

Ecosystem Approach

The basis of an ecosystem approach to fisheries (EAF) is to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies, without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems.

The ecosystem approach is an extension of the conventional principles for sustainable development to cover the ecosystem as a whole. The aim is to ensure that, despite variability, uncertainty and likely natural changes in the ecosystem, the capacity of the ecosystem to produce food, revenues, employment and, more generally, other essential services and livelihood, is maintained indefinitely for the benefit of the present and future generations.

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 addition to the traditional stock assessment of commercial fish species, NAFO also required advice regarding vulnerable species and habitats. In response, the Scientific Council established a new Working Group on the Ecosystem Approach to Fisheries Management (WG-EAFM), 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, and placing stocks of forage fishes, such as Capelin in Div. 3NO, under long-term moratoria, recognizing the important role they play in the food-web.

In 2013 the working group changed its name to the Working Group on Ecosystem Science and Assessment (WG-ESA) and in recent years, importance has been placed on encounter thresholds with sponges and corals, ecological interactions between cod, redfish and shrimps, and comprehensive lists of VME indicator species and VME elements discussed.

In addition a joint Commission and Scientific Council Working Group on the Ecosystem Approach Framework to Fisheries Management (WG-EAFFM) was established in to report ecosystem developments and the work of WG-ESA, to both the Commission and Scientific Council, to consider the advice of Scientific Council, and to provide recommendations to the Commission.

NAFO Northwest Atlantic Fisheries Organization
www.nafo.int

Implementation of the Ecosystem Approach Framework EAF Roadmap

“An ecosystem approach to fisheries aims to balance diverse societal objectives, by taking into account the knowledge and uncertainties about both the broader components of ecosystems and their interactions and applying an integrated approach to fisheries with sustainable management objectives.”

NAFO Strategic Plan

April 2013 - EAFM established

April 2014 - EAFM Strategic Plan adopted

April 2015 - EAFM Roadmap adopted

April 2016 - EAFM Roadmap implemented

April 2017 - EAFM Roadmap implemented

April 2018 - EAFM Roadmap implemented

April 2019 - EAFM Roadmap implemented

April 2020 - EAFM Roadmap implemented

April 2021 - EAFM Roadmap implemented

April 2022 - EAFM Roadmap implemented

April 2023 - EAFM Roadmap implemented

April 2024 - EAFM Roadmap implemented

April 2025 - EAFM Roadmap implemented

April 2026 - EAFM Roadmap implemented

April 2027 - EAFM Roadmap implemented

April 2028 - EAFM Roadmap implemented

April 2029 - EAFM Roadmap implemented

April 2030 - EAFM Roadmap implemented

Roadmap Features

- The roadmap aligns with the existing framework to develop an Ecosystem Approach (EAF) to NAFO fisheries.
- Key Scientific Council and Fisheries Commission are involved in the Roadmap.
- Objective-driven.
- Consistent with ecosystem sustainability.
- Focus on key ecosystem indicators.
- Assessment of impacts on vulnerable species (VMEs) by bottom fishing activities.
- Analysis of fishing impact on VMEs accepted.

Vulnerable Marine Ecosystems (VMEs) in the NAFO Regulatory Area (NRA)

Since 2007 NAFO has been engaged in a process to identify and protect representative portions of the VMEs within its regulatory area, in accordance with UN Convention 102/1963. A “Bottom Habitat” covering over 120 000 km², in which fishing activity has historically taken place has been defined. Between 2009 and 2014 eleven closures were established within this area (11 000 km²) to protect various VME indicator taxa. In 2012 the Scientific Council adopted a comprehensive list of VME indicator species, and in 2014 endorsed a method for defining VME areas.

VME Species Groups

- Bryozoans
- Large Sea Squirts
- Large Sponges
- Sea Pens
- Small Sponges

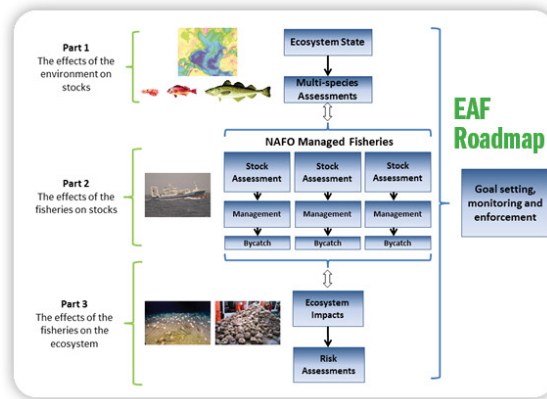
“COMMITTED to apply an ecosystem approach to marine components in the Northwest Atlantic that includes safeguarding the marine environment, ensuring its natural biodiversity, maximizing the role of long-term or moratorium alternative stocks of living resources, and taking account of the relationship between all components of the ecosystem.”

13 (2002) Ann. 5590
Lombard, 1997, 1998



Implementation of the Ecosystem Approach Framework **EAF**

“An ecosystem approach to fisheries strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.”
Food and Agricultural Organization (FAO) of the UN

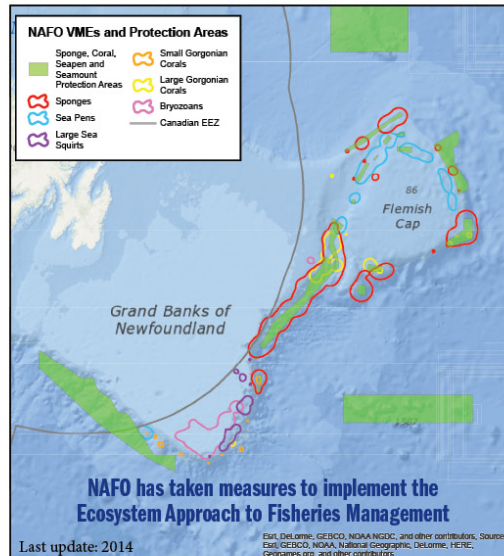


Roadmap features

- The 'roadmap' lays out the organizing framework to develop an Ecosystem Approach Framework (EAF) that is a guiding set of ideas
- Both Scientific Council and Fisheries Commission are included in the framework.
- Objective-driven
- Considers long-term ecosystem sustainability
- Trade-offs are explicitly addressed
- Assessment of Significant Adverse Impact (SAIs) on VMEs by bottom fishing activities
- Analysis of fishing impact on benthic ecosystems.

Vulnerable Marine Ecosystems (VMEs) in the NAFO Regulatory Area (NRA)

Since 2007 NAFO has been engaged in a process to identify and protect representative parts of the VMEs within its regulatory area, in accordance with UNGA Resolution 61/105. A "fishing footprint", covering over 120 000 km², in which fishing activity has historically taken place has been defined. Between 2009 and 2014 fifteen closures were established within this area (13 000 km²) to protect various VME indicator taxa. In 2012 Scientific Council adopted a comprehensive list of VME indicator species, and in 2014 endorsed a method for defining VME areas.



VME Species Groups



“COMMITTED to apply an ecosystem approach to fisheries management in the Northwest Atlantic that includes safeguarding the marine environment, conserving its marine biodiversity, minimizing the risk of long term or irreversible adverse effects of fishing activities, and taking account of the relationship between all components of the ecosystem.” Amended NAFO Convention