

## 2.2.2 Updated HAPC designations – Council preferred alternatives

### 2.2.2.1 Inshore juvenile cod HAPC

This alternative defines the inshore areas of the Gulf of Maine and Southern New England between 0-20 meters (MLLW) as an HAPC for juvenile cod.

**Rationale:** In 1999, the Council voted to approve this alternative and include it in the next appropriate fishery management plan amendment. The purpose of this HAPC was to recognize the importance of inshore areas to juvenile Atlantic cod.

#### Does HAPC address EFH Final Rule and Council criteria?

**Importance of Historic or Current Ecological Function (EFH Final Rule criteria) – Meets criterion:** These areas proposed for juvenile cod HAPC designation contain structurally complex rocky-bottom habitat that supports a wide variety of emergent epifauna and benthic invertebrates. This habitat type provides two key ecological functions for juvenile cod: increased survivorship and readily available prey.

**Sensitivity to Anthropogenic Stresses (EFH Final Rule criteria) – Meets criterion:** Due to their close proximity to human activities, inshore and nearshore areas are sensitive to anthropogenic stresses. Table 25 below describes eight types of potential chemical threats, 19 categories of potential physical threats and four types of potential biological threats to the four life history stages of Atlantic cod EFH, which are categorized as low, moderate or high threats (L, M and H, respectively) based on their geographic location (inshore and offshore). Some types and categories of potential chemical, physical and biological threats were unable to be characterized for this document and were assigned “U” (unknown). The categories were modified from a table in Amendment 13 to the Northeast Multispecies FMP developed by the New England Fishery Management Council (NEFMC 2003a). In general, the closer the proximity to the coast (i.e., close to pollution sources and habitat alterations) the greater the potential for impact.

**Extent of Current or Future Development Stresses (EFH Final Rule criteria) – Meets criterion:** The area faces existing and on-going development-related threats and planned or foreseeable development-related threat. Development-related threats may result from, but are not limited to, chemical, physical and biological impacts from the anthropogenic sources listed in Table 25.

**Rarity of the Habitat Type (EFH Final Rule criteria) – Does not meet criterion**

**Will improve the fisheries management in the EEZ (Council preference) – Meets criterion:** Recognition of the importance of critical inshore habitats which provide habitat for cod from settlement through the first autumn of life and overlaps seasonal habitat of age-1 juvenile cod. The area also bounds the critical nursery zone for early benthic stages of important juvenile habitat for some other groundfish.

**Include EFH designations for more than one Council-managed species (Council preference) – Meets criterion**

**Include juvenile cod EFH (Council preference) – Meets criterion:** Between 44% and 94% of the area includes juvenile cod depending on the option chosen and the EFH categories (no action or preferred alternative).

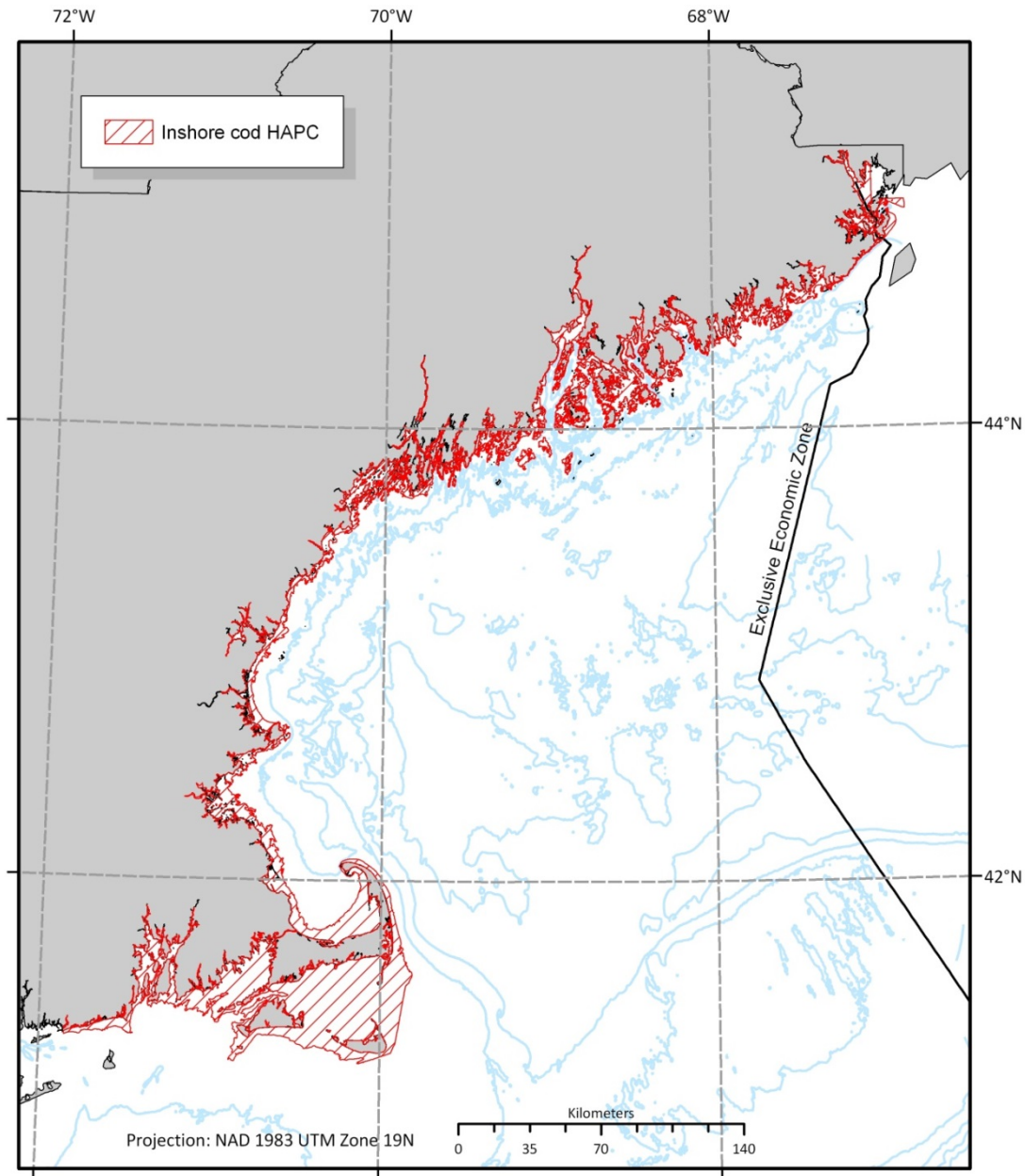
**Meet more than one of the EFH Final Rule HAPC criteria (Council preference) – Meets criterion:** Meets 3 of the criteria.

**Table 35 – Summary of potential inshore impacts of various non-fishing activities to Atlantic cod EFH by lifestage. Key: H = high, M = moderate, L = low, and U = unknown.**

<b>Potential Threats</b>	<b>Type</b>	<b>Eggs</b>	<b>Larvae</b>	<b>Juveniles</b>	<b>Adults</b>
PAH	Chemical	M	M	M	M
PCB	Chemical	M	M	M	M
Heavy Metals	Chemical	M	M	M	M
Nutrients	Chemical	M	M	M	M
Pesticides/Herbicides	Chemical	U	U	U	U
Acid	Chemical	M	M	M	L
Chlorine	Chemical	M	M	M	M
Greenhouse Gases	Chemical	U	U	U	U
Channel Dredging	Physical	M	M	M	M
Dredge and Fill	Physical	M	M	M	M
Dredge Material Disposal	Physical	H	M	M	M
Marina/Docks	Physical	M	M	M	L
Vessel Operation	Physical	M	L	L	L
Utility Lines/Pipelines	Physical	U	U	U	U
Oil/Gas Operations	Physical	M	M	M	M
Erosion/Flood Control Structures	Physical	U	U	U	U
Road Building/Maintenance	Physical	U	U	U	U
Dam Construction/Operation	Physical	U	U	U	U
Agriculture/Silviculture	Physical	U	U	U	U
Water Intake	Physical	M	M	L	L
Water Discharge	Physical	L	M	M	M
Sewage/Septic Discharge	Physical	M	M	M	M
Marine Mining	Physical	M	L	L	L
Salinity	Physical	L	L	L	L
Suspended Particles	Physical	M	M	M	L
Thermal	Physical	M	M	M	L
Dissolved Oxygen	Physical	M	M	M	M
Exotic Species	Biological	U	U	U	U
Pathogens	Biological	U	U	U	U
Aquaculture Operations	Biological	U	U	U	U

Potential Threats	Type	Eggs	Larvae	Juveniles	Adults
Plankton Blooms	Biological	U	U	U	U

**Map 108 – Inshore Juvenile Cod HAPC**



#### 2.2.2.2 Great South Channel juvenile cod HAPC

This alternative defines a portion of juvenile cod EFH covering the Great South Channel region as an HAPC.