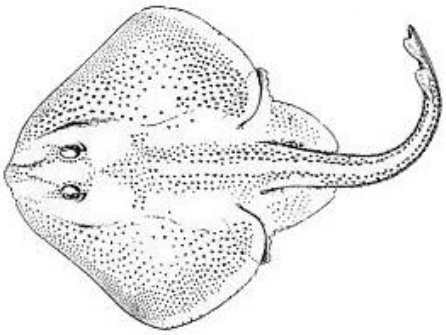
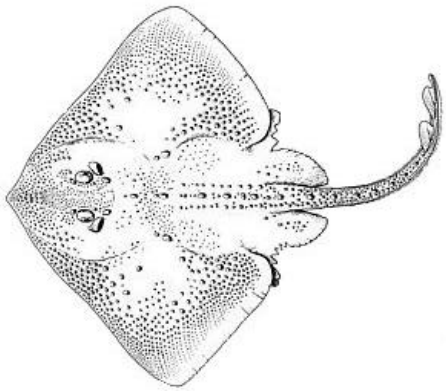
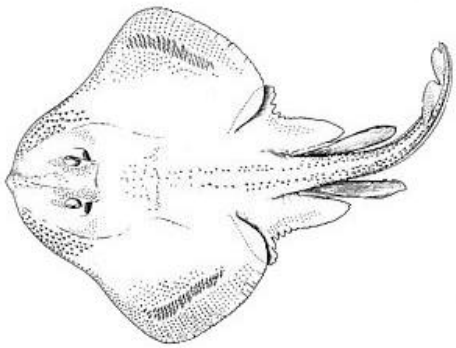
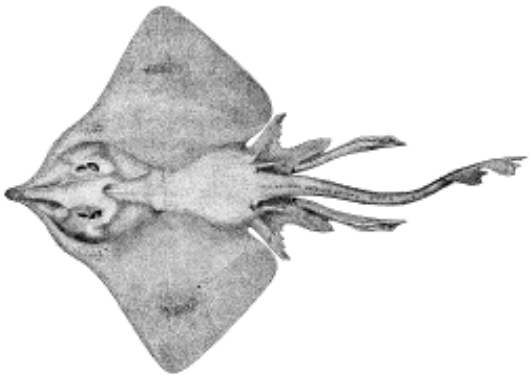
# VOLUME I – ERRATA





## FINAL
## Fishery Management Plan (FMP)
## for the Northeast Skate Complex





# ERRATA

**Prepared by the**

**New England Fishery Management Council**

**in consultation with**

**National Marine Fisheries Service**

Date: Errata Submitted March 28, 2003

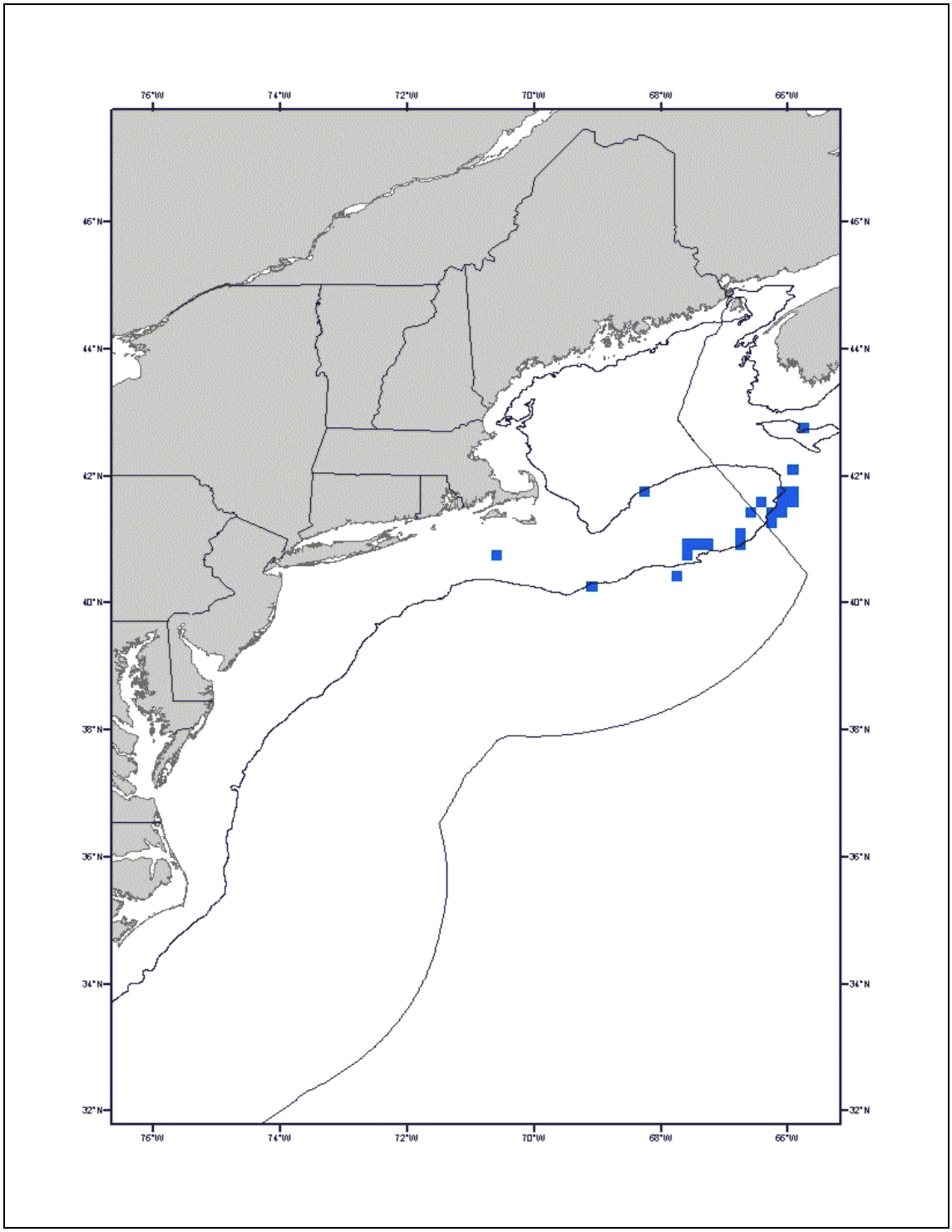
The following corrections are presented for Volume I of the Skate FMP.

### 4.6.2.4 Maps of EFH Designations

**Replace Figure 1 – Figure 14 (pp. 50 – 63) in Section 4.6.2.4, Volume I of the Skate FMP with the following figures.**

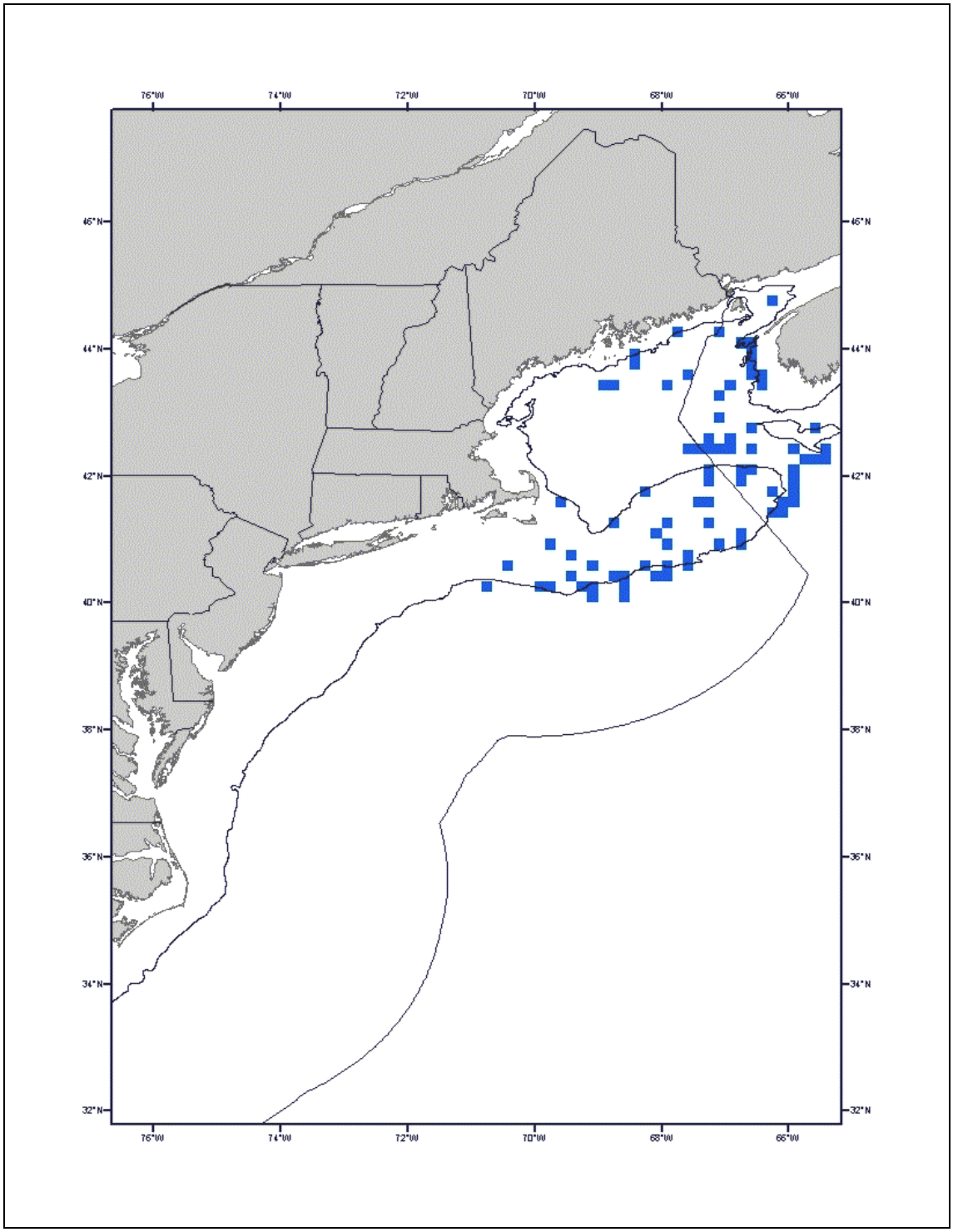
*Intentionally Blank.*

**Figure 1 Barndoor Skate EFH Juvenile (100%)**



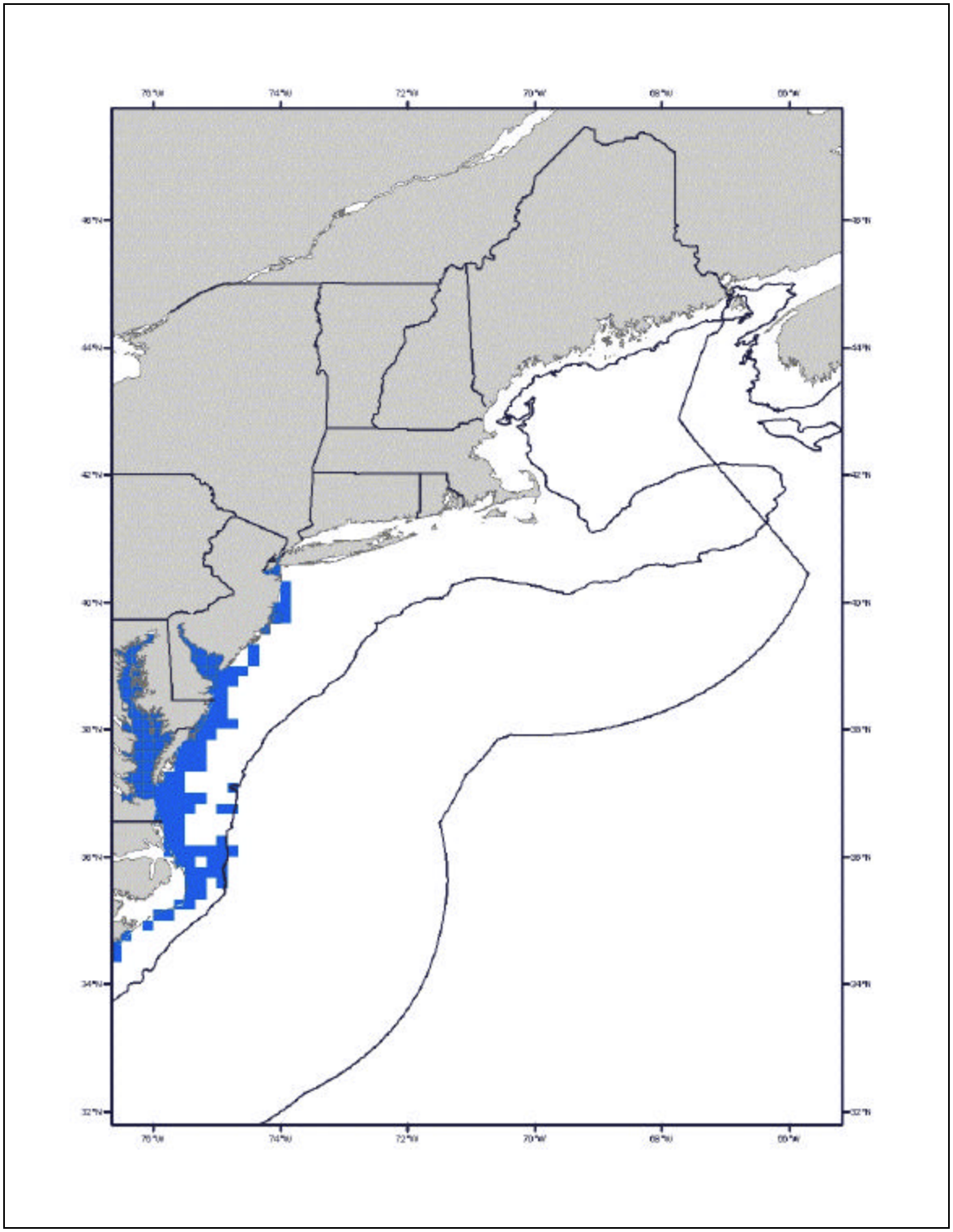

This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999). **Only the shaded squares in U.S. waters represent the EFH designation.** Only bottom habitats with mud, gravel, and sand substrates that occur within the shaded areas in U.S. waters are designated as EFH. This represents 100% of the observed range of this life stage.

**Figure 2 Barndoor Skate EFH Adult (100%)**



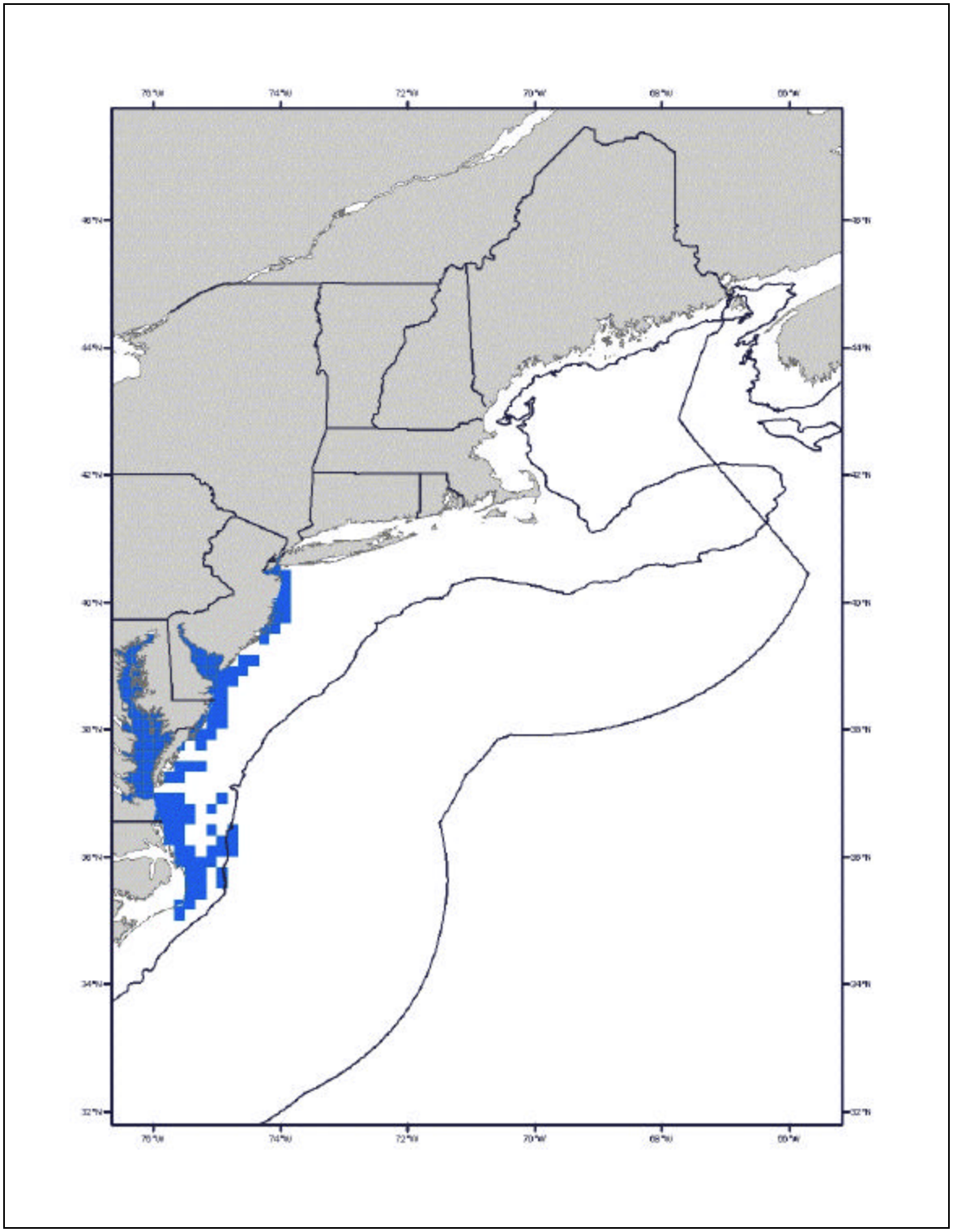

This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999). **Only the shaded squares in U.S. waters represent the EFH designation.** Only bottom habitats with mud, gravel, and sand substrates that occur within the shaded areas in U.S. waters are designated as EFH. This represents 100% of the observed range of this life stage.

**Figure 3 Clearnose Skate EFH Juvenile (90%)**



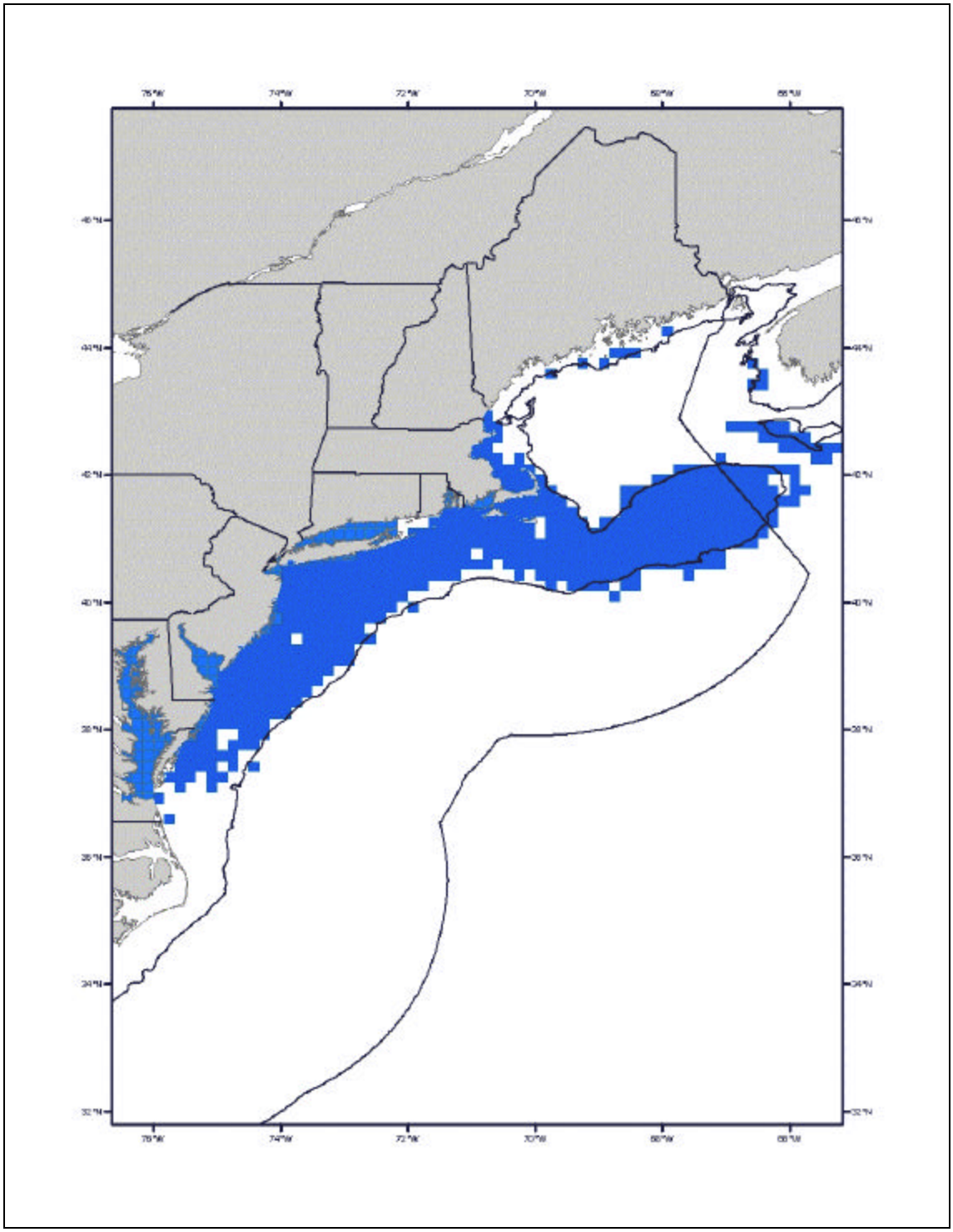
This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999) and ELMR data presented in Table 5. Only habitats with soft bottom, rocky or gravelly substrates that occur within the shaded areas are designated as EFH. This represents 62% of the observed range of this life stage.

**Figure 4  Clearnose Skate EFH Adult (90%)**



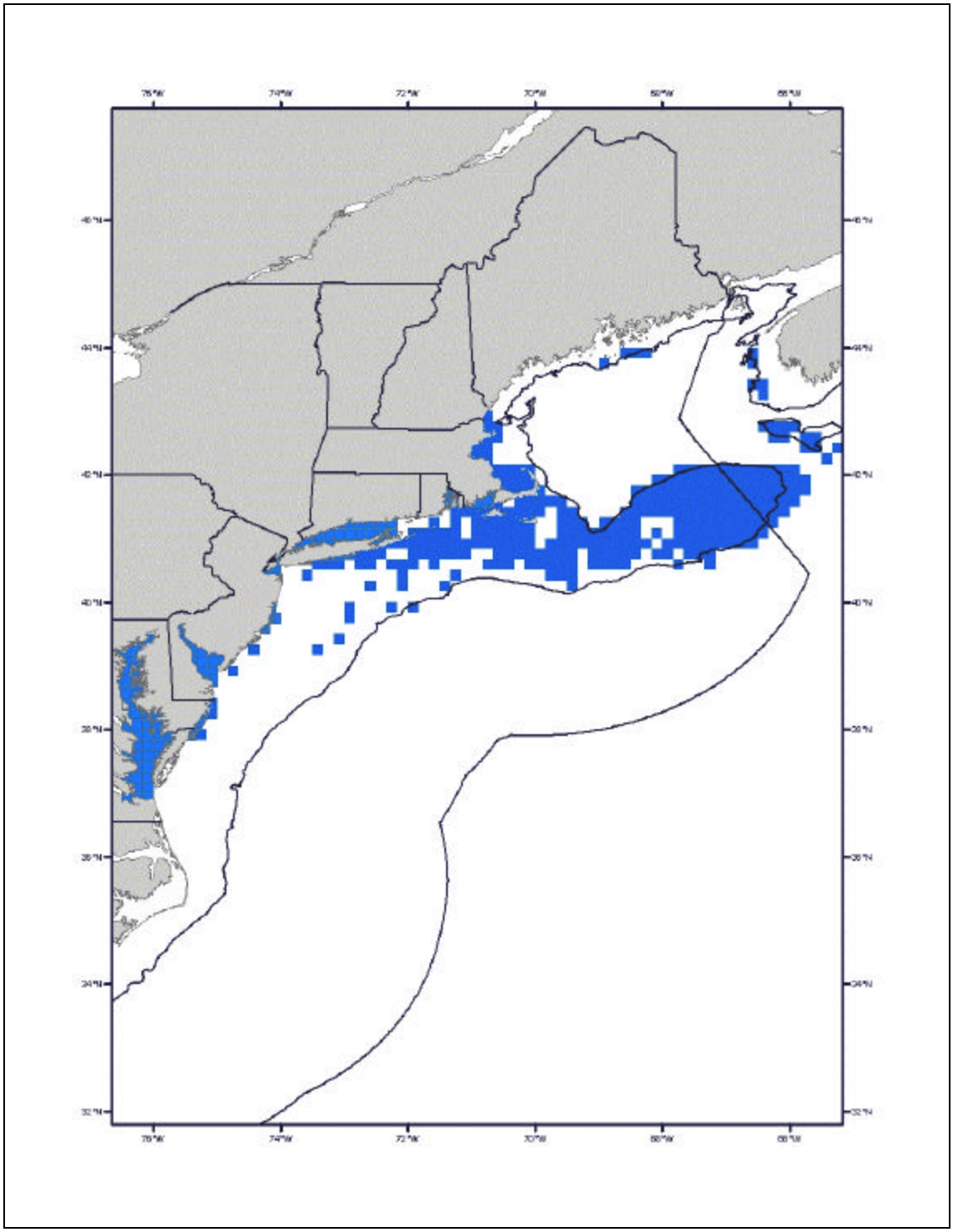
This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999) and ELMR data presented in Table 5. Only habitats with soft bottom, rocky or gravelly substrates that occur within the shaded areas are designated as EFH.  This represents 67% of the observed range of this life stage.

**Figure 5 Little Skate EFH Juvenile (90%)**



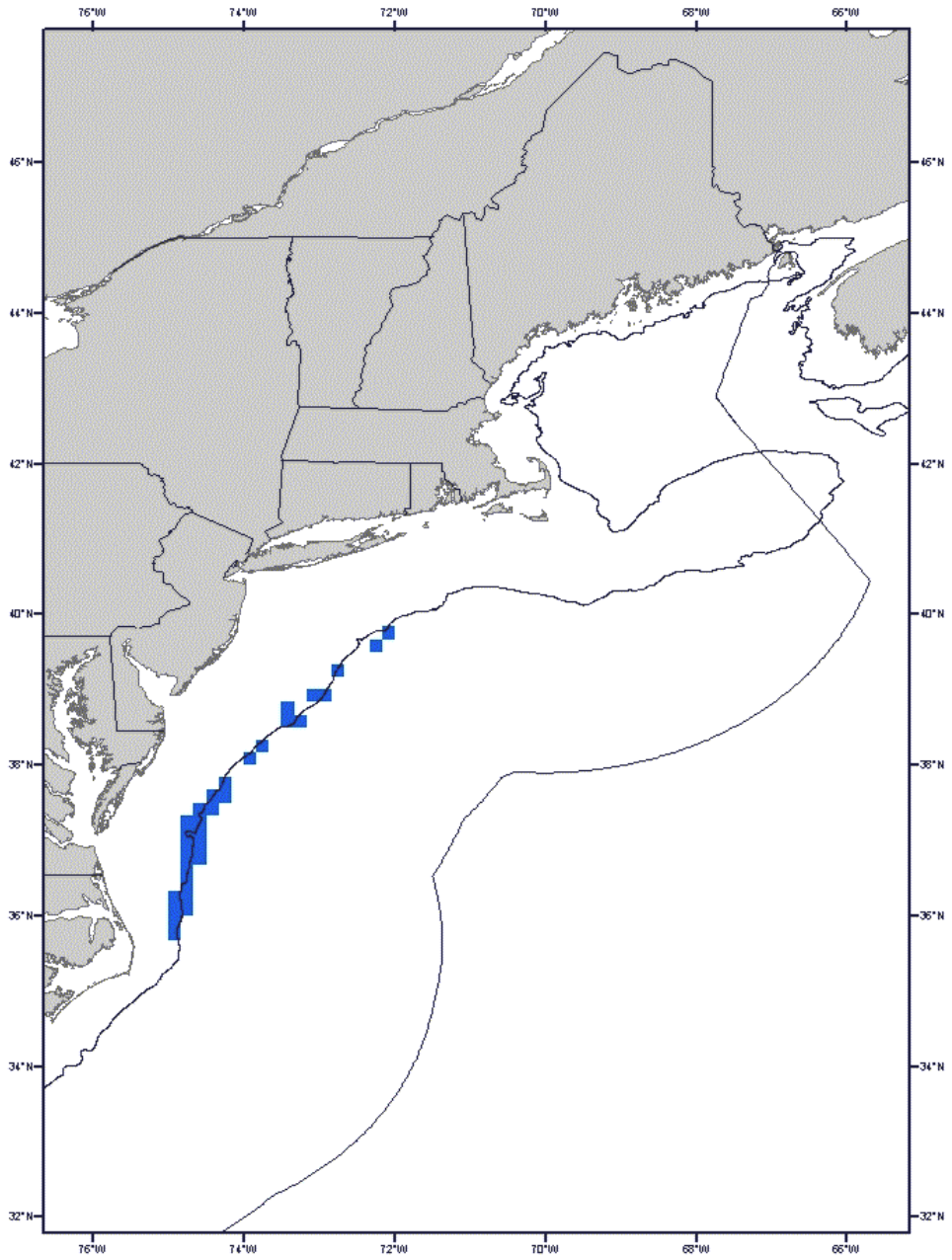
This map represents an option for the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999) and ELMR data presented in Table 5. **Only the shaded squares in U.S. waters represent the EFH designation.** Only habitats with sandy, gravelly, or mud substrates that occur within the shaded areas in U.S. waters are designated as EFH. This represents 58% of the observed range of this life stage.

**Figure 6 Little Skate EFH Adult (90%)**



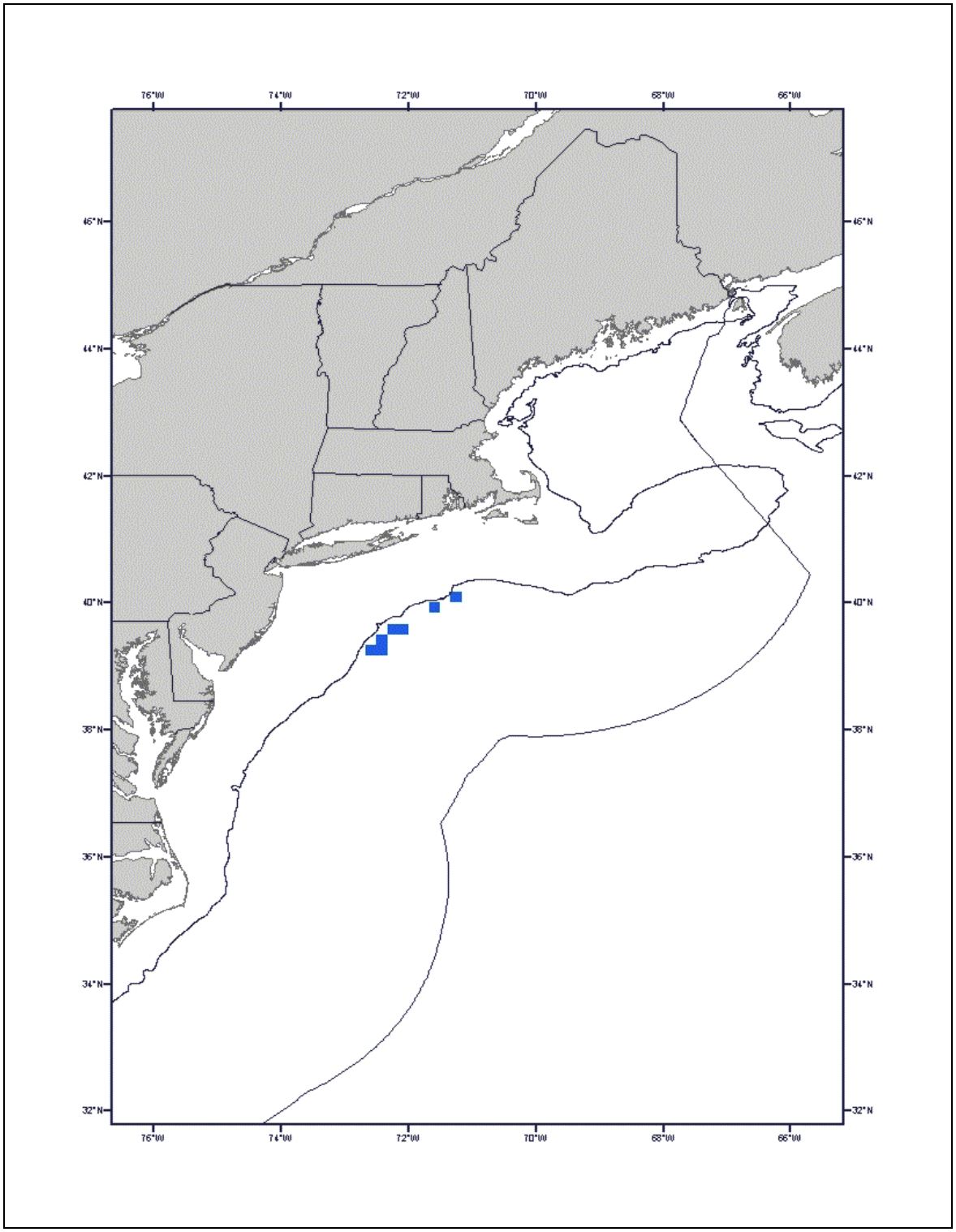
This map represents an option for the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999) and ELMR data presented in Table 5. **Only the shaded squares in U.S. waters represent the EFH designation.** Only habitats with sandy, gravelly, or mud substrates that occur within the shaded areas in U.S. waters are designated as EFH. This represents 57% of the observed range of this life stage.

**Figure 7 Rosette Skate EFH Juvenile (90%)**



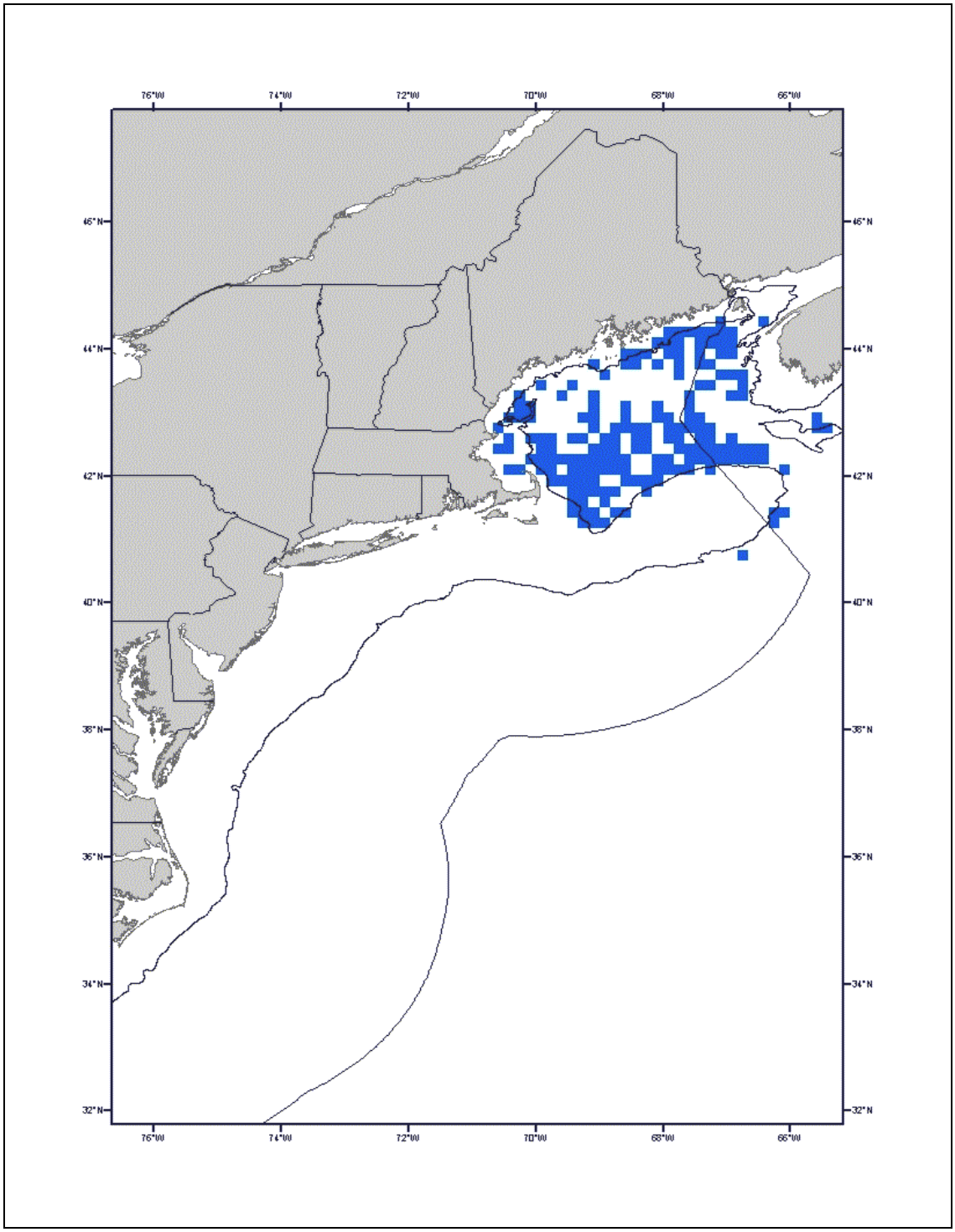

This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999). Only habitats with a soft substrate, including sand/mud bottoms, mud with echinoid and ophuiroid fragments, and shell and pteropod ooze that occur within the shaded areas are designated as EFH. This represents 63% of the observed range of this life stage.

**Figure 8 Rosette Skate EFH Adult (90%)**



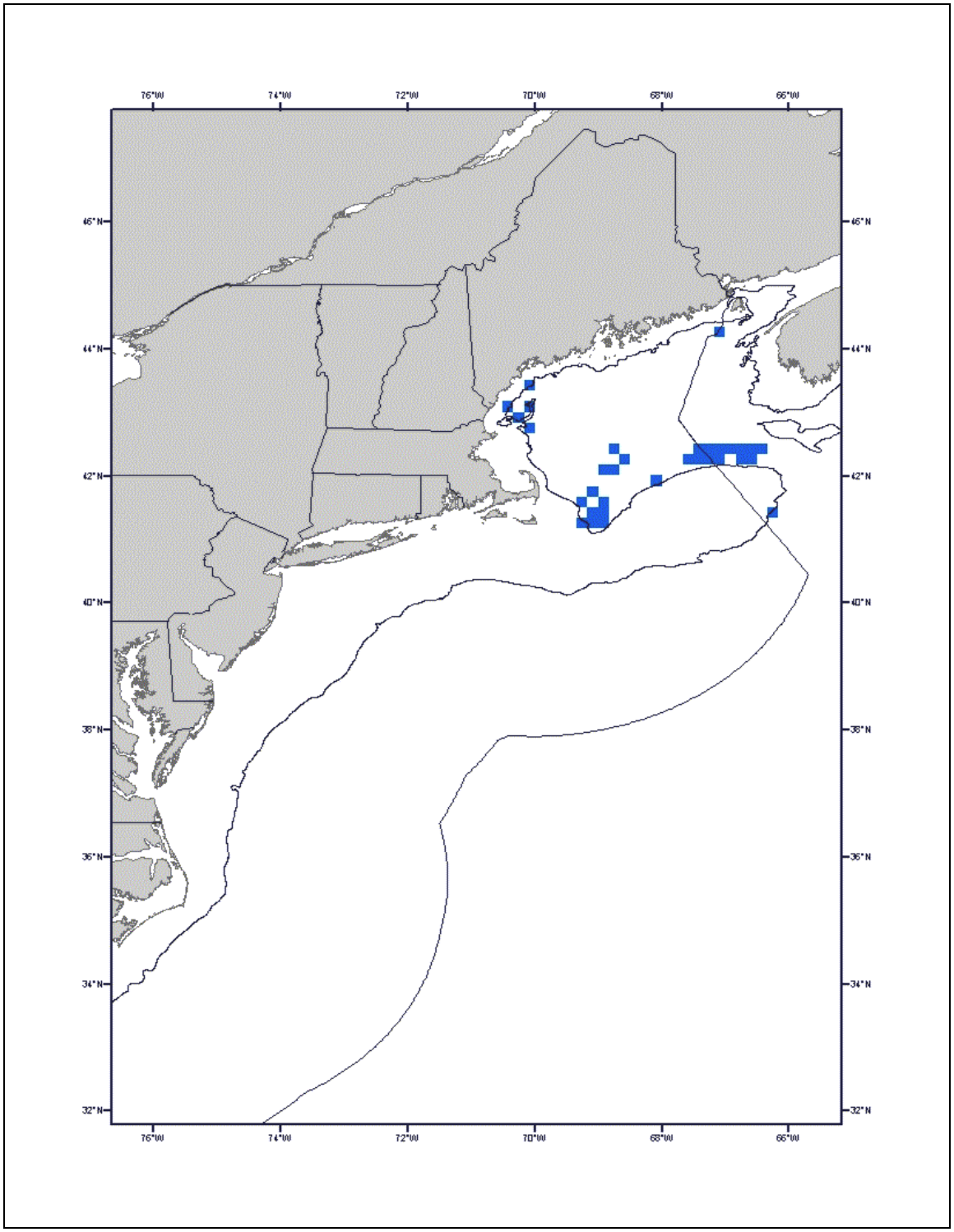

This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999). Only habitats with a soft substrate, including sand/mud bottoms, mud with echinoid and ophuiroid fragments, and shell and pteropod ooze that occur within the shaded areas are designated as EFH. This represents 70% of the observed range of this life stage.

**Figure 9 Smooth Skate EFH Juvenile (90%)**



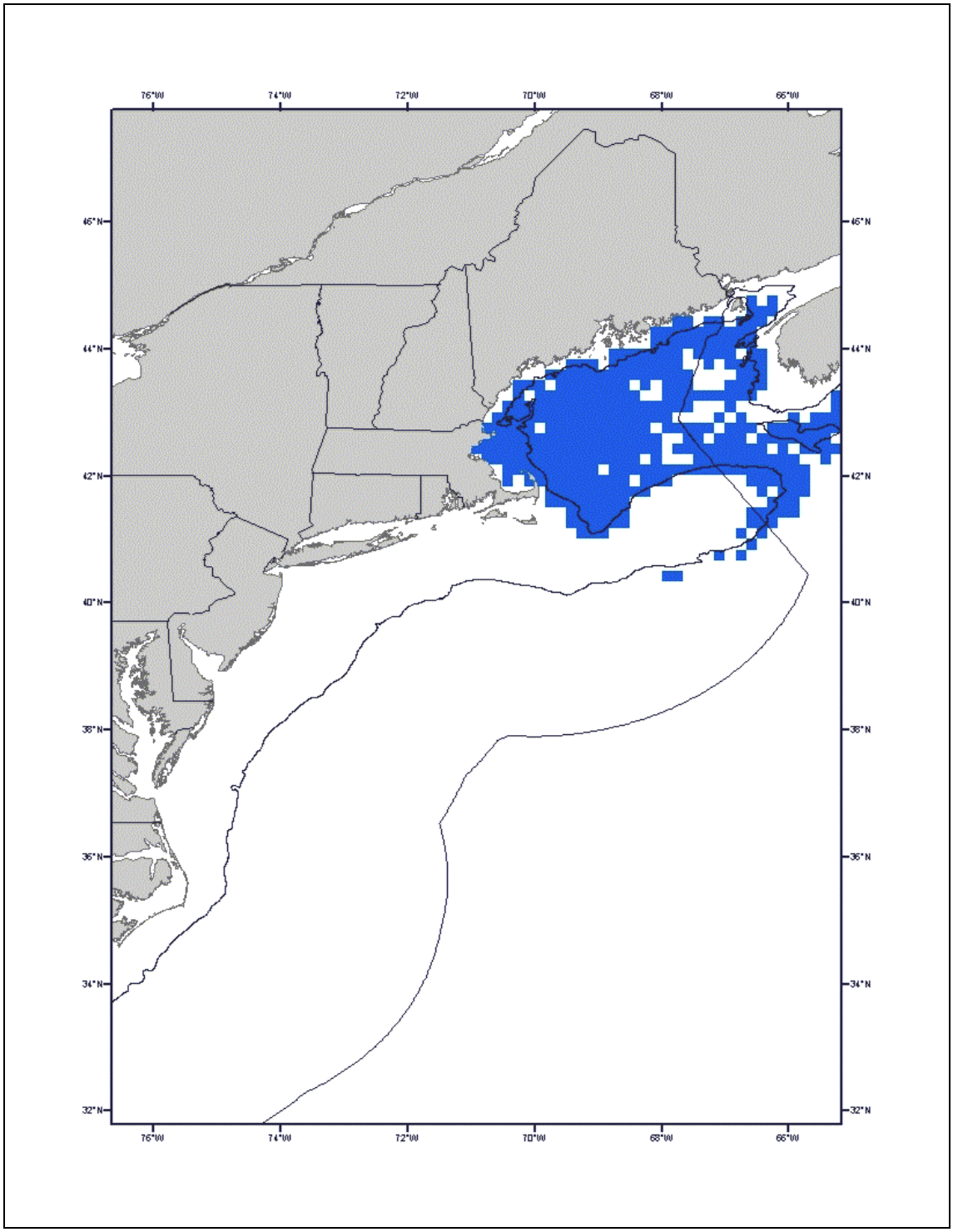

This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999). **Only the shaded squares in U.S. waters represent the EFH designation.** Only habitats with a substrate of soft mud and also on sand, broken shells, gravel and pebbles that occur within the shaded areas in U.S. waters are designated as EFH. This represents 63% of the observed range of this life stage.

**Figure 10 Smooth Skate EFH Adult (90%)**



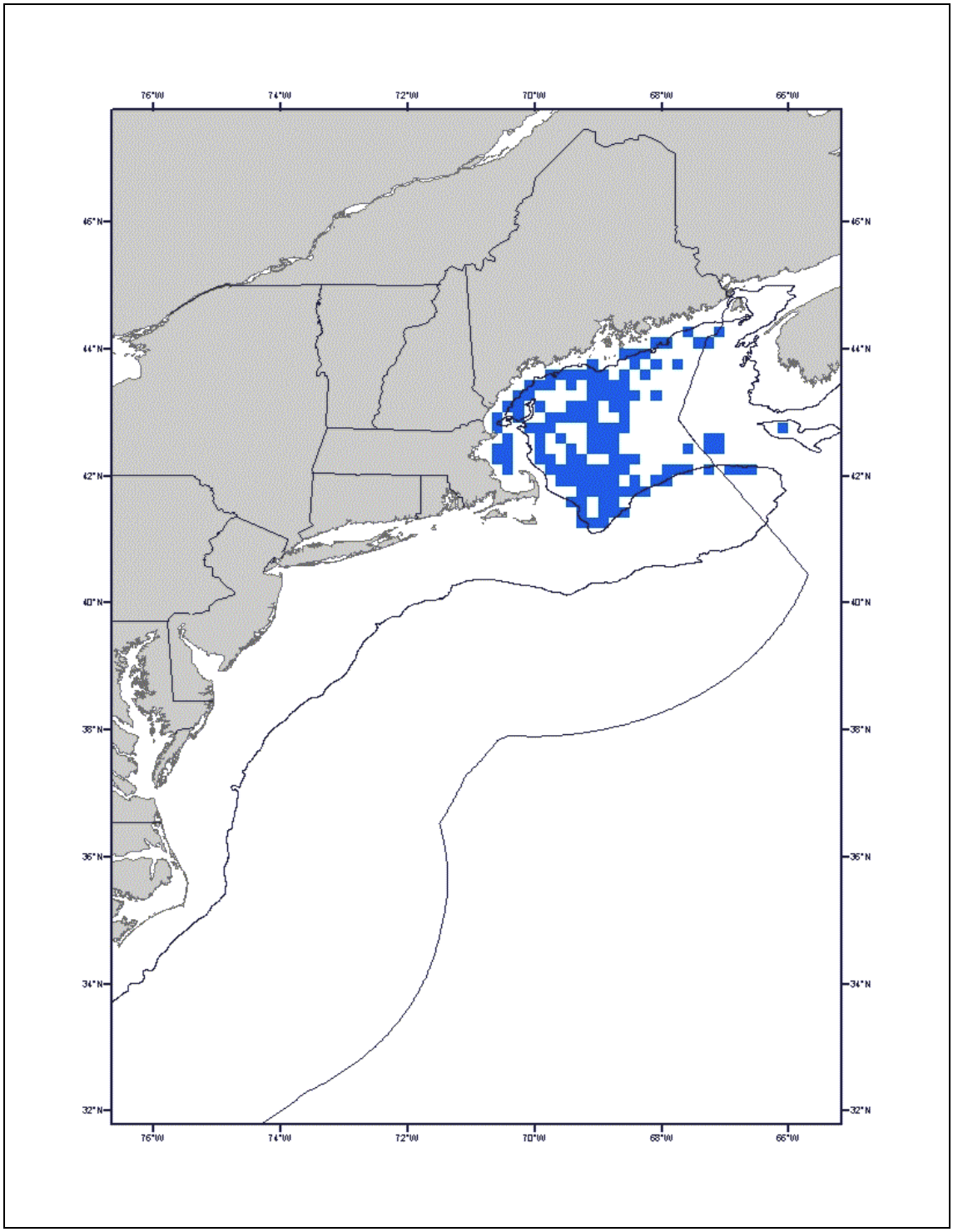

This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999). **Only the shaded squares in U.S. waters represent the EFH designation.** Only habitats with a substrate of soft mud and also on sand, broken shells, gravel and pebbles that occur within the shaded areas in U.S. waters are designated as EFH. This represents 70% of the observed range of this life stage.

**Figure 11 Thorny Skate EFH Juvenile (90%)**



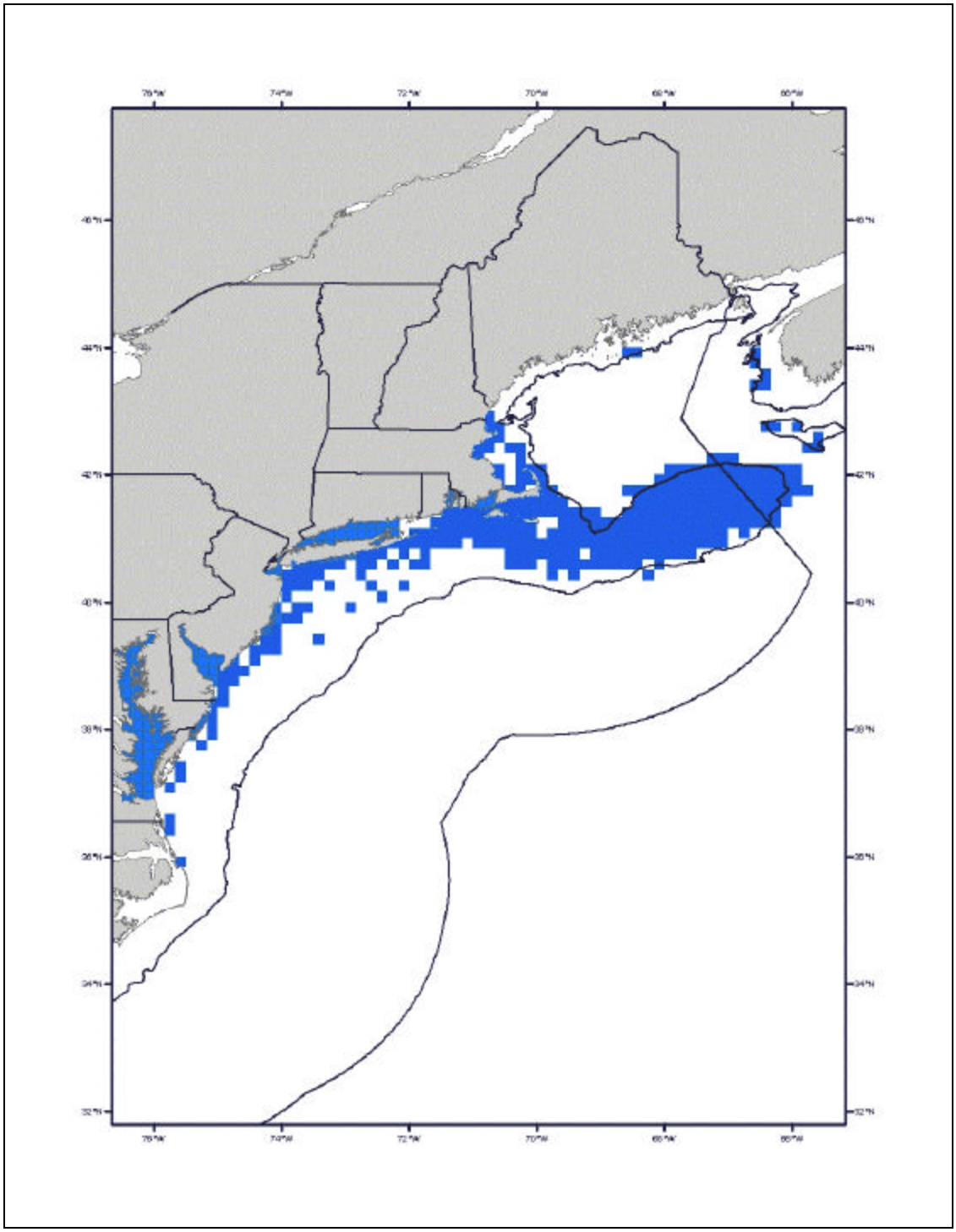

This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999). **Only the shaded squares in U.S. waters represent the EFH designation.** Only habitats with a substrate of sand, gravel, broken shell, pebbles, and soft mud that occur within the shaded areas in U.S. waters are designated as EFH. This option represents 66% of the observed range of this life stage.

**Figure 12 Thorny Skate EFH Adult (90%)**



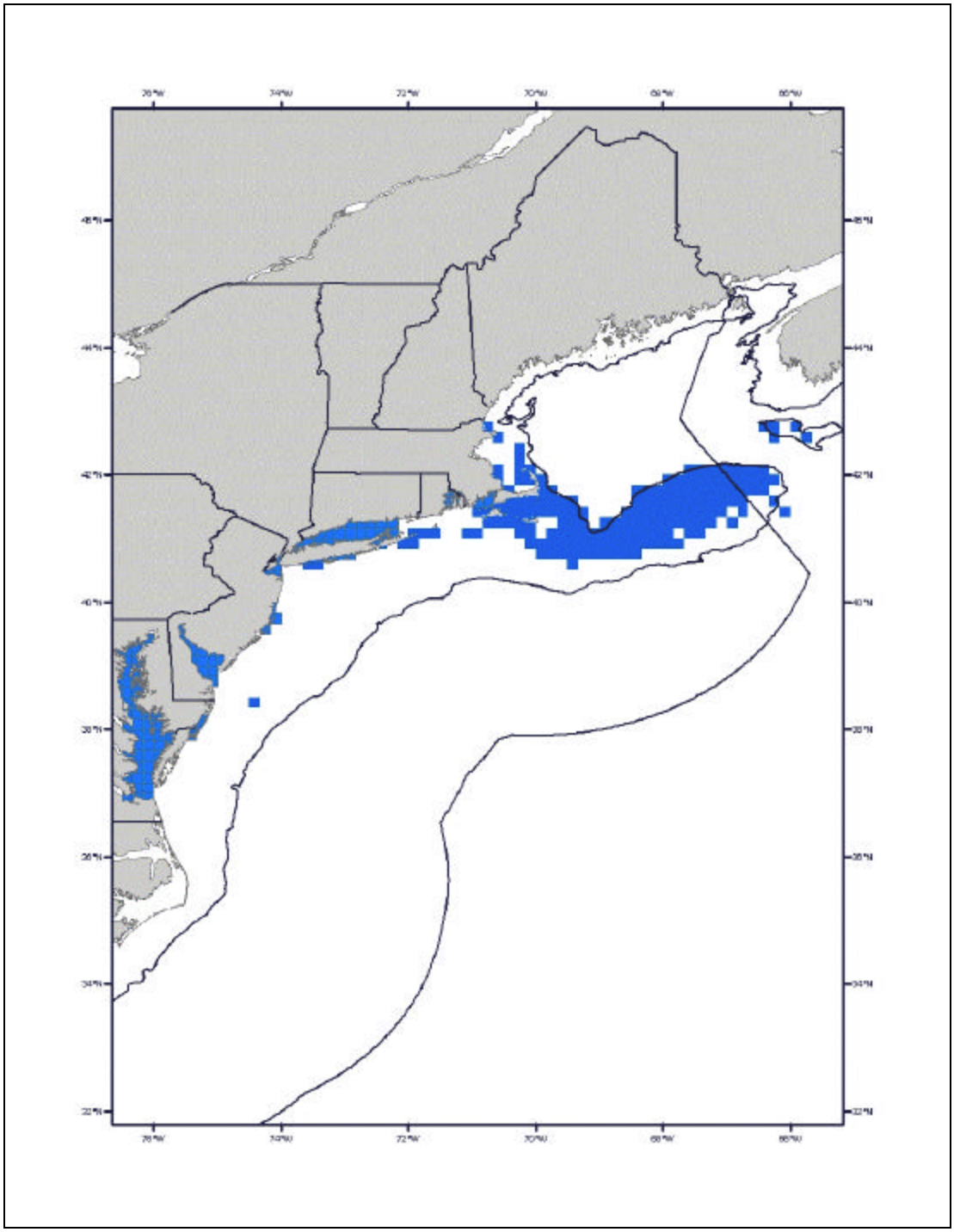

This map represents for the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999). **Only the shaded squares in U.S. waters represent the EFH designation.** Only habitats with a substrate of sand, gravel, broken shell, pebbles, and soft mud that occur within the shaded areas in U.S. waters are designated as EFH. This represents 66% of the observed range of this life stage.

**Figure 13 Winter Skate EFH Juvenile (90%)**



This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999) and ELMR data presented in Table 5. **Only the shaded squares in U.S. waters represent the EFH designation.** Only habitats with a substrate of sand and gravel or mud that occur within the shaded areas in U.S. waters are designated as EFH. This represents 48% of the observed range of this life stage.

**Figure 14 Winter Skate EFH Adult (90%)**



This map represents the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999) and ELMR data presented in Table 5. **Only the shaded squares in U.S. waters represent the EFH designation.** Only habitats with a substrate of sand and gravel or mud that occur within the shaded areas in U.S. waters would be designated as EFH. This represents 44% of the observed range of this life stage.

### 4.6.3 Review Process for Changes to the Measures to Minimize Adverse Effects of Skate Fishing on EFH

In Section 4.6.3 (p. 64-65), the following changes are made:

**The first paragraph of Section 4.6.3 (p. 64) is revised to read as follows:**

This FMP establishes a process for reviewing significant changes to the measures to minimize adverse effects of skate fishing on essential fish habitat as implemented by Amendment 13 to the Northeast Multispecies Plan. It has been determined that: 1. The Skate fishery is prosecuted predominantly under the Multispecies Fishery and 2. Skate fishing may adversely affect essential fish habitat. Because these adverse impacts are not minimized directly within the Skate FMP and are instead linked to the measures to minimize adverse impacts from groundfishing on EFH in Amendment 13 to the Northeast Multispecies FMP, it is necessary to establish a review process within the Skate FMP that anticipates and corrects any changes to the Multispecies FMP in the future that would result in the adverse impacts from skate fishing to no longer be minimized to the extent practicable. This approach establishes a concrete link between skates and management measures in the multispecies fishery that impact skates. Significant changes are defined as those that make measures less restrictive and/or substantially change the nature and scope of the measures in question (examples include but are not limited to changes to closed area boundaries and changes in fishing effort on bottom habitats). Changes that will further minimize the adverse effects of skate fishing without substantially changing the nature and scope of the measures will not be subject to the following review.

**The outline on p. 64-65 at the end of Section 4.6.3 is revised to read as follows:**

The following outline summarizes the process described above.

**I.** Council initiates action in another FMP that significantly changes and/or makes less restrictive skate EFH protection;

**II.** EFH Technical Team reviews proposed changes to the measures and assess potential impacts on skate EFH or impacts to EFH from the skate fishery;

**III.** If necessary, EFH Technical Team develops recommendations for Council consideration to address adverse impacts on EFH by the skate fishery within the context of the triggering action (if time permits, the EFH Technical Team will forward its recommendations to the Habitat and Multispecies Oversight Committees for consideration prior to the full Council);

**IV.** Council finalizes action to change the measure(s), including considerations for protecting essential fish habitat, as necessary; the Council will not make any final decisions on the triggering action until the EFH Technical Team has completed its review of the potential impacts on the ability to minimize adverse effects on skate EFH or impacts to EFH from the skate fishery and forwarded its recommendations to the Habitat and Multispecies Committees and/or the full Council.

### 4.16.2 Review Process for Changes to the Baseline Measures

**The outline at the bottom of p. 95 in Section 4.16.2 is revised to read as follows (the numbering in the following outline was incorrect in the original FMP document):**

**I.** Council initiates action in another FMP that significantly changes and/or makes less restrictive one or more baseline measures identified in Section 4.16.1 of this document;

**II.** Skate PDT reviews proposed changes to the baseline measures and assess potential impacts on the rebuilding of overfished skate species;

**III.** If necessary, Skate PDT develops recommendations for Council consideration to address skate rebuilding concerns within the context of the triggering action (if time permits, the Skate PDT will forward its recommendations to the appropriate species committee for consideration prior to the full Council);

**IV.** Council finalizes action to change the baseline measure(s), including considerations for rebuilding skates, as necessary; the Council will not make any final decisions on the triggering action until the Skate PDT has completed its review of the potential impacts on rebuilding skates and forwarded its recommendations to the appropriate species committee and/or the full Council.

## 6.4 IMPACTS ON PROTECTED SPECIES
### 6.4.1 Background
### 6.4.2 Impacts of the Skate FMP Options
### 6.4.3 ESA Conclusions

**The following language should be inserted at the beginning of Section 6.4.3 (bottom of p. 224), prior to the paragraph entitled, *Right Whale*:**

***General Statement Concerning the Directed Skate Fishery***

Although the directed skate fishery has been prosecuted for numbers of years, it has not been previously considered in any ESA Section 7 consultation because of its unregulated status. (The wing fishery is largely undertaken in conjunction with the multispecies and monkfish fisheries.) Therefore, the directed fishery will be discussed overall with respect to ESA-listed species and prior to the discussion of listed species discussed individually below.

As mentioned earlier in this section, almost all skates harvested in the directed fishery are used for lobster bait and are taken by otter trawls. Gillnet vessels account for a very small percentage of skate landings but they also sell skates for bait if they are caught incidentally as boats target monkfish. Volume II of the Skate FMP (Section 3.1.1 - The Skate Bait Fishery) notes the directed bait fishery is dominated by between 30 - 50 Rhode Island vessels, while a smaller number of vessels from other Southern New England ports also participate in the fishery. Effort increases seasonally from spring through October, a period when a number of endangered species generally become more prevalent in New England waters.

While negative impacts to ESA-listed cetaceans may be mitigated by the requirements for gillnets in the ALWTRP and the HPTRP, there are potential issues related to the directed otter trawl fishery and impacts to vulnerable species such as sea turtles. As has been documented, the possibility of interactions between cetaceans and otter trawl gear does exist given the overlap of the fishery and species distribution, but to date, takes are infrequent and the gear type (referred to as North Atlantic bottom trawl) has consistently been placed in Category III in the NMFS List of Fisheries prepared under the auspices of the MMPA.

Such plans do not exist for sea turtles and they are vulnerable to trawl gear as evidenced by interactions in the summer flounder, shrimp trawl and *Loligo* squid fisheries. Most of these occurrences, however, have been documented in the Mid-Atlantic where turtles are distributed over larger areas and in higher numbers than in New England waters. Despite the takes in other trawl fisheries, few if any reported or observed incidental takes of sea turtles have occurred in otter trawls targeting multispecies, the same gear type used in the skate fishery. With the latter statement, it should be noted that observer coverage of the multispecies fishery has generally been low and the directed skate fishery has not been subject to any observer coverage because of its unregulated status.

Given the information available at this time --- that several species of sea turtles could occur in the action area in the same season the fishery is prosecuted, interactions with gear used in the directed fishery are a possibility. Coupled with few documented takes in the gear type used in

the fishery and the relatively low numbers of animals in New England waters, however, potential threats to sea turtles are likely minimal when considered with the factors currently affecting the operation of the fishery itself.

As a fleet operating with gear capable of catching multispecies, participants in the directed skate fishery will be required to use a day-at-sea when targeting skates unless they are fishing in the exempted skate fishery area. It is important to note that the area in which the directed skate fishery operates is outside of that area now exempted from the multispecies regulations, such as DAS allocations. DAS allocations for most multispecies vessels have been reduced from a fleet average of 88 to 70 days-at-sea or less as the result of a recent court ruling. Under the new rules, directed effort in the skate fishery is likely to decrease from previous levels as limited DAS are used to target more highly valued species as compared to skates.

A secondary, but no less important factor that currently affects the directed skate fishery is the decline of the Southern New England lobster resource. The Atlantic States Marine Fisheries Commission is considering extreme management measures to address extraordinarily low catch levels, and the Long Island Sound fishery has been devastated by the presence of shell diseased lobsters. Given the ongoing preference for herring as bait in the Gulf of Maine and the downsizing of the Southern New England lobster fishery, the demand for bait is almost certain to decline accordingly, resulting in major impacts on the directed skate fishery which supplies the lobster bait market in this region.

In summary, interactions between the directed skate fishery and ESA-listed species and other protected species are possible. However, any interactions are not likely to increase or adversely affect ESA-listed species beyond a level that has already been considered in the closely associated managed fisheries which have been subject to Section 7 consultations in the recent past.

## 7.2 PHYSICAL ENVIRONMENT
### 7.2.1 Threats to Habitat
#### 7.2.1.1 Fishing-Related Threats

**The "Bait Fishery" discussion in Section 7.2.1.1 (beginning at the bottom of p. 298) is revised to read as follows:**

*Bait Fishery*

Because of the differences between the bait fishery and the wing fishery, the potential impacts to habitat will be considered separately. Although the bait fishery is smaller than the wing fishery (less than 40% of total skate landings), it is almost entirely a directed fishery for skates, so this has more significant implications from a habitat perspective. As noted above, most bait landings go to ports in Rhode Island. Most skate landings come from statistical areas 539 and 537, off Rhode Island. Although the vessel trip reports cannot be used to differentiate areas fished for bait versus wings, industry reports and information from the state of Rhode Island suggests that almost all bait landings come from these two statistical areas.

In 1999, 120 vessels were responsible for approximately 1,300 trips, with 21 vessels landing about 80% of the directed skate bait fishery. The directed skate bait fishery is not expected to cause adverse impacts to EFH that are more than minimal and not temporary in nature because the majority of this activity occurs in Statistical Areas 539 and 537 in federal waters less than 40 fathoms. Thus, the majority of the fishery is taking place on predominantly high-energy sand, inshore of the "mud hole" shown in Figure 89. Additionally, comparisons can be made of the VTR trip data for this area (shown in Volume III, Appendix B). It appears that the ten-minute squares directly south of Rhode Island to about 40 fathoms are very heavily fished by otter trawls (top 50%) as well as hydraulic clam dredges, so this directed fishery of about 1,300 trips per year may be insignificant in terms of impacts to the bottom.

Skates landed as bait are harvested using a variety of fishing gears including pelagic longlines, pots and traps, seines, scallop dredges, hook and line, and gillnets, but most (94.4%) bait landings from 1995 - 1999 were harvested using otter trawls. Gillnets accounted for 3% of 1995-1999 landings. The remaining gear types, including unknown gear, collectively accounted for approximately 2.5% of bait landings. This information suggests that otter trawls are the fishing gear type of most significance in assessing any potential impacts to habitat associated with the skate bait fishery.

A recent workshop intended to review available information on the effects of fishing in the Northeastern U.S. considered the likely effects of various fishing gears on gravel, sand, and mud habitats (NREFHSC 2002, provided as Appendix C in Volume III of this FMP). The order of priority for concern over potential adverse impacts to benthic habitats suggests that impacts to gravel are the highest priority, impacts to sand are the second priority, and impacts to mud are the third priority (of three). A more detailed examination of concern by both sediment type and gear type reveals the following priority list: (1) otter trawls in gravel; (2) scallop dredges in gravel; (3) otter trawls in mud; (4) scallop dredges in sand; (5) clam dredges in sand; (6) otter trawls in sand; (6) nets and lines in gravel [*a tie*]; and (8) pots and traps in mud.

Figure 89 displays sediment type information for statistical areas 539 and 537. As indicated in Figure 89, almost all of this area is either sand or a composite of sand, silt and clay. The rest of the area is comprised of a few small areas of gravely sand. Gravely sand, a sediment category as defined by Poppe *et al*. (1989), may have a higher relative "importance" as a substrate for biogenic structure than less complex substrates such as Sand, Mud or Muddy Sand. It may not be as "important" as substrates such as Gravel and Bedrock.

Based on the above information, it seems unlikely that there would be any impacts to habitat associated with the directed skate bait fishery that would be of concern. Almost the entire bait fishery is constrained to two statistical areas, thus this fishery is not widespread around the New England and/or Mid-Atlantic region, and although the fishery is primarily prosecuted using otter trawl gear, the area in which the fishery occurs is comprised of habitat types that are believed to be among the least vulnerable to fishing gear activity (see Figure 89).

In their assessment of the effects of fishing activity on marine habitats of the northeastern United States (provided in Volume III, Appendix B), NMFS (2002) summarizes studies of the impacts and recovery associated with bottom otter trawls done in the Northeast Region on similar sand/silt/clay habitats. This summary reports that much of the associated disturbance is from "wake turbulence rather than direct physical contact of the net with the bottom." The summary indicates that the most notable evidence of the passage of the trawl is from the tracks made by the trawl doors. They also report that these tracks "were soon obscured by tidal currents." The report concludes that the tracks did not cause habitat loss (NMFS 2002).

Barnette (2001) also evaluates the potential impacts of various fishing gears on marine habitats, including otter trawls. Barnette concludes that the magnitude of trawling disturbance is highly variable and the ecological effect of trawling depends upon site-specific characteristics such as bottom type, water depth, community type, gear type, as well as the intensity and duration of trawling and natural disturbance. He also concludes that "trawls have a minor overall physical impact when employed on sandy and muddy substrates" (Barnette 2001).

Recent work by Collie et al. (2000) indicates that although a clear ranking for expected impacts did not emerge, responses to bottom-tending mobile gear in sand habitats were usually less negative than in other habitat types (such as gravel, mud, or biogenic). Collie et al. (2000) also suggests that primarily sandy habitats tend to recover from the effects of fishing-related disturbance much quicker than other habitat types. Work done by DeAlteris et al. (1999) on a nearby area around the mouth of Narragansett Bay concludes that the effects of trawling are less significant in shallow sand habitats than in deeper mud habitats, in part due to the differences in the frequency and intensity of natural disturbances in different habitats.

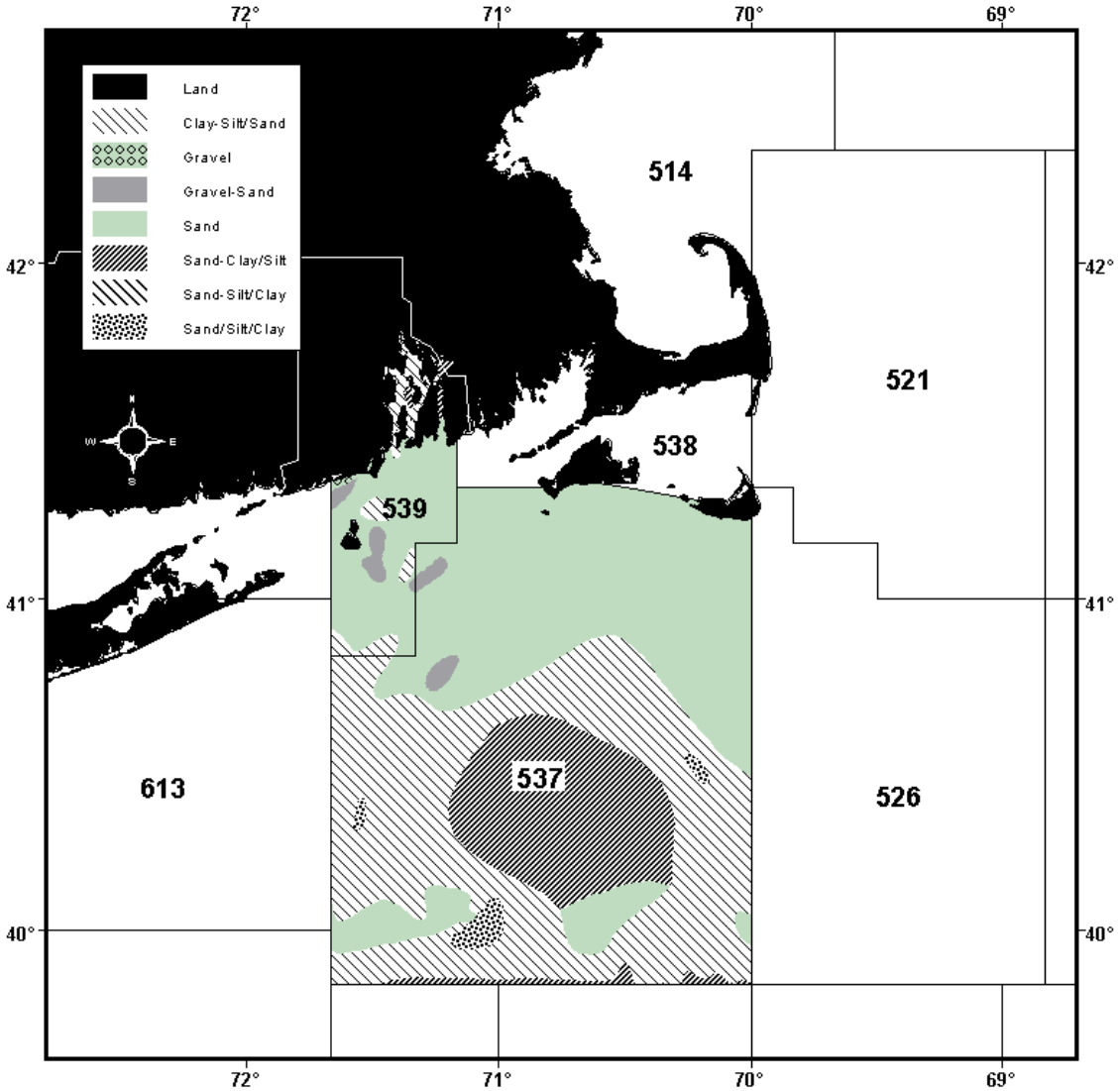
As noted above, the most used gear type in this fishery after the otter trawl is the gillnet. Although all types of fishing gear that come in contact with the bottom have some degree of effect on benthic habitats, static gear such as gillnets are generally considered to have relatively insignificant effects on habitat compared with the bottom-tending mobile gears (Barnette 2001; NMFS 2002; NREFHSC 2002). Some of the other gear types used in this fishery (e.g., scallop

dredges) may be associated with adverse impacts, but the scope of this gear use is much, much smaller than otter trawls and gillnets and will not be considered further.

Based on this information, the directed skate bait fishery is not expected to cause adverse impacts that are more than minimal and not temporary in nature on any areas designated as EFH for any species. Since the effects of the directed skate bait fishery do not exceed the threshold for an adverse effect established in the EFH Final Rule (67 FR 2343), consideration of management measures to minimize, avoid, or otherwise mitigate these effects are not necessary in this FMP.

**Figure 89 Sediment Types with Principal Bait Fishing Areas**

*The sediment type information is based on Poppe et al. 1989.*




*Note that the majority of all bait fishing occurs in Statistical Areas 539 and 537, in federal waters less than 40 fathoms (predominantly sand).*

**There are no additional corrections to Section 7.2.1.1.**