

Contribution of the Northwest Atlantic Fisheries Organization (NAFO) to the UN Secretary-General's contribution to UNGA resolution 74/18 of 10 December 2019, pursuant to paragraph 67, regarding "Implementation of an ecosystem approach to fisheries management"

(i) Experience in the implementation of an ecosystem approach to fisheries management, including in relation to:

a) assessing the impacts of fishing on the ecosystem, including on associated or dependent species;

The mandate of NAFO's Scientific Council Working Group on Ecosystem Science and Assessment (WG-ESA), which meets on an annual basis, includes assessing the impacts of fishing on the ecosystem, including on associated or dependent species. NAFO's ecosystem approach to fishing is an extension of the conventional principles for sustainable development to cover the ecosystem as a whole.

NAFO continues to work to implement the ecosystem approach framework to fisheries management, which is guided by the "*Roadmap for Developing an Ecosystem Approach to Fisheries for NAFO*" (Roadmap to EAF).

b) addressing the impacts of fishing on the ecosystem, including on associated or dependent species;

NAFO began the implementation of an ecosystem approach to fisheries management in the years following the publication of the FAO Guidelines on Deepsea Fisheries in 2008. In addition to the traditional stock assessment of commercial fish species, NAFO also required advice regarding vulnerable species and habitats. In response, the NAFO Scientific Council established a new Working Group on the Ecosystem Approach to Fisheries Management (WG-EAFM) now WG-ESA, which began meeting 2008, to identify and delineate marine benthic habitats subject to significant adverse impacts and in need of protection. This Working Group aided in changing the NAFO Conservation and Enforcement Measures to prohibit bottom fishing in a number of areas where VME indicator species were known to occur in high densities. Recognizing the important role they play in the food-web, NAFO has placed stocks of forage fishes, such as Capelin in Divs. 3NO, under long-term moratoria since 1993.

In recent years, importance has been placed on developments of ecosystem and multi-species models and assessment of impacts of bottom fishing on VMEs.

In 2009, NAFO published a Coral Identification Guide to help those on-board commercial and research fishing vessels to identify and record the various species of coral likely to be commonly encountered in fishing trawls. In 2010 this was followed by a Sponge Identification Guide. As well a fishery data collection form for identifying species of corals and sponges has been included in the NAFO Conservation and Enforcement Measures. In 2012, drawing on the latest scientific information, NAFO expanded the list of VME indicator species (now recognizing 89 taxa which signal a potential VME) and adopted a new list of VME elements in line with the FAO International Guidelines.

A joint Commission and Scientific Council Working Group on the Ecosystem Approach Framework to Fisheries Management (WG-EAFFM) was established in 2014 to examine the ecosystem advice of the Scientific Council and to provide recommendations to the NAFO Commission, NAFO's fisheries management body.

NAFO has now closed designated Vulnerable Marine Ecosystem areas (VMEs), including 15 areas to protect sponge, sea pen and corals and 12 seamount areas where bottom fishing is prohibited, making 372,201 km² (or 14%) of the NAFO Regulatory Area closed to bottom fishing. All seamount areas in the NAFO Regulatory Area at fishable depth (i.e. shallower than 4000 metres) are now closed.

NAFO has also done extensive work so far in developing methods to assess 'significant adverse impacts' (SAI) on VMEs by fishing, using all six (6) of the criteria listed in Article 42 of the FAO Guidelines. This includes an analysis of VME functions, assessing connectivity between VME closures, modelling resilience of VME indicator species and determining fishery specific overlaps between VMEs and bottom trawling using the actual area of the seabed fished through detailed haul-by-haul fishing effort data.

c) incorporating economic, social and cultural aspects;

N/A – These aspects are the purview of NAFO Contracting Parties.

d) incorporating environmental factors affecting marine ecosystems, including adverse impacts of climate change and ocean acidification;

The NAFO Scientific Council has a Standing Committee of Fisheries Environment (STACFEN) whose tasks are to:

- develop and recommend to the Scientific Council policies and procedures for the collection, compilation and dissemination of environmental information from oceanographic investigations;
- provide reviews of environmental conditions and advise the Scientific Council on the effects of the environment on fish stocks and fisheries in the Convention Area; and
- encourage and promote cooperation among Contracting Parties in scientific research designed to fill the gaps in knowledge pertaining to the effects of the environment on fish stocks and fisheries as identified by the Scientific Council.

STACFEN climate summaries are presented annually to scientific meetings where stock assessment is being undertaken. Scientific advice and management decisions use both the adopted precautionary approach and the ecosystem approach to fisheries management.

Scientific Council is in the process of developing ecosystem summary sheets to communicate the effects of environmental factors, as well as the effects of fisheries on the ecosystems, to fisheries managers.

- (ii) Lessons learned, best practices and challenges in the implementation of an ecosystem approach to fisheries management;

NAFO has also been considering ways in which ecosystem considerations can be incorporated more into fisheries management decision-making, such as the use of ecosystem summary sheets. For this purpose, NAFO is organizing a dedicated “*Ecosystem Roadmap Workshop*” for fisheries managers and scientists to take place later in 2022.

- (iii) Actions needed to further strengthen the implementation of an ecosystem approach to fisheries management, including to address particular challenges faced by developing countries through capacity-building in accordance with Part VII of the Agreement.

Since 2008, NAFO has been closing areas to bottom fishing to protect corals, sponges, sea pens and seamount ecosystem. In total, 27 areas have been closed. In addition, work is on-going to review other potential areas and all closed areas will be reviewed in 2026. NAFO has also developed a comprehensive list of VME indicator species. The FAO Guidelines were used extensively in the identification of candidate areas of vulnerable marine ecosystems.

The “*Roadmap*” for an Ecosystem Approach to Fisheries for NAFO has been used as a basis to develop a framework within NAFO. Work under this Roadmap is proceeding but there are still gaps that remain to be addressed. In recent years, importance has been placed on developments of ecosystem and multi-species models and assessment of impacts of bottom fishing on VMEs.

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