

# ATLANTIC MACKEREL SCOMBER SCOMBRUS



## MID-ATLANTIC FISHERY MANAGEMENT COUNCIL (MAFMC) - ESSENTIAL FISH HABITAT (EFH) PROFILE

### 1. Management Unit

The management unit is all Atlantic mackerel (*Scomber scombrus*) under U.S. jurisdiction.

### 2. Stock Status

The most recent stock assessment determined the stock is overfished or overfishing is occurring (2021). For current stock status: <https://www.fisheries.noaa.gov/national/status-stocks-reports>

### 3. Current Text Designations

Source: MAFMC. 2011. Amendment 11 to the Atlantic Mackerel, Squids, and Butterfish Fishery Management Plan. Available at: [www.mafmc.org](http://www.mafmc.org).

Eggs: EFH is pelagic habitats in inshore estuaries and embayments from Great Bay, New Hampshire to the south shore of Long Island, New York, inshore and offshore waters of the Gulf of Maine, and on the continental shelf from Georges Bank to Cape Hatteras, North Carolina (mostly north of 38°N), as depicted in Figure 17 [section 4]. EFH for Atlantic mackerel eggs is generally found over bottom depths of 100 meters or less with average water temperatures of 6.5-12.5°C in the upper 15 meters of the water column.

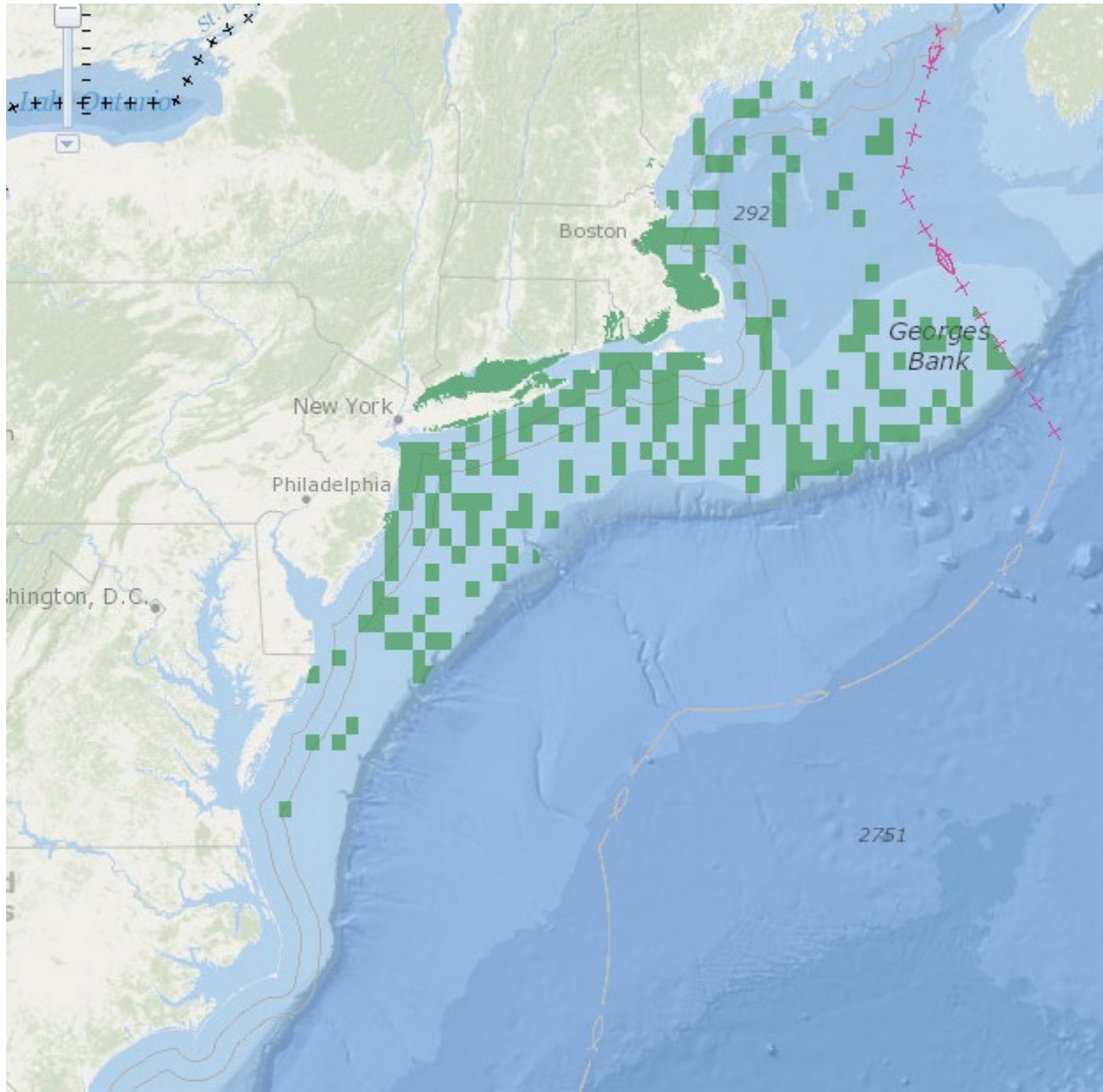
Larvae: EFH is pelagic habitats in inshore estuaries and embayments from Great Bay, New Hampshire to the south shore of Long Island, New York, inshore waters of the Gulf of Maine, and on the continental shelf from Georges Bank to Cape Hatteras, North Carolina (mostly north of 38°N), as depicted in Figure 18 [section 4]. EFH for Atlantic mackerel larvae is generally found over bottom depths between 21 and 100 meters with average water temperatures of 5.5-11.5°C in the upper 200 meters of the water column.

Juveniles: EFH is pelagic habitats in inshore estuaries and embayments from Passamaquoddy Bay and Penobscot Bay, Maine to the Hudson River, in the Gulf of Maine, and on the continental shelf from Georges Bank to Cape Hatteras, North Carolina, as depicted in Figure 19 [section 4]. EFH for juvenile Atlantic mackerel is generally found over bottom depths between 10 and 110 meters and in water temperatures of 5 to 20°C. Juvenile Atlantic mackerel feed primarily on small crustaceans, larval fish, and other pelagic organisms.

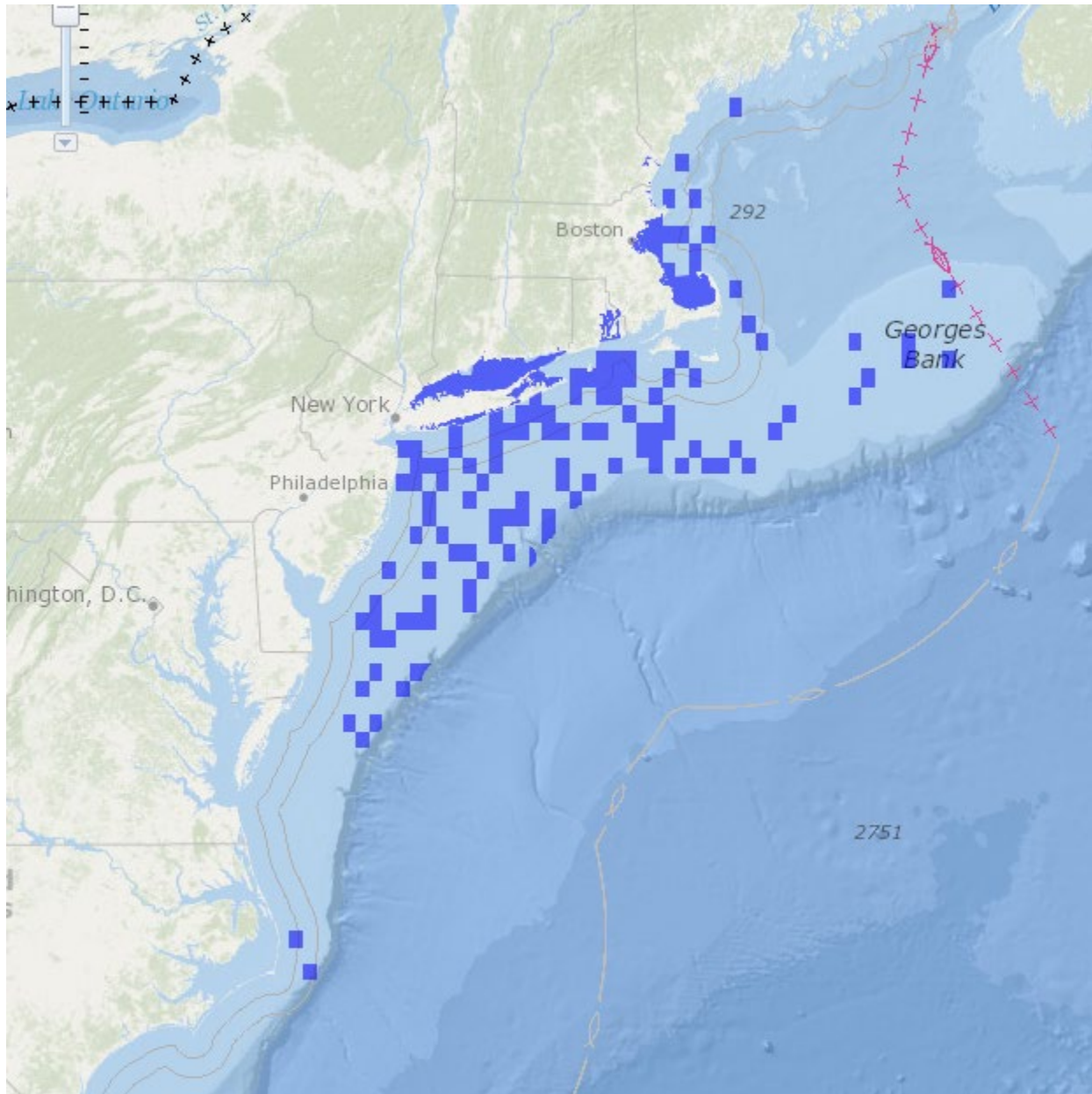
Adults: EFH is pelagic habitats in inshore estuaries and embayments from Passamaquoddy Bay, Maine to the Hudson River, and on the continental shelf from Georges Bank to Cape Hatteras, North Carolina, as depicted in Figure 20 [section 4]. EFH for adult Atlantic mackerel is generally found over bottom depths less than 170 meters and in water temperatures of 5 to 20°C. Spawning occurs at temperatures above 7°C, with a peak between 9 and 14°C. Adult Atlantic mackerel are opportunistic predators feeding primarily on a wider range and larger individuals of pelagic crustaceans than juveniles, but also on fish and squid.

#### 4. Current Map Designations

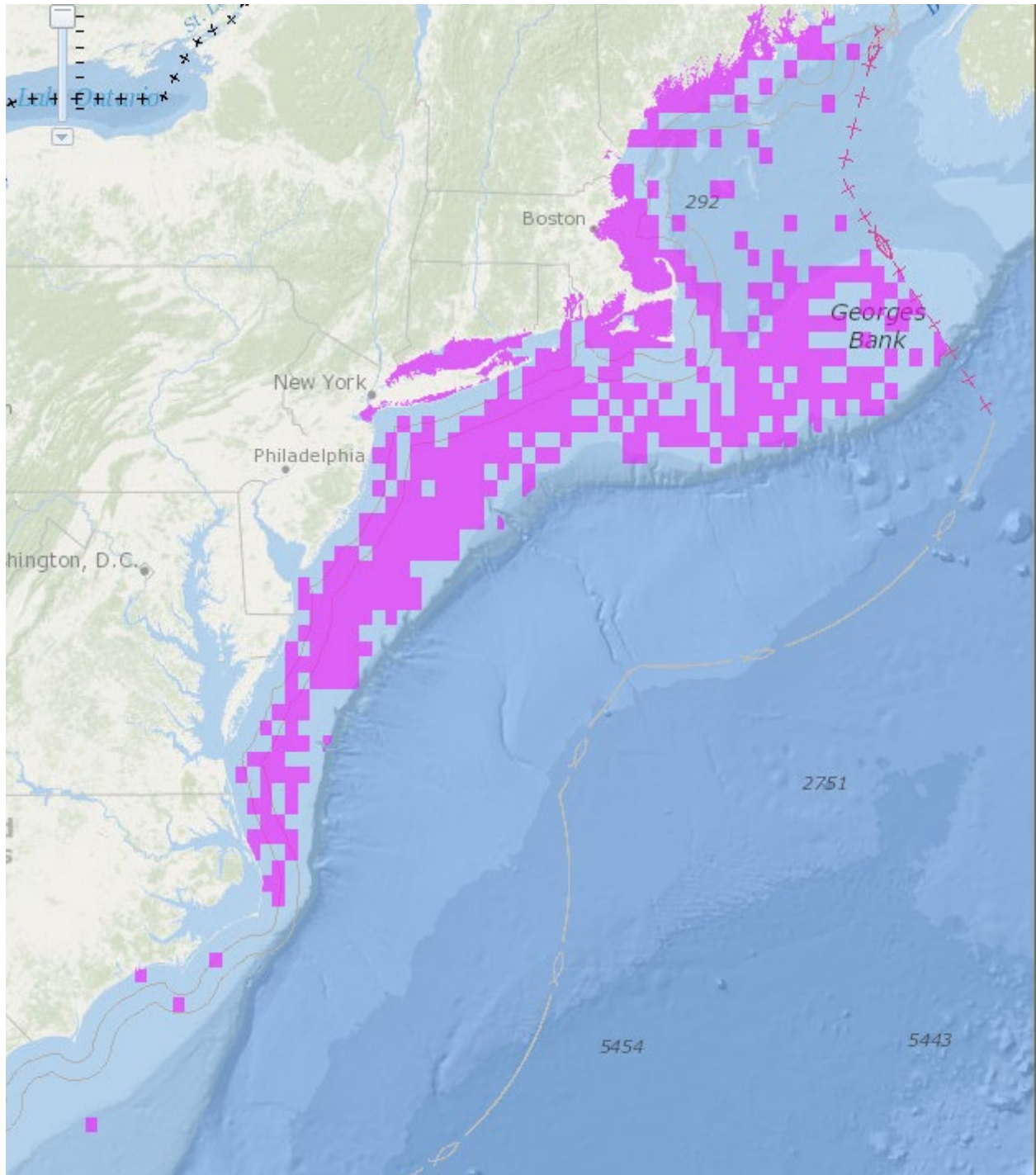
Eggs: Areas which encompass the top 95% of the areas where Atlantic mackerel eggs were collected in the MARMAP surveys, 1977-1987.



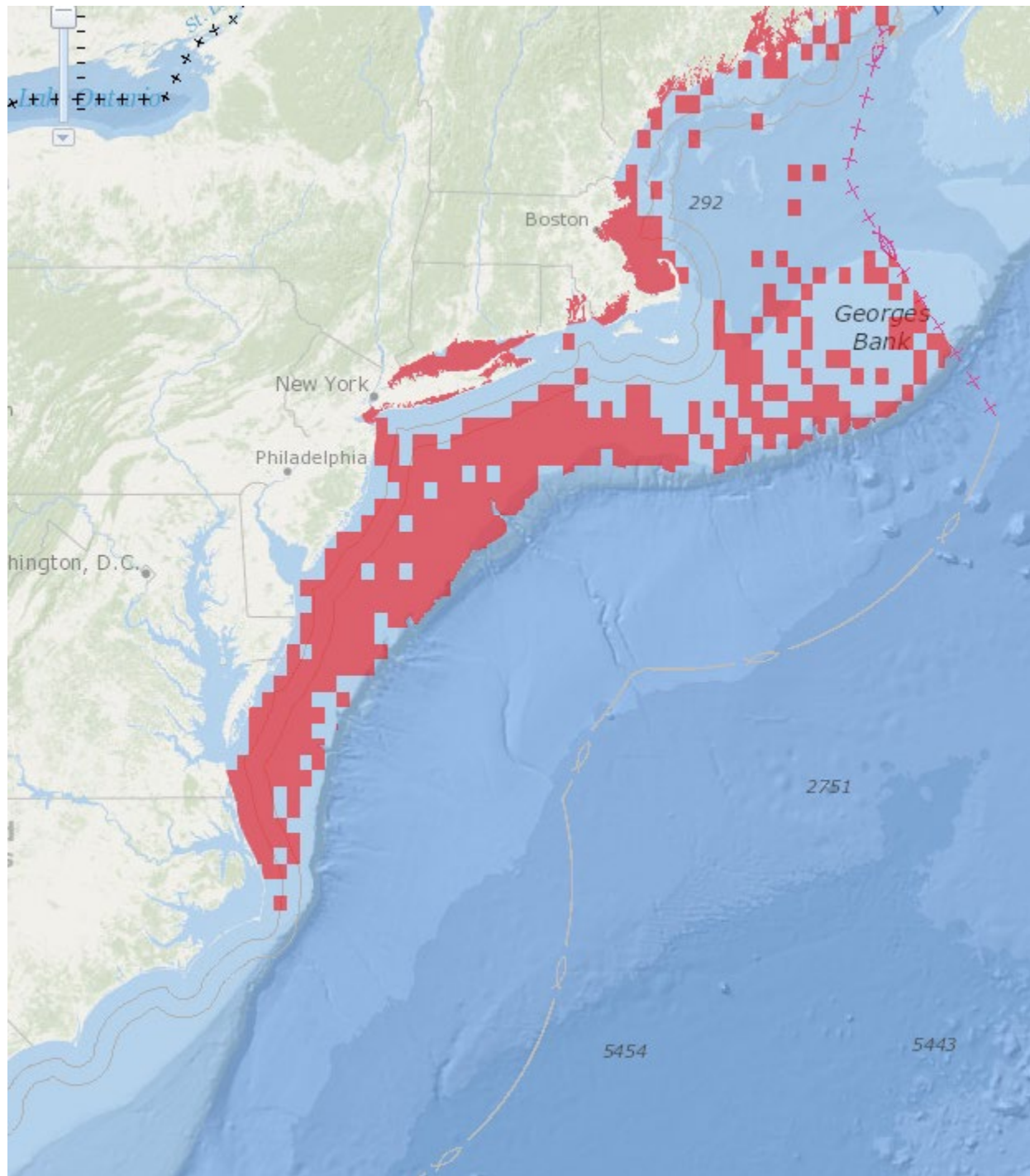
Larvae: Areas which encompass the top 95% of the areas where Atlantic mackerel larvae were collected in the MARMAP surveys, 1977-1987.



Juveniles: Areas which encompass the top 95% of the areas where Atlantic mackerel juveniles were collected in the Northeast Fisheries Science Center (NEFSC) trawl survey (1976-2007), and assorted state survey data.



Adults: Areas which encompass the top 95% of the areas where Atlantic mackerel adults were collected in the NEFSC trawl survey (1976-2007), and assorted state survey data.



## 5. Designation and Mapping Methods

The Council has generally identified EFH using level 1 and/or level 2 data (see EFH regulations; section 7) primarily from distribution and relative abundance data from the Northeast Fisheries Science Center (NEFSC) bottom trawl surveys (spring and fall, 1963+), ichthyoplankton surveys (monthly, 1977+), information from species EFH source documents (technical memos) developed by NEFSC staff, and - for some inshore areas - a resource inventory conducted by NOAA's Estuarine Living Marine Resources Program (ELMR; 1994). The designations were comprised of a detailed text description and a series of maps by ten-minute square areas (TMSQ). The Mid-Atlantic EFH Technical Team, NEFSC scientists, and other experts developed alternatives for the Council to consider. Four alternatives were proposed and, for mapping purposes, the Council selected the alternative that used a distributional percentage (50%, 75%, 90%, or 100% of observations) of the catches by area based on which level of information was available and stock status. EFH maps were developed for each life stage and displayed the distribution and abundance data by TMSQ. The designations were comprised of a detailed text description and a series of maps by ten-minute square areas (TMSQ).

Atlantic mackerel EFH was first identified through Amendment 8 (1999). At the time, Atlantic mackerel were not overfished; therefore, the Council selected the TMSQ where the highest 75% of the total catch was collected. Amendment 11 (2011) reviewed and updated EFH descriptions and maps. At that time, the overfished status of Atlantic mackerel was unknown. The EFH review was completed using data from fishery-independent surveys, and new scientific literature. For the first time, maps included TMSQ where 10% or more of the bottom trawl tows from coastal state surveys in the region caught the life stages/species. In federal waters, the Council selected the TMSQ where the highest 95% of the total catch was collected. EFH for pelagic eggs and larvae were still mapped using the ichthyoplankton survey data and the inshore ELMR areas were retained in all maps.

## 6. EFH Source Documents

Information on Atlantic mackerel habitat requirements can be found in:

Studholme A.L., Packer D.B., Berrien P.L., Johnson D.L., Zetlin C.A., Morse W.W. 1999. Essential Fish Habitat Source Document: Atlantic mackerel, *Scomber scombrus*, Life History and Habitat Characteristics. NOAA Technical Memorandum, NMFS-NE-141. Available at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>.

## 7. Other Information

### EFH Legal Authorities

EFH from Magnuson Stevens Act:

<http://www.fisheriesforum.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=014976d6-5bc1-f0c4-be6b-ade7c99fc932&forceDialog=0>

EFH Contents of Fishery Management Plans under CFR §600.815:

<https://www.gpo.gov/fdsys/pkg/CFR-2013-title50-vol12/pdf/CFR-2013-title50-vol12-sec600-815.pdf>

Federal agency consultation with the Secretary under CFR §600.920:

<https://www.gpo.gov/fdsys/pkg/CFR-2014-title50-vol12/pdf/CFR-2014-title50-vol12-sec600-920.pdf>

NMFS 2006 EFH Guidance:

<http://www.nmfs.noaa.gov/op/pds/documents/03/201/03-201-15.pdf>

### Management and Stock Assessments

MAFMC: <http://www.mafmc.org>, ASMFC: <http://www.asmfc.org>, NEFSC Stock Assessments:

<http://www.nefsc.noaa.gov/saw/>