



MarinTrust

By-Product assessment criteria

Version 3.1

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Version control and available language(s)

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Version control

Date	Issue	Amendment	Authorised by
July 2024	V3.1	<p><i>Addition of Annex 2 and 3</i></p> <p><i>Annex 2: Assessment methodology and guidance</i></p> <p><i>Annex 2a: Annex 2a Step 3 Category C species assessment guidance</i></p> <p><i>Annex 3: Annex 3 Flag state risk rating for Step 2: IUU Risk Assessment</i></p>	MarinTrust CEO
October 2023	V3.0	<p><i>By-Product assessment criteria.</i></p> <p><i>Major revision to assessment methodology.</i></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.

Foreword

MarinTrust¹ is the leading independent business to business certification programme for the marine ingredients value chain. Responsible sourcing and manufacturing is vital if marine ingredients are to remain a relevant ingredient in feed for culture, agriculture, pet care and directly in the production of consumer products, including cosmetics and nutraceuticals. Fishmeal and fish oil make up the largest share of marine ingredients today, however all marine ingredients are included in MarinTrust's scope.

To enable stakeholders to credibly demonstrate the commitment to responsible practice in areas of feed safety, raw material procurement, delivery, and throughout the production process, MarinTrust developed a robust Certification Programme, consisting of three main components:

The MarinTrust Global Standard for Responsible Supply of Marine Ingredients: The verification and certification of marine ingredients factories that source their raw material from approved fisheries and by-product species.

The MarinTrust Chain of Custody (CoC) Standard: The verification and certification of the chain of custody for marine ingredients (products) that come from MarinTrust certified factories along the value chain to the customer.

The Improver Programme: The verification and approval of marine ingredients factories that source their raw material from accepted MarinTrust Improver fisheries.

The initial MarinTrust Global Standard for Responsible Supply of Marine Ingredients (the 'Standard') was finalised and the programme opened for applications in October 2009, with the first factory receiving IFFO RS (now known as MarinTrust) certification in February 2010. Version 2.0 was launched in July 2017.

The Standard and raw material (whole fish and by-product) assessment requirements have since been regularly revised in line with relevant international norms, such as those set by the International Organisation for Standardization (ISO/IEC 17065², ISO/IEC 17067³) and the International Social and Environmental Accreditation and Labelling (ISEAL)⁴. This ongoing process ensures that the Standard remains accessible, credible, and relevant to industry needs, and in particular that the assessment process continues to be robust.

Revisions are undertaken by a series of expert committees within the MarinTrust governance structure⁵. These committees represent the full marine ingredient value chain, including marine ingredient producers, feed processors, fisheries and aquaculture standard holders and retailers as well as fisheries experts, and non-governmental organisations (NGOs).

1 The MarinTrust programme is an initiative of Marine Ingredients Certifications Ltd. which operates as MarinTrust.

2 www.iso.org/standard/46568.html

3 www.iso.org/standard/55087.html

4 www.isealalliance.org

5 www.marin-trust.com/about-us/governance-structure

Introduction

Governance

The MarinTrust programme is overseen by the MarinTrust Governing Body Committee (GBC), which is responsible for the continued advancement of the MarinTrust standards to ensure they remain both credible and relevant with respect to the stated objectives. The MarinTrust Fisheries Development Oversight Committee is responsible for the continued advancement of the MarinTrust raw material assessment (whole fish and by-product) requirements.

The MarinTrust Governing Body Committee has endorsed Version 3.0 of the MarinTrust By-product assessment criteria. Throughout the development of Version 3.0, the needs of the marine ingredients value chain and interested parties have been at the centre to ensure effective representation throughout.

About this document

This document defines what shall be achieved for the approval of by-product raw material against the 'MarinTrust Global Standard for Responsible Supply of Marine Ingredients Version 3.0' (the 'Standard').

Responsible raw material sourcing

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

- not sourced from Illegal, unreported and unregulated (IUU) fishing activity
- do not stem from an endangered species
- for whole fish, are from responsibly managed fisheries aligned with the FAO Code of Conduct for Responsible Fisheries⁶.

Scope and applicability

This document outlines the assessment criteria for responsibly sourcing by-product raw materials used to produce MarinTrust certified marine ingredients.

These criteria apply to by-products from human and pet food sources as defined in the MarinTrust Standard.

Source fisheries cannot make a claim against the MarinTrust Standard.

The by-product under assessment is defined at a minimum by the species and fishing vessel flag state, and other relevant data to support the evidence base required to adequately assess the risks identified in the assessment methodology.

⁶ FAO Code of Conduct for Responsible Fisheries. 1995. www.fao.org/3/v9878e/v9878e.pdf

Definitions

Definitions and terms are published on the MarinTrust website.

Third-party assessments

Applicant facilities shall demonstrate compliance with the MarinTrust Global Standard for Responsible Supply of Marine Ingredients to become a 'certificate holder' under the MarinTrust programme. Fishery assessments are a pre-requisite to an audit. Fishery assessments are conducted by a third-party, qualified Certification Body accredited to ISO/IEC 17065⁷.

The specified frequency of assessments is defined in the Quality Management System, available on the MarinTrust website.

Registered Certification Bodies

A list of third-party accredited Certification Bodies to undertake the process of auditing against the MarinTrust Standard and issuing certificates can be found on the MarinTrust website.

Further information

Further information regarding application, rules and regulations of the programme can be obtained from MarinTrust and/or the approved certification bodies listed on the MarinTrust website.

Standard Holder

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⁷ www.iso.org/standard/46568.html

MarinTrust by-product assessment criteria

1. MarinTrust V3.0 By-product assessment requirements

- 1.1. A species cannot be approved for use as a MarinTrust raw material if it is:
 - 1.1.1. 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 CITES⁸ Appendix 1 or 2, or
 - 1.1.4. Is categorised as Endangered or Critically Endangered on the IUCN Red List⁹.
- 1.2. No materials from illegal, unreported and unregulated (IUU) fishing activity shall be used as MarinTrust raw material.
- 1.3. To demonstrate the by-product under assessment is compliant with clauses 1.1 and 1.2, the fishery assessor shall apply the MarinTrust by-product assessment methodology.

2. MarinTrust by-product assessment methodology

The by-product assessment methodology follows a stepwise approach to assess and score the by-product under assessment against a set of criteria:

- 2.1. Step 1: IUCN Red list and CITES Check
 - 2.1.1. Determine the eligibility of the by-product under assessment for MarinTrust approval by establishing whether the by-product species falls under the MarinTrust definition of ETP.
- 2.2. Step 2: IUU Risk Assessment
 - 2.2.1. Establish the IUU risk level of the flag state(s) responsible for catching the source material for the by-product under assessment.
- 2.3. Step 3: Management Framework Assessment
 - 2.3.1. Where Step 2 has established that the flag state(s) exceed a risk threshold, determine what measures are in place to mitigate this risk in the case of the by-product under assessment.

⁸ Convention on International Trade in Endangered Species of Wild Fauna and Flora. CITES database: Species+ (speciesplus.net)

⁹ International Union for Conservation of Nature (IUCN) Red List of Threatened Species: <https://www.iucnredlist.org/>

Annex 1: Summary of changes

Summary of changes between Version 2 and Version 3

Version 3.0 of the MarinTrust By-Product Assessment Criteria aims to improve the assessment process, focusing on the legality of by-products sourced in the supply chain. It utilises an IUU risk-based assessment of the source country and includes additional checks on supplier agreements to prevent IUU fishing. The criteria and methodology have been significantly changed but CITES appendices and the IUCN Red List still check for endangered species. A summary of changes between Version 2 and Version 3.0 of the assessment criteria is presented in Table 1.

Table 1: Comparison of V2 and V3.0 of the MarinTrust by-product assessment criteria

Version 2 assessment criteria	Version 3 assessment criteria
Review the stock assessments, the legality of the fishery and that the fishery does not contradict scientific advice. <ul style="list-style-type: none"> • Category C species stock status review • Category D species Productivity Susceptibility Assessment (PSA) 	Step 1. CITES and IUCN Red List check
	Step 2. IUU Risk Assessment – IUU Fishing Index
	Step 3. IUU Risk Assessment -Management Framework Assessment

Annex 2: By-product assessment methodology and guidance

Step 1: IUCN Red list and CITES Check

Assessment criteria

2.1.1 Determine the eligibility of the by-product under assessment for MarinTrust approval by establishing whether the by-product species falls under the MarinTrust definition of ETP.

Assessment methodology

The assessor shall review the status of each by-product species against relevant CITES appendices **and** IUCN Red List categories.

CITES

The assessor shall review if the species is listed on CITES Appendix 1 or 2 using the CITES database Species+ (speciesplus.net).

By-products from a species listed in Appendix 1 or Appendix 2 of CITES are ineligible for assessment and shall immediately fail the assessment.

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

IUCN red list category

The assessor shall review if the species is endangered or critically endangered on the IUCN (the International Union for Conservation of Nature) Red List of Threatened Species:

<https://www.iucnredlist.org/>

If the species is listed by IUCN 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 is not listed on the IUCN Red List, it is assumed to pass this requirement and is eligible for assessment.

Step 1 outcome

Should a species be identified as ineligible for assessment it cannot proceed any further and fails the overall assessment. The by-product species is **Not Approved**.

If the species is identified as eligible for assessment, the species shall be assessed against Step 2.

Step 1 Guidance

The species is assessed in Step 1.

When completing the assessment, the assessor should refer to the latest published IUCN Red List. If the species has not been assessed on the IUCN Red List for more than 5 years, and there is a reason to question the IUCN status, the applicant or stakeholder should provide additional evidence to the Certification Body to demonstrate that the IUCN status is outdated. This will be assessed on a case-by-case basis with the assistance of MarinTrust.

Where the IUCN Red List or CITES Appendices have more than one assessment for a species, e.g. IUCN red list assessment is available for different fish stocks, the assessor shall request from the applicant additional information to support identification of the status of the species on the IUCN Red List or CITES Appendices.

References

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

Convention on International Trade in Endangered Species of Wild Fauna and Flora. CITES database: Species+ (speciesplus.net)

Step 2: IUU Risk Assessment

2.2.1 Assessment criteria

Establish the IUU risk level of the flag state(s) responsible for catching the source material for the by-product under assessment.

Assessment methodology

Calculate the IUU fishing risk

A suite of indicators has been established to assess the risk of Illegal, Unreported, and Unregulated (IUU) fishing for vessel flag states (country). The indicators and risk thresholds are presented in Table 1.

For each by-product species, the assessor shall use Table 1 to determine the IUU risk scores for each flag state provided for the by-product species.

The IUU risk score for the flag state is calculated using a precautionary approach, using the highest risk score to determine the by-product IUU risk score in Step 2. This means:

- If any indicator used in Step 2 is high risk, the by-product species is categorised as high risk.
- The by-product species is categorised as low risk only when all the indicators are low risk.

Table 1: Step 2 IUU risk indicators and thresholds.

Indicator		Risk thresholds	Dataset (most recent)
1	Flag score	Low ≤2	IUU Fishing Risk Index 2023
		Medium 2.01-3.99	
		High ≥4	
2	Port score	Low ≤2	IUU Fishing Risk Index 2023
		Medium 2.01-3.99	
		High ≥4	
3	IUU score	Low ≤2	IUU Fishing Risk Index 2023
		Medium 2.01-3.99	
		High ≥4	
4	Flag state contracting party or cooperating non-contracting party to all relevant RFMOs	Yes (1) - Low	IUU Fishing Risk Index 2023
		No (2-5) – High	
5	'Carded' under EU Carding system	No (1) - Low	IUU Fishing Risk Index 2023
		Yes (3, 5) – High	
6	Flag state party to PSMA	Yes (1) - Low	IUU Fishing Risk Index 2023
		No (5) – High	
7	Flag state mandatory vessel tracking for commercial seagoing fleet	Yes (1) - Low	IUU Fishing Risk Index 2023
		No (5) – High	
8	WGI Regulatory Quality Score	Low ≥65%	Worldwide Governance Indicators 2022
		Medium 35-65%	
		High <35%	

Step 2 outcome

If the outcome of Step 2 is categorised as high risk, an evaluation of the by-product species against **Step 3** is required.

If the outcome of Step 2 is categorised as low risk, the by-product species is **Approved**. No further assessment is required.

If the outcome of Step 2 is categorised as medium risk, the by-product species is **Approved Source with Caution**.

For medium risk by-product species, by-products are given an Approved Source with Caution outcome and additional checks are required during the audit. This ensures relevant steps are being taken by the facility to ensure it is mitigating the risk of sourcing a by-product species assessed as medium risk. The audit requirements are covered in clause 2.11.3 of the MarinTrust Global Standard for Responsible Supply of Marine Ingredients (the MarinTrust Standard).

Step 2 guidance

The vessel flag state is assessed in Step 2.

The flag state is the country in which the vessel is registered (see FAO glossary and Voluntary Guidelines on Flag State Performance, FAO, 2014 (<http://www.fao.org/3/a-mk052e.pdf>)).

The applicant provides flag state information for each by-product species applied for in the MarinTrust online application form which is shared with the CB.

If the flag state is not provided or is unknown, the by-product is classified as high risk and required to be evaluated against Step 3.

There may be one flag state or multiple flag states for each by-product under assessment.

If there is more than one flag country for the by-product species, then the assessor shall complete the Step 2 IUU risk assessment for all flag countries and use the highest scoring (highest risk) flag state to determine the by-product IUU risk score.

The Step 2 outcome is defined below. Annex 2 provides a summary of the Step 2 risk rating for each flag state (country). Annex 2 will be updated whenever the indicator data is revised. Please refer to the latest version of this document for risk ratings.

By-product risk rating after Step 2	Outcome
Low risk	By-product species is low risk and is MarinTrust Approved . No additional requirements in the MarinTrust Standard or audit for low risk approved species.
Medium risk	By-product species is medium risk and is MarinTrust Approved . However, the Source with Caution label indicates additional requirements in the MarinTrust factory Standard, which shall be verified during the factory audit.
High risk	By-product species must proceed to Step 3 .

Examples of By-product IUU risk outcome:

IF indicator 1 is categorised as high risk, AND indicators 2, 3 are categorised as medium risk, AND indicators 4, 5, 6, 7, 8 are categorised as low risk, THEN Step 2 risk score is high risk.

IF indicators 1, 2, 3 are categorised as medium risk, AND indicators 4, 5, 6, 7, 8 are categorised as low risk THEN Step 2 risk score is categorised as medium risk.

IF all the indicators are low risk, THEN Step 2 risk score is categorised as low risk.

Ireland

2023 country results

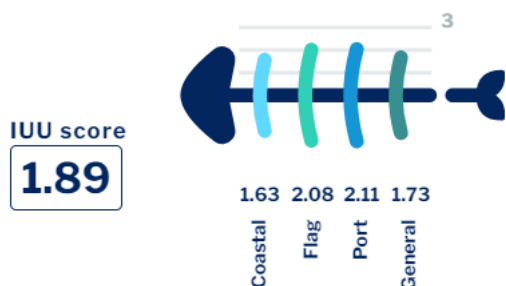


Figure 1. Country score example from IUU Fishing Risk Index. The Flag score, Port score and IUU score are among the indicators used to assess Step 2 in the MarinTrust by-product assessment.

References

IUU Fishing Risk Index: Macfadyen, G. and Hosch, G. 2023. The IUU Fishing Risk Index: 2023 Update. Poseidon Aquatic Resource Management Limited and the Global Initiative Against Transnational Organized Crime. Access online: <https://iuufishingindex.net>

Worldwide Governance Indicators: Daniel Kaufmann and Aart Kraay (2023). Worldwide Governance Indicators, 2023 Update (www.govindicators.org). Accessed on 10/19/2023.

About risk assessment

Risk assessment provides a way for businesses to understand the landscape in which they operate. They are commonly used to help businesses identify where there may be issues, e.g. in a specific country or specific supply chain.

Risk assessment is part of a 'toolkit' on due diligence. But it only provides an initial indication of risk. It is not a replacement for understanding specific supply chains or individual companies/suppliers within the supply chain.

It is useful to start at the broad country level as this shows which countries may be associated with higher levels of IUU fishing risks. Beyond, that companies can dive deeper into their own sectors and supply chains.

Risk assessment can use different measures and indicators, depending on what is relevant to include. And there are many different risk assessment methodologies available. However, many of these use common indicators.

Step 3: Management Framework Assessment

Assessment criteria

2.3.1 Where Step 2 has established that the vessel flag state(s) exceed a risk threshold, determine what measures are in place to mitigate this risk in the case of the by-product under assessment.

Assessment methodology

Additional information request

- The Certification Body or assessor shall request additional information from the applicant to support the Step 3 assessment.
- The applicant shall be given a maximum of 30 calendar days to submit the relevant information.
- Information may be provided through the MarinTrust online application form and shall be confirmed by the assessor or Certification Body.
- If the applicant fails to provide the additional information by the given deadline, the by-product will be considered high risk and is **Not Approved**.

By-products from MarinTrust approved whole fish fisheries

MarinTrust allows applicants to include by-products from approved whole fish fisheries in their application. This allowance applies under certain conditions and offers a risk assessment adjustment for such by-products.

Conditions:

- The by-products must be derived from species that are from a whole fish fishery that is already MarinTrust approved.
- The species of the by-products must match the species of the approved whole fish.

Risk Assessment Adjustment:

- By-products typically assessed as high risk can be downgraded to medium risk if they meet the above conditions.
- This downgrading of the risk does not require additional requests for traceability information or a Category C assessment.
- A MarinTrust whole fish assessment sufficiently addresses the risks of overfishing and traceability, which are key components of the by-product risk assessment.

1. Management framework evaluation – fishery assessment

Category C assessment

- The assessor shall complete a Category C assessment of the by-product species stock.
- The assessment uses the Category C species assessment criteria in Table 2, and guidance for Category C by-product assessment is presented in Annex 2a.

Table 2: Category C assessment criteria

C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process OR are considered by scientific authorities to be negligible.
C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.

2. Management framework evaluation – traceability to source fishery

Based on information from the applicant, the assessor will choose one of two methods (paths) to determine if the traceability information for high-risk by-product species is adequate.

Path 1: Whole fish Key Data Elements (KDEs)

For the by-product under assessment, the assessor has received all relevant Key Data Elements (KDEs) as defined in the MarinTrust Standard clauses 2.11.2.2 and 3.2.5. These KDEs relate to the whole fish from which the by-products are sourced:

- Vessel details: name of vessel, International Maritime Organisation (IMO)/registration number (as applicable), call sign, legal owner, name and address of legal owner, flag state.
- Authorisation for fishing: license / permits as applicable fishing: all permitted fishing methods, fishing gear for the vessel.
- Species (including scientific name) and quantity discharged to the facility.
- Catch areas where catch originated.
- Catch date (this can include date of fishing, dates of specific fishing trip, dates at sea during which the consignment was caught).
- Fishing method / gear used for the catch of fish (if the vessel is multi-rig).

Path 2: Calculate further risk score using port and coastal state risk

The assessor uses Table 3 to determine IUU (Illegal, Unreported, and Unregulated) risk scores for the coastal state and port state for the by-product species.

Path 2 guidance

There may be multiple coastal or port states for each by-product under assessment. If there is more than one coastal or port state for the by-product species, then the assessor shall complete Step 3 path 2 evaluation for each country and use the highest scoring (highest risk) state to determine the by-product IUU risk score.

Table 3. Step 3 further IUU risk indicators and thresholds Path 2.

Indicator		Risk threshold	Dataset (most recent)
1	Port Score	Low ≤2	IUU Fishing Risk Index 2023
		Medium 2.01-3.99	
		High ≥4	
2	Costal Score	Low ≤2	IUU Fishing Risk Index 2023
		Medium 2.01-3.99	
		High ≤4	

Step 3 outcome

There are four possible outcomes at Step 3.

Outcome 1:

If the by-product passes the Category C assessment **and** has sufficient traceability information (Path 1), it is downgraded to medium risk and is Approved (Source with caution).

Outcome 2:

If the by-product passes the Category C assessment **but** has high-risk traceability information (Path 2), it remains high risk and is Not Approved.

Outcome 3:

If the by-product passes the Category C assessment **and** has medium or low-risk traceability information (Path 2), it is downgraded to medium risk and Approved (Source with Caution).

Outcome 4:

If the by-product fails the Category C assessment, it remains high risk and is Not Approved, regardless of the traceability information.

Table 4. Summary of Step 3 outcome options

Category C		Traceability	Risk outcome	Approval status
Pass	And	Low risk Path 1 shows all required information	Downgraded to medium risk	Approved Source with Caution
Pass	And	High Risk (Path 2)	Remains high risk	Not Approved
Pass	And	Medium/Low Risk (Path 2)	Downgraded to medium risk	Approved Source with Caution
Fail	n/a	n/a	Remains high risk	Not Approved

Step 3 guidance

The further evaluation in Step 3 will support the risk mitigation and allow the applicant to demonstrate their ability to mitigate potential IUU risks associated with by-product raw materials in their supply chain. This mitigation is done through further evaluation of the status of the raw material source fishery.

The Category C assessment evaluates the status of the fishery (to stock level). Passing a category C assessment, the species is demonstrated to be sourced from a managed fishery and that the stock is not overfished.

Traceability information offers assurance that the source fishery for the by-product under assessment can be identified, by receiving key data elements (KDEs) for the by-products sourced offers more visibility into the supply chain and increases the opportunity to identify and avoid potential IUU fishing risks.

What do better practices look like?

Comprehensive data collection and sharing: Collect detailed information using Key Data Elements

(KDEs) including vessel identification and authorisation, species, catch areas, fishing method and dates.
 Supply chain transparency: Maintain detailed records at each step of the supply chain, from capture to final sale, to ensure traceability.
 Interoperable systems and technologies will support the collection and transfer of this information.

By-product assessment status

By-product MarinTrust Approval status	Outcome
Approved	By-product species is low risk and is MarinTrust Approved . No additional requirements in the MarinTrust Standard or audit for low risk approved species.
Approved Source with Caution	By-product species is medium risk and is MarinTrust Approved . However, the Source with Caution label indicates that there are additional requirements in the MarinTrust Standard which shall be verified during the factory audit.
Not Approved	By-product species is deemed high risk and is not approved . High risk by-products shall not be sourced by MarinTrust certified facilities (MarinTrust Standard clause 2.11.3.3).

Annex 2a: Step 3 Category C species assessment guidance

In a by-product assessment, species that are categorised as High-risk in Step 2 are subject to a Category C species assessment in Step 3. Species must be subject to a species-specific management regime and are usually targeted species in fisheries for human consumption.

Guidance for Category C assessment

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

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

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

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

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

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

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

Default values for the levels of the PRI and BMSY, as used in scoring the stock status are given below. They are often related to B_0 , the stock status that would be present in the absence of fishing.

In the case where neither BMSY nor the PRI are analytically determined, the following default reference points may be appropriate for measuring stock status depending on the species: $BMSY=40\%B_0$; $PRI=20\%B_0=\frac{1}{2}BMSY$.

- In the case where either BMSY or the PRI are analytically determined, those values should be used as the reference points for measuring stock status unless additional precaution is sought.

- In the case where BMSY is analytically determined to be greater than 40%B₀, and there is no analytical determination of the PRI, the default PRI should be ½BMSY. This case covers the situation of low productivity stocks, where higher default PRIs may be justified.
- In the case where BMSY is analytically determined to be lower than 40%B₀ (as in some highly productive stocks), and there is no analytical determination of the PRI, the default PRI should be 20%B₀ unless BMSY < 27%B₀, in which case the default PRI should be 75%BMSY.
- For stocks with average productivity, where BMSY is not analytically determined but assumed to be 40%B₀ and a management trigger reference point is set greater than 40%B₀ for precautionary reasons, the default PRI should still be set at 20%B₀ = ½BMSY unless it is analytically determined. This covers situations where the management authority has deliberately chosen a conservative target reference point, but where the default PRI is still appropriate.
- In cases where the PRI is set at 20% B₀, a default value for the BMSY may be assumed to be 2xPRI. In other cases, for instance where the PRI is set at the lowest historical biomass, it cannot be assumed that BMSY = 2xPRI. Teams shall justify any reference point used as a proxy of BMSY in terms of its consistency with BMSY.

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

Sources of evidence for the assessment:

- 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.

Annex 3: Flag state risk rating for Step 2: IUU Risk Assessment

The individual indicators are updated periodically, typically annually or every two years or as/when a new dataset is available. As such, scores will vary.

Country risk scores and ratings can change depending on the performance of each indicator. A revised version of this document will be created to include the latest country ratings. This will be available from the MarinTrust website.

Use this Annex to identify the risk rating for each flag state in Step 2 or the coastal and port state in Step 3. *Fishery assessors may be provided with additional datasets to complete the assessment.*

It is essential that the latest ratings are used. Ensure you have the most up to date version of this document.

Flag state risk ratings

(as of 1 July 2024)

Flag State	Step 2 risk rating
Albania	Medium
Algeria	High
Angola	High
Antigua & Barbuda	Medium
Argentina	High
Australia	Medium
Bahamas	High
Bahrain	Medium
Bangladesh	High
Barbados	Medium
Belgium	Low
Belize	Medium
Benin	Medium
Bosnia & Herzegovina	Medium
Brazil	Medium
Brunei Darussalam	Medium
Bulgaria	Medium
Cambodia	High
Cameroon	High

Canada	Low
Cape Verde	Medium
Chile	Medium
China	High
Colombia	High
Comoros Isl.	High
Congo (DRC)	High
Congo, R. of	High
Cook Islands	Medium
Costa Rica	High
Cote d'Ivoire	Medium
Croatia	Medium
Cuba	High
Cyprus	Medium
Denmark	Medium
Djibouti	High
Dominica	Medium
Dominican Republic	Medium
Ecuador	High
Egypt	High
El Salvador	High
Equatorial Guinea	High
Eritrea	High
Estonia	Medium
Fiji	Medium
Finland	Low
France	Medium
Gabon	High
Gambia	High
Georgia	High
Germany	Medium
Ghana	High
Greece	Medium
Grenada	High
Guatemala	High
Guinea	High
Guinea-Bissau	High
Guyana	Medium
Haiti	High
Honduras	High
Iceland	Low
India	High
Indonesia	Medium

Iran	High
Iraq	High
Ireland	Medium
Israel	High
Italy	Medium
Jamaica	High
Japan	Medium
Jordan	Medium
Kenya	Medium
Kiribati	High
Korea (North)	High
Korea (Rep. South)	Medium
Kuwait	High
Latvia	Medium
Lebanon	High
Liberia	High
Libya	High
Lithuania	Medium
Madagascar	High
Malaysia	High
Maldives	High
Malta	Medium
Marshall Isl.	High
Mauritania	High
Mauritius	Medium
Mexico	High
Micronesia (FS of)	High
Monaco	Low
Montenegro	Medium
Morocco	Medium
Mozambique	High
Myanmar	High
Namibia	Medium
Nauru	Medium
Netherlands	Medium
New Zealand	Medium
Nicaragua	High
Nigeria	High
Norway	Medium
Oman	Medium
Pakistan	High
Palau	Medium
Panama	High

Papua New Guinea	High
Peru	Medium
Philippines	Medium
Poland	Medium
Portugal	Medium
Qatar	High
Romania	Medium
Russia	High
Saint Kitts & Nevis	High
Saint Lucia	High
Saint Vincent & the Grenadines	High
Samoa	High
Sao Tome & Principe	High
Saudi Arabia	Low
Senegal	Medium
Seychelles	Medium
Sierra Leone	High
Singapore	High
Slovenia	Medium
Solomon Isl.	High
Somalia	High
South Africa	Medium
Spain	Medium
Sri Lanka	High
Sudan	High
Suriname	High
Sweden	Medium
Syria	High
Taiwan	High
Tanzania	High
Thailand	Medium
Timor-Leste	High
Togo	High
Tonga	Medium
Trinidad & Tobago	High
Tunisia	High
Turkey	Medium
Tuvalu	High
Ukraine	High
United Arab Emirates	High
United Kingdom	Medium
Uruguay	Medium
USA	Medium

Vanuatu	High
Venezuela	High
Vietnam	High
Yemen	High