

SUMMER FLOUNDER PARALICHTHYS DENTATUS



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

1. Management Unit

The management unit for summer flounder (*Paralichthys dentatus*) is U.S. waters in the western Atlantic Ocean from the southern border of North Carolina northward to the U.S.-Canadian border.

2. Stock Status

The stock is not overfished and overfishing is occurring based on the most recent stock assessment (2021). For current stock status: <https://www.fisheries.noaa.gov/national/status-stocks-reports>

3. Current Text Designations

Source: MAFMC. 1999. Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan. Available at: www.mafmc.org.

Eggs: 1) North of Cape Hatteras, EFH is the pelagic waters found over the Continental Shelf (from the coast out to the limits of the EEZ [Exclusive Economic Zone]), from the Gulf of Maine to Cape Hatteras, North Carolina, in the highest 90% of the all the ranked ten-minute squares for the area where summer flounder eggs are collected in the MARMAP survey. 2) South of Cape Hatteras, EFH is the waters over the Continental Shelf (from the coast out to the limits of the EEZ), from Cape Hatteras, North Carolina to Cape Canaveral, Florida, to depths of 360 ft. In general, summer flounder eggs are found between October and May, being most abundant between Cape Cod and Cape Hatteras, with the heaviest concentrations within 9 miles of shore off New Jersey and New York. Eggs are most commonly collected at depths of 30 to 360 ft.

Larvae: 1) North of Cape Hatteras, EFH is the pelagic waters found over the Continental Shelf (from the coast out to the limits of the EEZ), from the Gulf of Maine to Cape Hatteras, North Carolina, in the highest 90% of all the ranked ten-minute squares for the area where summer flounder larvae are collected in the MARMAP survey. 2) South of Cape Hatteras, EFH is the nearshore waters of the Continental Shelf (from the coast out to the limits of the EEZ), from Cape Hatteras, North Carolina to Cape Canaveral Florida, in nearshore waters (out to 50 miles from shore). 3) Inshore, EFH is all the estuaries where summer flounder were identified as being present (rare, common, abundant, or highly abundant) in the ELMR database, in the "mixing" (defined in ELMR as 0.5 to 25.0 ppt) and "seawater" (defined in ELMR as greater than 25 ppt) salinity zones. In general, summer flounder larvae are most abundant nearshore (12-50 miles from shore) at depths between 30 to 230 ft. They are most frequently found in the northern part of the Mid-Atlantic Bight from September to February, and in the southern part from November to May.

Juveniles: 1) North of Cape Hatteras, EFH is the demersal waters over the Continental Shelf (from the coast out to the limits of the EEZ), from the Gulf of Maine to Cape Hatteras, North Carolina, in the highest 90% of all the ranked ten-minute squares for the area where juvenile summer flounder are collected in the NEFSC trawl survey. 2) South of Cape Hatteras, EFH is the waters over the Continental Shelf (from the coast out to the limits of the EEZ) to depths of 500 ft, from Cape Hatteras, North Carolina to Cape Canaveral, Florida. 3) Inshore, EFH is all of the estuaries where summer flounder were identified as being present (rare, common, abundant, or highly abundant) in the ELMR database for the "mixing" and "seawater" salinity zones. In general, juveniles use several estuarine habitats as nursery areas, including

salt marsh creeks, seagrass beds, mudflats, and open bay areas in water temperatures greater than 37 °F and salinities from 10 to 30 ppt range.

Adults: 1) North of Cape Hatteras, EFH is the demersal waters over the Continental Shelf (from the coast out to the limits of the EEZ), from the Gulf of Maine to Cape Hatteras, North Carolina, in the highest 90% of all the ranked ten-minute squares for the area where adult summer flounder are collected in the NEFSC trawl survey. 2) South of Cape Hatteras, EFH is the waters over the Continental Shelf (from the coast out to the limits of the EEZ) to depths of 500 ft, from Cape Hatteras, North Carolina to Cape Canaveral, Florida. 3) Inshore, EFH is the estuaries where summer flounder were identified as being common, abundant, or highly abundant in the ELMR database for the "mixing" and "seawater" salinity zones. Generally summer flounder inhabit shallow coastal and estuarine waters during warmer months and move offshore on the outer Continental Shelf at depths of 500 ft in colder months.

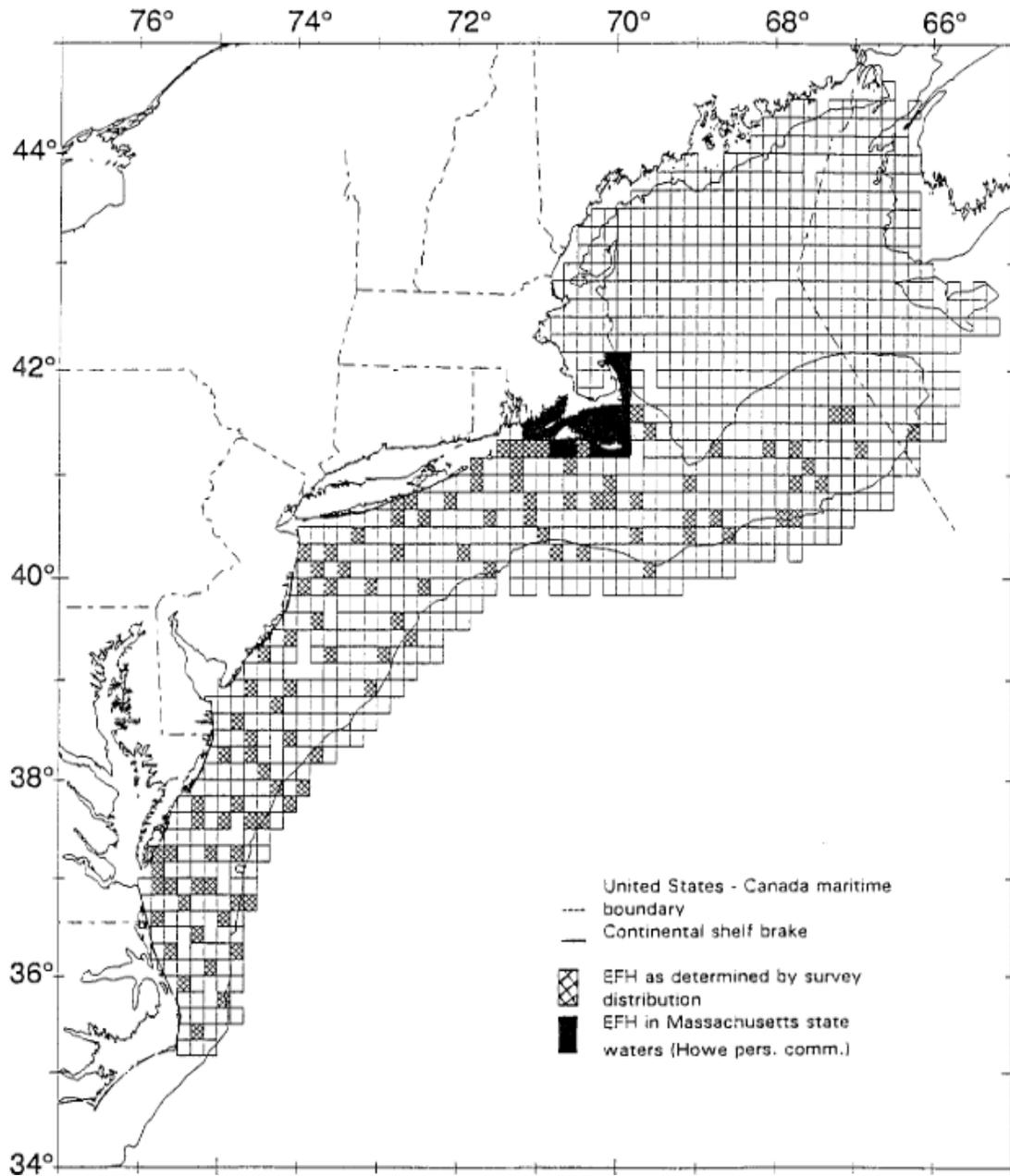
Habitat areas of particular concern (HAPCs) for juveniles and adults are:

All native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH is HAPC. If native species of SAV are eliminated then exotic species should be protected because of functional value, however, all efforts should be made to restore native species.

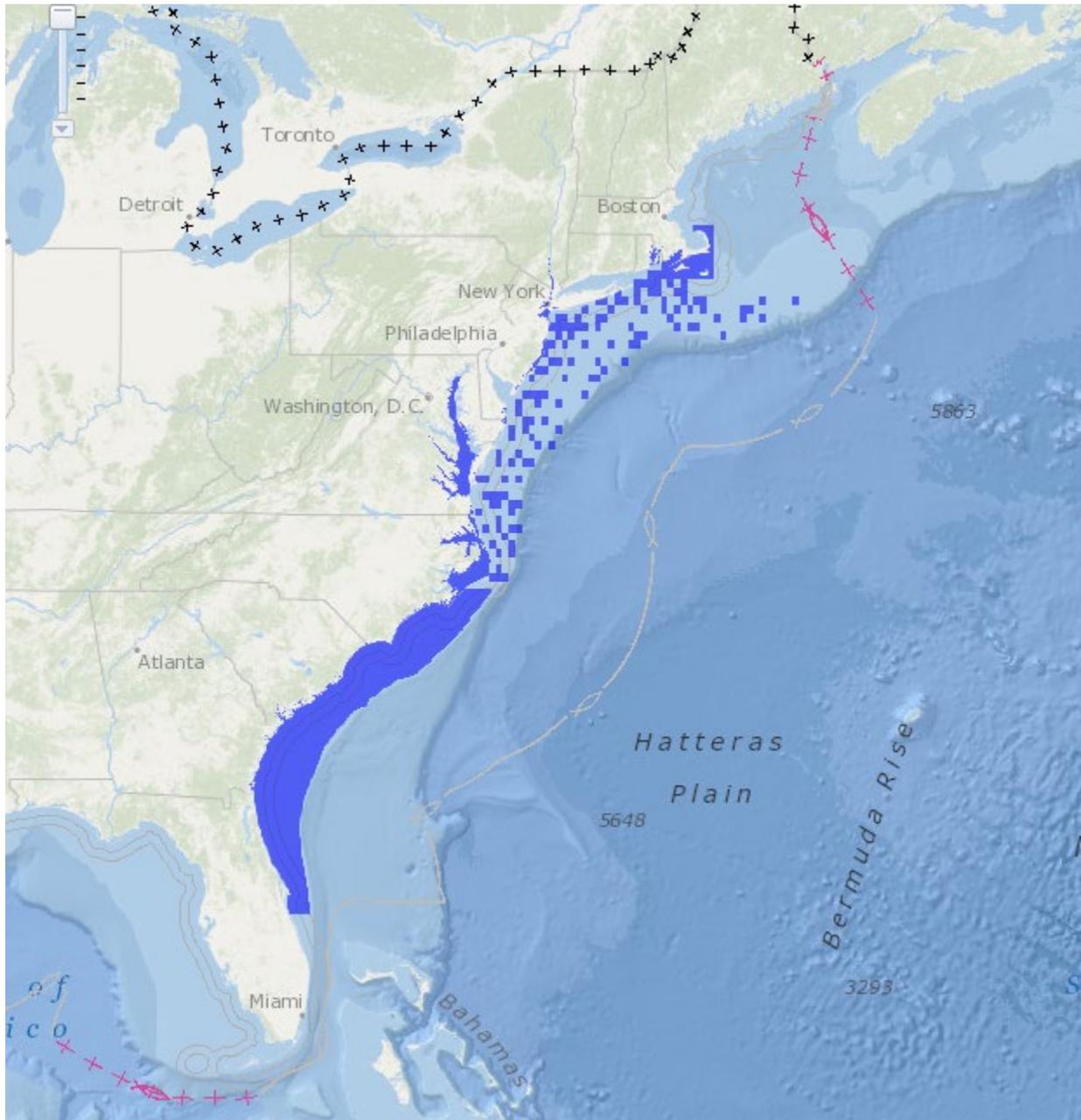
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4. Current Map Designations

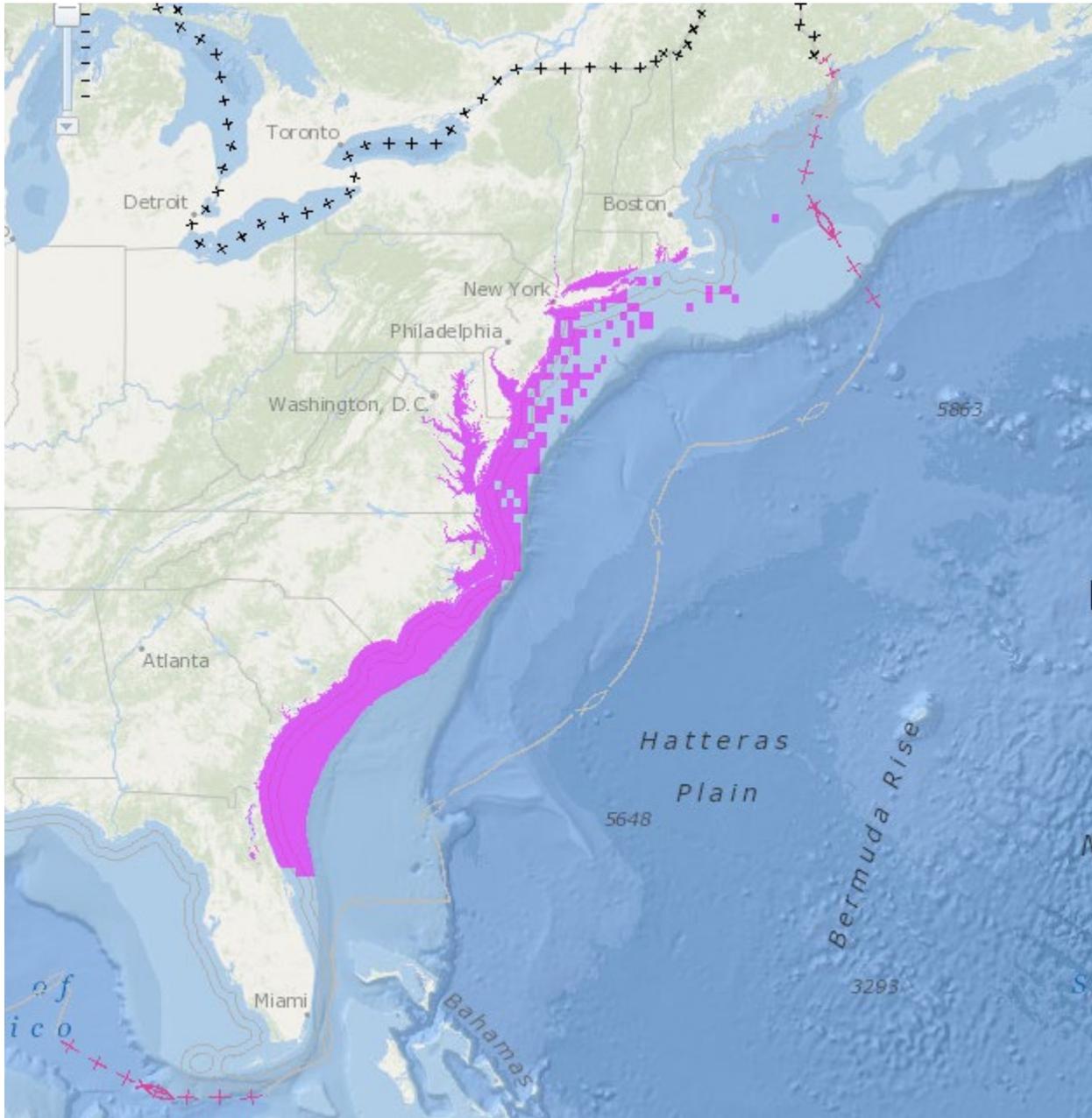
Eggs: North of Cape Hatteras, EFH is the area which encompasses the top 90% of the area where summer flounder eggs are found in the MARMAP and NEFSC trawl surveys. South of Cape Hatteras, EFH is waters over the Continental Shelf (from the coast out to the limits of the EEZ), from Cape Hatteras, North Carolina, to Cape Canaveral, Florida (not shown mapped).



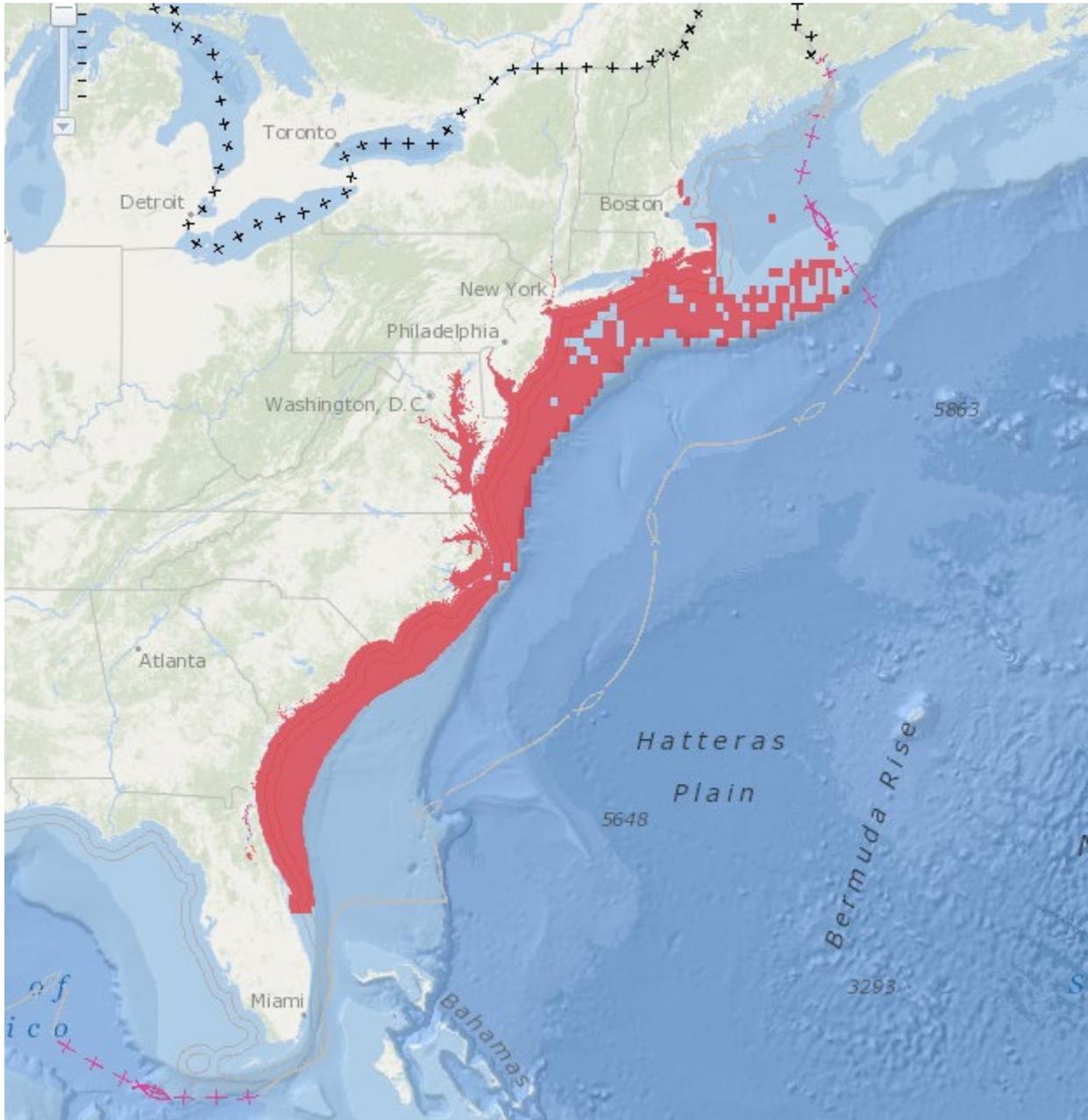
Larvae: Area which encompasses the top 90% of the area where summer flounder larvae are found in the MARMAP and NEFSC trawl surveys. South of Cape Hatteras, EFH is the nearshore waters (out to 50 miles from shore) of the Continental Shelf, from Cape Hatteras to Cape Canaveral Florida. Inshore, EFH is all the estuaries where summer flounder were identified as being present in the ELMR database, in the "mixing" and "seawater" salinity zones.



Juveniles: North of Cape Hatteras, EFH is the area which encompasses the top 90% of the area where summer flounder juveniles are found in the MARMAP and NEFSC trawl surveys. South of Cape Hatteras, EFH is the nearshore waters (out to 50 miles from shore) of the Continental Shelf, from Cape Hatteras to Cape Canaveral Florida. Inshore, EFH is all the estuaries where summer flounder were identified as being present in the ELMR database, in the "mixing" and "seawater" salinity zones.



Adults: North of Cape Hatteras, EFH is the area which encompasses the top 90% of the area where adult summer flounder are found in the MARMAP and NEFSC trawl surveys. South of Cape Hatteras, EFH is the nearshore waters (out to 50 miles from shore) of the Continental Shelf, from Cape Hatteras to Cape Canaveral Florida. Inshore, EFH is all the estuaries where summer flounder were identified as being present in the ELMR database, in the "mixing" and "seawater" salinity zones.



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). Additional broadly - defined (level 1) areas south of Cape Hatteras and on the continental slope were added to maps for larvae and juveniles. At the time, the SEAMAP data was not available in a consistent format and was less extensive than bottom trawl surveys north of Hatteras; therefore, extensive areas that were consistent with the same depth, temperature, and salinity preferences were included in the maps. 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 Council identified EFH for summer flounder, scup, and black sea bass through Amendment 12 (1999) using NEFSC trawl surveys (spring and fall) and the ELMR program. The Council considered using 100% of the TMSQ as EFH since summer flounder has specific associations with benthic habitats types, and were also significantly overfished at the time. However, they chose the 90% of the TMSQ for all life stages and species since it was risk-averse and level 2 information was available. Amendment 12 also identified areas with submerged aquatic vegetation as habitat areas of particular concern (HAPC) for juvenile and adult summer flounder.

6. EFH Source Documents

Information on summer flounder habitat requirements can be found in:

Packer DB, Griesbach SJ, Berrien PL, Zetlin CA, Johnson DL, Morse WW. 1999. Essential Fish Habitat Source Document: Summer flounder, *Paralichthys dentatus*, Life History and Habitat Characteristics. NOAA Technical Memorandum, NMFS-NE-151. 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>, Atlantic States Marine Fisheries Commission: <http://www.asmfmc.org>, NEFSC Stock Assessments: <http://www.nefsc.noaa.gov/saw/>