



***Alaska Responsible Fisheries Management
Certification Program***

Fisheries Standard Version 2.0

For the assessment of Alaska fisheries

May 2018

(new RFM Seal added 10/21/19)

Table of Contents

FOREWORD 1

Structure of the Alaska Responsible Fisheries Management Fisheries Standard..... 5

 Fisheries Standards – Fundamental Clauses..... 5

 A. The Fisheries Management System..... 5

 B. Science, Stock Assessment Activities and the Precautionary Approach 5

 C. Management measures, implementation, monitoring, and control..... 6

 D. Serious Impacts of the Fishery on the Ecosystem..... 6

United Nations Food and Agriculture Organization’s Definition of Responsible Fisheries Management..... 7

 Topics that will trigger immediate assessment failure..... 7

Responsible Fisheries Management Fundamental Clauses and Supporting Clauses.. 8

 A. The Fisheries Management System..... 8

 B. Science & Stock Assessment Activities and the Precautionary Approach 13

 C. Management Measures, Implementation, Monitoring, and Control..... 18

 D. Serious Impacts of the Fishery on the Ecosystem..... 23

Summary of Key Changes..... 29

Appendix 1 34

Appendix 2 36

Appendix 3 38

Appendix 4 39

Appendix 5 42

Appendix 6 43

Appendix 7 44

Appendix 8..... 46

FOREWORD

This document sets out the requirements that must be achieved by Alaska fisheries operating within the Alaska 200nm EEZ for Alaska Responsible Fisheries Management (RFM) Certification. All Alaska Fisheries are eligible to apply for the RFM Program. The RFM Program has developed a specific Data Deficient tool for fisheries when relevant.

The Alaska RFM Certification Program is a voluntary and internationally accredited assessment of whether an Alaska fishery meets strict criteria to be certified as meeting “Responsible Fisheries Management”. The RFM Program consists of two seafood certification standards: 1) Fisheries Standard and 2) Chain of Custody Standard. This document applies to just the Fisheries Standard.

The Alaska RFM Fisheries Standard has been in existence since 2010. The remit of the Alaska RFM Fisheries Standard and Program is:

“Responsible Fisheries Management, including enhancement practices (but excluding full cycle aquaculture), up to the point of landing, with the main objective being the biological sustainability of the “stock under consideration”, with consideration for conservation, biodiversity and ecosystem integrity; and due regard to social responsibility and the economic viability of the fishery.”

The Fisheries Standard was developed by an independent Fisheries Standard Committee (formerly the Conformance Criteria Committee) and is based on the following FAO Guidelines and Documents:

- Code of conduct for Responsible Fisheries 1995
- Guidelines for Eco-labelling of Fish and Fishery Products for Marine Capture Fisheries 2005/2009
- Guidelines for the Eco-labelling of Fish and Fishery Products from Inland Capture Fisheries 2011
- FAO Fisheries Circular No. 917, October 1996

For V 2.0, the following FAO publications were also reviewed for relevance and integrated as deemed appropriate by the Fisheries Standard Committee (FSC):

- International Guideline on Bycatch Management and Reduction of Discards 2011 – IGBD (2011)
- International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing 2001 – FAO IUU (2001)
- FAO Technical Guidelines for Responsible Fisheries-Fisheries Management Supplement 4. Marine Protected Areas and Fisheries 2011 – FAO FM/MPA (2011)

To view the Standard Setting Process on the original Fishery Standard [click here](#).

Alaska RFM Fisheries Standard Version 2.0 (V 2.0) / Six Key Principles in Four Sections

The Alaska RFM Fisheries Standard V 2.0 focuses on 6 Key Principles for evaluating fisheries:

1. The Fisheries Management System
2. Science and Stock Assessment Activities
3. The Precautionary Approach
4. Management Measure
5. Implementation, Monitoring and Control
6. Serious Impacts of the Fishery on the Ecosystem

These six key principles are now arranged in four Key Sections within V 2.0:

- A. The Fisheries Management System
- B. Science & Stock Assessment Activities and the Precautionary Approach
- C. Management Measures, Implementation, Monitoring and Control
- D. Serious Impacts of the Fishery on the Ecosystem

Fishery Certification Process

An ISO 17065 Accredited Certification Body (CB) conducts the assessment and certification of Alaska fisheries. The CB is responsible for ensuring the competency and consistency of assessment practices.

The assessment process from application to certification contains seven major steps.

1. Application and Applicant Review
2. 30 Day Notification Period to Public/Stakeholders to register to comment on Draft Report
3. Assessment Verification/Information Review, Site Visits, Full Draft Assessment Report
4. External Peer Review
5. 30 Day Public/Stakeholder Comment Period on Draft Report
6. Final Assessment Report
7. Certification Decision

The current RFM Standard versions and the [RFM Quality Management System \(QMS\) and RFM Procedures](#) are available on the ASMI website.

The RFM Standards will be updated as a matter of process and procedure. Current certified fisheries will be allowed a minimum of three years from date of new S issue to come into compliance with any new edition of the RFM Fisheries Standard.

New fisheries or fisheries in Full Re-Certification are subject to assessment against the RFM V 2.0

Standard from date of issue.

After certification, the fishery enters annual surveillance assessments for continuing certification. Re-certification occurs after a period of five years with annual surveillance audits taking place within this period.

Alaska Fisheries Standard V 2.0 Revisions Overview

The Alaska RFM Fisheries Standard V 2.0 includes many substantial changes, adding depth and robustness to the Alaska RFM Certification Program. Revisions are based on a combination of factors including needs for improvements recognized by the Alaska Seafood Marketing Institute (ASMI) and the RFM Fisheries Standard Committee, stakeholder input collected over a two year process, and required components of the Global Sustainable Seafood Initiative (GSSI) global benchmark tool.

In summary, the changes and improvements to Alaska RFM Fisheries Standard V 2.0 include:

- Rewording of complex clauses;
- General housekeeping and restructuring;
- Fusion of clauses with overlapping requirements;
- Arranging 6 Key Principles for evaluating fisheries into 4 Key Sections;
- Inclusion of specific metrics and indicators;
- Improved specificity of some clauses (e.g. stock status, ecosystem components, etc...);
- Review of additional FAO documentation and related inclusion of some clauses;
- Scoring and Guidance document improvements;
- Development of an addendum and framework for Data Deficient Fisheries assessments;
- Modification of the scoring matrix from a descriptive to a numerical system;
- The Alaska RFM Fishery Standard is not applicable to deep-sea fisheries;

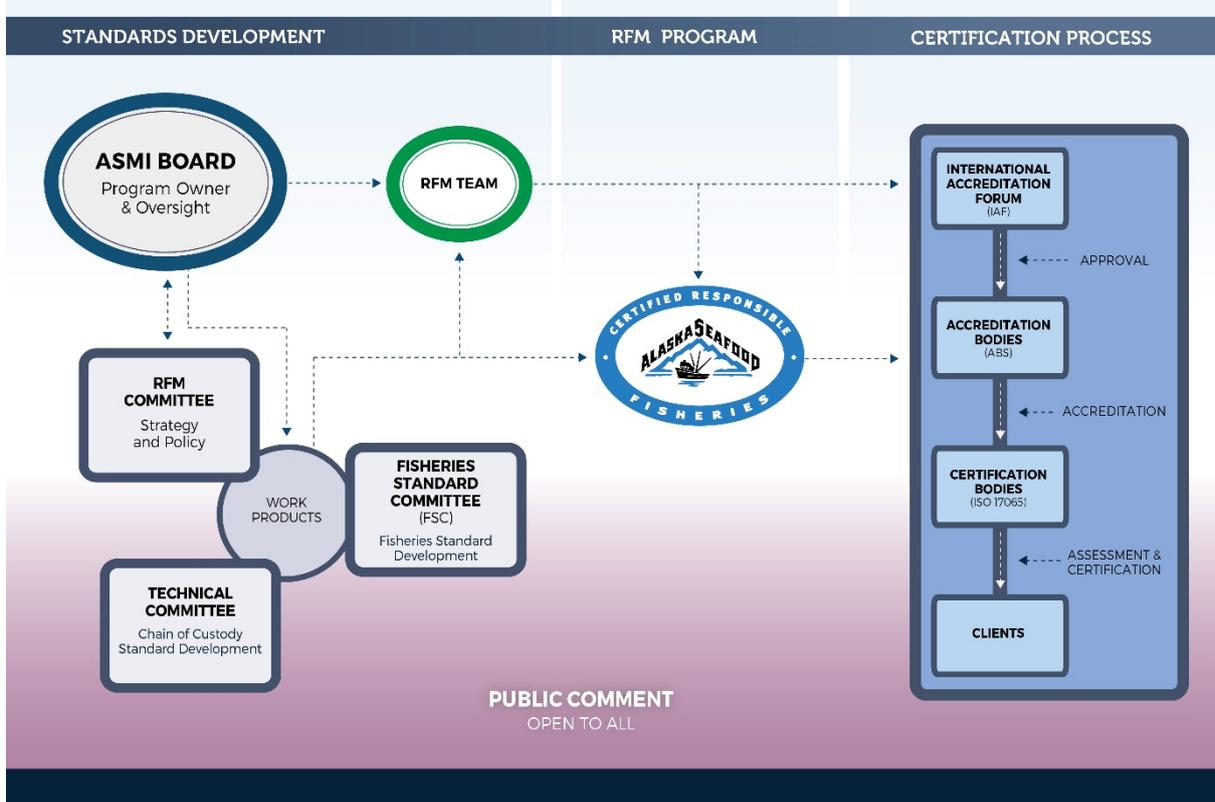
A specific list of revisions is detailed in Appendices 2-8 within the Fisheries Standard V 2.0. A *'Summary of Key Changes'* document is also available.

RFM Ownership and Governance

The RFM Program is owned and managed by the Alaska Seafood Marketing Institute (ASMI). The ASMI Board of Directors is the approving body for all Standards, strategy and policy related to the Alaska RFM Program. There are three advisory committees to the ASMI Board of Directors as noted in the following chart.

The Alaska RFM Fisheries Standard Committee is an independent expert committee which oversees the ongoing review and development of the Fisheries Standard. This committee includes national and international experts in fishery science, management, and sustainability; including eNGO representation. Current members of the Fisheries Standard Committee can be found at <http://www.alaskaseafood.org/rfm-certification/about-rfm/advisory-committees/>

RFM STANDARDS DEVELOPMENT & CERTIFICATION PROCESS



Inquiries / Further Information

More details regarding the RFM Fisheries Standard, its application, and its rules and regulations can be obtained from the ASMI Sustainability Director at the address below or via the ASMI website.

Contact Details

Address: Alaska Seafood Marketing Institute, 311 N. Franklin Street Suite 200
Juneau, AK 99801-1147

Telephone Number: 800-478-2903

Email: rfm@alaskaseafood.org

Site: www.alaskaseafood.org

Structure of the Alaska Responsible Fisheries Management Fisheries Standard

The Alaska Responsible Fisheries Management Fisheries Standards are divided into four key components:

- A. The Fisheries Management System**
- B. Science and Stock Assessment Activities, and the Precautionary Approach**
- C. Management Measures, implementation, monitoring and control**
- D. Serious Impacts of the Fishery on the Ecosystem**

Components A–D in turn contain 13 Fundamental Clauses, each made up of its relative supporting clauses. Please note that Fundamental Clauses can be seen as summary clauses (i.e., not to be scored) for full assessment purposes (but instead used for validation or surveillance assessments).

Fisheries Standards – Fundamental Clauses

A. The Fisheries Management System

1. There shall be a structured and legally mandated management system based upon and respecting international, national, and local fishery laws, for the responsible utilization of the target stock and conservation of the marine environment.
2. Management organizations shall participate in coastal area management institutional frameworks, decision-making processes, and activities related to the fishery and its users in support of sustainable, integrated, resource use and conflict avoidance.
3. Management objectives shall be implemented through management rules and actions formulated in a plan or other framework.

B. Science, Stock Assessment Activities and the Precautionary Approach

4. There shall be an effective fishery data (dependent and independent) collection and analysis system for stock management purposes.
5. To support its optimum utilization, there shall be regular stock assessment activities appropriate for the fishery resource—its range, the species biology, and the ecosystem—all undertaken in accordance with acknowledged scientific standards.
6. The current state of the stock shall be defined in relation to reference points, relevant proxies, or verifiable substitutes, allowing for effective management objectives and targets. Remedial actions shall be available and taken where reference points or other suitable proxies are approached or exceeded.
7. Management actions and measures for the conservation of stock and the aquatic

environment shall be based on the precautionary approach. Where information is deficient, a suitable method using risk assessment shall be adopted to take into account uncertainty.

C. Management measures, implementation, monitoring, and control

8. Management shall adopt and implement effective management measures designed to maintain stocks at levels capable of producing maximum sustainable yields, including harvest control rules and technical measures applicable to sustainable use of the fishery and based upon verifiable evidence and advice from available scientific and objective, traditional sources.
9. Fishing operations shall be carried out by fishers with appropriate standards of competence in accordance with international standards, guidelines, and regulations.
10. An effective legal and administrative framework shall be established and compliance ensured through effective mechanisms for monitoring, surveillance, control, and enforcement for all fishing activities within the jurisdiction.
11. There shall be a framework for sanctions of adequate severity to support compliance and discourage violations and illegal activities.

D. Serious Impacts of the Fishery on the Ecosystem

12. Considerations of fishery interactions and their effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified, and a risk-based management approach to determine the most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.
13. Where fisheries enhancement is utilized, environmental assessment and monitoring shall consider genetic diversity and ecosystem integrity.

The following codes represent the short form for the key FAO documents and specific articles/clauses/criteria used to reference the fundamental and supporting clauses of the RFM Standard.

Code	Reference
FAO CCRF (1995)	FAO. Code of Conduct for Responsible Fisheries Rome, FAO. 1995. ISBN 92-5-103834-1
FAO Eco (2009)	FAO. Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries. Rome/Roma, FAO. 2005 (and extensions 2009).
FAO Eco (2011)	FAO. Guidelines for the Ecolabelling of Fish and Fishery products from Inland Capture Fisheries. Rome/Roma, FAO. 2011.
FAO IGBD (2011)	FAO. International guidelines on bycatch management and reduction of discards. Rome, FAO. 2011
FAO IUU (2001)	FAO. International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing. Rome, FAO. 2001.
FAO FM/MPA (2011)	FAO. Fisheries management. 4. Marine protected areas and fisheries. FAO Technical Guidelines for Responsible Fisheries. No. 4, Suppl. 4. Rome, FAO. 2011.

United Nations Food and Agriculture Organization's Definition of Responsible Fisheries Management

Responsible fisheries management shall ensure the effective conservation, responsible management, and development of living aquatic resources with respect for conservation, biodiversity, and ecosystems integrity.

The "Remit" of the RFM Fisheries Standard focuses on:

Responsible fisheries management, including enhancement practices (but excluding full cycle aquaculture) up to the point of landing, with the main objective being the biological sustainability of the stock under consideration; with consideration for conservation, biodiversity, ecosystem integrity, and due regard to social responsibility and the economic viability of the fishery.

In this regard, the stock is maintained at a level which promotes the objective of optimal utilization and availability for present and future generations, taking into account that longer-term changes in productivity can occur due to natural variability and/or impacts other than fishing. In the event that biomass drops well below precautionary target levels, management measures shall allow for restoration within reasonable timeframes of the stocks to such levels (Clause 30, FAO 2009).

The Unit of Certification

The fishery under assessment includes primarily the species which makes up the principal target of the fishery. The unit of certification (UoC) specifies the fishery under assessment, the geographical area where the fishery is prosecuted, the gear type/s employed and the key management organisation/s. Associated bycatch species in the assessment do not form part of the certified species claim.

Topics that will trigger immediate assessment failure

Certain fisheries management issues will trigger immediate fail in the fishery. These issues shall be reviewed by the assessment team prior to the full assessment. If a fishery is found to carry out the following activities, assessment will stop immediately and the fishery will fail automatically in its attempt to gain RFM certification.

- Dynamiting, poisoning, and other comparable destructive fishing practices
- Significant illegal, unreported, and unregulated (IUU) fishing activities in the country jurisdiction
- Shark finning (i.e., removal and retention of shark fins while the remainder of the shark is discarded in the ocean)
- Slavery and slave labor on board fishing vessels
- Any significant lack of compliance with the requirements of an international fisheries agreement to which the U.S. is signatory. A fishery will have to be formally cited by the International Governing body that has competence with the international Treaty in question, and that the US has been notified of that citation of non-compliance.

Responsible Fisheries Management Fundamental Clauses and Supporting Clauses

A. The Fisheries Management System

- 1. There shall be a structured and legally mandated management system based upon and respecting international, State, and local fishery laws, for the responsible utilization of the *stock* under consideration and conservation of the marine environment.**
FAO CCRF (1995) 7.1.3, 7.1.4, 7.1.9, 7.3.1, 7.3.2, 7.3.4, 7.6.8, 7.7.1, 10.3.1
FAO Eco (2009) 28
FAO Eco (2011) 35, 37.3
- 1.1 There shall be an effective legal and administrative framework established at international, State and local levels appropriate for fishery resource conservation and management. The management system and the fishery operate in compliance with the requirements of international, State, and local laws and regulations, including the requirements of any regional and/or international fisheries management agreement.
FAO CCRF (1995) 7.7.1
FAO Eco (2009) 28
FAO Eco (2011) 35
- 1.2 Management measures shall consider (1) stock status (i.e., overfished, biomass) and genetic diversity (stock structure) over its entire area of distribution, and (2) other biological characteristics of the fish stock (stock) including age of maturity and reproductive potential.
FAO Eco (2009) 30.3
FAO Eco (2011) 37.3
- 1.2.1 Previously agreed management measures established and applied in the same region shall be taken into account by management.
FAO CCRF (1995) 7.3.1
- 1.3 Where transboundary, shared, straddling, highly migratory, or high seas fish stocks are exploited by two or more States (neighboring or not), the applicant and appropriate management organizations concerned shall cooperate and take part in the formal fishery commission or arrangements appointed to ensure effective conservation and management of the stock(s) in question and their environment.
- 1.3.1 Conservation and management measures established for the *stock under consideration* within the jurisdiction of the relevant States for transboundary, shared, straddling, highly migratory, or high seas stocks, shall be compatible in a manner consistent with the rights, competence, and interests of the States concerned.
FAO CCRF (1995) 7.1.3, 7.1.4, 7.1.5, 7.3.2, 10.3
- 1.4 A State's fishery management organization not member or participant of a sub-regional or regional fisheries management organization shall cooperate, in accordance with relevant international agreements and law, in the conservation and management of the relevant

fisheries resources by giving effect to any relevant measures adopted by such organization or arrangement.

FAO CCRF (1995) 7.1.5

- 1.4.1 A fishery management organization seeking to take any action through a non-fishery organization which may affect the conservation and management measures taken by a competent sub-regional or regional fisheries management organization or arrangement shall consult with the latter, in advance to the extent practicable, and take its views into account.

FAO CCRF (1995) 7.3.5

- 1.5 The applicant fishery's management system, when appropriate for the *stock under consideration*, shall actively foster cooperation between States with regard to (1) information gathering and exchange, (2) fisheries research, (3) fisheries management, and (4) fisheries development.

FAO CCRF (1995) 7.3.4

- 1.6 A fishery management organization and sub-regional or regional fisheries management organizations and arrangements, as appropriate, shall agree on the means by which the activities of such organizations and arrangements will be financed, bearing in mind, *inter alia*, the relative benefits derived from the fishery and the differing capacities of States to provide financial and other contributions. Where appropriate, and when possible, such organizations and arrangements shall aim to recover the costs of fisheries conservation, management, and research.

FAO CCRF (1995) 7.7.4

- 1.6.1 Without prejudice to relevant international agreements, States or fishery management organizations shall encourage banks and financial institutions not to require, as a condition of a loan or mortgage, fishing vessels or fishing support vessels to be flagged in a jurisdiction other than that of the State of beneficial ownership where such a requirement would have the effect of increasing the likelihood of non-compliance with international conservation and management measures.

FAO CCRF (1995) 7.8.1

- 1.7 Within the fishery management system, procedures shall be in place to keep the efficacy of current conservation and management measures and their possible interactions under continuous review, and to revise or abolish them in the light of new information.

FAO CCRF (1995) 7.6.8

- 1.8 The management arrangements and decision-making processes for the fishery shall be organized in a transparent manner.

FAO CCRF (1995) 7.1.9

- 1.9 Management organizations not party to the Agreement to Promote Compliance with International Conservation and Management Measures by Vessels Fishing on the High Seas shall be encouraged to accept the Agreement and to adopt laws and regulations consistent with the provisions of the Agreement.

FAO CCRF (1995) 8.2.6

2. Management organizations shall participate in coastal area management , decision-making processes and activities related to the fishery and its users, supporting sustainable and integrated resource use, and conflict avoidance.

FAO CCRF (1995) 10.1.1, 10.1.2, 10.1.4, 10.2.1, 10.2.2, 10.2.4

2.1 Within the fisheries management organization’s jurisdiction, an appropriate policy, legal, and institutional framework shall be adopted in order to achieve sustainable and integrated use of living marine resources, (1) taking into account the fragility of coastal ecosystems and finite nature of their natural resources, (2) allowing for determination of the possible uses of coastal resources and governing access to them, and (3) recognizing the rights and needs of coastal communities and their customary practices to the extent compatible with sustainable development. In setting policies for the management of coastal areas, States shall take due account of the risks and uncertainties involved.

FAO CCRF (1995) 10.1.1, 10.1.3, 10.2.3

2.1.1 States shall establish mechanisms for cooperation and coordination in planning, development, conservation, and management of coastal areas.

FAO CCRF (1995) 10.4.1

2.1.2 The fisheries management organization shall ensure that the authority or authorities representing the fisheries sector and fishing communities in the coastal management process have the appropriate technical capacities and financial resources.

FAO CCRF (1995) 10.4.2

2.2 Representatives of the fisheries sector and fishing communities shall be consulted in the decision-making processes involving activities related to coastal area management planning and development. The public, as well as others affected, shall also be kept aware of the need for protection and management of coastal resources, and shall participate in the management process.

FAO CCRF (1995) 10.1.2, 10.2.1

2.3 Fisheries practices that avoid conflict among fishers and other users of the coastal area (e.g., fisheries enhancement facilities, tourism, energy) shall be adopted, and fishing shall be regulated in such a way as to avoid risk of conflict among fishers using different vessels, gear, and fishing methods. Procedures and mechanisms shall be established at the appropriate administrative level to settle conflicts that arise within the fisheries sector and between fisheries resource users and other coastal users.

FAO CCRF (1995) 7.6.5, 10.1.4, 10.15

2.4 States’ fisheries management organizations and sub-regional or regional fisheries management organizations and arrangements shall give due publicity to conservation and management measures and ensure that laws, regulations, and other legal rules governing their implementation are effectively disseminated. The bases and purposes of such measures shall be explained to users of the resource in order to facilitate their application and thus gain increased support in the implementation of such measures.

FAO CCRF (1995) 7.1.10

- 2.5 The economic, social, and cultural value of coastal resources shall be assessed by the appropriate fisheries management organization in order to assist decision making on their allocation and use.
FAO CCRF (1995) 10.2.2
- 2.6 States shall cooperate to support and improve coastal area management, and in accordance with capacities, measures shall be taken to establish or promote (1) systems for research and monitoring of the coastal environment, and (2) multidisciplinary research of the coastal area using physical, chemical, biological, economic, social, legal, and institutional capabilities.
FAO CCRF (1995) 10.2.4, 10.2.5, 10.3.3
FAO CCRF (1995) 8.11.3
- 2.7 In the case of activities that may have an adverse environmental effect on coastal areas of other States, States shall provide timely information and if possible, prior notification to potentially affected States, and consult with those States as early as possible.
FAO CCRF (1995) 10.3.2
- 3. Management objectives shall be implemented through management rules and actions formulated in a plan or other framework.**
- FAO CCRF (1995) 7.3.3, 7.2.2
FAO Eco (2009) 28.1, 28.2
FAO Eco (2011) 35.1, 35.2
- 3.1 Long-term management objectives shall be translated into a plan or other management document (taking into account uncertainty and imprecision) and be subscribed to by all interested parties.
FAO CCRF (1995) 7.3.3
FAO Eco (2009) 28.1
FAO Eco (2011) 35.1
- 3.1.1 There shall be management objectives seeking to ensure that ETP species are protected from adverse impacts resulting from interactions with the unit of certification and any fisheries enhancement activity, including recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible.
FAO Eco (2011) 41
- 3.1.2 There shall be management objectives seeking to avoid, minimize, or mitigate impacts of the unit of certification on the *stock under consideration's* essential habitats, and on habitats that are highly vulnerable to damage by the unit of certification's fishing gear.
FAO Eco (2011) 41.3
- 3.1.3 There shall be management objectives seeking to minimize adverse impacts of the unit of certification (including any fishery enhancement) on the structure, and function of the ecosystems that are likely to be irreversible or very slowly reversible.
FAO Eco (2011) 36.9

- 3.2 Management measures shall provide, *inter alia*, that:
- 3.2.1 Excess fishing capacity shall be avoided and exploitation of the stocks shall remain economically viable.
 - 3.2.2 The economic conditions under which fishing industries operate shall promote responsible fisheries.
 - 3.2.3 The interests of fishers, including those engaged in subsistence, small-scale, and artisanal fisheries shall be taken into account.
 - 3.2.4 Biodiversity of aquatic ecosystems shall be conserved and ETP species shall be protected. Where relevant, there shall be pertinent objectives, and as necessary, management measures.
- FAO CCRF (1995) 7.2.2
FAO Eco (2009) 28.2
FAO Eco (2011) 35.2

B. Science & Stock Assessment Activities, and the Precautionary Approach

4. There shall be effective fishery data (dependent and independent) collection and analysis systems for stock management purposes.

FAO CCRF (1995) 7.1.9, 7.4.4, 7.4.5, 7.4.6, 8.4.3, 12.4

FAO Eco (2009) 29.1–29.3

FAO Eco (2011) 36.1, 36.3–36.5, 37.4

4.1 All significant fishery removals and mortality of the target species (shall be considered by management. Specifically, reliable and accurate data required for assessing the status of fishery(ies) and ecosystems—including data on retained catch, bycatch, discards, and waste—shall be collected. Data can include relevant traditional, fisher, or community knowledge, provided their validity can be objectively verified. These data shall be collected, at an appropriate time and level of aggregation, by relevant management organizations connected with the fishery, and provided to relevant States regional, and international fisheries organizations.

FAO CCRF (1995) 7.3.1, 7.4.6, 7.4.7, 12.4

FAO Eco (2009) 29.1–29.3

FAO Eco (2011) 36.1, 36.3, 36.4

4.1.1 Timely, complete, and reliable statistics shall be compiled on catch and fishing effort and maintained in accordance with applicable international standards and practices, and in sufficient detail to allow sound statistical analysis for stock assessment. Such data shall be updated regularly and verified through an appropriate system. The use of research results as a basis for setting management objectives, reference points, and performance criteria, as well as for ensuring adequate linkage between applied research and fisheries management (e.g., adoption of scientific advice) shall be promoted. Results of analysis shall be distributed accordingly as a contribution to fisheries conservation, management, and development.

FAO CCRF (1995) 7.4.4, 12.3, 12.13

FAO Eco (2009) 29.1, 29.3

FAO Eco (2011) 36.3, 36.5

4.1.2 In the absence of specific information on the *stock under consideration*, generic evidence based on similar stocks can be used. However, the greater the risk of overfishing, the more specific evidence is necessary to ascertain the sustainability of intensive fisheries.

FAO Eco (2009) 30.4

FAO Eco (2011) 37.4

4.2 An observer scheme designed to collect accurate data for research and support compliance with applicable fishery management measures shall be established.

FAO CCRF (1995) 8.4.3

FAO Eco (2009) 29.2bis

4.2.1 Where necessary, fisheries management organizations and regional fisheries management organizations and other such arrangements should strive to achieve a level and scope of observer programs sufficient to provide quantitative estimates of total catch, discards, and incidental takes of living aquatic resources.

FAO IGBD (2011) 5.1.3

- 4.3 A fisheries management organization, regional fisheries management organizations or arrangements shall compile data and make them available, in a manner consistent with any applicable confidentiality requirements, in a timely manner and in an agreed format to all members of these organizations and other interested parties in accordance with agreed procedures.
FAO CCRF (1995) 7.4.6, 7.4.7
- 4.4 States shall stimulate the research required to support national policies related to fish as food.
FAO CCRF (1995) 12.7
- 4.5 There shall be sufficient knowledge of the economic, social, marketing, and institutional aspects of fisheries collected through data gathering, analysis, and research, as well as comparable data generated for ongoing monitoring, analysis, and policy formulation.
FAO CCRF (1995) 7.4.5, 12.9
- 4.6 The fisheries management organization shall investigate and document traditional fisheries knowledge and technologies—in particular those applied to small-scale fisheries—in order to assess their application to sustainable fisheries conservation, management, and development.
FAO CCRF (1995) 12.12
- 4.7 If a fisheries management organization is conducting scientific research activities in waters of another State, it shall ensure that their vessels comply with the laws and regulations of that State and international law.
FAO CCRF (1995) 12.14
- 4.8 Adoption of uniform guidelines governing fisheries research conducted on the high seas shall be promoted and, where appropriate, support the establishment of policies that include, *inter alia*, facilitating research at the international and sharing the research results with affected States.
FAO CCRF (1995) 12.15, 12.16
- 4.9 If appropriate, the fisheries management organization and relevant international organizations shall promote and enhance the research capacities of developing countries, *inter alia*, in the areas of data collection and analysis, information, science and technology, human resource development, and provision of research facilities, in order for them to participate effectively in the conservation, management, and sustainable use of living aquatic resources.
FAO CCRF (1995) 12.18
- 4.10 Competent national organizations shall, where appropriate, render technical and financial support to States upon request and when engaged in research investigations aimed at evaluating stocks which have been previously unfished or very lightly fished.
FAO CCRF (1995) 12.19

- 4.11 Relevant technical and financial international organizations shall, upon request, support States in their research efforts, devoting special attention to developing countries—in particular the least developed among them and small developing island countries.

FAO CCRF (1995) 12.20

5. There shall be regular stock assessment activities appropriate for the fishery, its range, the species biology, and the ecosystem, undertaken in accordance with acknowledged scientific standards to support its optimum utilization.

FAO CCRF (1995) 7.2.1, 12.2, 12.3, 12.5, 12.6, 12.7, 12.17

FAO Eco (2009) 29–29.3, 31

FAO Eco (2011) 42

- 5.1 An appropriate institutional framework shall be established to determine the applied research required and its proper use (i.e., assess/evaluate stock assessment model/practices) for fishery management purposes.

FAO CCRF (1995) 12.2/12.6

- 5.1.1 Less elaborate stock assessment methods are frequently used for small-scale or low-value capture fisheries resulting in greater uncertainty about the status of the *stock under consideration*. A more precautionary approach to managing fisheries on such resources shall be required, including, where appropriate, a lower level of resource utilization. A record of good management performance may be considered as supporting evidence of the adequacy of the management system.

FAO Eco (2011) 42

- 5.1.2 The fisheries management organization shall ensure that appropriate research is conducted into all aspects of fisheries including biology, ecology, technology, environmental science, economics, and fishery enhancement. Analysis results shall be distributed in a timely and readily understandable fashion in order that the best scientific evidence available contributes to fisheries conservation, management, and development. The fisheries management organization shall also ensure the availability of research facilities and provide appropriate training, staffing, and institution building to conduct the research.

FAO CCRF (1995) 12.1, 7.4.2

- 5.2 There shall be established research capacity necessary to assess and monitor (1) the effects of climate or environment change on stocks and aquatic ecosystems, (2) the state of the stock under State jurisdiction, and (3) the impacts of ecosystem changes resulting from fishing activity, pollution, or habitat alteration.

FAO CCRF (1995) 12.5

FAO Eco (2009) 31

- 5.3 Management organizations shall cooperate with relevant international organizations to encourage research in order to ensure optimum utilization of fishery resources.

FAO CCRF (1995) 12.7

- 5.4 The fishery management organizations shall directly, or in conjunction with other States, develop collaborative technical and research programs to improve understanding of the

biology, environment, and status of transboundary shared, straddling, highly migratory and high seas stocks.

FAO CCRF (1995) 12.7, 12.17

- 5.5 Data generated by research shall be analysed and the results of such analyses published in a way that ensures confidentiality is respected, where appropriate.

FAO CCRF (1995) 12.3

- 6. The current state of the stock shall be defined in relation to reference points, relevant proxies, or verifiable substitutes that allow effective management objectives and targets to be set. Remedial actions shall be available and taken where reference points or other suitable proxies are approached or exceeded.**

FAO CCRF (1995) 7.5.3, 7.6.1

FAO Eco (2009) 29.2–29.2bis, 29.6, 30–30.2

FAO Eco (2011) 36.2, 36.3, 37, 37.1, 37.2

- 6.1 The fishery management organization shall establish safe target reference point(s) for management. Management targets are consistent with achieving maximum sustainable yield (MSY), a suitable proxy, or a lesser fishing mortality—if that is optimal in the circumstances of the fishery (e.g., multispecies fisheries) or is needed to avoid severe adverse impacts on dependent predators.

FAO Eco (2009) 29.2

FAO Eco (2011) 36.3

- 6.2 The fishery management organization shall establish appropriate limit reference point(s) for exploitation (i.e., consistent with avoiding recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible; Appendix 1, Part 1). When a limit reference point is approached, measures shall be taken to ensure that it will not be exceeded. For instance, if fishing mortality (or its proxy) is above the associated limit reference point, actions should be taken to decrease the fishing mortality (or its proxy) below that limit reference point.

- 6.3 Data and assessment procedures that measure the position of the fishery in relation to the reference points shall be established. Accordingly, the *stock under consideration* shall not be overfished (i.e., above limit reference point or proxy) and the level of fishing permitted shall be commensurate with the current state of the fishery resources, maintaining its future availability, and taking into account that long-term changes in productivity can occur due to natural variability and/or impacts other than fishing (Appendix 1, Part 1).

FAO CCRF (1995) 7.5.3, 7.6.1

FAO Eco (2009) 29.2–29.2bis, 29.6, 30–30.2

FAO Eco (2011) 36.2, 36.3, 37, 37.1, 37.2

- 6.4 Management actions shall be agreed to in the eventuality that data sources and analyses indicate that these reference points have been exceeded. Accordingly, contingency plans shall be agreed in advance to allow an appropriate management response to serious threats to the resource as a result of overfishing, adverse environmental changes, or other phenomena that

may have adverse effects on impacts on the fishery resource (Appendix 1, Part 2). Such measures may be temporary and shall be based on best scientific evidence available.

FAO CCRF (1995) 7.5.3, 7.5.5

FAO Eco (2009) 29.6, 30.2

FAO Eco (2011) 36.3

- 6.5 Measures shall be introduced to identify and protect depleted stocks and those stocks threatened with depletion, and to facilitate the sustained recovery/restoration of such stocks. Also, efforts shall be made to ensure that resources and habitats critical to the well-being of such stocks, which have received adverse impacts by fishing or other human activities, are restored.

FAO CCRF (1995) 7.6.10

FAO Eco (2009) 30

7. Management actions and measures for the conservation of stock and the ecosystem shall be based on the precautionary approach. Where information is deficient a suitable method using risk management shall be adopted to consider uncertainty.

FAO CCRF (1995) 7.5.1, 7.5.4, 7.5.5, 12.3

FAO Eco (2009) 29.6, 32

FAO Eco (2011) 36.7

- 7.1 The precautionary approach shall be applied widely to conservation, management, and exploitation of ecosystems to protect them and preserve the ecosystem. This should take due account of fishery enhancement procedures, where appropriate. Absence of scientific information shall not be used as a reason for postponing or failing to take conservation and management measures. Relevant uncertainties shall be taken into account through a suitable method of risk management, including those associated with the use of introduced or translocated species.¹

FAO Eco (2009) 29.6

FAO Eco (2011) 36.7

- 7.1.1 In implementing the PA, the fishery management organization shall take into account, *inter alia*, uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points, levels and distribution of fishing mortality, the impact of fishing activities (including discards) on non-target and associated or dependant predators, and environmental and socioeconomic conditions.

FAO CCRF (1995) 7.5.2

- 7.1.2 In the absence of adequate scientific information, appropriate research shall be initiated in a timely fashion.

FAO CCRF (1995) 7.5.1, 12.3

FAO Eco (2009) 29.6, 32

- 7.2 In the case of new or exploratory fisheries, the fishery management organization shall adopt, as soon as possible, cautious conservation and management measures, including, *inter alia*, catch limits and effort limits. Such measures should remain in force until there are sufficient

¹ FAO Technical Guidelines for Responsible Fisheries No. 2 – Precautionary approach to capture fisheries and species introductions.

data to allow assessment of the impact of the fisheries on the long-term sustainability of the stocks, whereupon conservation and management measures based on that assessment should be implemented. Management measures should, if appropriate, allow for the gradual development of the fisheries.

FAO CCRF (1995) 7.5.4

C. Management Measures, Implementation, Monitoring, and Control

- 8. Management shall adopt and implement effective management measures designed to maintain stocks at levels capable of producing maximum sustainable yields, including harvest control rules and technical measures applicable to sustainable utilization of the fishery, and based upon verifiable evidence and advice from available objective scientific and traditional sources.**

FAO CCRF (1995) 7.1.1, 7.1.2, 7.1.6, 7.4.1, 7.6.1, 7.6.9, 12.3

FAO Eco (2009) 29.2, 29.4, 30

FAO Eco (2011) 36.2, 36.3

- 8.1 Conservation and management measures shall be designed to ensure the long-term sustainability of fishery resources at levels which promote optimum utilization, and are based on verifiable and objective scientific and/or traditional, fisher, or community sources.

FAO CCRF (1995) 7.1.1;

FAO Eco (2009) 29.2, 29.4

FAO Eco (2011) 36.2

- 8.1.1 When evaluating alternative conservation and management measures, the fishery management organization shall consider their cost-effectiveness and social impact.

FAO CCRF (1995) 7.6.7

- 8.1.2 Responsible fisheries management organizations shall adopt and implement measures necessary to ensure the management of bycatch and reduction of discards as part of fisheries management (1) in accordance with the PA, as reflected in Article 6 of the UN Fish Stocks Agreement, and as set out in Article 6.5 and 7.5 of the Code; (2) in accordance with the responsible use of fish as set out in the Code; and (3) based on the best scientific evidence available, taking into account fishers' knowledge.

FAO IGBD (2011) 3.2.2

- 8.2 The fishery management organization shall prohibit dynamiting, poisoning, and other similar destructive fishing practices.

FAO CCRF (1995) 8.4.2

- 8.3 The fishery management organization shall seek to identify domestic parties having a legitimate interest in the use and management of the fishery. When deciding on use, conservation, and management of the resource, due recognition shall be given, where relevant, in accordance with national laws and regulations, to the traditional practices, needs, and interests of indigenous people and local fishing communities which are highly dependent on these resources for their livelihood. Arrangements shall be made to consult all the interested parties and gain their collaboration in achieving responsible fisheries.

FAO CCRF (1995) 7.1.2, 7.1.6, 7.6.6

- 8.4 Where excess capacity exists, mechanisms shall be established to reduce capacity to levels commensurate with sustainable use of the resource. Fleet capacity operating in the fishery shall be measured and monitored. The fishery management organization shall maintain, in accordance with recognized international standards and practices, statistical data, updated at regular intervals, on all fishing operations and a record of all authorizations to fish allowed by them.
FAO CCRF (1995) 7.1.8, 7.6.3, 8.1.2, 8.1.3
- 8.4.1 Studies shall be promoted that provide an understanding of the costs, benefits, and effects of alternative management options designed to rationalize fishing, especially options relating to excess fishing capacity and excessive levels of fishing effort.
FAO CCRF (1995) 7.4.3
- 8.5 Technical measures regarding the *stock under consideration* shall be taken into account, where appropriate, in relation to fish size, mesh size, gear, closed seasons or areas, areas reserved for particular (e.g., artisanal fisheries), and protection of juveniles or spawners.
- 8.5.1 Appropriate measures shall be applied to minimize catch, waste, and discards of non-target species (both fish and non-fish species), and impacts on associated, dependent, or endangered species.
FAO CCRF (1995) 7.6.9
FAO Eco (2009) 31.1
- 8.6 Fishing gear shall be marked in accordance with the State’s legislation in order that the owner of the gear can be identified. Gear marking requirements shall take into account uniform and internationally recognizable gear marking systems.
FAO CCRF (1995) 8.2.4
- 8.7 The fishery management organization and relevant groups from the fishing industry shall measure performance and encourage the development, implementation, and use of selective, environmentally safe, and cost-effective gear, technologies, and techniques that are sufficiently selective as to minimize catch, waste, discards of non-target species (both fish and non-fish species), and impacts on associated or dependent predators. The use of fishing gear and practices that lead to discarding the catch shall be discouraged, and the use of fishing gear and practices that increase survival rates of escaping fish shall be promoted. Inconsistent methods, practices, and gears shall be phased out accordingly.
FAO CCRF (1995) 7.2.2, 7.6.4, 7.6.9, 8.4.5, 8.5.2
- 8.8 Technologies, materials, and operational methods or measures—including, to the extent practicable, the development and use of selective, environmentally safe, and cost effective fishing gear and techniques—shall be applied to minimize the loss of fishing gear, the ghost fishing effects of lost or abandoned fishing gear, pollution, and waste.
FAO CCRF (1995) 7.2.2, 8.4.6, 8.4.1
- 8.9 The intent of fishing selectivity and fishing impacts-related regulations shall not be circumvented by technical devices. Information on new developments and requirements shall be made available to all fishers.
FAO CCRF (1995) 8.5.1

- 8.10 Assessment and scientific evaluation shall be carried out on the impacts of habitat disturbance on the fisheries and ecosystems prior to the commercial-scale introduction of new fishing gear, methods, and operations. Accordingly, the impacts of such introductions shall be monitored.
FAO CCRF (1995) 8.4.7, 12.11
- 8.11 International cooperation shall be encouraged for research programs involving fishing gear selectivity, fishing methods and strategies, dissemination of the results of such research programs, and the transfer of technology.
FAO CCRF (1995) 8.5.4
- 8.12 The fishery management organization and relevant institutions involved in the fishery shall collaborate in developing standard methodologies for research into fishing gear selectivity, fishing methods and strategies, and on the behavior of target and non-target species regarding such fishing gear—as an aid for management decisions and with a view to minimizing non-utilized catches.
FAO CCRF (1995) 8.5.3, 12.10
- 8.13 Where appropriate, policies shall be developed for increasing stock populations and enhancing fishing opportunities through the use of artificial structures. The fishery management organization shall ensure that, when selecting the materials to be used in the creation of artificial reefs, as well as when selecting the geographical location of such artificial reefs, the provisions of relevant international conventions concerning the environment and the safety of navigation are observed.
FAO CCRF (1995) 8.11.1, 8.11.2
- 9. Fishing operations shall be carried out by fishers with appropriate standards of competence in accordance with international standards, guidelines and regulations.**
FAO CCRF (1995) 8.1.7, 8.1.10, 8.2.4, 8.4.5
- 9.1 States shall advance, through education and training programs, the education and skills of fishers and, where appropriate, their professional qualifications. Such programs shall take into account agreed international standards and guidelines.
FAO CCRF (1995) 8.1.7, 8.4.1
- 9.2 States, with the assistance of relevant international organizations, shall endeavour to ensure, through education and training, that all those engaged in fishing operations be given information on the most important provisions of the FAO CCRF (1995), as well as provisions of relevant international conventions and applicable environmental and other standards that are essential to ensure responsible fishing operations.
FAO CCRF (1995) 8.1.10
- 9.3 The fishery management organization shall, as appropriate, maintain records of fishers which shall, whenever possible, contain information on their service and qualifications, including certificates of competency, in accordance with their State's laws.
FAO CCRF (1995) 8.1.8

10. An effective legal and administrative framework shall be established and compliance ensured, through effective mechanisms for monitoring, surveillance, control, and enforcement for all fishing activities within the jurisdiction.

FAO CCRF (1995) 7.1.7, 7.7.3, 7.6.2, 8.1.1, 8.1.4, 8.2.1

FAO Eco (2009) 29.5

FAO Eco (2011) 36.6

10.1. Effective mechanisms shall be established for fisheries monitoring, surveillance, control, and enforcement measures including, where appropriate, observer programs, inspection schemes, and vessel monitoring systems, to ensure compliance with the conservation and management measures for the fishery in question. This could include relevant traditional, fisher, or community approaches, provided their performance could be objectively verified.

FAO CCRF (1995) 7.1.7;

FAO Eco (2009) 29.5

FAO Eco (2011) 36.6

10.2 Fishing vessels shall not be allowed to operate on the stock under consideration in question without specific authorization.

FAO CCRF (1995) 7.6.2;

10.3 States involved in the fishery shall, in accordance with international law, and within the framework of fisheries management organizations or arrangements, cooperate to establish systems for monitoring, control, surveillance, and enforcement of applicable measures with respect to fishing operations and related activities in waters outside the States jurisdiction.

FAO CCRF (1995) 8.1.4

10.3.1 Fishery management organizations which are members of or participants in fisheries management organizations or arrangements, shall implement internationally agreed measures adopted in the framework of such organizations or arrangements and consistent with international law to deter the activities of vessels flying the flag of non-members or non-participants engaging in activities that undermine the effectiveness of conservation and management measures established by such organizations or arrangements. In that respect, port States shall also proceed, as necessary, to assist other States in achieving the objectives of the FAO CCRF (1995), and should make known to other States details of regulations and measures they have established for this purpose without discrimination for any vessel of any other State.

FAO CCRF (1995) 7.7.5, 8.3.1

10.4 Flag States shall ensure that no fishing vessels are entitled to fly their flag, fish on the high seas or in waters under the jurisdiction of other States, unless such vessels have been issued with a Certificate of Registry and have been authorized to fish by the competent authorities. Such vessels shall carry on board the Certificate of Registry and their authorization to fish.

FAO CCRF (1995) 8.2.2

10.4.1 Fishing vessels authorized to fish on the high seas or in waters under the jurisdiction of a State other than the flag State shall be marked in accordance with uniform and internationally recognizable vessel marking systems such as the FAO Standard Specifications and Guidelines for Marking and Identification of Fishing Vessels.

FAO CCRF (1995) 8.2.3

11. There shall be a framework for sanctions for violations and illegal activities of adequate severity to support compliance and discourage violations.

FAO CCRF (1995) 7.7.2, 8.2.7

- 11.1 State laws of adequate severity shall be in place that provide for effective sanctions.
- 11.2 Sanctions applicable to violations and illegal activities shall be adequate in severity to be effective in securing compliance and discouraging violations wherever they occur. Sanctions shall also be in force to affect authorization to fish and/or to serve as masters or officers of a fishing vessel in the event of non-compliance with conservation and management measures.
FAO CCRF (1995) 7.7.2, 8.1.9, 8.2.7
- 11.3 Fisheries management organizations shall ensure that sanctions for IUU fishing by vessels and, to the greatest extent possible, nationals under its jurisdiction are of sufficient severity to effectively prevent, deter, and eliminate IUU fishing and to deprive offenders of the benefits accruing from such fishing. This may include the adoption of a civil sanction regime based on an administrative penalty scheme. Fisheries management organizations shall ensure the consistent and transparent application of sanctions.
FAO IUU (2001) 21
- 11.4 Flag States shall take enforcement measures towards fishing vessels entitled to fly their flag which have been found by the State to have contravened applicable conservation and management measures. The State shall, where appropriate, make the contravention of such measures an offense under national legislation.
FAO CCRF (1995) 8.2.7

D. Serious Impacts of the Fishery on the Ecosystem

- 12. Considerations of fishery interactions and effects on the ecosystem shall be based on the best scientific evidence available, local knowledge where it can be objectively verified, and a risk assessment-based management approach for determining most probable adverse impacts. Adverse impacts of the fishery on the ecosystem shall be appropriately assessed and effectively addressed.**

FAO CCRF (1995) 7.2.3, 8.4.7, 8.4.8, 12.11

FAO Eco (2009) 29.3, 31

FAO Eco (2011) 41–41.4

- 12.1 The fishery management organization shall assess the impacts of environmental factors on target stocks and associated or dependent species in the same ecosystem, and the relationship among the populations in the ecosystem.

FAO CCRF (1995) 7.2.3

- 12.2 The most probable adverse impacts from human activities, including fishery effects on the ecosystem/environment, shall be assessed and, where appropriate, addressed and or/corrected, taking into account available scientific information and local knowledge. This may take the form of an immediate management response or a further analysis of the identified risk. In this context, full consideration should be given to the special circumstances and requirements in developing fisheries, including financial and technical assistance, technology transfer, training, and scientific cooperation. In the absence of specific information on the ecosystem impacts of fishing on the unit of certification, generic evidence based on similar fishery situations can be used for fisheries with low risk of severe adverse impact. However, the greater the risk, the more specific evidence shall be necessary to ascertain the adequacy of mitigation measures.

FAO CCRF (1995) 7.2.2

FAO Eco (2009) 29.3, 29.4, 30.4, 31, 31.4

FAO Eco (2011) 41, 41.4

- 12.2.1 The fishery management organization shall consider the most probable adverse impacts of the unit of certification on main associated species (Appendix 1, Part 3 and 7), by assessing and, where appropriate, addressing and or/correcting them, taking into account the best scientific evidence available and local knowledge. Accordingly, these catches (including discards) shall be monitored and shall not threaten these non-target species with serious risk of extinction, recruitment overfishing, or other impacts that are likely to be irreversible or very slowly reversible. If such impacts arise, effective remedial action shall be taken.

- 12.2.2 The fishery management organization shall consider the most probable adverse impacts of the fishery under assessment on minor associated species, by assessing and, where appropriate, addressing and or/correcting them, taking into account available scientific information and local knowledge. Accordingly, these catches (including discards) shall be monitored and shall not threaten these non target stocks with serious risk of extinction, recruitment overfishing, or other impacts that are likely to be irreversible or very slowly reversible. If such impacts arise, effective remedial action shall be taken.

- 12.2.3 There shall be outcome indicator(s) consistent with achieving management objectives for non-target species (i.e., avoiding overfishing and other impacts that are likely to be irreversible

or very slowly reversible).

FAO Eco (2011) 41.1

12.2.4 The fishery management organization shall consider the most probable adverse impacts of the unit of certification on ETP species (Appendix 1, Part 4 and 7), by assessing and, where appropriate, addressing and or/correcting them, taking into account the best scientific evidence available and local knowledge.

12.2.5 There shall be outcome indicator(s) consistent with achieving management objectives seeking to ensure that ETP species are protected from adverse impacts resulting from interactions with the unit of certification and any associated enhanced fishery activity, including recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible.

FAO Eco (2011) 41

12.2.6 The fishery management organization shall consider the most probable adverse impacts of the unit of certification on habitats (Appendix 1, Part 5 and 7), by assessing and, where appropriate, addressing and or/correcting them, taking into account the best scientific evidence available and local knowledge.

12.2.7 There shall be knowledge of the essential habitats for the *stock under consideration* and potential fishery impacts on them. Impacts on essential habitats, and on habitats that are highly vulnerable to damage by the fishing gear involved, shall be avoided, minimized, or mitigated. In assessing fishery impacts, the full spatial range of the relevant habitat shall be considered, not just the part of the spatial range that is potentially affected by fishing.

FAO Eco (2009) 31.3

FAO Eco (2011) 41.3

12.2.8 There shall be outcome indicator(s) consistent with achieving management objectives for avoiding, minimizing, or mitigating the impacts of the unit of certification on essential habitats for the *stock under consideration* and on habitats that are highly vulnerable to damage by the fishing gear of the unit of certification.

FAO Eco (2011) 41.3

12.2.9 The fishery management organization shall consider the most probable adverse impacts of the fishery under assessment on the ecosystem (Appendix 1, Part 6), by assessing and, where appropriate, addressing and or/correcting them, taking into account available scientific information and local knowledge.

12.2.10 There shall be outcome indicator(s) consistent with achieving management objectives seeking to minimize adverse impacts of the unit of certification (including any fishery enhanced activities) on the structure, processes, and function of aquatic ecosystems that are likely to be irreversible or very slowly reversible. Any modifications to the habitat for enhancing the *stock under consideration* must be reversible and not cause serious or irreversible harm to the natural ecosystem's structure, processes, and function.

FAO Eco (2011) 36.9, 41

12.2.11 The fishery management organization shall consider the most probable adverse human impacts on the stock/ecosystem under consideration, by assessing and, where appropriate,

addressing and or/correcting them, taking into account available scientific information and local knowledge.

- 12.3 The role of the *stock under consideration* in the food web shall be considered, and if it is a key prey species² in the ecosystem, management objectives and measures shall be in place to avoid severe adverse impacts on dependent predators.
FAO Eco (2009) 31.2
FAO Eco (2011) 41.2
- 12.4 There shall be outcome indicator(s) consistent with achieving management objectives seeking to avoid severe adverse impacts on dependent predators resulting from the unit of certification fishing on a *stock under consideration* that is a key prey species³.
FAO Eco (2011) 41.2
- 12.5 States shall introduce and enforce laws and regulations based on the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78).
FAO CCRF (1995) 8.7.1
- 12.6 Research shall be promoted on the environmental and social impacts of fishing gear especially the impact of such gear on biodiversity and coastal fishing communities.
FAO CCRF (1995) 8.4.8/ 7.6.4
- 12.7 The fishery management organization shall make use, where appropriate, of Marine Protected Areas (MPAs). The general objectives for establishing MPAs shall include ensuring sustainability of fish stocks and fisheries, and protecting marine biodiversity and critical habitats.
FAO FM/MPA (2011) 1.2
- 13. Where fisheries enhancement is utilized, environmental assessment and monitoring shall consider genetic diversity and ecosystem integrity.**
FAO CCRF (1995) 9.1.2, 9.1.3, 9.1.4, 9.1.5, 9.3.1, 9.3.5
FAO Eco (2011) 36.9,38, 39, 40, 41, 43
- 13.1 The fishery management organization shall promote responsible development and management of fisheries enhancement, including an advanced evaluation of the effects of fisheries enhancement on genetic diversity and ecosystem integrity, based on the best scientific evidence available and/or verifiable and objective traditional, fisher, or community knowledge. Significant uncertainty is to be expected in assessing possible adverse ecosystem impacts of fisheries, including culture and enhancement activities. This issue can be addressed by taking a risk assessment/risk management approach.
FAO CCRF (1995) 9.1.2
FAO Eco (2011) 41

² See Appendix 1 page 150 of the AK RFM Guidance Document

³ See Appendix 1 page 150 of the AK RFM Guidance Document

13.1.1 In the case of enhanced fisheries, the fishery management organization should take into account natural production , and shall take appropriate actions for conserving genetic diversity and biodiversity, protecting ETP species, maintaining aquatic ecosystems, minimizing adverse impacts on ecosystem structure and function, controlling disease, and maintaining the quality of enhanced stock. Enhanced fisheries may be supported in part by stocking organisms produced in aquaculture facilities or removed from wild stocks other than the *stock under consideration*. Aquaculture production for stocking purposes shall be managed and developed according to the above provisions.

FAO CCRF (1995) 9.3.1

FAO Eco (2011) 36.8, 36.9, 40, 41

13.2 The fishery management organization shall produce and regularly update fishery enhancement development strategies and plans, as required, to ensure that fishery enhancement development is ecologically sustainable and to allow the rational use of resources shared by enhancement and other activities.

FAO CCRF (1995) 9.1.3

13.2.1 The fishery management organization shall ensure that the livelihoods of local communities, and their access to fishing grounds, are not negatively affected by enhanced fisheries developments.

FAO CCRF (1995) 9.1.4

13.3 Effective procedures specific to fisheries enhancement activities shall be established to undertake appropriate environmental assessment and monitor (with the aim of minimizing) adverse ecological changes caused by inputs (e.g., pollution, disease) and their related economic and social consequences.

FAO CCRF (1995) 9.1.5, 9.2.5

13.4 With due regard to the assessment approach employed, stock assessment of enhanced fisheries enhanced shall consider the separate contributions from enhanced and natural production.

FAO Eco (2011) 43

13.5 Regarding the enhanced components of the *stock under consideration*, when a natural reproductive stock component is maintained and fishery production is based primarily on natural biological production within the ecosystem of which the *stock under consideration* forms a part, enhanced fisheries shall meet the following criteria: (1) the species shall be native to the fishery's geographic area or introduced historically and have subsequently become established as part of the natural ecosystem, (2) there shall be natural reproductive components of the *stock under consideration*, and (3) the growth during the post-release phase shall be based upon food supply from the natural environment and the production system shall operate without supplemental feeding.

FAO Eco (2011) 38

13.6 In the case of enhanced fisheries, the *stock under consideration* may comprise naturally reproductive components and components maintained by released from an enhancement facility. To avoid significant negative impacts of fishery enhancement activities on the natural reproductive components of the *stock under consideration*, the following shall apply: (1) naturally reproductive components of enhanced stocks shall not be overfished, and (2)

naturally reproductive components of the stock under consideration shall not be displaced by enhanced components, and (3) in particular, displacement shall not result in a reduction of the stock under consideration below abundance-based target reference points (or their proxies) defined for the regulation of harvest.

FAO Eco (2011) 39

- 13.7 Any modification to the habitat for enhancing the *stock under consideration* is reversible and does not cause serious or irreversible harm to the natural ecosystem's structure and function.

FAO Eco (2011) 41

- 13.7.1 Efforts shall be undertaken to minimize the adverse impacts of introducing non-native species or genetically altered stocks used for aquaculture into waters.

- 13.7.2 Steps shall be taken to minimize adverse genetic, disease, and other effects of escaped farmed fish (aquaculture) on wild stocks.

FAO CCRF (1995) 9.3.1

- 13.7.3 Research shall be promoted to develop enhancement techniques for endangered species to protect, rehabilitate, and increase their stocks, taking into account the critical need to conserve their genetic diversity.

FAO CCRF (1995) 9.3.5

- 13.8 The fishery management organization shall protect transboundary aquatic ecosystems by supporting responsible enhanced fishery practices within the States jurisdiction and cooperating to promote sustainable enhanced fishery practices.

FAO CCRF (1995) 9.2.1

- 13.9 The fishery management organization shall, with due respect to their neighboring States and in accordance with international law, ensure responsible choice of species, siting, and management of enhanced fisheries activities that could affect transboundary aquatic ecosystems.

FAO CCRF (1995) 9.2.2

- 13.10 The fishery management organization shall consult with their neighboring States, as appropriate, before introducing non-indigenous species into transboundary aquatic ecosystems.

FAO CCRF (1995) 9.2.3

- 13.11 The fishery management organization shall establish appropriate mechanisms—such as databases and information networks to collect, share, and disseminate data related to their enhanced fishery activities—to facilitate cooperation on planning for enhanced fishery development at the States and international level.

FAO CCRF (1995) 9.2.4

- 13.12 The fishery management organization shall cooperate in the elaboration, adoption, and implementation of international codes of practice and procedures for introductions and transfers of enhanced fish.

FAO CCRF (1995) 9.3.2

- 13.13 The fishery management organization shall, in order to minimize risks of disease transfer and other adverse impacts on wild and enhanced fishery stocks, encourage adoption and promote the use of appropriate practices and procedures for (1) the selection and genetic improvement of broodstock, (2) the introduction of non-native species, and (3) the production, sale and transport of eggs, larvae, fry, broodstock, or other live materials. The fishery management organization shall facilitate the preparation and implementation of appropriate States (or international) codes of practice and procedures to this effect.
- FAO CCRF (1995) 9.3.3, 9.3.4

Summary of Key Changes

The changes listed in this summary are substantial in nature and are prioritized based on their significance to the scheme. Many other improvements were made to the Standard and those modifications, additions and deletions can be found in the following Appendices of the RFM Standard Version 2.0: Appendix 6 - modified clauses to reduce repetition and streamline the overall structure of the scheme, Appendix 7 and 8 - modifications and deletions of clauses and supporting clauses to improve clarity and ease of assessment.

#	Section(s) in Version 2	Introduced Change	Rationale	Note
1	Added Framework	Development of the Data Deficient Framework (DDF) - The DDF provides a tool and a framework with specific guidance on how to approach a data limited fishery assessment. For this type of framework the assessment team will be assessing three key clauses (stock under consideration, associated bycatch and ETP species status) of the RFM Standard through the use of a risk assessment tool, the Productivity Susceptibility Analysis (PSA). The main directive for the assessment of a stock using the DDF is a very conservative harvest, which is in line with the precautionary approach for fisheries management.	In the past versions of the Standard there was not the ability for small-scale fisheries with low exploitation to meet certification standards even if there was a request from the participants of that fishery. By creating the DDF, those fisheries that would not have previously been able to apply to the Alaska RFM program now have the opportunity to consider certification.	External framework/tool, which exists outside of the Standard/Guidance documents. DDF was introduced in December 2015.
2	Scoring and Guidance Document / pertinent clauses	Introduction of a numerical scoring system (1-10) available for all the supporting clauses of V 2.0. Evaluation Parameters (EPs) generally cover the process, status and data availability aspects of a clause and all have the same value across the document. All clauses have at a minimum 3 EPs, but some have more than 3	Public comments on past standards were critical of the “subjective” nature of scoring fisheries without using a numerical system. This change provides a mechanical system that works by assigning non-	Provides for a transparent scoring and evaluation process that breaks down supporting clauses requirements in a consistent fashion across the Scoring Guidance document.

		EPs. The assessment and scoring is done by breaking down a clause by looking at the process, status and data availability and then using the number of EPs not met as the basis for assigning non-conformances. One EP not met results in a minor non-conformance, two EPs not met results in a major non- conformance, and 3 or more EPs not met results in a critical non-conformance.	conformances to supporting clauses based on the number of Evaluation Parameters (EPs) that are not met.	
3	Scoring and Guidance Document / pertinent clauses	In relation to the adoption of a numerical scoring process. The organization of the clauses under each Key Section was modified. A similar number of clauses now exist under each overarching Key Section (A-D) of the Standard, while the overall level of non-conformances allowed before assessment stops has been reviewed and decreased by 33%. An additional change from the previous Version 1.3 is that two key sections have been merged resulting in 4 instead of 6 Key Sections. The previous Section B and C have been merged in what is now Section B, and the previous Section D and E have been merged in what is now called Section C.	In conjunction with the adoption of the numerical scoring the reorganization of the key sections was critical for the transparency of the Standard, decreasing the overall level of non-conformances allowed before assessment stops, prior to the Peer Review stage; while providing a more consistent number of supporting clauses under each Key Section.	The merging of 4 Key Sections into two Key Sections has resulted in no loss of content.
4	Supplement to the Guidance and Scoring Document V2.0	Creation of an all-inclusive metrics, thresholds and indicator supplement for the RFM V2.0 Scoring Guidance document. The metrics were provided for the following areas: reference points, harvest control rules, associated	In past Standards the additional guidance needed for both assessors and the public had to be found in the state and federal agencies documents. Public	External supplement, which is referred to by the V 2.0 Scoring and Guidance document. It is located at the tail end of the Scoring

		<p>bycatch, ETP species, and habitat/ecosystem components. Metrics and thresholds specific reference points, harvest control rules, including overfishing definitions, were developed and supplied specifically for groundfish, halibut, crab and salmon fisheries. The remaining metrics and indicators for assessment of associated bycatch, ETP species, and habitat/ecosystem components are less species group specific and apply more to the overarching responsible fisheries management principles embedded in the Standard. These metrics, thresholds and indicators mirror closely, where applicable, the modus operandi and scientifically recognized principles and practices of state and federal fishery management organizations in Alaska. Provided specific fishery examples to illustrate to assessment teams the kind of elements to consider and how they interplay between potential negative effects of the fishery on habitat/ecosystem.</p>	<p>comments were critical of this in the past. The creation of the Scoring Guidance document allows all parties (e.g. assessment team, peer review team, reviewing stakeholders) to have the information needed available to them when exercising the correct application of the Standard.</p>	<p>Guidance document.</p>
5	<p>Specifications for assessment of cumulative effects of fisheries</p>	<p>Indicators, metrics and thresholds for the assessment of cumulative effects of fisheries have been included. These new assessment indicators look primarily at overall removals in the context of associated species bycatch and ETP species interactions (where relevant), and habitat footprint when</p>	<p>Stakeholder comments merged in this directions and new specifications to assess the cumulative effects of fisheries were developed as a result.</p>	<p>These specifications are located at the tail end of the Scoring Guidance document.</p>

		assessing cumulative impacts for habitats.		
6	Clauses 4.2.1, 8.1.2, 11.3 and 12.7	Introduction of new clauses from a number of key FAO publications dealing with bycatch management and reduction of discards, prohibition of IUU fishing and uses of marine protected areas.	Review of all pertinent FAO publications is standard when a significant revision is made to a certification program. Public comment in the past has strongly encouraged this practice.	The new clauses included in the Standard distil the key principles of the newest FAO publications reviewed.
7	Topics that trigger immediate assessment failure.	<p>Some important topics related to fisheries management will trigger immediate fail in the fishery. The assessment team prior to the start of a full assessment will assess these topics. If a fishery is found to carry out the following activities, assessment will stop immediately and the fishery will fail automatically in its attempt to gain RFM Certification. These topics include the following:</p> <ol style="list-style-type: none"> 1) Dynamiting, poisoning and other comparable destructive fishing practices; 2) Significant Illegal, Unreported and Unregulated (IUU) fishing activities in the country jurisdiction; 3) Shark Finning (i.e. removal and retention of shark fins while the remainder of the shark is discarded in the ocean); 4) Slavery and slave labor on board of fishing vessels; 5) Any significant lack of 	Integration of important topics to be assessed prior to the fishery entering full assessment. This would allow the exclusion of the fishery at the onset of an assessment rather than allowing it to continue until some later point in the full assessment stage, saving time and resources.	Some of these topics already appear in the Standard as supporting clauses, while some of these are new, like shark finning and slave labor.

		compliance with requirements of international fisheries agreement to which the U.S. is signatory.		
8	Clauses Under Fundamental 12 and 13 of the Standard	Restructuring of clauses to continue the effort to refine and develop the Standard. This includes the fusion of clauses with overlapping requirements, rewording of complex clauses, and improved specificity of some clauses. A number of supporting clauses under Fundamental 12 have been created dealing specifically on a one to one basis with minor and major associated bycatch species, ETP species, habitat effects, wider ecosystem impacts, and non fishing related impacts on the ecosystem. Of note, the assessment of bycatch has now been structured and improved, and will be assessed within a minor and major associated species framework. Supporting clauses under Fundamental 13, dealing with the ecosystem effect of enhanced fisheries, have been carefully repositioned within the wider section. Specific guidance has been provided which will result in a better structure for assessment of enhanced fisheries.	ASMI has consistently received stakeholder feedback about how the Standard and accompanying documents could be improved with added clarity. These comments were taken on board during the stakeholder comment period to improve and streamline assessment activities, while improving objectivity and transparency across the Standard.	All these changes have been provided by adding specificity and additional requirements and guidance to the existing supporting clauses. There has been no loss of content.
9	Pertinent Clauses, Frameworks and Supplements	Modification to the Standard and supporting documents based on the public comments received during the 60-day comment period.	The new Standard V 2.0 and associated documents was further modified by the submission and	Extent of the changes from the public comments are limited to Appendix Table 7 “Modifications and deletions of

			acceptance of public comments.	supporting clauses from version 1.3 to V 2.0 to improve clarity”
--	--	--	--------------------------------	---

Appendix 1

Background to the development of the FAO Code of Conduct for Responsible Fisheries

The International Conference on Responsible Fishing, held in 1992 in Cancún, Mexico, requested the Food and Agriculture Organization of the United Nations (FAO) to prepare an international Code of Conduct which would lead to responsible, sustained fisheries worldwide. The outcome of this conference, particularly the Declaration of Cancún, was an important contribution to the 1992 United Nations Conference on Environment and Development, in particular its Agenda 21. Subsequently, the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks was convened, to which FAO provided important technical backup. In November 1993, the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas was adopted at the Twenty-seventh Session of the FAO Conference. Noting these and other important developments in world fisheries, the FAO governing bodies recommended the formulation of a global Code of Conduct for Responsible Fisheries (CCRF) which would be consistent with these instruments and, in a non-mandatory manner, establish principles and standards applicable to conservation, management, and development of all fisheries.

The CCRF, which was unanimously adopted on 31 October 1995 at the FAO conference, provides a necessary framework for national and international efforts to ensure sustainable exploitation of aquatic living resources in harmony with the environment. The FAO CCRF is voluntary. However, certain parts of it are based on relevant rules of international law, including those reflected in the United Nations Convention on the Law of the Sea of 10 December 1982. The FAO CCRF is global in scope, and is directed toward members and non-members of FAO; fishing entities; sub-regional, regional, and global organizations, whether governmental or non-governmental; and all persons concerned with the conservation of fishery resources and management and development of fisheries—such as fishers, those engaged in processing and marketing of fish and fishery products, and other users of the aquatic environment in relation to fisheries. The FAO CCRF provides principles and standards applicable to the conservation, management, and development of all fisheries. It also covers the capture, processing, and trade of fish and fishery products; fishing operations; aquaculture; fisheries research; and the integration of fisheries into coastal area management. Finally, the reference to States includes the European Community in matters within its competence, and the term *fisheries* applies equally to capture fisheries and aquaculture.

Background to the FAO Ecolabelling Guidelines for Fish and Fishery Products from Marine Capture Fisheries

In October 1998, FAO convened a Technical Consultation on the Feasibility of Developing Non-discriminatory Technical Guidelines for Ecolabelling of Products from Marine Capture Fisheries. This consultation identified a number of principles to be observed by ecolabelling schemes:

- be consistent with the FAO Code of Conduct for Responsible Fisheries;
- be voluntary and market-driven;
- be transparent;
- be non-discriminatory, by not creating obstacles to trade and allowing for fair competition;
- establish clear accountability for the promoters of schemes and for the certifying bodies, in conformity with international standards;

- include a reliable auditing and verification process;
- recognize the sovereign rights of states and comply with all relevant laws and regulations;
- ensure equivalence of standards among countries;
- be based on the best scientific evidence;
- be practical, viable and verifiable; and
- ensure that labels communicate truthful information and provide for clarity.

The guidelines draw upon various sources including relevant guides of the International Organization for Standardization (ISO), the World Trade Organization (WTO) Agreement on Technical Barriers to Trade, in particular, Annex 3 Code of Good Practice for the Preparation, Adoption and Application of Standards, and the work of the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance.

At the recommendation of the subcommittee, FAO organized a technical consultation in October 2004 to finalize the draft guidelines for their consideration by the 26th Session of the Committee on Fisheries (COFI) in March 2005.

The FAO Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries, as updated in revision 1 of 2009, are applicable to ecolabelling schemes that are designed to certify and promote labels for products from well-managed marine capture fisheries and focus on issues related to the sustainable use of fisheries resources. The Ecolabelling Guidelines set forth the minimum substantive requirements and criteria for assessing whether a fishery can be certified and an ecolabel awarded to a fishery. Ecolabelling schemes may apply additional or more stringent requirements and criteria related to sustainable use of the resources. The requirements and criteria presented in Ecolabelling Guidelines are to be based on and interpreted in accordance with the current suite of agreed international instruments addressing fisheries—in particular the 1982 UN Convention on the Law of the Sea, the 1995 UN Fish Stocks Agreement, and the 1995 Code of Conduct for Responsible Fisheries, as well as related documentation including the 2001 Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem.

In 2011, the FAO published the Ecolabelling Guidelines for Inland Fisheries which revised the previous guidelines in 2009 and provided further criteria for enhanced fisheries.

Appendix 2

Table of rationales for exclusion of FAO CCRF articles/subarticles from the Fisheries Standard (all other articles/subarticles are otherwise included).

Article/sub-article of the FAO CCRF	Rationale for exclusion
Preface/Introduction	Sets the Code in context within the wider field of worldwide fisheries and fish production. Not formally referenced in the Fisheries Standard.
Article 1: Nature and Scope of the Code	Nature and scope of the Code is an introduction to the development and the aims of the Code. A short reference to this is provided above as Appendix 1. Not included in Fisheries Standard, as it is only a general introductory article.
Article 2: Objectives of the Code	The very general overarching objectives of the Code. Not formally referenced within the Fisheries Standard but indirectly addressed by the totality of the other clauses included.
Article 3: Relationship with Other International Instruments	Explains the relationship of the Code with other international instruments. Not included, as this is still part of the introduction to the Code and out of scope for direct assessment of Responsible Fisheries Management.
Article 4: Implementation, Monitoring and Updating	Implementation, monitoring and updating of the Code by member and non-member States. Not included, as this is still part of the introduction to the Code and out of scope for direct assessment of Responsible Fisheries Management.
Article 5: Special Requirement of Developing Countries	Could add a layer of complexity in deciding whether the scorings provided are to be regarded as satisfying or not satisfying the criteria for responsible fishing. Not considered at present, but potential to be considered in the future if developing countries fisheries will be assessed for Responsible Fisheries Management.
Article 6: General Principles	The very general principles behind Responsible Fisheries. Not formally referenced, but elaborated later in the entirety of the Fisheries Standard.
Article 7.2: Management Objectives	
7.2.1	Not formally referenced in text but elaborated fully within Fisheries Standard referencing clause 7.2.2 of the CCRF.
Article 8.1: Duties of all States	
8.1.5	Health and Safety based. Out of scope.
8.1.6	Search and Rescue based. Out of scope.
Article 8.2: Flag State Duties	
8.2.1	The context of this clause is currently assessed within section 11 of the Fisheries Standard.
8.2.5	Health and Safety based. Out of scope.
8.2.8	Insurance coverage related. Out of scope.
8.2.9	Repatriation related. Out of scope.
8.2.10	Health and Safety/Accidents related. Out of scope.
Article 8.3: Port State Duties	

Article/sub-article of the FAO CCRF	Rationale for exclusion
8.3.2	Vessel Assistance related. Out of Scope.
Article 8.4: Fishing Operations	
8.4.1	Largely Health and safety related, the rest of the clause (related to loss of fishing gear and protection of the marine environment) is referenced within the Fisheries Standard.
8.4.4	Quality related. Out of Scope.
Article 8.6: Energy Optimization	Energy related. Out of scope.
Article 8.7: Protection of the aquatic environment	
8.7.2	Individual Vessel Audit related. Out of Scope.
8.7.3	Individual Vessel Audit related. Out of Scope.
8.7.4	Individual Vessel Audit related. Out of Scope.
Article 8.8: Protection of the atmosphere	Gas emissions to atmosphere related. Out of scope.
Article 8.9: Harbours and landing places for fishing vessels	Largely harbour design and services quality related. Relevant to a chain of custody certification. Out of scope.
Article 8.10	Abandoned fishing gear has been considered within the context of other clauses. Not Formally referenced within the Fisheries Standard.
Article 8.11: Artificial reefs and fish aggregation devices	
8.11.4	Safety of navigation related. Out of scope.
Article 9.1: Responsible development of aquaculture, including culture based fisheries, in areas under national jurisdiction	
9.1.1	Already addressed indirectly throughout Section 14 of the Fisheries Standard.
Article 9.4: Responsible aquaculture at the production level	Full cycle aquaculture at production level. Out of scope.
10.3 Regional Cooperation	
10.3.1	Not formally referenced within the Fisheries Standard, but fully addressed within Section 1 and 2.
Article 11: Post-harvest practices and trade	Postharvest practices related. Out of scope.
Article 12: Fisheries Research	
12.8	Health and Safety related. Out of scope for this assessment.

Appendix 3

Fisheries Standard Version 1.2: Changes to reduce repetition within the various clauses and streamline the overall requirements of the document.

No.	Description
1	Clause 1.2, 1.2.1, 1.2.2 fused together.
2	Clause 1.2.3 fused with clause 4.1.
3	Clause 1.3 fused with clause 1.4.
4	Clause 1.5 modified wording from “cooperation with States” to “international cooperation and coordination on fishery matters” to better reflect clause 7.3.4 of the CCRF, from which it was derived.
5	Clause 2.1, 2.1.1, 2.1.2 fused together.
6	Clause 2.2 fused with 2.4.1.
7	Clause 2.3, 2.3.1, 2.11 fused together.
8	Clause 2.6, 2.6.1, 2.8 fused together.
9	Clause 2.10 moved up in Section 2.
10	Clause 3.2.5, 9.1 fused together.
11	Clause 4.1, 4.1.1 fused together.
12	Clause 4.1.2 and 5.5.1 fused together.
13	Clause 4.3, 4.5 fused together.
14	Clause 5.1 and 5.1.1 have been switched in number.
15	Clause 5.2 and 5.2.1 have been fused together.
16	Clause 5.5.2 fused with clause 7.1.1.
17	Clause 5.6 moved to Section 8.
18	Clause 5.7 moved under fundamental clause 8 as more relevant.
19	Clause 6.1 deleted. The requirements of 6.1 are completely spelled out in clause 6.1.1, 6.1.2, 6.1.3, 6.1.4.
20	Clause 6.1.5 moved to Section 7 as more relevant to implementation of the precautionary approach.
21	Clause 7.2, 7.2.1, 7.2.2 have been fused together and modified accordingly to fully reflect clause 7.5.4 of the CCRF.
22	Clause 8.2, 8.2.1 fused together.
23	Clause 8.3 and 8.3.1 fused together.
24	Clause 8.4 and 8.4.2 fused with clause 9.3.
25	In clause 8.4.1 “discards” is taken out as this is repeated in clause 9.3.
26	Heading of fundamental clause 9 has been deleted and collapsed into fundamental clause 8 (also reflected on page 7). Now the heading of fundamental 8 groups all supporting clauses of fundamental clause 8 and 9. This was done because fundamental 9 was extremely similar to fundamental 8 and because its supporting clauses were more relevant to fundamental 8.
27	Clause 9.2 fused with clause 8.2.
28	Clause 9.5 fused to clause 9.3.
29	Clause 9.9 fused with clause 9.9.1.
30	Clause 9.9.2 moved under fundamental clause 2 as more relevant to CZM
31	Clause 12.1.1 fused with clause 12.2.1.
32	Clause 13.1.2 fused with clause 13.1.3.
33	Clause 13.4 fused with clause 9.4.
34	Clause 13.5.1 moved under fundamental clause 8.
35	Some clauses have been renumbered as a result of this revision process.

Appendix 4

Update of the Fisheries Standard Version 1.2 to V 1.3 to fully reflect the requirements of the 2011 FAO Guidelines for the Ecolabelling of Fish and Fishery products from Inland Capture Fisheries.

Update	Description
Added to Clause 1.1	The management system and the fishery operate in compliance with the requirements of local, national and international laws and regulations, including the requirements of any regional fisheries management agreement.
Added to Clause 1.2	(i.e., structure and composition contributing to resilience).
Added to Clause 3.1	(taking into account uncertainty and imprecision).
Added to Clause 3.2.4	Where relevant, there shall be pertinent objectives, and as necessary, management measures.
Added to Clause 4.1	Data can include relevant traditional, fisher or community knowledge, provided their validity can objectively be verified.
Added to Clause 4.1.1	(e.g., adoption of scientific advice)
Clause 4.1.2 added	In the absence of specific information on the <i>stock under consideration</i> ' generic evidence based on similar stocks can be used for fisheries with low risk to that <i>stock under consideration</i> . However, the greater the risk of overfishing, the more specific evidence is necessary to ascertain the sustainability of intensive fisheries. FAO Eco (2009) 30.4 FAO Eco (2011) 37.4
Clause 5.1.1 added	With the use of less elaborate methods for stock assessment frequently used for small scale or low value capture fisheries resulting in greater uncertainty about the state of the <i>stock under consideration</i> , more precautionary approaches to managing fisheries on such resources shall be required, including, where appropriate, lower level of utilisation of resources. A record of good management performance may be considered as supporting evidence of the adequacy and the management system. FAO Eco (2011) 42
Clause 6.2 modified to read	States shall establish safe limit reference point(s) for exploitation (i.e., consistent with avoiding recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible). When a limit reference point is approached, measures shall be taken to ensure that it will not be exceeded. For instance, if fishing mortality (or its proxy) is above the associated limit reference point, actions should be taken to decrease the fishing mortality (or its proxy) below that limit reference point.
Clause 6.3 modified to read	Data and assessment procedures shall be installed measuring the position of the fishery in relation to the reference points. Accordingly, the <i>stock under consideration</i> shall not be overfished (i.e., above limit reference point or proxy) and the level of fishing permitted shall be commensurate with the current state of the fishery resources, maintaining its future availability, taking into account that long term changes in productivity can occur due to natural variability and/or impacts other than fishing.
Clause 7.1 added	This should take due account of stock enhancement procedures, where appropriate. Absence of scientific information shall not be used as a reason for postponing or failing to take conservation and management measures. Relevant uncertainties shall be taken into account through a suitable method of risk assessment, including those associated with the use of introduced or translocated species.
Clause 7.1.2. deleted	"Accordingly, relative conservation and management measures shall not be

Update	Description
	postponed". This is now included within clause 7.1.
Added to Clause 8.1	fisher or community.
Clause 8.1.1 added	<p>Management targets are consistent with achieving maximum sustainable yield (MSY) (or a suitable proxy) on average, or a lesser fishing mortality if that is optimal in the circumstances of the fishery (e.g., multispecies fisheries) or to avoid severe adverse impacts on dependant predators.</p> <p>FAO Eco (2009) 29.2 FAO Eco (2011) 36.3</p>
Added to Clause 10.1	This could include relevant traditional, fisher or community approaches, provided their performance could be objectively verified.
Clause 12.4 modified to read	<p>Impacts that are likely to have serious consequences shall be addressed. This may take the form of an immediate management response or a further analysis of the identified risk. In this context, full recognition should be given to the special circumstances and requirements in developing countries and countries in transition, including financial and technical assistance, technology transfer, training and scientific cooperation.</p> <p>FAO Eco (2009) 29.3, 29.4, 31 FAO Eco (2011) 41</p>
Clause 12.6 modified to read	<p>Non target catches, including discards, of stocks other than the <i>stock under consideration</i> shall be monitored and shall not threaten these non-target stocks with serious risk of extinction, recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible; if such impacts arise, effective remedial action shall be taken.</p> <p>FAO Eco (2009) 31.1 FAO Eco (2011) 41.1</p>
Clause 13.1 modified to read	<p>States shall promote responsible development and management of aquaculture, including an advanced evaluation of the effects of aquaculture development on genetic diversity and ecosystem integrity, based on the best available scientific information (and/or traditional, fisher or community objective and verifiable knowledge). Significant scientific uncertainty is to be expected in assessing possible adverse ecosystem impacts of fisheries, including culture and enhancement activities. This issue can be addressed by taking a risk assessment/risk management approach.</p> <p>FAO CCRF (1995) 9.1.2 FAO Eco (2011) 41</p>
Clause 13.1.1 modified to read	<p>In the case of enhanced fisheries, the fishery management system should take due regard of the natural production processes and be appropriate for the conservation of genetic diversity, biodiversity, protection of endangered species, maintenance of integrity of aquatic communities and ecosystems, minimising adverse impacts on ecosystem structure and function.</p> <p>FAO CCRF (1995) 9.3.1 FAO Eco (2011) 36.9, 41</p>
Clause 13.4 added	<p>With due regard to the assessment approach employed, stock assessment of fisheries that are enhanced through aquaculture inputs shall consider the separate contributions from aquaculture and natural production.</p> <p>FAO Eco (2011) 43</p>
Clause 13.5 added	<p>Any modifications to the habitat for enhancing the <i>stock under consideration</i> are reversible and do not cause serious or irreversible harm to the natural ecosystem's structure and function.</p> <p>FAO Eco (2011) 41</p>

Update	Description
Clause 13.11 and 13.12 fused to read	States shall, in order to minimize risks of disease transfer and other adverse effects on wild and cultured stocks, encourage adoption and promote the use of appropriate practices/procedures in the selection and genetic improvement of broodstocks, the introduction of non-native species, and in the production, sale and transport of eggs, larvae, fry, broodstock or other live materials. States shall facilitate the preparation and implementation of appropriate national codes of practice and procedures to this effect. FAO CCRF (1995) 9.3.3, 9.3.4
Clause 13.12 added	Enhanced fisheries may be supported in part by stocking of organisms produced in aquaculture facilities or removed from wild stocks other than the <i>stock under consideration</i> . Aquaculture production for stocking purposes should be managed and developed according to the above provisions, especially in relation to maintaining the integrity of the environment, the conservation of genetic diversity, disease control, and quality of stocking material. FAO Eco (2011) 36.8, 40
Clause 13.13 added	Regarding the enhanced components of the <i>stock under consideration</i> , provided that a natural reproductive stock component is maintained and fishery production is based primarily on natural biological production within the ecosystem of which the <i>stock under consideration</i> forms a part, enhanced fisheries shall meet the following criteria: the species shall be native to the fishery's geographic area or introduced historically and have subsequently become established as part of the "natural" ecosystem; there shall be natural reproductive components of the <i>stock under consideration</i> ; the growth during the post-release phase shall be based upon food supply from the natural environment and the production system shall operate without supplemental feeding. FAO Eco (2011) 38
Clause 13.14 added	In the case of enhanced fisheries, <i>stock under consideration</i> may comprise naturally reproductive components and components maintained by stocking. In the context of avoiding significant negative impacts of enhancement activities on the natural reproductive components of <i>stock under consideration</i> : naturally reproductive components of enhanced stocks shall not be overfished; naturally reproductive components of enhanced stocks shall not be substantially displaced by stocked components. In particular, displacement shall not result in a reduction of the natural reproductive stock component below abundance-based target reference points (or their proxies) defined for the regulation of harvest. FAO Eco (2011) 39

Appendix 5

Update the Fisheries Standard Version 1.2 to V 1.3 to increase specificity of requirements referring to management objectives and related indicators.

Update	Description
Clause added, 3.2.5	There shall be management objectives seeking to avoid, minimize or mitigate impacts of the unit of certification on essential habitats for the <i>stock under consideration</i> and on habitats that are highly vulnerable to damage by the fishing gear of the unit of certification. FAO Eco (2011) 41.3
Clause added, 3.2.6	There shall be management objectives seeking to minimize adverse impacts of the unit of certification, including any enhancement activities, on the structure, processes and function of aquatic ecosystems that are likely to be irreversible or very slowly reversible. FAO Eco (2011) 36.9
Clause added, 12.5.1	There shall be management objectives seeking to ensure that endangered species are protected from adverse impacts resulting from interactions with the unit of certification and any associated culture or enhancement activity, including recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible. FAO Eco (2011) 41
Clause modified, 12.3	The role of the <i>stock under consideration</i> in the food web shall be considered, and if it is a key prey species in the ecosystem, management objectives and measures shall be in place to avoid severe adverse impacts on dependent predators. FAO Eco (2009) 31.2 FAO ECO (2011) 41.2
Clause added, 12.11	There shall be outcome indicator(s) consistent with achieving management objectives for non-target stocks (i.e., avoiding overfishing and other impacts that are likely to be irreversible or very slowly reversible). FAO Eco (2011) 41.1
Clause added, 12.12	There shall be outcome indicator(s) consistent with achieving management objectives seeking to ensure that endangered species are protected from adverse impacts resulting from interactions with the unit of certification and any associated culture or enhancement activity, including recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible. FAO Eco (2011) 41
Clause added, 12.13	There shall be outcome indicator(s) consistent with achieving management objectives for avoiding, minimizing or mitigating the impacts of the unit of certification on essential habitats for the <i>stock under consideration</i> and on habitats that are highly vulnerable to damage by the fishing gear of the unit of certification. FAO Eco (2011) 41.3
Clause added, 12.14	There shall be outcome indicator(s) consistent with achieving management objectives seeking to avoid severe adverse impacts on dependent predators resulting from the unit of certification fishing on a <i>stock under consideration</i> that is a key prey species. FAO Eco (2011) 41.2
Clause added, 12.15	There shall be outcome indicator(s) consistent with achieving management objectives seeking to minimize adverse impacts of the unit of certification, including any enhancement activities, on the structure, processes and function of aquatic ecosystems that are likely to be irreversible or very slowly reversible. Any modifications to the habitat for enhancing the <i>stock under consideration</i> must be reversible and not cause serious or irreversible harm to the natural ecosystem's structure, processes and function. FAO Eco (2011) 36.9, 41

Appendix 6

Fisheries Standard Version 1.3 to Version 2.0: Modified clauses to reduce repetition and streamline the overall structure of the document.

Change No.	Description
1	Clause 12.5.1 moved to Section 3 (3.2)
2	Clause 3.2.5 and 3.2.6 moved up in Section 3 (3.2.1, 3.2.2)
3	Clause 6.1 and Clause 8.1.1 fused together.
4	Clause 6.4 and Clause 7.2.3 fused together.
5	Clause 8.7 moved up into Section 6.
6	Clause 8.1.3 moved to end of the Clause 8.4 section.
7	Clause 12.5 was moved into Section 8, under Clause 8.5.
8	Clause 12.3 and Clause 12.4 were fused with Clause 12.2.
9	Clause 12.11 moved up in the section, is now Clause 12.2.3
10	Clause 12.9 moved up in Section 12, is now Clause 12.2.7
11	Clause 12.13 moved up in Section 12, is now Clause 12.2.8
12	Clause 12.15 moved up in Section 12, is now 12.2.10
13	Clause 12.5 fused (integrated) with Clauses 12.2.1 and 12.2.2
14	Clause 12.14 moved up in Section 12, is now Clause 12.4
15	Clause 12.10 moved up in Section 12, is now Clause 12.5
16	Clause 12.10 moved within Section 12, is now Clause 12.6
17	Clause 13.12 fused with Clause 13.1.1
18	Clause 13.13 moved up in Section 13, is now Clause 13.5
19	Clause 13.14 moved up in Section 13, is now Clause 13.6
20	Section B and C fused together. Now reading as "B. Science & Stock Assessment Activities, and the Precautionary Approach"
21	Section D and E fused together. Now reading as "C. Management Measures, Implementation, Monitoring and Control"

Appendix 7

Modifications and deletions of supporting clauses from version 1.3 to V 2.0 to improve clarity.

Change	Description
Added to Clause 1.3	Added “(neighboring or not)”
Modified Clause 1.3.1	added “the <i>stock under consideration</i> ”. Deleted “such stock, compatibility shall be achieved”.
Added to Clause 1.4	“fisheries management organization”
Added to Clause 1.4.1	“fisheries management organization”
Added to Clause 1.5	“when appropriate for the sock under consideration”.
Added to Clause 1.6	“fisheries management organization”
Added to Clause 1.6.1	“or fisheries management organization”
Added to Clause 1.7	“Within the fisheries management system”
Added to Clause 2.1	“Within the fisheries management organization’s jurisdiction, an”
Added to Clause 2.1.2	“The fisheries management organization”
Added to Clause 2.4	“fisheries management organization”
Added to Clause 2.5	“by the appropriate management organization”
Deleted Clause 2.7	The States fisheries management organization shall, within the framework of coastal area management plan, establish management systems for artificial reefs and fish aggregation devices. Such management systems shall require approval for the construction and deployment of such reefs and devices and shall take into account the interests of fishers, including artisanal and subsistence fishers.
Added to Clause 4.1	“significant”
Added to Clause 4.3	“A fisheries management organization”
Modified Clause 4.5	added “There shall be” and “as well”, deleted “States shall ensure “ and “as well”.
Added to Clause 4.6	“The fisheries management organization”
Added to Clause 4.7	“If the fisheries management organization is” and “it”
Modified Clause 4.8	added “ shall be promoted and”, deleted “States shall promote the” and “and shall”
Added to Clause 4.9	“If appropriate, the fisheries management organization”.
Modified Clause 5.1.2	added “The fisheries management organization”, deleted “States”, “social science”, “nutritional science” and “taking into account the special needs of developing countries” .
Added to Clause 6.2	“The fishery management organization”.
Added to Clauses 7.1.1, 7.2	“the fishery management organization”.
Modified Clause 8.1	Deleted “Others “
Added to Clause 8.1.1	“by the fishery management organization”.
Added to Clause 8.2	“The fishery management organization”.
Added to Clause 8.3	“The fishery management organization”.
Added to Clause 8.4	“The fishery management organization”.
Added to Clause 8.5	“regarding the <i>stock under consideration</i> ”.

Change	Description
Added to Clause 8.7	"The fishery management organization"
Added to Clause 8.13	"The fishery management organization"
Added to Clause 9.3	"The fishery management organization shall"
Modified Clause 10.1	Deleted "Others"
Modified Clause 10.2	Deleted "Others"
Added to Clause 10.3.1	"Fishery management organizations"
Added to Clause 12.1	"The fishery management organization"
Modified Clause 12.2 (12.2 is combination of Clauses 12.2, 12.3 and 12.4)	added "fisheries" deleted "countries and countries in transition"
Deleted Clause 12.5	Appropriate measures shall be applied to minimize: <input type="checkbox"/> catch, waste and discards of non-target species (both fish and non-fish species). <input type="checkbox"/> impacts on associated, dependent or endangered species.
Modified Clause 13.1	added "The fishery management organization", deleted "State".
Modified Clause 13.2	added "The fishery management organization", deleted "State".
Modified Clause 13.2.1	added "The fishery management organization", deleted "State".
Modified Clause 13.3	added "(e.g., pollution, disease) "
Modified Clause 13.8	added "The fishery management organization", deleted "State".
Modified Clause 13.9	added "The fishery management organization", deleted "State".
Modified Clause 13.10	added "The fishery management organization", deleted "State".
Modified Clause 13.11	added "The fishery management organization", deleted "State".
Modified Clause 13.12	added "The fishery management organization", deleted "State".
Modified Clause 13.13	added "The fishery management organization", deleted "State".

Appendix 8

Fisheries Standard Version 1.3 to V 2.0 : Additional clauses and changes in language implemented to improve clarity and ease of assessment.

Change	Description
Added new language to the Foreword	The Alaska RFM Fishery Standard is not applicable to deep-sea fisheries;
Added new language to “Topics that will trigger an immediate assessment failure”	Any significant lack of compliance with the requirements of an international fisheries agreement to which the U.S. is signatory. A fishery will have to be formally cited by the International Governing body that has competence with the international Treaty in question, and that the US has been notified of that citation of non-compliance.
Added new language to Clause 4.2.1	Where necessary, fisheries management organizations and regional fisheries management organizations and other such arrangements should strive to achieve a level and scope of observer programs sufficient to provide quantitative estimates of total catch, discards, and incidental takes of living aquatic resources.” FAO IGBD (2011) 5.1.3
Clause added, 8.1.2	States should adopt and implement measures necessary to ensure the management of bycatch and reduction of discards as part of fisheries management: (1) in accordance with the precautionary approach, as reflected in Article 6 of the UN Fish Stocks Agreement, and as set out in Article 6.5 and 7.5 of the Code; (2) in accordance with the responsible use of fish as set out in the Code; and (3) based on the best scientific and technical information available, taking into account fishers’ knowledge FAO IGBD (2011) 3.2.2
Clause added, 11.3	States should ensure that sanctions for IUU fishing by vessels and, to the greatest extent possible, nationals under its jurisdiction are of sufficient severity to effectively prevent, deter, and eliminate IUU fishing and to deprive offenders of the benefits accruing from such fishing. This may include the adoption of a civil sanction regime based on an administrative penalty scheme. States should ensure the consistent and transparent application of sanctions. FAO IUU (2001) 21
Clause added, 12.2.1	The fishery management organization shall consider the most probable adverse impacts of the fishery under assessment on main associated species, by assessing and, where appropriate, addressing and or/correcting them, taking into account available scientific information and local knowledge. Accordingly, these catches (including discards) shall be monitored and shall not threaten these non-target stocks with serious risk of extinction, recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible. If such impacts arise, effective remedial action shall be taken.
Clause added, 12.2.2	The fishery management organization shall consider the most probable adverse impacts of the fishery under assessment on minor associated species, by assessing and, where appropriate, addressing and or/correcting them, taking into account available scientific information and local knowledge. Accordingly, these catches (including discards) shall be monitored and shall not threaten these non-target stocks with serious risk of extinction, recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible. If such impacts arise, effective remedial action shall be taken.
Clause added, 12.2.4	The fishery management organization shall consider the most probable adverse impacts of the fishery under assessment on Endangered, Threatened, Protected (ETP) species, by assessing and, where appropriate, addressing and or/correcting them, taking into account available scientific information and local knowledge.
Clause modified and moved within Section	There shall be outcome indicator(s) consistent with achieving management objectives seeking to ensure that endangered species are protected from adverse

Change	Description
12, 12.2.5	impacts resulting from interactions with the unit of certification and any associated culture or enhancement activity, including recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible. FAO Eco (2011) 41
Clause added, 12.2.6	The fishery management organization shall consider the most probable adverse impacts of the fishery under assessment on habitats, by assessing and, where appropriate, addressing and or/correcting them, taking into account available scientific information and local knowledge.
Clause added, 12.2.9	The fishery management organization shall consider the most probable adverse impacts of the fishery under assessment on the ecosystem, by assessing and, where appropriate, addressing and or/correcting them, taking into account available scientific information and local knowledge.
Clause added, 12.2.11	The fishery management organization shall consider the most probable adverse human impacts on the stock/ecosystem under consideration, by assessing and, where appropriate, addressing and or/correcting them, taking into account available scientific information and local knowledge.
Clause added, 12.7	The fishery management organization shall make use, where appropriate, of Marine Protected Areas (MPAs). The general objectives for establishing MPAs shall include ensuring sustainability of fish stocks and fisheries, and protecting marine biodiversity and critical habitats. FAO FM/MPA (2011) 1.2