

Summary:

This folder contains fishing effort layers for various fishery classes and gear groups across each of the following bioregions: Newfoundland and Labrador Shelf, Eastern Arctic, Gulf of St. Lawrence, and Scotian Shelf. Where possible, effort layers have been developed based on logbook records, logbook records linked with VMS, as well as a combination logbook and VMS records.

The fishing effort layers are provided in raster format on a 1 x 1 km grid. Cell values represent the cumulative intensity of effort across the time series. Fishing effort has been standardized into percentiles, whereby the top 20th percentile of intensity (cell values ≥ 20) represent cells containing the most intense fishing activities.

Methods:

The VMS effort layers were derived by obtaining gear and directed species information for each VMS point from associated commercial logbooks (based on matching Vessel Registration Number and date). VMS points were filtered by speed to retain only points where vessels were flagged as fishing.

The logbook effort layers provide fishing effort based on logbook records only, regardless of whether or not the vessel was also using VMS.

Combined effort layers provide fishing effort from VMS for records where logbooks could be linked, but use standalone logbook records to provide additional information for vessels without VMS.

Fishing effort was calculated by summing the duration of time spent in each cell, and standardizing the values into percentiles.

All fishing effort layers were privacy screened following the Atlantic Canadian Protocol on Mapping Fishing Activity (Koropatnick & Coffen-Smout 2020). As a result of the screening process, the percentile range of the published layer may be different than 0 – 100.

Specific details of the methodology used to develop these layers can be found Koen-Alonso et al. 2018 as cited below.

Citation:

Koen-Alonso, M., Favaro, C., Ollerhead, N., Benoît, H., Bourdages, H., Sainte-Marie, B., Treble, M., Hedges, K., Kenchington, E., Lirette, C., King, M., Coffen-Smout, S., and J. Murillo. 2018. Analysis of the overlap between fishing effort and Significant Benthic Areas in Canada's Atlantic and Eastern Arctic marine waters. DFO Can. Sci. Advis. Sec. Res. Doc. 2018/015. xvii + 270 p.

T. Koropatnick and S. Coffen-Smout, 2020. Atlantic Canadian Protocol on Mapping Fishing Activity. Can. Tech. Rep. Fish. Aquat. Sci. 3348: iv + 35 p.