

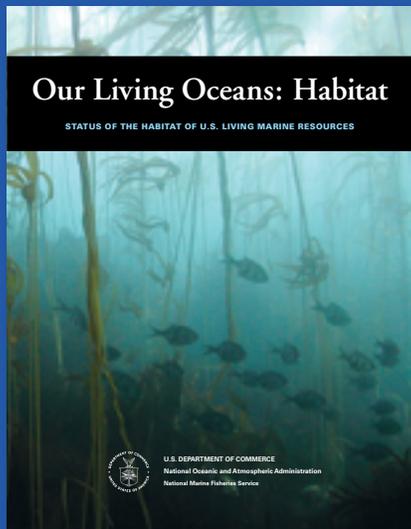


NOAA FISHERIES

*“One of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats. **Habitat considerations should receive increased attention for the conservation and management of fishery resources of the United States.**”*

- Magnuson-Stevens Act

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Our Living Oceans: Habitat

Northeast Region

The Northeast Region extends from the Gulf of Maine south to Cape Hatteras, and covers about 3% (369,000 km² [108 nmi²]) of the U.S. Exclusive Economic Zone (EEZ). The Northeast Region includes freshwater habitats in watersheds used by anadromous species, bays and estuaries, and shallow marine waters extending from the intertidal zone to a depth of 200 m (656 ft). The Northeast Region includes the states of New England (Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island), the mid-Atlantic (New York, New Jersey, Delaware, Maryland, Virginia), and Pennsylvania and West Virginia. The three main areas within the Northeast Region are: the Gulf of Maine, Georges Bank, and Southern New England/Mid-Atlantic Bight, as well as associated coastal and estuarine areas.



Satellite map of the Chesapeake Bay area, left. Wetlands in North Carolina, upper right, Deep water coral off the New England coast, lower right.

The **Gulf of Maine** is characterized by a system of 21 deep basins, glacial deposits, rocky ledges, and banks, with limited access to the open ocean. The Gulf is distinct from the Atlantic, separated by ocean fronts that have distinct temperature, salinity, nutrient, and plankton community characteristics. It is essentially an ecologically separate sea within a sea.

Georges Bank is a shallow marine habitat on the Continental Shelf. The bottom topography includes relatively smooth, gently dipping seafloor, as well as steeper areas incised by submarine canyons. The nature of the seabed sediments varies widely, ranging from clay to gravel. Strong tidal currents cause vertical mixing on the shallow top of the Bank, resulting in a tidal front separating the colder, well-mixed waters over the Bank from the warmer, seasonally stratified waters on either side of the Bank. There is a persistent clockwise gyre that helps distribute larval fish and other plankton. Georges Bank has a diverse biological community that is influenced by many environmental conditions, and is characterized by high levels of primary productivity and historically high levels of fish production.

The **Mid-Atlantic Bight/Southern New England** extend from Georges Bank to Cape Hatteras, and east out to the EEZ, including the Gulf Stream. Features of this Continental Shelf area include valleys and channels, shoal massifs, scarps, and sand ridges.

Habitat Issues

One of the major trends for the Northeast Region is the loss and fragmentation of nearshore habitats. Increasing human development (e.g. dams, dredging) continues to threaten freshwater habitats that support anadromous fish populations. Other habitat issues facing the Northeast Region include:

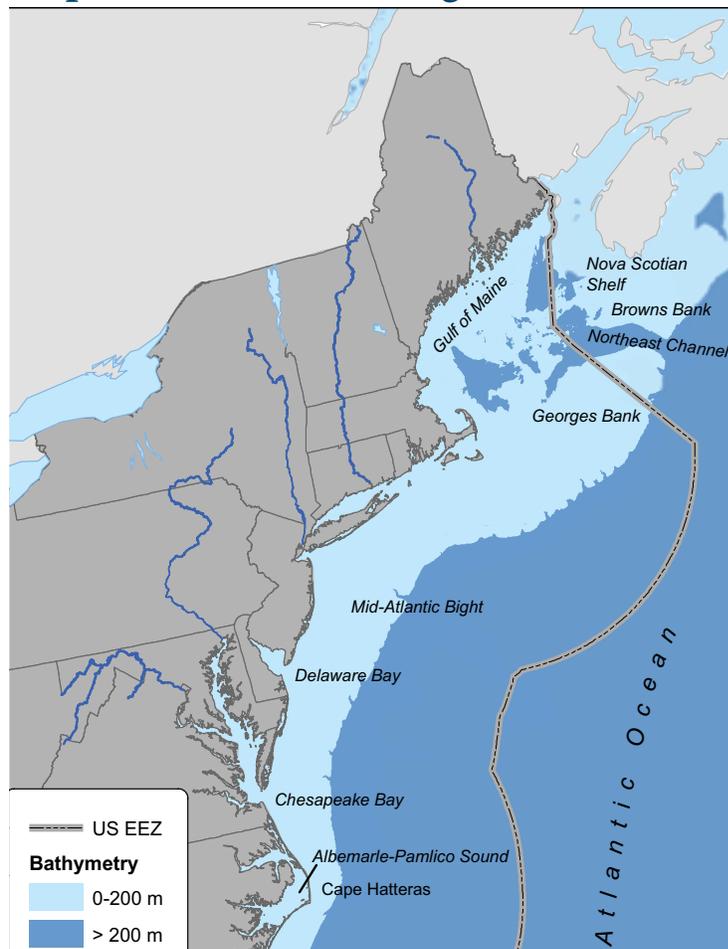
- Agricultural and urban stormwater runoff
- Tidal wetland fragmentation and loss
- Loss of Submerged Aquatic Vegetation (SAV)
- Eutrophication and high nutrient loads to estuaries and nearshore habitats
- Benthic habitat loss from destructive fishing practices (e.g. scallop dredges and bottom trawls)
- Damage to deep-sea corals from fishing gear

Habitat Needs

To manage living marine resources, it is of prime importance to understand the relationships among species and habitats. Beyond basic species-habitat distributions, habitat mapping, and habitat quality studies, specific research needs for the Northeast Region include information about:

- The effects of habitat alterations (e.g. dams, habitat loss and fragmentation) on Atlantic salmon populations.
- Basic biological information (e.g. growth, physiology, reproduction) of deep-sea corals that provide important benthic structure for fishes and invertebrates.
- How bottom trawling affects the connectivity between parts of the seafloor.
- Mechanisms of introduction and establishment of invasive species.
- Evaluating oyster restoration and habitat reconditioning techniques.
- Improving ways to protect marine mammals from encounters with ships and fishing gear.

Map of the Northeast Region



Northeast Highlights

The Northeast Region is home to two NOAA Habitat Focus Areas (HFAs): the Penobscot River watershed in Maine, and the Choptank River Watershed in Maryland and Delaware.

- The Penobscot River is threatened by dams, culverts, water pollution, and overfishing, which have combined to the near elimination of migratory fish species. In collaboration with partners, NOAA is working to identify priority fish passage, dam removals, and restoration efforts aimed at increasing fishery production in the watershed.
- The Delmarva/Choptank River, part of the Chesapeake Bay ecosystem, includes critical habitat for striped bass, river herring, and oysters. With the Choptank HFA, NOAA is working with the local community to identify and prioritize restoration and protection efforts aimed at increasing the once historically abundant oyster and fisheries now at risk.

The Habitat Camera Mapping System (HabCam), an advanced sampling technology, helps scientists study sea scallops and their habitats in a non-invasive manner. Scallops are an important part of the Northeast Region's economy. HabCam images provide a window into species interactions and habitat characterization.

North Atlantic right whales are critically endangered. To help reduce the likelihood of collisions between large ships and whales, NOAA worked with the U.S. Coast Guard to develop and propose changes in shipping operations.