

Essential Fish Habitat Description **Atlantic sea scallops (*Placopecten magellanicus*)**

In its *Report to Congress: Status of the Fisheries of the United States* (September 1997), NMFS determined Atlantic sea scallops are currently overfished. This determination is based on the fishing mortality rate. Essential fish habitat for Atlantic sea scallops is described as those areas of the coastal and offshore waters (out to the offshore U.S. boundary of the exclusive economic zone) that are designated on Figure 11.1 and in the accompanying table and meet the following conditions:

Eggs: Bottom habitats in the Gulf of Maine, Georges Bank, southern New England and the middle Atlantic south to the Virginia-North Carolina border as depicted in Figure 11.1. Eggs are heavier than seawater and remain on the seafloor until they develop into the first free-swimming larval stage. Generally, sea scallop eggs are thought to occur where water temperatures are below 17° C. Spawning occurs from May through October, with peaks in May and June in the middle Atlantic area and in September and October on Georges Bank and in the Gulf of Maine.

Larvae: Pelagic waters and bottom habitats with a substrate of gravelly sand, shell fragments, and pebbles, or on various red algae, hydroids, amphipod tubes and bryozoans in the Gulf of Maine, Georges Bank, southern New England and the middle Atlantic south to the Virginia-North Carolina border as depicted in Figure 11.1. Generally, the following conditions exist where sea scallop larvae are found: sea surface temperatures below 18° C and salinities between 16.9‰ and 30‰.

Juveniles: Bottom habitats with a substrate of cobble, shells and silt in the Gulf of Maine, Georges Bank, southern New England and the middle Atlantic south to the Virginia-North Carolina border that support the highest densities of sea scallops as depicted in Figure 11.1. Generally, the following conditions exist where most sea scallop juveniles are found: water temperatures below 15° C, and water depths from 18 - 110 meters.

Adults: Bottom habitats with a substrate of cobble, shells, coarse/gravelly sand, and sand in the Gulf of Maine, Georges Bank, southern New England and the middle Atlantic south to the Virginia-North Carolina border that support the highest densities of sea scallops as depicted in Figure 11.1. Generally, the following conditions exist where most sea scallop adults are found: water temperatures below 21° C, water depths from 18 - 110 meters, and salinities above 16.5‰.

Spawning Adults: Bottom habitats with a substrate of cobble, shells, coarse/gravelly sand, and sand in the Gulf of Maine, Georges Bank, southern New England and the middle Atlantic south to the Virginia-North Carolina border that support the highest densities of sea scallops as depicted in Figure 11.1. Generally, the following conditions exist where spawning sea scallop adults are found: water temperatures below 16° C, depths from 18 - 110 meters, and salinities above 16.5‰. Spawning occurs from May through October, with peaks in May and June in the middle Atlantic area and in September and October on Georges Bank and in the Gulf of Maine.

All of the above EFH descriptions include those bays and estuaries listed on the following table, according to life history stage. The Council acknowledges potential seasonal and spatial variability of the conditions generally associated with this species.

EFH Designation of Estuaries and Embayments
Atlantic sea scallops (*Placopecten magellanicus*)

Estuaries and Embayments	Eggs	Larvae	Juveniles	Adults	Spawning Adults
Passamaquoddy Bay	S	S	S	S	S
Englishman/Machias Bay	S	S	S	S	S
Narraguagus Bay	S	S	S	S	S
Blue Hill Bay	S	S	S	S	S
Penobscot Bay	S	S	S	S	S
Muscongus Bay	S	S	S	S	S
Damariscotta River	S	S	S	S	S
Sheepscot River	S	S	S	S	S
Kennebec / Androscoggin Rivers					
Casco Bay	S	S	S	S	S
Saco Bay					
Wells Harbor					
Great Bay			S	S	
Merrimack River					
Massachusetts Bay	S	S	S	S	S
Boston Harbor					
Cape Cod Bay	S	S	S	S	S
Waquoit Bay					
Buzzards Bay					
Narragansett Bay					
Long Island Sound					
Connecticut River					
Gardiners Bay					
Great South Bay					
Hudson River / Raritan Bay					
Barnegat Bay					
Delaware Bay					
Chincoteague Bay					
Chesapeake Bay					

S ≡ The EFH designation for this species includes the seawater salinity zone of this bay or estuary (salinity > 25.0‰).

M ≡ The EFH designation for this species includes the mixing water / brackish salinity zone of this bay or estuary (0.5 < salinity < 25.0‰).

F ≡ The EFH designation for this species includes the tidal freshwater salinity zone of this bay or estuary (0.0 < salinity < 0.5‰).

These EFH designations of estuaries and embayments are based on the NOAA Estuarine Living Marine Resources (ELMR) program (Jury *et al.* 1994; Stone *et al.* 1994). For a detailed view of the salinity zone boundaries, as described in the ELMR reports, please see Appendix B. The Council recognizes the spatial and temporal variability of estuarine and embayment environmental conditions generally associated with this species.

Essential Fish Habitat
Atlantic sea scallops (*Placopecten magellanicus*) All Life Stages

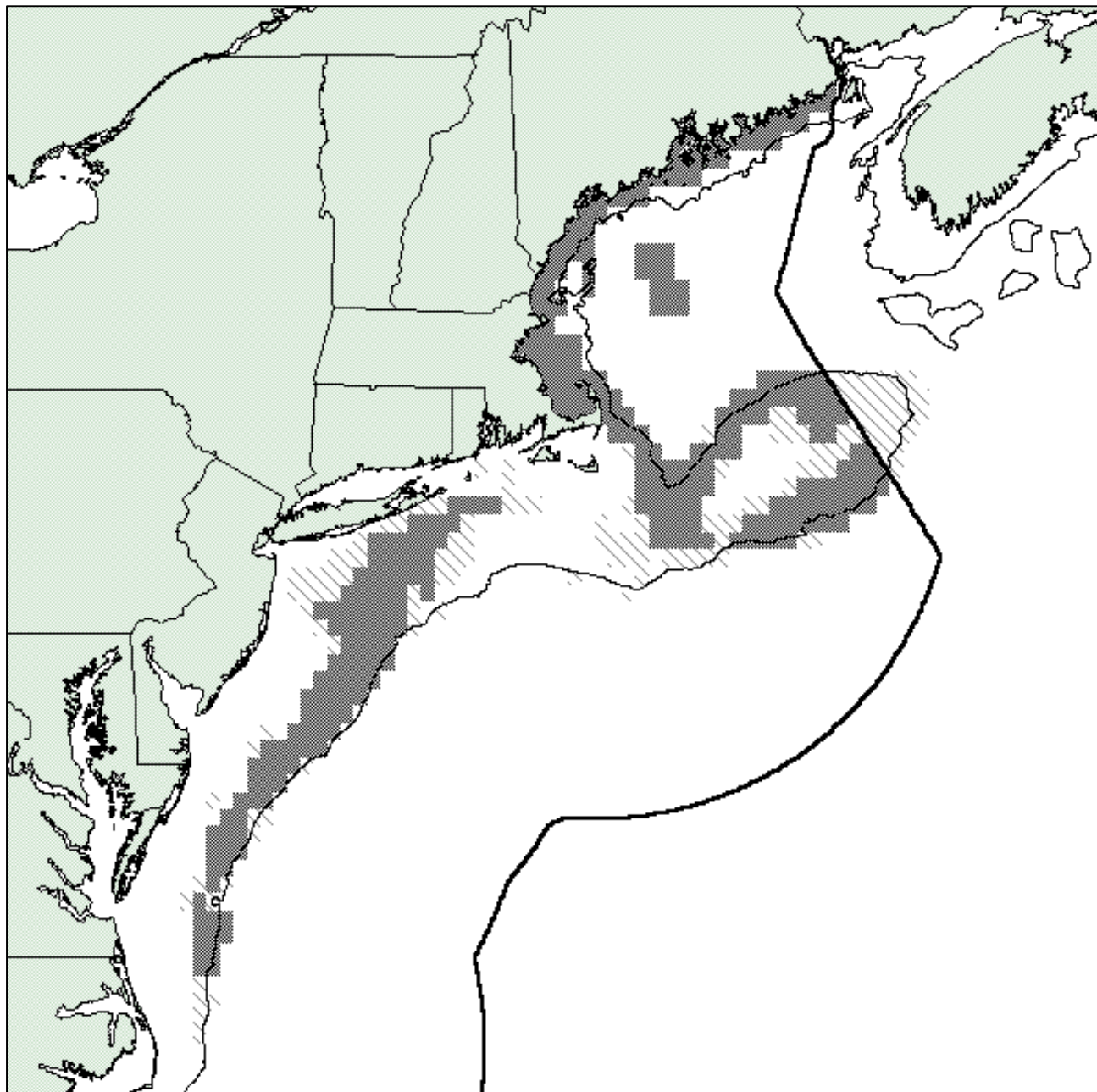


Figure 11.1: The EFH designation for Atlantic sea scallops is based upon alternative 2, based on the NMFS scallop survey (1982 - 1997), plus areas identified by the fishing industry and by NMFS as important for sea scallops. The designation also includes the mid-Atlantic juvenile sea scallop closed areas (the Hudson Canyon Closed Area and the Virginia Beach Closed Area) and those bays and estuaries identified by the NOAA ELMR program as supporting sea scallops at the "common" or "abundant" level. The other alternatives were not selected because they either include too little area (less than half of the range of this overfished species), or include areas where sea scallops occur in relatively low concentrations. The light shading represents the entire observed range of Atlantic sea scallops.