D1.
- The assessor shall then use Table D(b) to calculate an overall PSA risk rating for the Category D species under assessment.
  - The outcome of the PSA risk rating can be either:
    - The risk rating is low and the species passes the Category B assessment, or
    - The risk rating is higher, and the assessor shall complete additional checks to assess the vulnerability of the Category D species to the impacts of fishing.

If the species fails to pass the risk rating in Table D(b) then the assessor shall assess if the species meets the clauses D2.1 and D2.2.

### Examples of sources of evidence, information or references to support the assessment of Category D species

- 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

**Table D(a) - Productivity Susceptibility Analysis (PSA) and scores**

PSA productivity attributes and scores for fish and invertebrates			
Productivity attributes	High productivity (Low risk, score = 1)	Medium productivity (medium risk, score = 2)	Low productivity (high risk, score = 3)
Average age at maturity	<5 years	5-15 years	>15 years
Average maximum age	<10 years	10-25 years	>25 years
Fecundity	>20,000 eggs per year	100-20,000 eggs per year	<100 eggs per year
Average maximum size	<100 cm	100-300 cm	>300 cm
Average size at maturity	<40 cm	40-200 cm	>200 cm
Reproductive strategy	Broadcast spawner	Demersal egg layer	Live bearer
Mean Trophic Level (MTL)	<2.75	2.75-3.25	>3.25
Density dependence (to be used when scoring invertebrate species only)	Compensatory dynamics at low population size demonstrated or likely	No dependatory or compensatory dynamics demonstrated or likely	Depensatory dynamics at low population sizes (Allee effects) demonstrated or likely
PSA susceptibility attributes and for fish and invertebrates			
Susceptibility attributes	Low susceptibility (Low risk, score = 1)	Medium susceptibility (medium risk, score = 2)	High susceptibility (high risk, score = 3)
Areal overlap (availability): Overlap of the fishing effort with a species concentration of the stock	<10% overlap	10-30% overlap	>30% overlap
Encounterability: The position of the stock/ species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear	Low overlap with fishing gear (low encounterability)	Medium overlap with fishing gear	High overlap with fishing gear (high encounterability); default score for target species

Selectivity of gear type: Potential of the gear to retain species	a	Individuals < size at maturity are rarely caught	a	Individuals < size at maturity are regularly caught	a	Individuals < size at maturity are frequently caught
	b	Individuals < size at maturity can escape or avoid gear	b	Individuals < half the size at maturity can escape or avoid gear	b	Individuals < half the size at maturity are retained by gear
Post-capture mortality (PCM): The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival	Evidence of majority released post-capture and survival: >66% of animals are returned alive and survive the encounter. Where observers can verify that >66% are released alive in combination with a high risk score for selectivity, the PCM score may be reduced to a low risk score (1).		Evidence of some released post-capture and survival: 33-66% of animals are returned alive and survive the encounter. Where observers can verify that 33-66% are released alive in combination with a high risk score for selectivity, the PCM score may be reduced to a medium risk score (2).		Retained species or majority dead when released	

**Table D(b) - PSA risk rating table**

	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	Further checks – criteria in Table D(c)
	2.25 - 3	Pass	Further checks – criteria in Table D(c)	Further checks – criteria in Table D(c)

**Table D(c) - Further assessment for Category D specie**

Shall be applied if the species fails to meet the risk rating in Table D(b)

Criteria	Guidance
<p><b>D1. The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.</b></p>	<p>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?</p>
<p><b>D2. There is no substantial evidence that the fishery has a significant negative impact on the species.</b></p>	<p>Some quantitative information that enables the assessment of the impact of the fishery on the species should be available. Management measures, ecosystem descriptions etc.            Significant negative effect means that the fishery is highly likely to hinder the recovery of the species.</p>

### 3. Guidance for module 3: Ecosystem requirements

This section assesses the impacts that the fishery under assessment may have on key ecosystem components: ETP species, habitat and the wider ecosystem.

- 3.1. All ecosystem criteria must be met (pass) for a fishery to pass the Ecosystem Requirements.
  - 3.1.1. The sub-criteria offer a structured evidence base to demonstrate that the fishery sufficiently meets the ecosystem criteria, it is not expected that sub-criteria are assessed independently of the main criterion.

#### Guidance

The three sections in the Ecosystem Impacts module (E1, E2 and E3) relate to the impacts the fishery under assessment may have in other areas (on Endangered, Threatened or Protected (ETP) species, on the habitat and on the wider ecosystem).

#### Endangered, Threatened and Protected (ETP) species

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 contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade.

Sufficient evidence shall be provided to justify a pass or fail decision.

### E1 Impact on Endangered, Threatened or Protected species (ETP species)

<p><b>E1.1 Information on interactions between the fishery and ETP species is collected.</b></p>	<p>Is sufficient information on the interactions between the fishery and ETP species collected? And is the way information is collected and reported sufficient to provide fishery managers with an informed and reliable view of the impacts of the fishery on ETP species?</p>
<p>In reaching a determination for E1.1, the assessor should consider if the following is in place:</p>	
<p>E1.1.1 ETP species which may be directly affected by the fishery have been identified.</p>	<p>Is there evidence that fishery managers are aware of the ETP species which are present in the area(s) where the fishery is carried out?</p>

	<p>This may be explicit (e.g. a scientific study and/or report) or implicit (e.g. legislation or regulations to protect ETP species).</p> <p>Refer to national and international legislation, and the IUCN Red List, to determine to what extent all potential ETP species have been considered.</p> <p>Potential groups of ETP species include:</p> <ul style="list-style-type: none"> <li>• Finfish, including sharks and rays</li> <li>• Marine mammals</li> <li>• Turtles</li> <li>• Sea birds</li> <li>• Invertebrates</li> </ul>
<p>E1.1.2 Interactions between the fishery and ETP species are recorded and reported to management organisations.</p>	<p>Are interactions with ETP species are recorded and reported? How is this done? Consider how likely the methods recorded are to provide an accurate indication of the rates of interaction. Factors which could affect this include:</p> <ul style="list-style-type: none"> <li>• The proportion of fishing trips on which an observer is present;</li> <li>• Whether or not reporting interactions is a legal requirement;</li> <li>• Whether fishery-dependent or -independent studies are carried out to determine the extent of ETP interactions;</li> <li>• The extent to which the fleet utilises video surveillance.</li> </ul> <p>As a minimum, the management organisation must be made aware of every ETP mortality event.</p>
<p>E1.1.3 Collection and analysis of ETP information is adequate to provide a reliable indication of the impact the fishery has on ETP species.</p>	<p>Is the information collected on ETP species is sufficient to provide fishery managers with an informed and reliable view of the impacts of the fishery on ETP species? This may include information collected independently of the fishery, e.g. by studies to determine the size and vulnerability of the ETP population, or survival rates of a species after capture.</p> <p>This sub-criteria should primarily be assessed by considering whether the conclusions reached in E1.1.2 – whether the fishery has a significant negative impact on ETP species – and in E1.1.3 – whether there is a strategy in place to manage impacts on ETP species – are founded on a solid evidentiary basis. If there is a significant degree of uncertainty surrounding either, and there are reasonable measures which managers could take to reduce that uncertainty but have not, the fishery will not meet this</p>



	<p>criteron.</p>
<p><b>E1.2 The fishery has no significant negative impact on ETP species.</b></p>	<p>A significant negative effect means that the fishery is highly likely to hinder the recovery of the ETP species.</p>
<p>In reaching a determination for E1.2, the assessor should consider if the following is in place:</p>	
<p>E1.2.1 The information collected in relation to E1.1.3 indicates that the fishery does not have a significant negative impact on ETP species.</p>	<p>Review the conclusions reached by the management process – i.e. by managers and/or scientific organisations associated with fishery managers; however, assessors should also consider any fishery-independent information available.</p> <p>The assessor is not expected to conduct their own analysis of the likely impacts of the fishery on ETP species, and should instead review conclusions reached by experts; however, in most cases it is unlikely that the assessor will find a clear yes/no answer to the question. In these instances the assessor should consider the following:</p> <ul style="list-style-type: none"> <li>• Does the activity of the fishery cause a large number of mortalities of the ETP species, relative to the population size of that species?</li> <li>• Does the activity of the fishery cause a large number of mortalities relative to the total fishery-related mortality of the ETP species?</li> <li>• Have any reliable sources expressed concerns about the level of ETP mortality in this specific fishery?</li> <li>• Do the biological characteristics of the ETP species make it particularly vulnerable to the specific type of fishing activity being carried out; e.g. does the gear used mean post-release mortality is likely to be high, or that unrecorded mortalities are likely? Does the fishery mainly interact with juveniles or adults? Etc.</li> </ul>
<p><b>E1.3 There is an ETP management strategy in place for the fishery.</b></p>	<p>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.</p> <p>If there is substantial scientific evidence indicating that no measures are necessary, the criterion can be considered met.</p>
<p>In reaching a determination for E1.3, the assessor should consider if the following is in place:</p>	
<p>E1.3.1 There are measures</p>	<p>Assessors should provide evidence of the existence of a</p>

<p>applied to the fishery which are designed to manage the impacts of the fishery on ETP species.</p>	<p>formal or informal ETP management strategy, with a focus on describing any measures which are in place to reduce the impacts of the fishery on one or more ETP species. Such measures could include:</p> <ul style="list-style-type: none"> <li>• Gear restrictions/regulations;</li> <li>• Spatial or seasonal restrictions;</li> <li>• Fisher training;</li> <li>• Voluntary or mandatory codes of conduct;</li> <li>• Evidence that restrictions on the total level of fishery removals take into account the needs of ETP predator species.</li> </ul>
<p>E1.3.2 The measures are considered likely to achieve the objectives of regional, national and international legislation relating to ETP species.</p>	<p>The assessor should provide evidence of any actions or tools in place that explicitly or indirectly contribute to achieving the objectives of legislation relating to ETP species. Examples can include:</p> <ul style="list-style-type: none"> <li>• Mitigation measures that minimise mortalities of a species with a specific gear type</li> <li>• Comparison with similar fisheries and species (e.g. similar gear, area of operation, interactions with same ETP species)</li> <li>• From trials or measures taken by the fishery itself.</li> </ul>

**Examples of sources of evidence, information or references to support the assessment E1**

- 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 (e.g. Environmental NGOs)
- Records of any testing or inspecting of any ETP mitigating management measures (e.g. gear modifications)

**E2 Impact on the habitat**

<p><b>E2.1 Information on interactions between the fishery and marine habitats is collected.</b></p>	<p>Is information on the interactions between the fishery and habitats collected? And is the way information is collected and reported sufficient to provide fishery managers with an informed and reliable view of the impacts of the fishery on relevant habitats?</p>
<p>In reaching a determination for E2.1, the assessor should consider if the following is in place:</p>	
<p>E2.1.1 Habitats which may be directly affected by the fishery have been identified, including any</p>	<p>Is there evidence available that the habitats which are present in the area(s) where the fishery is carried out? This may be explicit (e.g. a scientific study and/or report, or</p>

habitats which may be particularly vulnerable.	habitat maps) or implicit (e.g. legislation or regulations to protect vulnerable habitats).
E2.1.2 Information on the scale, location and intensity of fishing activity relative to habitats is collected.	<p>Is information available to indicate where the fishery takes place, such as through VMS monitoring? Consider how likely the methods recorded are to provide an accurate indication of the location and intensity of fishing activity and/or habitat interactions. Factors which could affect this include:</p> <ul style="list-style-type: none"> <li>• The proportion of vessels which use VMS, or implement another system to report their location during or after fishing activity.</li> <li>• The proportion of trips on which an observer is present.</li> <li>• Whether or not fishery-dependent or -independent studies have been conducted to determine the location and intensity of fishing activities and/or habitat interactions.</li> </ul>
E2.1.3 Collection and analysis of habitat information is adequate to provide a reliable indication of the impact the fishery has on marine habitats.	<p>Is the information collected on the locations of habitats and fishing activity is sufficient to provide fishery managers with an informed and reliable view of the impacts of the fishery on those habitats? This may include information collected independently of the fishery.</p> <p>This sub-criteria should primarily be assessed by considering whether the conclusions reached in E2.2.2 – whether the fishery has a significant negative impact on habitats – and in E1..1.3 – whether there is a strategy in place to manage impacts on habitats – are founded on a solid evidentiary basis. The fishery should not be awarded a pass against E2.1 if there is a significant degree of uncertainty surrounding either, and there are reasonable measures which managers could take to reduce that uncertainty but have not.</p>

<b>E2.2 The fishery has no significant impact on marine habitats.</b>	
In reaching a determination for E2.2 the assessor should consider if the following is in place:	
E2.2.1 The information collected in relation to E2.1.3 indicates that the fishery does not have a significant negative impact on marine habitats.	Review the conclusions reached by the management process – i.e. by managers and/or scientific organisations associated with fishery managers. Also consider any fishery-independent information available.

	<p>The assessor is not expected to conduct their own analysis of the likely impacts of the fishery on habitats, and should instead review conclusions reached by experts. The assessor should also consider the following:</p> <ul style="list-style-type: none"> <li>• Is there evidence that the fishery damages vulnerable habitats?</li> <li>• How badly are the habitats likely to be damaged? How quickly will they recover? How frequently are they likely to be damaged?</li> <li>• Are there measures in place to prevent or mitigate this damage, such as gear restrictions or limitations to the areas in which fishing activity can occur?</li> <li>• Have any fishery stakeholders expressed concern about the damage the fishery is causing to vulnerable habitats?</li> <li>• Are there any habitats which might be damaged by the fishery which are particularly important, such as those important to ETP species?</li> </ul>
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<p><b>E2.3 There is a habitat management strategy in place for the fishery.</b></p>	<p>If the fishery is known to interact with habitats, measures are in place to minimise and mitigate negative impacts.</p> <p>If there is substantial scientific evidence indicating that no measures are necessary, the criterion can be considered met.</p>
<p>In reaching a determination for E2.3, the assessor should consider if the following is in place:</p>	
<p>E2.3.1 There are measures applied to the fishery which are designed to manage the impact of the fishery on marine habitats.</p>	<p>Is there evidence of the existence of a formal or informal habitats management strategy, with a focus on describing any measures which are in place to reduce the impacts of the fishery on habitats?</p> <p>Such measures could include:</p> <ul style="list-style-type: none"> <li>• Gear restrictions/regulations;</li> <li>• Spatial or seasonal restrictions;</li> <li>• Fisher training;</li> <li>• Voluntary or mandatory codes of conduct;</li> <li>• VMS and/or observer coverage</li> </ul>
<p>E2.3.2 The measures are considered likely to prevent the fishery from having a significant negative impact on marine habitats.</p>	<p>Assessors should primarily consider whether the measures described in F2.3.1 are appropriate and sufficient. This could involve a comparison of the measures with:</p> <ul style="list-style-type: none"> <li>• The measures in place in other fisheries;</li> <li>• Any measures which have been recommended by scientific, industry or management organisations.</li> </ul> <p>Note that determining whether the measures are *actually* effective is covered by E2.2.1.</p>

**Examples of sources of evidence, information or references to support the assessment E2**

- 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.

**E3 Impact on the ecosystem**

<p><b>E3.1 Information on the potential impacts of the fishery on marine ecosystems is collected.</b></p>	<p>Is sufficient information on the interactions between the fishery and the broader ecosystem collected? And is the way information is collected and reported sufficient to provide fishery managers with an informed and reliable view of the impacts of the fishery on the ecosystem?</p>
<p>In reaching a determination for E3.1, the assessor should consider if the following is in place:</p>	
<p>E3.1.1 The main elements of the marine ecosystems in the area(s) where the fishery takes place have been identified.</p>	<p>Is there evidence that the main elements of the marine ecosystems which are present in the area(s) where the fishery is carried out are identified? This may be explicit (e.g. information detailed in a scientific study and/or report) or implicit (e.g. legislation or regulations to protect key ecosystem components).</p> <p>As a minimum, there must be evidence of information describing the main species in the area(s) where the fishery takes place plus consideration of key abiotic factors such as water temperature.</p>
<p>E3.1.2 The role of the species caught in the fishery within the marine ecosystem is understood, either through research on this specific fishery or inferred from other fisheries.</p>	<p>Are the roles of the target or main species caught in the fishery within marine ecosystems are understood? The level of understanding does not need to be detailed and does not need to be based on the fishery under assessment.</p> <p>In determining whether this clause is met, fishery assessors should consider every Type 1 species (i.e. any species subject to a Category A or Category B assessment). Assessors should also consider:</p> <ul style="list-style-type: none"> <li>• Is the trophic level of each species understood?</li> <li>• Is it known whether each species is important as a food source, particularly for any ETP or otherwise vulnerable species?</li> <li>• Is there information relating to the way environmental factors are likely to influence the population of each species?</li> </ul>

<p>E3.1.3 Collection and analysis of ecosystem information is adequate to provide a reliable indication of the impact the fishery has on marine ecosystems.</p>	<p>Is the information collected on marine ecosystems is sufficient to provide fishery managers with an informed and reliable view of the impacts of the fishery on ecosystems? This may include information collected independently of the fishery, e.g. by studies to determine the impact of similar fisheries on ecosystem structure and function.</p> <p>This sub-criteria should primarily be assessed by considering whether the conclusions reached in E3.3.2 – whether the fishery has a significant negative impact on ecosystems – and in E3.3.3 – whether there is a strategy in place to manage impacts on ecosystems – are founded on a solid evidentiary basis. The fishery should not be awarded a pass against E3.3 if there is a significant degree of uncertainty surrounding either, and there are reasonable measures which managers could take to reduce that uncertainty but have not.</p>
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<p><b>E3.2 There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.</b></p>	
<p>E3.2.1 The information collected in relation to E3.1.3 indicates that the fishery does not have a significant negative impact on marine ecosystems.</p>	<p>Review the conclusions reached by the management process – i.e. by managers and/or scientific organisations associated with fishery managers; however, assessors should also consider any fishery-independent information available.</p> <p>The assessor is not expected to conduct their own analysis of the likely impacts of the fishery on ecosystems, and should instead review conclusions reached by experts. In the absence of any evidence that the fishery has had a significant negative impact on marine ecosystems, this criteria is met.</p>

<p><b>E3.3 There is an ecosystem management strategy in place for the fishery.</b></p>	<p>A management strategy is in place, and if applicable, there are measures are in place to minimise and mitigate negative impacts. If there is substantial scientific evidence indicating that no measures are necessary, the criterion can be considered met.</p>
<p>In reaching a determination for E3.3, the assessor should consider if the following is in place:</p>	
<p>E3.3.1 There are measures applied to the fishery which are designed to manage the impacts of</p>	<p>Is there evidence of the existence of a formal or informal ecosystem, or similar, management strategy, with a focus on describing any measures which are in place to reduce the</p>

the fishery on marine ecosystems.	<p>impacts of the fishery on one or more ETP species? Such measures could include:</p> <ul style="list-style-type: none"> <li>• Evidence that restrictions on total catch are set with a consideration of the role of target species as prey</li> <li>• Gear restrictions/regulations</li> <li>• Spatial or seasonal restrictions</li> </ul>
E3.3.2 The measures are considered likely to prevent the fishery from having a significant negative impact on marine ecosystems.	<p>Assessors should primarily consider whether the measures described in E3.3.1 are appropriate and sufficient to prevent the fishery from having significant negative impacts on the marine ecosystem. This could involve a comparison of the measures with:</p> <ul style="list-style-type: none"> <li>• The measures in place in other fisheries;</li> <li>• Any measures which have been recommended by scientific, industry or management organisations.</li> </ul> <p>Note that determining whether the measures are *actually* effective is covered by E3.2.1.</p>

**Examples of sources of evidence, information or references to support the assessment E3**

- 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.