



NURP Research for the Ecosystem-based Management of New England Fisheries

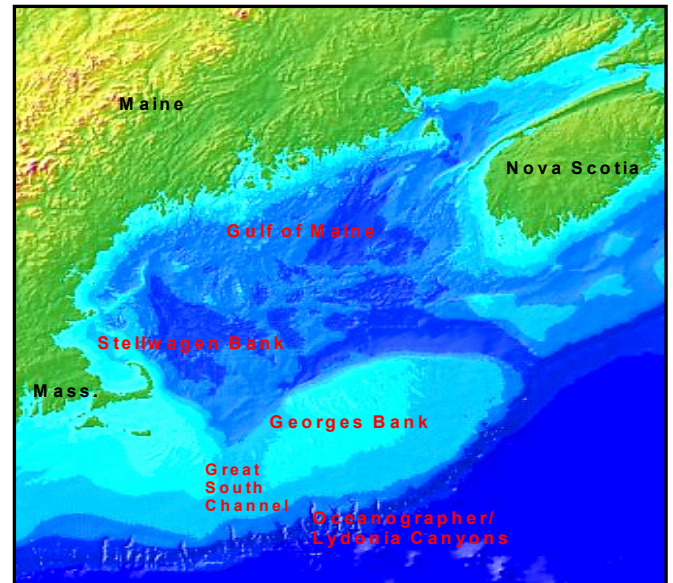
The New England Fishery Management Council (NEFMC) is the governing body that manages fishery resources within the federal 200-mile limit off the coasts of Maine, New Hampshire, Massachusetts, Rhode Island and Connecticut. Federal mandates emphasize the need for an ecosystem-based approach to fisheries management that is founded on the best available scientific information.

Through NOAA's Undersea Research Center for the North Atlantic and Great Lakes (NURC NAGL), NOAA's Undersea Research Program (NURP) has collaborated with a number of groups to conduct research that provides the NEFMC with the most up to date scientific information on the region's marine ecosystems.

Essential Fish Habitat

Responding to the Magnuson-Stevenson Fishery Act, the NEFMC has established essential fish habitat (EFH) for all managed species throughout its jurisdiction. NURP and her research partners have been at the forefront of scientific investigations that support the Fishery Council's efforts to refine and reevaluate EFH status.

NURP-supported researchers have provided ongoing descriptions of fish habitat; quantified effects of habitat closure in EFH; and analyzed approaches for managing the impacts of fishing on these habitats. Investigations have been conducted in the Gulf of Maine; Great South Channel; and on Georges Bank, famed fishing grounds off the southern coast of New England. Studies of fish habitat in Stellwagen Bank National



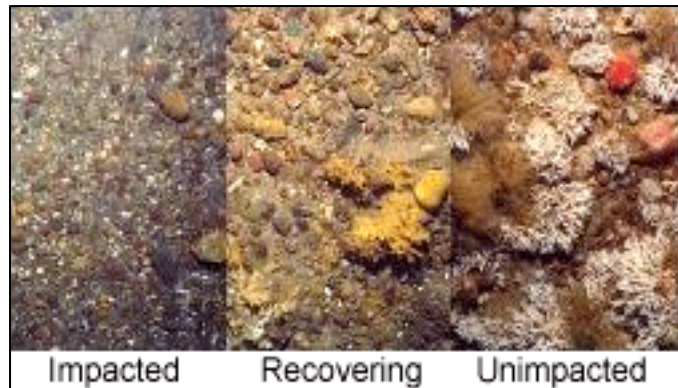
Top: NURP research sites. Map: USGS. **Center and Bottom:** Starfish and anemone provide complex habitat for fish, Stellwagen Bank. Photo: NURC-NAGL

Marine Sanctuary, located to the east of Boston Harbor, have demonstrated the role that Marine Sanctuaries can play as living laboratories for regional level research.

Habitat Areas of Particular Concern

To determine the role that benthic habitats play in the sustained production of the region's commercially sought fish species, NURP and the University of Maine collaborated on multiple studies of deep sea corals, focusing on their ecology and role as fish habitat. Field studies and historical research in Oceanographer and Lydonia submarine canyons, located at the southern edge of Georges Bank, revealed a high concentration of coral species and contributed to an NEFMC decision to designate the canyons as a Habitat Area of Particular Concern (HAPC) for the monkfish fishery. Subsequent management actions closed the canyons to all fishing gear targeting monkfish.

NURP collaborated with NOAA Fisheries, the U.S. Geological Survey, and the University of Rhode Island to conduct ROV and camera sled observations of seafloor habitats on the Northeast Peak of Georges Bank, an area historically characterized by an abundance of Atlantic cod and haddock. Research revealed that while heavily fished sites had a bare gravel pavement, areas that had been closed to fishing for a portion of time exhibited partial recovery of the seafloor community, and areas closed to fishing for a longer period of time supported a highly diverse seafloor habitat. Results, which suggest that intact benthic habitats enhance survival of juvenile cod by providing shelter from prey, aided the NEFMC in designating a Habitat Area of Particular Concern for juvenile cod in Georges Bank.



Atlantic Cod Fishery Habitats, Georges Bank. From left to right: Heavily fished area; partially closed to fishing; completely closed to fishing. Photo: NURC-NAGL



Haddock (top) and cod (bottom) use boulders for protection from prey. Georges Bank. Photo: NURC NAGL



NOAA's Undersea Research Program
1315 East-West Highway, R/NURP - Silver Spring, MD 20910
Phone: (301) 713-2427 Fax: (301) 713-1967
www.nurp.noaa.gov

