

Assesing the overlap of NAFO fisheries with Vulnerable Marine Ecosystems

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In 2006, the United Nations General Assembly (UNGA) adopted the Sustainable Fisheries Resolution 61/105, calling on states and Regional Fisheries Management Organizations (RFMOs) to take action to protect Vulnerable Marine Ecosystems (VMEs) in the high seas. Over the last decade and in response to UNGA Resolutions, the Northwest Atlantic Fisheries Organization (NAFO) has spent a significant international effort to delineate and protect cold water corals and sponges. Fourteen areas around the high-seas portion of Grand Bank and Flemish Cap were implemented in order to protect deep-sea coral and sponge habitats from the impacts of bottom contacting gears. The protection provided by these closures has been underpinned by the identification and delineation of VMEs, and the mapping of fishing effort in order to assess the potential impacts of fishing on those vulnerable habitats.

To understand the extent of fishing activities overlapping with VMEs taxa polygons we have carried out a characterization of distribution and intensity of fishing effort during a three-year period: 2016-2018. This characterization was done on the basis of two data sources: Haul by haul logbook information and Vessel Monitoring System (VMS) data. Through this analysis, fishing footprint layers were created for fisheries-specific and cumulative fishing effort using VMS data and haul-by-haul catch data (logbook).

Afterwards, we conducted an overlay analysis to estimate the area of VME polygons that were overlapped by the cumulative fishing footprint and fisheries-specific footprints.

The results indicate that logbook data and VMS are complementary and the coupling of both datasets is a powerful methodology for describing the spatial distribution of impact on the VMEs at a much finer resolution.

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