

Fishing Gear Effects on Marine Habitats: A National Database

<https://fishmaps.shinyapps.io/FishingEffectsDatabase/>

Database Points of Contact:

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Overview, Background, and Purpose

The Fishing Gear Effects on Marine Habitats Database is designed to compile and share literature on the impacts of fishing gear on marine fish habitats throughout the United States and U.S. Territories. Relevant research conducted anywhere in the world is included. There are currently 300 records in the database. Supported by the NOAA Office of Habitat Conservation and the Mid Atlantic Fishery Management Council (MAFMC), the database aims to support fishery managers, researchers, and stakeholders by providing accessible information on gear-specific habitat impacts and habitat recovery rates.

The database builds upon the foundational work of the North Pacific Fishery Management Council (NPFMC) and the New England Fishery Management Council (NEFMC), who developed a Fishing Effects Model (formerly the Swept Area Seabed Impact (SASI) Model). This model uses vulnerability assessments derived from literature reviews to estimate the effects of fishing gear on essential fish habitat (EFH). Model results have been critical in understanding and managing these impacts in both the Northeast and North Pacific Regions.

Development, Collaboration, and Content

The database is being developed by Dr. David Stevenson (NOAA Fisheries, retired) and the related online application by Tori Kentner (MAFMC staff), with input from regional Fishery Management Councils and NOAA staff members. It transitions from the earlier Microsoft Access database to a more dynamic and accessible web-based application and provides a more permanent, shareable data repository. Project oversight was provided by Jessica Coakley (MAFMC staff), Michelle Bachman (NEFMC staff), and Sarah Rheinsmith (formerly NPFMC staff, now GFMC staff). In addition, the project collaborated closely with Ian Lundgren (NOAA Fisheries EFH Coordinator) and the CCC Habitat Work Group (i.e., habitat staff from all the Councils, NOAA Headquarters, and NOAA Regional Offices).

The database includes literature on the direct effects of bottom-tending fishing gears on specific pelagic and benthic habitats. The application allows users to perform literature searches and apply data filters using criteria such as gear type, substrate type, geographic region, or depth. Each record includes the published abstract and keywords, a link to the PDF, and the option to download reference information in .ris (Research Information Systems) format, for import to a personal EndNote or Zotero library. The reference metadata can also be downloaded as a CSV file.

Future Enhancements

The database will continue to evolve, incorporating new literature and data as they become

available. User feedback is encouraged to ensure the tool remains valuable for understanding and managing the impacts of fishing on marine habitats.