Appendix III
Fishery Descriptions

This appendix is broken into two parts: Part A describes commercial fisheries that have documented interactions with marine mammals in the Atlantic Ocean; and Part B describes commercial fisheries that have documented interactions with marine mammals in the Gulf of Mexico. A complete list of all known fisheries for both oceanic regions, the 2013 List of Fisheries, is published in the *Federal Register*, (78 FR 53336;August 29, 2013). Each part of this appendix contains three sections: I. data sources used to document marine mammal mortality/entanglements and commercial fishing effort trip locations, II. fishery descriptions for Category I, II and some category III fisheries that have documented interactions with marine mammals and their historical level of observer coverage, and III. historical fishery descriptions.

Part A. Description of U.S Atlantic Commercial Fisheries

I. Data Sources

Items 1-5 describe sources of marine mammal mortality, serious injury or entanglement data; items 6-9 describe the sources of commercial fishing effort data used to summarize different components of each fishery (i.e. active number of permit holders, total effort, temporal and spatial distribution) and generate maps depicting the location and amount of fishing effort.

1. Northeast Region Fisheries Observer Program (NEFOP)

In 1989 a Fisheries Observer Program was implemented in the Northeast Region (Maine-Rhode Island) to document incidental bycatch of marine mammals in the Northeast Region Multi-species Gillnet Fishery. In 1993 sampling was expanded to observe bycatch of marine mammals in Gillnet Fisheries in the Mid-Atlantic Region (New York-North Carolina). The Northeast Fisheries Observer Program (NEFOP) has since been expanded to sample multiple gear types in both the Northeast and Mid-Atlantic Regions for documenting and monitoring interactions of marine mammals, sea turtles and finfish bycatch attributed to commercial fishing operations. At sea observers onboard commercial fishing vessels collect data on fishing operations, gear and vessel characteristics, kept and discarded catch composition, bycatch of protected species, animal biology, and habitat (NMFS-NEFSC 2003).

2. Southeast Region Fishery Observer Programs

Three Fishery Observer Programs are managed by the Southeast Fisheries Science Center (SEFSC) that observe commercial fishery activity in U.S. Atlantic waters. The Pelagic Longline Observer Program (POP) administers a mandatory observer program for the U.S. Atlantic Large Pelagics Longline Fishery. The program has been in place since 1992 and randomly allocates observer effort by eleven geographic fishing areas proportional to total reported effort in each area and quarter. Observer coverage levels are mandated under the Highly Migratory Species Fisheries Management Plan (HMS FMP, 50 CFR Part 635). The second program is the Shark Gillnet Observer Program that observes the Southeastern U.S. Atlantic Shark Gillnet Fishery. The Observer Program is mandated under the HMS FMP, the Atlantic Large Whale Take Reduction Plan (ALWTRP) (50 CFR Part 229.32), and the Biological Opinion under Section 7 of the Endangered Species Act. Observers are deployed on any active fishing vessel reporting shark drift gillnet effort. In 2005, this program also began to observe sink gillnet fishing for sharks along the southeastern U.S. coast. The observed fleet includes vessels with an active directed shark permit and fish with sink gillnet gear (Carlson and Bethea 2007). The third program is the Southeastern Shrimp Otter Trawl Fishery Observer Program. Prior to 2007, this was a voluntary program administered by SEFSC in cooperation with the Gulf and South Atlantic Fisheries Foundation. The program was funding and project dependent, therefore observer coverage is not necessarily randomly allocated across the fishery. In 2007, the observer program was expanded, and it became mandatory for fishing vessels to take an observer if selected. The program now includes more systematic sampling of the fleet based upon reported landings and effort patterns. The total level of observer coverage for this program is approximately 1% of the total fishery effort. In each Observer Program, the observers record information on the total target species catch, the number and type of interactions with protected species (including both marine mammals and sea turtles), and biological information on species caught.

3. Regional Marine Mammal Stranding Networks

The Northeast and Southeast Region Stranding Networks are components of the Marine Mammal Health and Stranding Response Program (MMHSRP). The goals of the MMHSRP are to facilitate collection and dissemination

of data, assess health trends in marine mammals, correlate health with other biological and environmental parameters, and coordinate effective responses to unusual mortality events (Becker *et al.* 1994). Since 1997, the Northeast Region Marine Mammal Stranding Network has been collecting and storing data on marine mammal strandings and entanglements that occur from Maine through Virginia. The Southeast Region Strandings Program is responsible for data collection and stranding response coordination along the Atlantic coast from North Carolina to Florida, along the U.S. Gulf of Mexico coast from Florida through Texas, and in the U.S. Virgin Islands and Puerto Rico. Prior to 1997, stranding and entanglement data were maintained by the New England Aquarium and the National Museum of Natural History, Washington, D.C. Volunteer participants, acting under a letter of agreement, collect data on stranded animals that include: species; event date and location; details of the event (i.e., signs of human interaction) and determination on cause of death; animal disposition; morphology; and biological samples. Collected data are reported to the appropriate Regional Stranding Network Coordinator and are maintained in regional and national databases.

4. Marine Mammal Authorization Program

Commercial fishing vessels engaging in Category I or II fisheries are automatically registered under the Marine Mammal Authorization Program (MMAP) in order to lawfully take a non-endangered/threatened marine mammal incidental to fishing operations. These fishermen are required to carry an Authorization Certificate onboard while participating in the listed fishery, must be prepared to carry a fisheries observer if selected, and must comply with all applicable take reduction plan regulations. All vessel owners, regardless of the category of fishery they are operating in, are required to report, within 48 hours of the incident and even if an observer has recorded the take, all incidental injuries and mortalities of marine mammals that have occurred as a result of fishing operations (NMFS-OPR 2003). Events are reported by fishermen on the Marine Mammal Mortality/Injury forms then submitted to and maintained by the NMFS Office of Protected Resources. The data reported include: captain and vessel demographics; gear type and target species; date, time and location of event; type of interaction; animal species; mortality or injury code; and number of interactions. Reporting forms are available online at http://www.nmfs.noaa.gov/pr/pdfs/interactions/mmap_reporting_form.pdf.

5. Other Data Sources for Protected Species Interactions/Entanglements/Ship Strikes

In addition to the above, data on fishery interactions/entanglements and vessel collisions with large cetaceans are reported from a variety of other sources including the New England Aquarium (Boston, Massachusetts); Provincetown Center for Coastal Studies (Provincetown, Massachusetts); U.S. Coast Guard; whale watch vessels; Canadian Department of Fisheries and Oceans (DFO)); and members of the Atlantic Large Whale Disentanglement Network. These data, photographs, etc. are maintained by the Protected Species Division at the Greater Atlantic Regional Fisheries Office (GARFO), the Protected Species Branch at the Northeast Fisheries Science Center (NEFSC) and the Southeast Fisheries Science Center (SEFSC).

6. Northeast Region Vessel Trip Reports

The Northeast Region Vessel Trip Report Data Collection System is a mandatory, but self-reported, commercial fishing effort database (Wigley *et al.* 1998). The data collected include: species kept and discarded; gear types used; trip location; trip departure and landing dates; port; and vessel and gear characteristics. The reporting of these data is mandatory only for vessels fishing under a federal permit. Vessels fishing under a federal permit are required to report in the Vessel Trip Report even when they are fishing within state waters.

7. Southeast Region Fisheries Logbook System

The Fisheries Logbook System (FLS) is maintained at the SEFSC and manages data submitted from mandatory Fishing Vessel Logbook Programs under several FMPs. In 1986 a comprehensive logbook program was initiated for the Large Pelagics Longline Fishery and this reporting became mandatory in 1992. Logbook reporting has also been initiated since the 1990s for a number of other fisheries including: Reef Fish Fisheries; Snapper-Grouper Complex Fisheries; federally managed Shark Fisheries; and King and Spanish Mackerel Fisheries. In each case, vessel captains are required to submit information on the fishing location, the amount and type of fishing gear used, the total amount of fishing effort (e.g., gear sets) during a given trip, the total weight and composition of the catch, and the disposition of the catch during each unit of effort (e.g., kept, released alive, released dead). FLS data are used to estimate the total amount of fishing effort in the fishery and thus expand bycatch rate estimates from observer data to estimates of the total incidental take of marine mammal species in a given fishery. More information is available at http://www.sefsc.noaa.gov/fisheries/logbook.htm.

8. Northeast Region Dealer Reported Data

The Northeast Region Dealer Database houses trip level fishery statistics on fish species landed by market category, vessel ID, permit number, port location and date of landing, and gear type utilized. The data are collected by both federally permitted seafood dealers and NMFS port agents. Data are considered to represent a census of both vessels actively fishing with a federal permit and total fish landings. It also includes vessels that fish with a state permit (excluding the state of North Carolina) that land a federally managed species. Some states submit the same trip level data to the Northeast Region, but contrary to the data submitted by federally permitted seafood dealers, the trip level data reported by individual states does not include unique vessel and permit information. Therefore, the estimated number of active permit holders reported within this appendix should be considered a minimum estimate. It is important to note that dealers were previously required to report weekly in a dealer call in system. However, in recent years the NER regional dealer reporting system has instituted a daily electronic reporting system. Although the initial reports generated from this new system did experience some initial reporting problems, these problems have been addressed and the new daily electronic reporting system is providing better real time information to managers.

9. Northeast At Sea Monitoring Program

At-sea monitors collect scientific, management, compliance, and other fisheries data onboard commercial fishing vessels through interviews of vessel captains and crew, observations of fishing operations, photographing catch, and measurements of selected portions of the catch and fishing gear. At-sea monitoring requirements are detailed under Amendment 16 to the NE Multispecies Fishery Management Plan with a planned implementation date of May 1st, 2010. At-sea monitoring coverage is an integral part of catch monitoring to ensure that Annual Catch Limits are not exceeded. At-sea monitors collect accurate information on catch composition and the data are used to estimate total discards by sectors (and common pool), gear type, and stock area. Coverage levels are expected around 30%.

II. Marine Mammal Protection Act's List of Fisheries

The List of Fisheries (LOF) classifies U.S. commercial fisheries into one of three Categories according to the level of incidental mortality or serious injury of marine mammals:

I. frequent incidental mortality or serious injury of marine mammals
II. occasional incidental mortality or serious injury of marine mammals
III. remote likelihood of/no known incidental mortality or serious injury of marine mammals

The Marine Mammal Protection Act (MMPA) mandates that each fishery be classified by the level of serious injury and mortality of marine mammals that occurs incidental to each fishery as reported in the annual Marine Mammal Stock Assessment Reports for each stock. A fishery may qualify as one Category for one marine mammal stock and another Category for a different marine mammal stock. A fishery is typically categorized on the LOF according to its highest level of classification (e.g., a fishery that qualifies for Category III for one marine mammal stock and Category II for another marine mammal stock will be listed under Category II). The classifications listed below are based on the Final 2013 LOF published in the Federal Register (78 FR 53336; August 29, 2013)

III. U.S Atlantic Commercial Fisheries

Northeast Sink Gillnet

Current category: Category I

Basis for current classification on the LOF: The annual mortality and serious injury to harbor porpoises (Gulf of Maine/Bay of Fundy [GME/BF] stock), humpback whales (Gulf of Maine stock), minke whales (Canadian East Coast stock), and North Atlantic right whales (Western North Atlantic [WNA] stock) in this fishery exceeds 50% of each stock's Potential Biological Removal (PBR) level.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, WNA offshore; Common dolphin, WNA; Fin whale, WNA; Gray seal, WNA; Harbor porpoise, GME/BF(1); Harbor seal, WNA; Harp seal, WNA; Hooded seal, WNA; Humpback whale, GME; Minke whale, Canadian East Coast; North Atlantic right whale, WNA; Risso's dolphin, WNA; White-sided dolphin,

WNA; Long-finned pilot whale, WNA; Short-finned pilot whale, WNA. Not mentioned here are possible interactions with sea turtles and sea birds.

Gear description/method for fishing: This fishery uses sink gillnet gear, which is anchored gillnet (bottom tending net) fished in the lower one-third of the water column. The dominant material is monofilament twine with stretched mesh sizes from 6-12 in (15-30.5 cm) and string lengths from 600-10,500 ft (183-3,200 m), depending on the target species. The mesh size and string length vary by the primary fish species targeted for catch.

Target species: Atlantic cod, haddock, pollock, yellowtail flounder, winter flounder, witch flounder, American plaice, windowpane flounder, spiny dogfish, monkfish, silver hake, red hake, white hake, ocean pout, skate spp, mackerel, redfish, and shad.

Spatial/temporal distribution of effort: The fishery operates from the U.S.-Canada border to Long Island, New York, at 72° 30'W. long. south to 36° 33.03'N. lat. (corresponding with the Virginia-North Carolina border) and east to the eastern edge of the Exclusive Economic Zone (EEZ), including the Gulf of Maine, Georges Bank, and Southern New England, and excluding Long Island Sound and other waters where gillnet fisheries are listed as Category II and III. At this time, these Category II and III fisheries include: the Northeast anchored float gillnet; Northeast drift gillnet; Long Island Sound inshore gillnet; and RI, southern MA (to Monomoy Island), and NY Bight (Raritan and Lower NY Bays) inshore gillnet. Fishing effort occurs year-round, peaking from May-July primarily on continental shelf regions in depths from 30-750 ft. (9-228.6 m), with some nets deeper than 800 ft. (244 m). Figures 1-5 document the distribution of sets and marine mammal interactions observed from 2009 to 2013, respectively.

Management and Regulations: This gear is addressed by several federal and state FMPs; the Atlantic Large Whale Take Reduction Plan (ALWTRP) and Harbor Porpoise Take Reduction Plan (HPTRP). These fisheries are primarily managed by total allowable catch (TACs); individual trip limits (i.e., quotas); effort caps (i.e., limited number of days at sea per vessel); time and area closures; and gear restrictions.

Total Effort (includes descriptions of Northeast anchored float and Northeast drift gillnets): Total metric tons of fish landed from 1998 to 2012 were 22,933, 18,681, 14,487, 14, 634, 15,201, 17,680, 19,080, 15.390, 14,950, 15,808, 18,808, 17,207, 18,170, 19,279 and 17,490 respectively (NMFS). Data on total quantity of gear fished (i.e., number of sets) have not been reported consistently among commercial gillnet fishermen on vessel logbooks, and therefore will not be reported here.

Observer Coverage (includes descriptions of Northeast anchored float and Northeast drift gillnets): During the period 1990-2013, estimated percent observer coverage (number of trips observed/total commercial trips reported) was 1, 6, 7, 5, 7, 5, 4, 6, 5, 6, 6, 4, 2, 3, 6, 7, 4, 7, 5, 4, 17,19, 15, and 11 respectively.

Comments: Effort patterns in this fishery are heavily influenced by fish time/area closures, and gear restrictions due to fish conservation measures, time/area closures and gear restrictions under the ALWTRP, and seasonal pinger requirements and time/area closures under the HPTRP.

Northeast Anchored Float Gillnet Fishery

Current category: Category II

Basis for current classification on the LOF: Based on analogy with other Category II gillnet fisheries that use similar gear and operate in a similar manner to this fishery.

Current list of marine mammal species/stocks killed/injured: Harbor seal, Western North Atlantic (WNA); Humpback whale, Gulf of Maine; White-sided dolphin, WNA.

Gear description/method for fishing: This fishery uses gillnet gear of any size anchored and fished in the upper two-thirds of the water column.

Target species: Mackerel, herring (particularly for bait), shad, and menhaden.

Spatial/temporal distribution of effort: The fishery operates from the U.S.-Canada border to Long Island, New York,

at 72° 30'W. long south to 36° 33.03'N. lat. (corresponding with the Virginia-North Carolina border) and east to the eastern edge of the EEZ, not including Long Island Sound or other waters where gillnet fisheries are listed as Category III.

Management and regulations: The fishery is managed by the Atlantic States Marine Fisheries Commission [ASMFC] under the Interstate Fishery Management Plans (ISFMP) for Atlantic Menhaden and Shad and is subject to ALWTRP implementing regulations. A total closure of the American shad ocean intercept fishery was fully implemented in January, 2005.

Total Effort (includes descriptions of Northeast anchored float and Northeast drift gillnets): Total metric tons of fish landed from 1998 to 2012 were 22,933, 18,681, 14,487, 14, 634, 15,201, 17,680, 19,080, 15.390, 14,950, 15,808, 18,808, 17,207, 18,170, 19,279 and 17,490 respectively (NMFS). Data on total quantity of gear fished (i.e., number of sets) have not been reported consistently among commercial gillnet fishermen on vessel logbooks, and therefore will not be reported here.

Observer Coverage (includes descriptions of Northeast anchored float and Northeast drift gillnets): During the period 1990-2013, estimated percent observer coverage (number of trips observed/total commercial trips reported) was 1, 6, 7, 5, 7, 5, 4, 6, 5, 6, 6, 4, 2, 3, 6, 7, 4, 7, 5, 4, 17, 19, 15 and 11 respectively.

Comments: Effort patterns in this fishery are heavily influenced by fish time/area closures, and gear restrictions due to fish conservation measures, time/area closures and gear restrictions under the ALWTRP, and seasonal pinger requirements and time/area closures under the HPTRP.

Northeast Drift Gillnet Fishery

Current category: Category II

Basis of current classification on the LOF: Based on analogy to other Northeast gillnet fisheries that use similar gear and operate in a similar manner to this fishery.

Current list of marine mammal species/stocks killed/injured: None documented

Gear description/method for fishing: This fishery uses drift gillnet gear, which is gillnet gear not anchored to the bottom and is free-floating on both ends or free-flowing at one end and attached to the vessel at the other end. Mesh sizes are likely less than those used to target large pelagics.

Target species: This fishery targets species including shad, herring, mackerel, and menhaden and any residual large pelagic driftnet effort in New England.

Spatial/temporal distribution of effort: The fishery includes any residual large pelagic driftnet effort in New England and occurs at any depth in the water column from the U.S.-Canada border to Long Island, New York, at 72° 30'W. long. south to 36° 33.03'N. lat. (corresponding with the Virginia-North Carolina border) and east to the eastern edge of the Exclusive Economic Zone (EEZ).

Management and regulations: The fishery is managed under the Interstate Fishery Management Plans (ISFMPs) for Atlantic Menhaden and Shad (managed by the Atlantic States Marine Fisheries Commission [ASMFC]) and is subject to ALWTRP implementing regulations. A total closure of the American shad ocean intercept fishery was fully implemented in January, 2005.

Total Effort (includes descriptions of Northeast anchored float and Northeast drift gillnets): Total metric tons of fish landed from 1998 to 2011 were 22,933, 18,681, 14,487, 14, 634, 15,201, 17,680, 19,080, 15.390, 14,950, 15,808, 18,808, 17,207, 18,170, 19,279 and 17,490 respectively (NMFS). Data on total quantity of gear fished (i.e., number of sets) have not been reported consistently among commercial gillnet fishermen on vessel logbooks, and therefore will not be reported here.

Observer Coverage (includes descriptions of Northeast anchored float and Northeast drift gillnets): During the period 1990-2013, estimated percent observer coverage (number of trips observed/total commercial trips reported)

was 1, 6, 7, 5, 7, 5, 4, 6, 5, 6, 6, 4, 2, 3, 6, 7, 4, 7, 5, 4, 17, 19 15 and 11 respectively.

Comments: Effort patterns in this fishery are heavily influenced by fish time/area closures, and gear restrictions due to fish conservation measures, time/area closures and gear restrictions under the ALWTRP, and seasonal

Mid-Atlantic Gillnet

Current category: Category I

Basis for current classification on the LOF: The species listed in the section below with a "(1)" following the stock name drive the classification because the annual mortality and serious injury of that stock in this fishery was greater than 50% of the stock's PBR level.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, Northern Migratory coastal (1); Bottlenose dolphin, Southern Migratory coastal(1); Bottlenose dolphin, Northern North Carolina (NC) estuarine system (1); Bottlenose dolphin, Southern NC estuarine system (1) ; Bottlenose dolphin, WNA offshore; Common dolphin, WNA; Gray seal, WNA; Harbor porpoise, Gulf of Maine/Bay of Fundy; Harbor seal, WNA; Harp seal, WNA; Humpback whale, Gulf of Maine; Long-finned pilot whale, WNA; Minke whale, Canadian East Coast; Short-finned pilot whale, WNA; White-sided dolphin, WNA; Risso's dolphin, WNA. Not mentioned here are possible interactions with sea turtles and sea birds and interactions with large whale species in which the gear may not be identified to a specific area or gear.

Gear description/method for fishing: This fishery uses drift and sink gillnets, including nets set in a sink, stab, set, strike, run-around or drift fashion, with some unanchored drift or sink nets used to target specific species. The dominant material is monofilament twine with stretched mesh sizes from 2.5-12 in (6.4-30.5 cm), and string lengths from 150-8,400 ft. (46-2,560 m).

Target Species: Monkfish, Spiny and Smooth Dogfish, Bluefish, Weakfish, Menhaden, Spot, Croaker, Striped Bass, Coastal Sharks, Spanish Mackerel, King Mackerel, American Shad, Black Drum, Skate spp., Yellow perch, White Perch, Herring, Scup, Kingfish, Spotted Seatrout, and Butterfish.

Spatial/temporal distribution of effort: This fishery operates year-round, extending from New York to North Carolina, not including waters where Category II and III inshore gillnet fisheries operate in bays, sounds, estuaries, and rivers. It is comprised of a combination of small vessels that target a variety of fish species. This fishery includes any residual large pelagic driftnet effort in the mid-Atlantic, shark and dogfish gillnet effort in the mid-Atlantic, and those North Carolina small and large mesh beach-anchored gillnets formerly placed in the Category II Mid-Atlantic haul/ beach seine fishery in the mid-Atlantic zone described. For more details on construction of this gear specifically please refer to 2009 Proposed List of Fisheries, published in the *Federal Register*, (73 FR 73760; June 13, 2008). This fishery can be prosecuted right off the beach (6 feet) or in nearshore coastal waters to offshore waters (250 feet). The eastern boundary of this fishery is a line drawn at 72° 30' W long. from Long Island south to 36º 33.03' N lat., then east to the EEZ, and then south to the North Carolina/South Carolina border. The area does not include waters where Category II and III inshore gillnet fisheries operate in bays, estuaries, and rivers. Figures 6-10 document the distribution of sets and marine mammal interactions observed from 2009 to 2013, respectively.

Management and Regulations: Gear in this fishery is managed by several federal and interstate Fishery Management Plans by the Atlantic States Marine Fisheries Commission, ALWTRP, HPTRP, and BDTRP. Fisheries are primarily managed by total allowable catch limits; individual trip limits (quotas); effort caps (limited number of days at sea per vessel); time and area closures; and gear restrictions and modifications.

Total Effort: Total metric tons of fish landed from 1998 to 2012 were 15,494, 19,130, 16,333, 14,855, 13,389, 13,107, 15,124, 12, 994, 8,755, 9,359, 8,622, 8,703, 10,725, 11,292 and 9,035 respectively (NMFS). Data on total quantity of gear fished (i.e. number of sets) have not been reported consistently among commercial gillnet fishermen on vessel logbooks, therefore will not be reported here.

Observer Coverage: During the period 1995-2013, the estimated percent observer coverage was 5, 4, 3, 5, 2, 2, 2, 1, 1, 2, 3, 4, 4, 3, 3, 4, 2,2 and 3 respectively.

Comments: Effort patterns in this fishery are heavily influenced by marine mammal time/area closures and /or gear restrictions under the ALWTRP, HPTRP, and BDTRP; and gear restrictions due to fish conservation measures.

Mid-Atlantic Bottom Trawl

Current category: Category II

Basis for current classification on the LOF: The total mortality and serious injury of common dolphins (Western North Atlantic [WNA] stock), long-finned pilot whales (WNA stock), Risso's dolphins (WNA), and short-finned pilot whales (WNA stock) in this fishery is greater than 1% and less than 50% of each of the stocks' PBR.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, WNA offshore; Common dolphin, Western North Atlantic (WNA)(1); Gray seal, WNA; Harbor seal, WNA; Long-finned pilot whale, WNA (1); Risso's dolphin, WNA (1); Short-finned pilot whale, WNA(1); White-sided dolphin, WNA. Not mentioned here are possible interactions with sea turtles and sea birds.

Gear description/method for fishing: This fishery uses bottom trawl gear. Gear types such as flynets utilized in the mid-Atlantic region. The Mid-Atlantic bottom trawls using flynets target species through nearshore and offshore components that operate along the east coast of the mid-Atlantic United States. Flynets typically range from 80–120 ft. (24–36.6 m) in headrope length, with wing mesh sizes of 16–64 in (41–163 cm), following a slow 3:1 taper to smaller mesh sizes in the body, extension, and codend sections of the net.

Target species: Target species include, but are not limited to: bluefish, croaker, monkfish, summer flounder (fluke), winter flounder, silver hake (whiting), spiny dogfish, smooth dogfish, scup, and black sea bass. The nearshore fishery targets Atlantic croaker, weakfish, butterfish, harvestfish, bluefish, menhaden, striped bass, kingfish species, and other finfish species; the deeper water fisheries target bluefish, Atlantic mackerel, Loligo squid, black sea bass, and scup.

Spatial/temporal distribution of effort: The fishery occurs year-round from all waters due east from the NC/SC border to the EEZ and north to Cape Cod, MA in waters west of 70° W. long. In areas where 70° W. long. is east of the EEZ, the EEZ serves as the eastern boundary. The nearshore fishery operates from October to April inside of 30 fathoms (180 ft.; 55 m.) from NJ to NC. Flynet fishing is no longer permitted in Federal waters south of Cape Hatteras in order to protect weakfish stocks. The offshore component operates from November to April outside of 30 fathoms (180 ft.; 55 m.) from the Hudson Canyon off NY, south to Hatteras Canyon off NC. Figures 11-15 document the distribution of tows and marine mammal interactions observed from 2009 to 2013, respectively.

Management and regulations: There are at least two distinct components to this fishery. One is the mixed groundfish bottom trawl fishery. It is managed by several federal and state FMPs that range from Massachusetts to North Carolina. The relevant FMPs include, but may not be limited to, Monkfish (FR 68(81), 50 CFR Part 648); Spiny Dogfish (FR 65(7), 50 CFR Part 648); Summer Flounder, Scup, and Black Sea Bass (FR 68(1), 50 CFR part 648); and Northeast Skate Complex (FR 68(160), 50 CFR part 648). The second major component is the squid, mackerel, butterfish fishery. This component is managed by the federal Squid, Mackerel, Butterfish FMP. The *Illex* and *Loligo* Squid Fisheries are managed by moratorium permits, gear and area restrictions, quotas, and trip limits. The Atlantic Mackerel and Atlantic Butterfish Fisheries are managed by an annual quota system.

Mixed Groundfish Bottom Trawl Total Effort: Total effort, measured in trips, for the Mixed Groundfish Trawl from 1998 to 2013 was 27,521, 26,525, 24,362, 27,890, 28,103, 25,725, 22,303, 15,070, 12,457, 11,279, 10,785, 10,497, 10,849, 10,528, and 12,021 and 12,754 respectively (NMFS). The number of days absent from port, or days at sea, is yet to be determined.

Squid, Mackerel, Butterfish Bottom Trawl Total Effort: Total effort, measured in trips, for the domestic Atlantic Mackerel Fishery in the Mid-Atlantic Region (bottom trawl only) from 1997 to 2013 was 373, 278, 262, 102, 175, 310, 238, 231, 0, 117, 88, 0, 66, 19, 13, 15, and 28 respectively (NMFS). Total effort, measured in trips, for the *Illex* Squid Fishery from 1998 to 2012 was 412, 141, 108, 51, 39, 103, 445, 181, 159, 103, 172, 177, 231, 232, 151 and 57 respectively (NMFS). Total effort, measured in trips, for the *Loligo* Squid Fishery from 1998 to 2013 was 1,048,

495, 529, 413, 3,585, 1,848, 1,124, 1,845, 3,058, 2,137, 2,578, 2,234, 2.039, 2,157, 3,186 and 2,205 respectively (NMFS). Atlantic Butterfish is a bycatch (non-directed) fishery; therefore effort on this species will not be reported. The number of days absent from port or days at sea, is yet to be determined.

Observer Coverage: During the period 1996-2013, estimated percent observer coverage (measured in trips) for the Mixed Groundfish Bottom Trawl Fishery was 0.24, 0.22, 0.15, 0.14,1, 1, 1, 1, 3, 3, 2, 3, 3, 5, 5, 7, 5 and 6 respectively. During the period 1996-2013, estimated percent observer coverage (trips) in the *Illex* Fishery was 3.7, 6.21, 0.97, 2.84, 11.11, 0, 0, 8.74, 5.07, 6, 15, 14, 5, 10, 14, 11, 1 and 1.47 respectively. During the period 1996-2013, estimated percent observer coverage (trips) of the *Loligo* Fishery was 0.37, 1.07, 0.72, 0.69, 0.61, 0.95, 0.42, 0.65, 5.07, 4, 3, 2, 2, 7, 8, 11, 4 and 7 respectively. During the period 1997-2013, estimated percent observer coverage (trips) of the domestic Atlantic Mackerel Fishery was 0.81, 0, 1.14, 4.90, 3.43, 0.97, 5.04, 18.61, 0, 3, 2, 0, 8, 11, 8, 20 and 4 respectively. Observer coverage for 2010-2013 includes both observers and at-sea monitors.

Comments: Mobile Gear Restricted Areas (GRAs) were put in place for fishery management purposes in November 2000. The intent of the GRAs is to reduce bycatch of scup. The GRAs are spread out in time and space along the edge of the Southern New England and Mid-Atlantic Continental Shelf Region (between 100 and 1000 meters). These seasonal closures are targeted at trawl gear with small-mesh sizes (<4.5 inches inside mesh measurement). The Atlantic Herring and Atlantic Mackerel Trawl Fisheries are exempt from the GRAs. Access to the GRAs to harvest non-exempt species (*Loligo* Squid, Black Sea Bass, and Silver Hake) can be granted by a special permit. For detailed information regarding GRAs refer to (FR 70(2), (50 CFR Part 648.122 parts A and B)).

Northeast Bottom Trawl

Current category: Category II

Basis for current classification on the LOF: The total annual mortality and serious injury of white-sided dolphins (Western North Atlantic [WNA] stock) in this fishery is greater than 1% and less than 50% of the stock's Potential Biological Removal (PBR) level.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, WNA offshore; Common dolphin, WNA; Gray seal, WNA; Harbor porpoise, Gulf of Maine/Bay of Fundy (GME/BF); Harbor seal, WNA; Harp seal, WNA; Long-finned pilot whale, WNA; Short-finned pilot whale, WNA; White-sided dolphin, WNA(1); Minke whale, Canadian East Coast stock . Not mentioned here are possible interactions with sea turtles and sea birds.

Gear description/method for fishing: The average footrope length for the bottom trawl fleet was about 84 feet from 1996 – 1999; in 2000 there was a sharp increase to almost 88 feet followed by a steady decline to 85 feet in 2004. Seasonality was evident, with larger footrope lengths in the first quarter, which drop sharply from March to the low in May, and followed by a steady increase in size until December. There are some differences in mean gear size between species. Compared to other species, gear size was smaller for trips that caught winter flounder, cod, yellowtail flounder, fluke, skate, dogfish, and Atlantic herring. Trips that caught haddock, *Illex* squid, and monkfish tended to have larger gear. For most species, seasonal variation was limited. Seasonality was evident for witch flounder, American plaice, scup, butterfish, both squid species, and monkfish. Further characterization of the Northeast and Mid-Atlantic bottom and mid-water trawl fisheries based on Vessel Trip Report (VTR) data can be found at
http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0715/).

Target species: This fishery targets species including, but not limited to: Atlantic cod, haddock, pollock, yellowtail flounder, winter flounder, witch flounder, American plaice, Atlantic halibut, redfish, windowpane flounder, summer flounder, spiny dogfish, monkfish, silver hake, red hake, white hake, ocean pout, and skate species.

Management and regulations: The fishery is primarily managed by TACs, individual trip limits (quotas), effort caps (limited number of days at sea per vessel), time and area closures, and gear restrictions under several interstate and federal FMPs.

Total Effort: Total effort, measured in trips, for the Northeast Bottom Trawl Fishery from 1998 to 2013 was 13,263,

10,795, 12,625, 12,384, 12,711, 11,577, 10,354, 10,803, 8,603, 8,950, 8,900, 6,791, 5,747, 8,219 and 6,440 respectively (NMFS).

Spatial/temporal distribution of effort: The fishery operates year-round, with a peak from May-July. The Northeast bottom trawl fishery includes all U.S. waters south of Cape Cod, MA that are east of 70° W and extending south to the intersection of the Exclusive Economic Zone (EEZ) and 70° W (approximately 37° 54' N), as well as all U.S. waters north of Cape Cod to the Maine-Canada border. Figures 16-20 document the distribution of tows and marine mammal interactions observed from 2009 to 2013 respectively.

Observer Coverage: During the period 1994-2013, estimated percent observer coverage (measured in trips) was 0.4, 1.1, 0.2, 0.2, 0.1, 0.3, 1.0, 1.0, 3, 4, 5, 12, 6, 6, 8 , 9, 16, 26, 17 and 15 respectively. Observer coverage for 2010-2013 includes both observers and at-sea monitors.

Comments: Mobile Gear Restricted Areas (GRAs) were put in place for fishery management purposes in November 2000. The intent of the GRAs is to reduce bycatch of Scup. The GRAs are spread out in time and space along the edge of the Southern New England and mid-Atlantic continental shelf region (between 100 and 1000 meters). These seasonal closures are targeted at trawl gear with small-mesh sizes (<4.5 inches inside mesh measurement). The Atlantic Herring and Atlantic Mackerel Trawl Fisheries are exempt from the GRAs. For detailed information regarding GRAs refer to (50 CFR Part 648.122 parts A and B).

Northeast Mid-Water Trawl Fishery (includes pair trawls)

Current category: Category II

Basis for current classification on the LOF: The total annual mortality and serious injury of long-finned pilot whales (Western North Atlantic [WNA] stock) and short-finned pilot whales (WNA stock) in this fishery is greater than 1% and less than 50% of the stocks' Potential Biological Removal (PBR).

Current list of marine mammal species/stocks injured/killed (a (1) indicates those stocks driving the fishery's classification): Harbor seal, WNA; Long-finned pilot whale, WNA (1); Short-finned pilot whale, WNA(1); Whitesided dolphin, WNA; Short-beaked common dolphin, WNA; Gray seal, WNA. Not mentioned here are possible interactions with sea turtles and sea birds.

Gear description/method for fishing: This fishery uses primarily mid-water (pelagic) trawls (single and paired), which is trawl gear designed, capable, or used to fish for pelagic species with no portion designed to be operated in contact with the bottom.

Target species: This fishery targets Atlantic herring with bycatch of several finfish species, predominantly mackerel, spiny dogfish, and silver hake.

Spatial/temporal distribution of effort: The fishery occurs primarily in Maine state waters, Jeffrey's Ledge, southern New England, and Georges Bank during the winter months when the target species continues its southerly migration from the Gulf of Maine/Georges Bank, into mid-Atlantic waters. This fishery includes all U.S. waters south of Cape Cod, MA that are east of 70° W and extending south to the intersection of the EEZ and 70° W (approximately 37° 54'N), as well as all U.S. waters north of Cape Cod to the Maine-Canada border." Figures 21-25 document the distribution of tows and marine mammal interactions observed from 2009 to 2013 respectively.

Management and regulations: The fishery is managed jointly by the Mid-Atlantic Fishery Management Council, Mid-Atlantic Fishery Management Council, and the Atlantic States Marine Fisheries Commission. This fishery is included in the Atlantic Trawl Gear Take Reduction Strategy which recommends voluntary measures to reduce incidental interactions with marine mammals.

Total Effort: Total effort, measured in trips, for the Northeast Mid-Water Trawl Fishery (across all gear types) from 1997 to 2013 was 578, 289, 553, 1,312, 2,404, 1,736, 2,158, 1,564, 717, 590, 286, 236, 236, 294, 331, 413 and 291 respectively (NMFS).

Observer Coverage: During the period 1997-2013, estimated percent observer coverage (trips) was 0, 0, 0.73, 0.46, 0.06, 0, 2.25, 11.48, 19.9, 3.1, 8.04, 19.92, 42, 53, 41, 45 and 37 respectively. Observer coverage for 2010 -2013 includes both observers and at-sea monitors.

Comments: Mobile Gear Restricted Areas (GRAs) were put in place for fishery management purposes in November 2000. The intent of the GRAs is to reduce bycatch of Scup. The GRAs are spread out in time and space along the edge of the Southern New England and mid-Atlantic continental shelf region (between 100 and 1000 meters). These seasonal closures are targeted at trawl gear with small-mesh sizes (<4.5 inches inside mesh measurement). The Atlantic Herring and Atlantic Mackerel Trawl Fisheries are exempt from the GRAs. For detailed information regarding GRAs refer to (50 CFR Part 648.122 parts A and B)

Mid-Atlantic Mid-Water Trawl Fishery (includes pair trawls)

Current category: Category II

Basis for current classification on the LOF: The total annual mortality and serious injury of white-sided dolphins (Western North Atlantic [WNA] stock) in this fishery is greater than 1% and less than 50% of the stock's Potential Biological Removal (PBR) level.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, WNA offshore; Common dolphin, WNA; Long-finned pilot whale, WNA; Risso's dolphin, WNA; Short-finned pilot whale, WNA; White-sided dolphin, WNA (1). Not mentioned here are possible interactions with sea turtles and sea birds.

Gear description/method for fishing: This fishery uses both single and pair trawls, which are designed, capable, or used to fish for pelagic species with no portion of the gear designed to be operated in contact with the bottom of the ocean.

Target species: Atlantic mackerel, chub mackerel, and miscellaneous other pelagic species.

Spatial/temporal distribution of effort: The fishery for Atlantic mackerel occurs primarily from southern New England through the mid-Atlantic from January-March and in the Gulf of Maine during the summer and fall (May-December). The Mid-Atlantic mid-water trawl fishery includes all waters due east from the NC/SC border to the EEZ and north to Cape Cod, MA in waters west of 70° W. long. Figures 26-30 document the distribution of tows and marine mammal interactions observed from 2009 to 2013 respectively.

Management and regulations: This fishery is managed under the Federal Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan using an annual quota system. This fishery is included in the Atlantic Trawl Gear Take Reduction Strategy which recommends voluntary measures to reduce incidental interactions with marine mammals.

Total Effort: Total effort, measured in trips, for the Mid-Atlantic Mid-Water Trawl Fishery (across both gear types) from 1997 to 2013 was 331, 223, 374, 166, 408, 261, 428, 360, 359, 405, 312, 255, 280,173, 140, 143 and 284 respectively (NMFS).

Observer Coverage: During the period 1997-2013, estimated percent observer coverage (trips) was 0, 0, 1.01, 8.43, 0, 0.77, 3.50, 12.16, 8.40, 8.90, 3.85, 13.33, 13.2, 25, 41, 21 and 7 respectively. Observer coverage for 2010-2013 includes both observers and at-sea monitors.

Comments: Mobile Gear Restricted Areas (GRAs) were put in place for fishery management purposes in November 2000. The intent of the GRAs is to reduce bycatch of Scup. The GRAs are spread out in time and space along the edge of the Southern New England and mid-Atlantic continental shelf region (between 100 and 1000 meters). These seasonal closures are targeted at trawl gear with small-mesh sizes (<4.5 inches inside mesh measurement). The Atlantic Herring and Atlantic Mackerel Trawl Fisheries are exempt from the GRAs. For detailed information

regarding GRAs refer to (50 CFR Part 648.122 parts A and B).

Bay of Fundy Herring Weir

Category: N/A

Protected Species Interactions: Documented interactions with harbor porpoise and minke whales were reported in this fishery. Right whales are also vulnerable to entrapment, though very rarely.

Gear description/method for fishing: Weirs are large, heart-shaped structures (roughly 100 feet across) consisting of long wooden stakes (50-80 feet) pounded 3-6 feet into the sea floor and surrounded by a mesh net (the "twine") of about ¾ inch stretch mesh. Weirs are typically located within 100-400 feet of shore. The twine runs from the sea floor to the surface, and the only opening (the "mouth") is positioned close to shore. Herring swimming along the shore at night, encounter a fence (net of the same twine from sea floor to surface) that runs from the weir to the shoreline and directs the fish into the weir. At dawn, the weir fisherman tends the weir and if Herring are present, he/she may close off the weir until the fish can be harvested. Harvesting takes place when the tidal current is the slackest, usually just before low tide. A large net ("seine") is deployed inside the weir, and, much like a purse seine, it is drawn up to the surface so that the fish become concentrated. They are then pumped out with a vacuum hose into the waiting carrier for transport to the processing plant.

Target Species: Atlantic herring

Spatial/temporaldistribution of effort: In Canadian waters, the Herring Weir Fishery occurs from May to October along the southwestern shore of the Bay of Fundy, and is scattered along the coasts of western Nova Scotia.

Management and Regulations: To Be Determined

Total Effort: Effort is difficult to measure. Weirs may or may not have twine (i.e., be actively fishing) on them in a given year and the amount of time the twine is up varies from year to year. Most weirs tend to fish (i.e., have twine on them) during July, August, and September. Some fishermen keep their twine on longer, into October and November, if it is a good year or there haven't been any storms providing incentive to take the twine down. Effort cannot simply be measured by multiplying the number of weirs with twine times the average number of fishing days (this will provide a very generous estimation of effort) because if a weir fills up with fish the fisherman will pull up the drop (close the net at the mouth) which prevents loss of fish, but also means no new fish can get in, therefore the weir is not actively fishing during that period.

Observer Coverage: From mid-July to early September, on a daily basis, scientists from the Grand Manan Whale & Seabird Research Station check only the weirs around Grand Manan Island for the presence of cetaceans.

Comments: Marine mammals occasionally swim into weirs, in which they can breathe and move about. Marine mammals are vulnerable during the harvesting/seining process where they can become tangled in the seine and suffocate if care is not taken to remove them from the net or to remove them from the weir prior to the onset of the seining process. Small marine mammals, like porpoises, can be removed from the net, lifted into small boats, and taken out of the weir for release without interrupting the seining process. Larger marine mammals, such as whales, must be removed from the weir either through the creation of a large enough escape hole in the back of the weir (taking down the twine and removing some poles) or sometimes by sweeping them out with a specialized mammal net, although this approach carries with it a few more risks to the animal than the "escape hole" technique.

Through the cooperation of weir fishermen and the Grand Manan Whale & Seabird Research Station, weir-associated mortality of cetaceans is relatively low. Over 91% of all entrapped porpoises, dolphins and whales are successfully released from weirs around Grand Manan Island. Thus the total number of entrapments (which can vary annually from 6 to 312) is in no way reflective or indicative of cetacean mortality caused by this fishery.

Gulf of Maine Atlantic Herring Purse Seine Fishery

Category: III

Basis for current classification on the LOF: There are no reports of marine mammal mortalities in this fishery.

Marine mammals can be captured by the gear, but because the mesh size of nets used is small there is only a small chance of entanglement. When marine mammals including harbor seals, grey seals, humpback whales, fin whale and/or sei whales are caught in this gear, they are released alive without injury and thus are not included as species/stocks that are incidentally killed/injured by this fishery.

Current list of marine mammal species/stocks killed/injured: Harbor seal, WNA; Gray seal, WNA.

Gear description/method for fishing: The purse seine is a deep nylon mesh net with floats on the top and lead weights on the bottom. Rings are fastened at intervals to the lead line and a purse line runs completely around the net through the rings (www.gma.org, Gulf of Maine Research Institute, GOMRI). One end of the net remains in the vessel and the other end is attached to a power skiff or "bug boat" that is deployed from the stern of the vessel and remains in place while the vessel encircles a school of fish with the net. Then the net is pursed and brought back aboard the vessel through a hydraulic power block. Purse seines vary in size according to the size of the vessel and the depth to be fished. Most purse seines used in the New England Herring Fishery range from 30 to 50 meters deep (100-165 ft.) (NMFS 2005). Purse seining is a year round pursuit in the Gulf of Maine, but is most active in the summer when herring are more abundant in coastal waters and are mostly utilized at night, when herring are feeding near the surface. This fishing technique is less successful when fish remain in deeper water and when they do not form "tight" schools.

Target Species: Atlantic herring

Spatial/temporal distribution of effort: Most U.S. Atlantic herring catches occur between May and October in the Gulf of Maine, consistent with the peak season for the lobster fishery. The connection between the herring and lobster fisheries is the reliance of the lobster industry on herring for bait. In addition, there is a relatively substantial winter fishery in southern New England, and catches from Georges Bank have increased somewhat in recent years. There is a very small recreational fishery for Atlantic herring that generally occurs from early spring to late fall, and herring is caught by tuna boats with gillnets for use as live bait in the recreational tuna fisheries. In addition, there is a Canadian fishery for Atlantic herring from New Brunswick to the Gulf of St. Lawrence, which primarily utilizes fixed gear. Fish caught in the New Brunswick (NB) weir fishery are assumed to come from the same stock (inshore component) as that targeted by U.S. fishermen (http://www.nefmc.org/herring/index.html, Northeast Fisheries Management Council, NEFMC). Figures 31-35 document the distribution of sets and marine mammal interactions observed from 2009 to 2013, respectively.

Management and Regulations: The Gulf Of Maine Atlantic Herring Purse Seine Fishery is defined as a Category III fishery in the 2010 List of Fisheries (74 FR 58859, November 16, 2009).fishery. This gear is managed by federal and state FMPs that range from Maine to North Carolina. The relevant FMPs include, but may not be limited to the Atlantic Herring FMP (FR 70(19), 50 CFR Part 648.200 through 648.207) and the Northeast Multi-species (FR 67, CFR Part 648.80 through 648.97). This fishery is primarily managed by total allowable catch (TACs).

Total Effort: Total metric tons of fish landed from 1998 to 2013 were 24,256, 39,866, 29,609, 20,691, 20,096, 17,939, 19,958, 16,306, 18,700, 31,019, 27,327, 22,547, 8,566, 16,981, 19,413 and 23,218 respectively (NMFS, Unpbl.). Total effort, measured in trips, for the Gulf of Maine Atlantic Herring Purse Seine Fishery from 2002 to 2013 was 343, 339, 276, 202, 173, 249, 344, 249, 228, 242, 273, 273, 288 and 318 respectively (NMFS, Unpbl.).

Observer Coverage: During the period 1994 to 2002, estimated observer coverage (number of trips observed/total commercial trips reported) was 0. From 2003 to 2013, percent observer coverage was 0.34, 9.8, 0.27, 0, 3.2, 12, 21, 12, 33, 17 and 17 respectively.

Northeast/Mid-Atlantic American Lobster Trap/Pot

Current category: Category I

Basis for current classification on the LOF: The annual level of serious injury and mortality of North Atlantic right whales (Western North Atlantic [WNA] stock), humpback whales (Gulf of Maine stock), and minke whales (Canadian East Coast stock) in this fishery exceeds 50% of each stocks' Potential Biological Removal (PBR) level.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Harbor seal, WNA; Humpback whale, Gulf of Maine; Minke whale, Canadian East Coast; North Atlantic right whale, WNA (1)

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Gear description/method for fishing: This fishery operates with traps. 2-3% of the target species are taken by mobile gear (trawls and dredges), that are classified within the Category III Northeast Shellfish Bottom Trawl fishery.

Target species: American lobster.

Spatial/temporal distribution of effort: The fishery operates in inshore and offshore waters from Maine to New Jersey and may extend as far south as Cape Hatteras, North Carolina. Approximately 80% of American lobsters are harvested from state waters.

Management and regulations: The Atlantic States Marine Fisheries Commission has a primary regulatory role for this fishery because the majority of the harvest is taken from state waters. The Exclusive Economic Zone (EEZ) portion of the fishery operates under regulations from the Federal American Lobster Fishery Management Plan (FMP). Both the EEZ and state fishery are operating under Federal regulations from the Atlantic Large Whale Take Reduction Plan.

Observer coverage: There has not been observer coverage in this fishery.

Atlantic Mixed Species Trap/Pot Fishery

Current category: Category II

Basis for current classification on the LOF: Based on analogy with the Category I "Northeast/Mid-Atlantic American lobster trap/pot fishery" and the Category II "Atlantic blue crab trap/pot fishery." The gear used in these lobster and crab pot fisheries, which have been involved in entanglement events, is similar to the gear used in this fishery.

Current list of marine mammal species/stocks killed/injured: Fin whale, Western North Atlantic (WNA); Humpback whale, Gulf of Maine.

Gear description/method for fishing: This fishery uses trap/pot gear.

Target species: Target species include, but are not limited to, hagfish, shrimp, conch/whelk, red crab, Jonah crab, rock crab, black sea bass, scup, tautog, cod, haddock, Pollock, redfish (ocean perch) white hake, spot, skate, catfish, stone crab, and cunner.

Spatial/temporal distribution of effort: The fishery includes all trap/pot operations from the U.S.-Canada border south through the waters east of the fishery management demarcation line between the Atlantic Ocean and the Gulf of Mexico (50 CFR 600.105), but does not include the following Category I, II, and III trap/pot fisheries: Northeast/Mid-Atlantic American lobster trap/pot; Atlantic blue crab trap/pot; FL spiny lobster trap/ pot; Southeastern U.S. Atlantic, Gulf of Mexico stone crab trap/pot; U.S. Mid-Atlantic eel trap/pot; and the Southeastern U.S. Atlantic, Gulf of Mexico golden crab fisheries.

Management and regulations: The fishery is managed under various Interstate Fishery Management Plans and is subject to ALWTRP implementing regulations.

Observer coverage: There has not been observer coverage in this fishery.

Atlantic Ocean, Caribbean, Gulf of Mexico Large Pelagics Longline

Current category: Category I

Basis for current classification on the LOF: The total annual mortality and serious injury of long-finned pilot whale (Western North Atlantic [WNA] stock), pygmy sperm whale (WNA stock), and short-finned pilot whale (WNA stock) in this fishery is greater than 50% of the stocks' Potential Biological Removal (PBR) levels.

Current list of marine mammal species/stocks killed/injured (a (1)indicates those stocks driving the fishery's classification): Atlantic spotted dolphin, Gulf of Mexico (GMX) continental and oceanic; Atlantic spotted dolphin, WNA; Bottlenose dolphin, Northern GMX oceanic; Bottlenose dolphin, WNA offshore; Common dolphin, WNA; Cuvier's beaked whale, WNA; Gervais beaked whale, GMX oceanic stock; Killer whale, GMX oceanic stock; Long-finned pilot whale, WNA(1); Mesoplodon beaked whale, WNA; Northern bottlenose whale, WNA; Pantropical spotted dolphin, Northern GMX; Pantropical spotted dolphin, WNA; Risso's dolphin, Northern GMX; Risso's dolphin, WNA; Short-finned pilot whale, Northern GMX; Short-finned pilot whale, WNA(1); Sperm whale, GMX oceanic stock. Not mentioned here are documented interactions with sea turtles and sea birds.

Gear description/method for fishing: The fishery uses a mainline of >700 lb (317.5 kg) test monofilament typically ranging from 10-45 mi (16-72 km) long (although limited to 20 nm in the Mid-Atlantic Bight) . Bullet-shaped floats are suspended at regular intervals along the mainline and long sections of gear are marked by radio beacons. Long gangion lines of 200-400 lb (91-181 kg) test monofilament of typically 100-200 ft (30.5-61 m) are suspended from the mainline. Only certain sized hooks and baits are allowed based on fishing location. Hooks are typically fished at depths between 40-120 ft (12-36.6 m). Longlines targeting tuna are typically set at dawn are hauled near dusk, while longlines targeting swordfish are typically set at night and hauled in the morning. Gear remains in the water typically for 10-14 hours. Fishermen generally modify only select sections of longline gear to target dolphin fish or wahoo, with the remaining gear configured to target swordfish, tuna, and/or sharks.

Target species: Swordfish, tuna (yellowfin, bigeye, bluefin, and albacore), dolphin fish, wahoo, shortfin mako shark, and a variety of other shark species.

Temporal and Spatial Distribution: Fishing effort occurs year round and operates in waters both inside and outside the U.S. EEZ throughout Atlantic, Caribbean and Gulf of Mexico waters. The "Atlantic" component of the fleet operates both in coastal and continental shelf waters along the U.S. Atlantic coast from Florida to Massachusetts. The fl*eet al*so operates in distant waters of the Atlantic including the central equatorial Atlantic Ocean and the Canadian Grand Banks. Fishing effort is reported in 11 defined fishing areas including the Gulf of Mexico. During 2012, the majority of fishing effort was reported in the Gulf of Mexico (441 sets) fishing areas (Garrison and Stokes 2013).

Management and regulations: This fishery is managed under the Consolidated Atlantic Highly Migratory Species Fishery Management Plan (FMP). The dolphin fish and wahoo portions of the fishery are managed under the South Atlantic FMP for Dolphin and Wahoo. Regulations under the Magnuson-Stevens Fishery Conservation and Management Act address the target fish species, as well as bycatch species protected under the Endangered Species Act and/or the MMPA. A portion of this fishery is subject to regulations under the Pelagic Longline Take Reduction Plan (50 CFR 229.36).

Total Effort: The total fishing effort in the Atlantic component of the Pelagic Longline Fishery has been declining since a peak reported effort of 12,318 sets (7.41 million hooks) during 1995. The mean effort reported to the Fisheries Logbook System between 1995 and 2000 was 9,370 sets (5.62 million hooks). Between 2001 and 2007, a mean of 4,551 sets (3.19 million hooks) was reported each year. During 2011, the total reported fishing effort was 8,044 sets and 5.9 thousand hooks (Garrison and Stokes 2012). During 2012, the total reported fishing effort was 11,025 sets and 8.04 thousand hooks (Garrison and Stokes 2013).

Observer Coverage: The Pelagic Longline Observer Program (POP) is a mandatory observer program managed by the SEFSC that has been in place since 1992. Observers are placed upon randomly selected vessels with total observer effort allocated on a geographic basis proportional to the total amount of fishing effort reported by the fleet. The target observer coverage level was 5% of reported sets through 2001, and was elevated to 8% of total sets in 2002. In 2011, the overall percent observer coverage during regular fishing was 10.9% expressed as a proportion of reported hooks and 10.1% as a proportion of reported sets (Garrison and Stokes 2012). Observed longline sets and marine mammal interactions are shown for 2009–2013 in Figures 36 through 45.

Comments: This fishery has been the subject of numerous management actions since 2000 associated with bycatch of both billfish and sea turtles. These changes have resulted in a reduction of overall fishery effort and changes in the behaviors of the fishery. The most significant change was the closure of the NED area off the Canadian Grand Banks and near the Azores as of June 1, 2001 (50 CFR Part 635). An experimental fishery was conducted in this

area during both 2001 and 2002 to evaluate gear characteristics and fishing practices that increase the bycatch rate of sea turtles. Several marine mammals, primarily Risso's Dolphins, were seriously injured during this experimental fishery. In addition, there have been a number of time-area closures since late 2000 including year-round closures in the DeSoto Canyon area in the Gulf of Mexico and the Florida East Coast area; and additional seasonal closures in the Charleston Bump area and off of New Jersey (NMFS 2003). Additionally, a ban on the use of live fish bait was initiated in 1999 due to concerns over billfish bycatch. The June 2004 Biological Opinion has resulted in a significant change in the gear and fishing practices of this fishery that will likely impact marine mammal bycatch. The majority of interactions with marine mammals in this fishery have been with Pilot Whales and Risso's Dolphin. These interactions primarily occurred along the shelf break in the Mid-Atlantic Bight region during the third and fourth quarters (Garrison 2003; 2005; Fairfield Walsh and Garrison 2006; Fairfield Walsh and Garrison 2007, Garrison *et al.* 2009). The Pelagic Longline Take Reduction Team was convened during 2005 to develop approaches to reduce the serious injury of pilot whales in the mid-Atlantic, and the resulting take reduction plan is currently being implemented by NOAA Fisheries (http://www.nmfs.noaa.gov/pr/pdfs/fr/fr74-23349.pdf).

Southeast Atlantic Gillnet

Current category: Category II

Basis for current classification on the LOF: Based on analogy to other Atlantic gillnet fisheries that use similar gear and operate in a similar manner to this fishery. Also, based on a 2001 recommendation by the Atlantic Scientific Review Group (SRG) to elevate all gillnet fisheries to Category II (unless there is evidence to the contrary).

Current list of marine mammal species/stocks killed/injured: Bottlenose dolphin, Southern Migratory coastal; Bottlenose dolphin, Central FL coastal; Bottlenose dolphin, Northern FL coastal; Bottlenose dolphin, SC/GA.

Gear description/method for fishing: This fishery uses gillnets set in sink, stab, set, or strike fashion.

Target species: This fishery targets finfish including, but not limited to: king mackerel, Spanish mackerel, whiting, bluefish, pompano, spot, croaker, little tunny, bonita, jack crevalle, cobia, and striped mullet.

Spatial/temporal distribution of effort: This fishery operates in waters south of a line extending due east from the North Carolina/South Carolina border and south and east of the fishery management council demarcation line between the Atlantic Ocean and the Gulf of Mexico. The majority of fishing effort occurs in Federal waters because South Carolina, Georgia, and Florida prohibit the use of gillnets, with limited exceptions, in state waters. This fishery does not include gillnet effort targeting sharks, which are a target species of the "Southeastern U.S. Atlantic shark gillnet fishery."

Management and regulations: Fishing for king mackerel, Spanish mackerel, cobia, cero, and little tunny in Federal waters is managed under the Coastal Migratory Pelagic Resources FMP. None of the other target species are Federally managed under the Magnuson-Stevens Fishery Conservation and Management Act. In state waters, state and Atlantic States Marine Fisheries Commission Interstate FMPs apply. The fishery is also subject to BDTRP and ALWTRP implementing regulations (because of the potential for interactions with North Atlantic right whales in the Southeast U.S. Restricted Areas).

Observer Coverage: ?

Southeastern U.S. Atlantic Shark Gillnet Fishery

Current category: Category II

Basis for current classification on the LOF: The 2010 LOF included a superscript "1" following bottlenose dolphin (WNA coastal stock) because the annual mortality and serious injury of that stock in this fishery was greater than 1% and less than 50% of the stock's Potential Biological Removal (PBR) level. When the stocks of bottlenose dolphins killed/injured in this fishery were updated on the 2011 LOF, the superscript "1" was retained after the new stocks because NMFS cannot yet differentiate to which stock a killed/injured animal belongs. In this case, there is only one stock the killed/injured animals could have come from.

Current list of marine mammal species/stocks killed/injured (a (1)indicates those stocks driving the fishery's

classification): Bottlenose dolphin, Central Florida (FL) coastal (1); Bottlenose dolphin, Northern FL coastal; North Atlantic right whale, WNA.

Gear description/method for fishing: This fishery uses gillnets set in a sink, set, strike, or drift fashion. Mesh size is typically greater than 5 in (13 cm), but may be as small as 2.87 in (7.3 cm) when targeting small coastal sharks. Drift gillnets most commonly use a mesh size of 6.1-15.2 cm, and average 4.07 hours from setting the gear through completion of haulback; sink gillnets most frequently use a mesh size of 6.4-19.1 cm, soaking for approximately 7.64 hours; and strike gillnets use the largest mesh size of 8.9 -12.1cm), soaking for approximately 8.46 hours. (Sources for this information include Passerotti et al. 2010, Passerotti et al. 2011, Gulack et al. 2012, and Mathers et al. 2013).

Target species: Large and small coastal sharks (blacktip, blacknose, finetooth, bonnethead, and sharpnose).

Spatial/temporal distribution of effort: This fishery has traditionally operated in coastal waters off Florida and Georgia. However, more recently sets ranged from North Carolina to the Florida Keys in both the Atlantic and Gulf of Mexico (Mathers et al. 2013).

Management and regulations: This fishery is managed under the Consolidated Atlantic Highly Migratory Species Fishery Management Plan (FMP), ALWTRP, and BDTRP. Regulations implemented under the Magnuson-Stevens Fishery Conservation and Management Act address managed target species, as well as bycatch species, including some protected under the ESA and Marine Mammal Protection Act (e.g., sea turtles, smalltooth sawfish, and right whales). Due to Amendment 2 and 3 to the Consolidated Atlantic Highly Migratory Species FMP, the large and small coastal shark gillnet fishery has been significantly reduced (NMFS 2007).

Total Effort: Gillnets targeting sharks in the southeastern U.S. Atlantic are fished in a variety of configurations including long soak drift sets, short soak encircling strike sets, and short duration sink sets. In addition, sink gillnets are used to target other finfish species. The same fishing vessels will fish the different types of sets. In the reported logbook data, it is difficult to identify these different gear types and distinguish sets targeting sharks from those targeting finfish. The total amount of effort was therefore estimated based upon observer data and reported fishing gear and catch characteristics (Garrison 2007). Between 2001 and 2005, an annual average of 74 drift sets, 40 strike sets, and 241 sink sets targeting sharks were reported and/or observed. The number of drift sets has been declining steadily while the number of strike sets has been increasing. During 2006, there were 8 drift sets, 40 strike sets, and 301 sink sets targeting sharks reported or observed (Garrison 2007). However, there is direct evidence of under-reporting as some observed sets were not reported to the FLS system, and the total effort remains highly uncertain. In 2007, a total of 85 drift net sets were observed with 4 of those targeting sharks and the remainder Spanish mackerel. A total of 112 sink net sets were observed, with 60 of those targeting sharks and the remainder targeting various fish species (Baremore *et al.* 2007). During 2008, there was very limited targeted fishing for sharks off the coast of Florida due to the closure of the large coastal shark fishery during the first half of the year, and there were no strike sets observed targeting sharks and only a few sink sets (Passerotti and Carlson 2009).

Observer coverage: A dedicated observer program for the Shark Drift Gillnet Fishery has been in place since 1998. Since 2000, due to the provisions of the ALWTRP, observer coverage has been high during the winter months. However, due to limited funding, observer coverage outside of this period was generally low (less than 5%) prior to 2000, and has been increasing since. From 2001 to 2006, the annual observer coverage of the drift gillnet fishery was 68%, 85%, 50%, 66%, 58%, and 48%, respectively. The annual coverage of the strike component from 2001 to 2006 was 63%, 86%, 72%, 81%, and 84%, respectively. The sink component of the fishery was observed in 2005 and 2006 with coverage levels of 10% and 22%, respectively. However, given the uncertainties in the level of reported effort, these estimates of observer coverage are highly uncertain. Due to these uncertainties, effort levels for the fishery and estimated observer coverage for 2007 and 2008 are not available.

Comments: There is a significant level of uncertainty surrounding estimating the total level of effort in this fishery. There is direct evidence of inconsistency in reporting. It is not possible to reliably distinguish trips targeting sharks from those targeting other fish species, and it is not possible to distinguish different types of sets in the logbook data. In fact, many gillnet fishers now target Spanish and king mackerel as well as bluefish (Passerotti et al. 2010) . However, the overall marine mammal and sea turtle bycatch rate is very low, therefore it is unlikely that even severe biases would result in large increases in the estimated total protected species bycatch in this fishery. In addition to

marine mammal interactions, this fishery has been the subject of management concern due to recent interactions with endangered sea turtles including leatherback and loggerhead turtles.

Atlantic Blue Crab Trap/Pot

Current category: Category II

Basis for current classification on the LOF: The total annual mortality and serious injury West Indian manatees (FL stock) in this fishery is greater than 1% and less than 50% of the stocks' Potential Biological Removal (PBR) level. Also, when the stocks of bottlenose dolphins killed/injured in this fishery were updated on the 2011 LOF, the superscript "1" was retained after each of these stocks. The 2010 LOF included a superscript "1" following bottlenose dolphin (WNA coastal stock) and NMFS cannot yet differentiate to which stock a killed/injured animal belongs. Until NMFS is able to do so, each stock of bottlenose dolphin is considered to be driving the classification of the fishery.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, Northern North Carolina (NC) estuarine system (1); Bottlenose dolphin, Southern NC estuarine system (1); Bottlenose dolphin, Charleston estuarine system (1); Bottlenose dolphin, Northern Georgia (GA)/Southern South Carolina (SC) estuarine system (1); Bottlenose dolphin, Southern GA estuarine system (1); Bottlenose dolphin, Jacksonville estuarine system (1); Bottlenose dolphin, Indian River Lagoon estuarine system (1); Bottlenose dolphin, Northern Migratory coastal (1); Bottlenose dolphin, Southern Migratory coastal (1); Bottlenose dolphin, Northern Florida (FL) coastal (1); Bottlenose dolphin, Central FL coastal(1); Bottlenose dolphin, SC/GA coastal (1); West Indian manatee, FL (1).

Gear description/method for fishing: This fishery uses pots baited with fish or poultry typically set in rows in shallow water. The pot position is marked by a buoy line attached to a surface buoy.

Target species: Blue crab.

Spatial/temporal distribution of effort: The fishery occurs year-round from the south shore of Long Island at 72° 30'W. long. in the Atlantic and east of the fishery management demarcation line between the Atlantic Ocean and the Gulf of Mexico (50 CFR 600.105), including state waters.

Management and Regulations: It is managed under state Fishery Management Plans, the Bottlenose Dolphin Take Reduction Plan (voluntary measures), and Atlantic Large Whale Take Reduction Plan.

Levels of observer coverage each year: There has not been observer coverage in this fishery.

Comments: In recent years, reports of strandings with evidence of interactions between bottlenose dolphins and both recreational and commercial crab pot fisheries have been increasing in the Southeast region (McFee and Brooks 1998; Burdett and McFee 2004). Interactions with crab pots appear to generally involve a dolphin becoming wrapped in the buoy line. The total number of these interactions and associated mortality rates has not been documented; however, based on stranding data from 2007-2012, there have been 36 reports of interactions between bottlenose dolphins and Atlantic trap/pots or possible trap/pot gear, and of those 18 were confirmed as Altantic blue crab trap/pot gear..

Mid-Atlantic Haul/Beach Seine

Current category: Category II

Basis for current classification on the LOF: The 2010 LOF included a superscript "1" following bottlenose dolphin (WNA coastal stock) because the annual mortality and serious injury of that stock in this fishery was greater than 1% and less than 50% of the stock's Potential Biological Removal (PBR) level. When the stocks of bottlenose dolphins killed/injured in this fishery were updated on the 2011 LOF, the superscript "1" was retained after each of these stocks because NMFS cannot yet differentiate to which stock a killed/injured animal belongs. Until NMFS is able to do so, each stock of bottlenose dolphin is considered to be driving the classification of the fishery.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, Northern North Carolina (NC) estuarine system (1); Bottlenose dolphin, Northern Migratory coastal (1); Bottlenose dolphin, Southern Migratory coastal (1).

Gear description/method for fishing: This fishery uses seines with one end secured (e.g., swipe nets and long seines); both ends secured; or those anchored to hauled up on the beach. The beach seine system is generally constructed of a wash, wing, and bunt that are attached to the beach and extend into the surf and are traditionally used to encircle or encompass fish.

Target Species: Striped bass, mullet, spot, weakfish, sea trout, bluefish, kingfish, and harvestfish.

Spatial/temporal distribution of effort: This fishery operates in waters west of 72° 30'W. long. and north of a line extending due east from the North Carolina/South Carolina border and includes haul seining in other areas of the mid-Atlantic, including Virginia, Maryland, and New Jersey. The North Carolina Atlantic Ocean Striped Bass fishery operates primarily along the Outer Banks using small and large mesh nets and primarily during the fall and winter months.

Management and Regulations: The fishery is managed under several state and Interstate Fishery Management Plans and is an affected fishery under the BDTRP. Large mesh nets are regulated in North Carolina via North Carolina Marine Fisheries Commission rules and NCDMF proclamations.

Observer Coverage: North Carolina beach-based fishing has been observed since April 7, 1998 by the NMFS Fisheries Sampling Program (Observer Program) based at the NEFSC and the North Carolina Alternate Platform Observer Program. The numbers of observed beach seine sets from 1998 to 2008 were 63, 60, 52, 12, 6, 23, 36, 29, 9, 27, and 39. Overall, there has been very limited observer coverage by the NEFSC and the NC Alternate Platform Observer program.

Comments: The only haul/beach seine gear operating in North Carolina included in this Category II fishery is the ''Atlantic Ocean striped bass beach seine fishery'' during the winter.NCDMF defines a beach seine operating under the Atlantic Ocean Striped Bass beach seine fishery as a ''swipe net constructed of multifilament, multifiber webbing fished from the ocean beach that is deployed from a vessel launched from the ocean beach where the fishing operation takes place, and one end of the beach seine is attached to the shore at all times during the operation.'' All other NC small and large mesh beach- anchored gillnets with webbing constructed of all monofilament material or a combination of monofilament and multifilament.

North Carolina Inshore Gillnet Fishery

Current category: Category II

Basis for current classification on the LOF: The 2010 LOF included a superscript "1" following bottlenose dolphin (WNA coastal stock) because the annual mortality and serious injury of that stock in this fishery was greater than 1% and less than 50% of the stock's Potential Biological Removal (PBR) level. When the stocks of bottlenose dolphins killed/injured in this fishery were updated on the 2011 LOF, the superscript "1" was retained after each of these stocks because NMFS cannot yet differentiate to which stock a killed/injured animal belongs. Until NMFS is able to do so, each stock of bottlenose dolphin is considered to be driving the classification of the fishery.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, Northern North Carolina (NC) estuarine (1); Bottlenose dolphin, Southern NC estuarine (1).

Gear description/method for fishing: This fishery includes any fishing effort using any type of gillnet gear, including set (float and sink), drift, and runaround gillnet.

Target species: Target species include, but are not limited to: southern flounder, weakfish, bluefish, Atlantic croaker, striped mullet, spotted seatrout, Spanish mackerel, striped bass, spot, red drum, black drum, and shad.

Spatial/temporal distribution of effort: This fishery includes any gillnet effort for any target species inshore of the

COLREGS demarcation lines in North Carolina (COLREGS demarcation lines delineate those waters upon which mariners shall comply with the International Regulations for Preventing Collisions at Sea and those waters upon which mariners shall comply with the Inland Navigation Rules).

Management and Regulations: This fishery is managed under state and Interstate Fishery Management Plans, applying net and mesh size regulations, and seasonal area closures in the Pamlico Sound Gillnet Restricted Area. It is an affected fishery under the BDTRP and Endangered Species Act.
Observer Coverage: Observer coverage, up to 10% in some cases, is provided by the North Carolina Division of Marine Fisheries, primarily during the fall flounder fishery in Pamlico Sound. The Northeast Fishery Observer Program has observed the fishery at low levels, as well as the North Carolina Alternative Platform Observer Program.

North Carolina Long Haul Seine

Current category: Category II

Basis for current classification on the LOF: The 2010 LOF included a superscript "1" following bottlenose dolphin (WNA coastal stock) because the annual mortality and serious injury of that stock in this fishery was greater than 1% and less than 50% of the stock's Potential Biological Removal (PBR) level. When the stocks of bottlenose dolphins killed/injured in this fishery were updated on the 2011 LOF, the superscript "1" was retained after the new stocks because NMFS cannot yet differentiate to which stock a killed/injured animal belongs. In this case, there is only one stock the killed/injured animals could have come from.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, Northern North Carolina (NC) estuarine system (1); Bottlenose dolphin, Southern NC estuarine system.

Gear description/method for fishing: This fishery uses multi-filament seines consisting of a 1,000-2,000 yard (3,000-6,000 ft) net pulled by two boats for 1-2 nmi (2-4 km). Fish are encircled and concentrated by pulling the net around a fixed stake.

Target species: This fishery targets species including, but not limited to: weakfish, spot, croaker, menhaden, bluefish, spotted seatrout, and hogfish

Spatial/temporal distribution of effort: The fishery includes fishing with long haul seine gear to target any species in waters off North Carolina, including estuarine waters in Pamlico and Core Sounds and their tributaries. The fishery occurs from February-November, with peak effort occurring from June-October.

Management and regulations: The fishery is managed under Atlantic States Marine Fisheries Commission Interstate Fishery Management Plans, and is an affected fishery under the BDTRP.

Observer coverage: There has not been observer coverage in this fishery.

North Carolina Roe Mullet Stop Net

Current category: Category II

Basis for current classification on the LOF: The 2010 LOF included a superscript "1" following bottlenose dolphin (WNA coastal stock) because the annual mortality and serious injury of that stock in this fishery was greater than 1% and less than 50% of the stock's Potential Biological Removal (PBR) level. When the stocks of bottlenose dolphins killed/injured in this fishery were updated on the 2011 LOF, the superscript "1" was retained after the new stocks because NMFS cannot yet differentiate to which stock a killed/injured animal belongs. In this case, there is only one stock the killed/injured animals could have come from.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, Southern North Carolina (NC) estuarine system (1).
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Gear description/method for fishing: This fishery uses a stop net and a beach seine. The stop net is a stationary,

multi-filament net set in an "L" shape that is anchored to the beach and extended out perpendicular to the beach. The stop net herds schools of fish, while the beach haul seine is used to capture fish and bring them ashore. The beach seine is constructed of multi-filament and monofilament panels with stretched mesh ranging from 3-4 inches stretched. The stop net is traditionally left in the water for 1-5 days, but can be left as long as 15 days.

Target species: Traditionally striped mullet, but has now expanded to include other teleost species as well.

Spatial/temporal distribution of effort: Effort occurs from October-November and is unique to Bogue Banks, North Carolina.

Management and regulations: This fishery is managed under the North Carolina Striped Mullet Fishery Management Plan, North Carolina Department of Marine Fisheries, and is an affected fishery under the BDTRP.

Observer coverage: There has not been Federal observer coverage in this fishery; however, the NMFS Beaufort laboratory observed this fishery in 2001-2002.

Virginia Pound Net

Current category: Category II

Basis for current classification on the LOF: The 2010 LOF included a superscript "1" following bottlenose dolphin (WNA coastal stock) because the annual mortality and serious injury of that stock in this fishery was greater than1% and less than 50% of the stock's Potential Biological Removal (PBR) level. When the stocks of bottlenose dolphins killed/injured in this fishery were updated on the 2011 LOF, the superscript "1" was retained after each of these stocks because NMFS cannot yet differentiate to which stock a killed/injured animal belongs. Until NMFS is able to do so, each stock of bottlenose dolphin is considered to be driving the classification of the fishery.

Current list of marine mammal species/stocks killed/injured (a (1)indicates those stocks driving the fishery's classification): Bottlenose dolphin, Northern Migratory coastal (1); Bottlenose dolphin, Northern North Carolina (NC) estuarine system; Bottlenose dolphin, Southern Migratory coastal (1).

Gear description/method for fishing: This fishery uses stationary gear. Pound net gear includes a large mesh lead posted perpendicular to the shoreline and extending outward to the corral, or "heart," where the catch accumulates.

Target species: Weakfish, spot, and croaker.

Spatial/temporal distribution of effort: Effort in this fishery occurs in nearshore coastal and estuarine waters off Virginia. This fishery includes all pound net effort in Virginia state waters, including waters inside the Chesapeake Bay.

Management and regulations: The fishery is managed by the Atlantic States Marine Fisheries Commission under the Interstate Fishery Management Plans for Atlantic Croaker and Spot, and is an affected fishery under the BDTRP and Endangered Species Act.

Observer Coverage: There has not been formal observer coverage in this fishery; however, the Northeast Fishery Observer Program (NEFOP) has monitoring and characterization that occurs sporadically in this fishery.

Comments: In 2004 and 2005, an experimental fishery was conducted in an area of the Chesapeake Bay that was closed to commercial pound net fishing effort from May to July for sea turtle conservation. The results from these studies determined a modified pound net leader could be used for pound net fishing while providing sea turtle conservation benefits. The modified leader design is also an effective solution to reduce dolphin interactions with Virginia pound net leaders. The reduced mesh webbing and spacing and design of the vertical lines of the modified leader reduce areas for dolphin entanglements. Therefore, the modified leader likely reduces the bycatch of dolphins (Schaffler et al. 2011). Stranding and observer data also indicate the modified leader design reduces bottlenose dolphin interactions.

Mid-Atlantic Menhaden Purse Seine

Current category: Category II

Basis for current classification on the LOF: Based on analogy to other purse seine fisheries, such as the Category II Gulf of Mexico Menhaden purse seine fishery, and potential interactions with bottlenose dolphins (Northern Migratory coastal and Southern Migratory coastal stocks).

Current list of marine mammal species/stocks killed/injured: Bottlenose dolphin, Northern Migratory coastal; Bottlenose dolphin, Southern Migratory coastal.

Gear description/method for fishing: This fishery uses purse seine gear for reduction or baitfish. The purse seine net is made of nylon fiber and is about 1 ¾ inch stretched mesh; net length is about 1,000-1,400 ft; and net depth is from 65-90 ft. Soak time is approximately 35-45 minutes from deployment of net until the purse is closed. Fishing vessels are either large (up to 200 ft) carrying two smaller purse seine boats (39 ft), or small snapper rigs (60-75 ft).Schools of menhaden are spotted from larger vessels and/or spotted planes. Purse seines are deployed over schools vertically from large vessel or two smaller boats. The floatline and leadline has a series of rings threaded with a purse line that is winched closed around the school. The net is retrieved by power block.

Target species: Menhaden and thread herring.

Spatial/temporal distribution of effort: Most sets occur within 3 mi (4.8 km) of shore with the majority of the effort occurring off North Carolina from November-January, and moving northward during warmer months to southern New England. Fishing effort is year-round with concentrated migratory peaks from May-September from Virginia northward, and November-January in North Carolina. A majority of the fishing effort by the Virginia fleet occurs in the Virginia portion of Chesapeake Bay, and along the ocean beaches of Eastern Shore Virginia. Most sets in Chesapeake Bay are in the main stem of the Bay, greater than one mile from shore. In summer, the Virginia fleet occasionally ranges as far north as northern New Jersey. Purse-seining for reduction purposes is prohibited by state law in Maryland, Delaware, and New Jersey; hence, purse-seine sets in the ocean off Delmarva and New Jersey are by definition greater than 3 miles from shore.

Management and regulations: The fishery is managed by the Atlantic States Marine Fisheries Commission under the Interstate Fishery Management Plan for Atlantic Menhaden.

Observer coverage: There has been very limited observer coverage since 2008.

Southeastern U.S. Atlantic/Gulf of Mexico Shrimp Trawl

Current category: Category II

Basis for current classification on the LOF: Based on interactions reported through observer reports, stranding data, and fisheries research data, with multiple strategic and non-strategic marine mammal stocks. Due to the lack of PBR data for most of the stocks and the low observer coverage in this fishery, NMFS conducted a qualitative analysis to determine the appropriate classification for this fishery. Even with low coverage, NMFS observed 12 dolphin takes (of which 11 were serious injuries or mortalities) from 1993-2009; 11 of which were taken since 2002. Also, the final 2009 SARs note that "occasional interactions with bottlenose dolphins have been observed.and there is infrequent evidence of interactions from stranded animals." Further, Marine Mammal Authorization Program (MMAP) records list 1 dolphin take in shrimp trawl gear in South Carolina in 2002. Lastly, 13 dolphin takes since 2009, 10 of which were taken since 2002, have been documented by NMFS in Southeast U.S. research trawl operations, and/or relocation trawls conducted.

Current list of marine mammal species/stocks killed/injured (a (1) indicates those stocks driving the fishery's classification): Atlantic spotted dolphin, Gulf of Mexico (GMX) continental and oceanic; Bottlenose dolphin, GMX continental shelf; Bottlenose dolphin, Northern GMX coastal; Bottlenose dolphin, South Carolina/Georgia(SC/GA) coastal (1); Bottlenose dolphin, Eastern GMX coastal (1); Bottlenose dolphin, Western GMX coastal(1); Bottlenose

dolphin, GMX bay, sound, estuarine (1)

Gear description/method for fishing: The most commonly employed gear in this fishery is a double-rig otter trawl, which normally includes a lazy line attached to each bag's codend. The lazy line floats free during active trawling, and as the net is hauled back, it is retrieved with a boat- or grappling-hook to assist in guiding and emptying the trawl nets. Shrimp trawl soak time is about three hours. Skimmer nets for shrimp are also included in this LOF fishery classification.

Target species: Brown, pink and white shrimp within estuaries, and near coastal and offshore regions. Royal Red shrimp along the deep continental slope.

Spatial/temporal distribution of effort: The pelagic or bottom trawl fishery operating virtually year-round in the Atlantic Ocean from NC through FL, and in the Gulf of Mexico from FL through TX. Effort occurs in estuarine, near shore coastal waters, and along the continental slope of the Atlantic and estuarine, near shore coastal, and offshore continental shelf and slope waters in the Gulf of Mexico. Fishery typically operates from sunset to sunrise when shrimp are most likely to swim higher in the water column.

Management and regulations: The shrimp fishery is managed by both by state and federal regulations. The shrimp trawl fishery is affected under the Bottlenose Dolphin Take Reduction Plan and Endangered Species Act.

Levels of observer coverage each year: This fishery was observed between 1992 and 2006 under a voluntary program, which became mandatory in 2007. Observer coverage was less than 1% for all observed years.

Comments: Although shrimp trawlers are required under Endangered Species Act regulations to use turtle excluder devices to reduce sea turtle bycatch (50 CFR 223.206), the fishery currently does not use any method or gear modification to deter, or reduce bycatch of, marine mammals.

Southeastern U.S. Atlantic, Gulf of Mexico Stone Crab Trap/Pot Fishery

Current category: Category II

Basis for current classification on the LOF: Based on analogy to the Category II "Atlantic blue crab trap/pot" fishery, and serious injury and mortality to bottlenose dolphins (multiple stocks) reported in stranding data.

Current list of marine mammal species/stocks killed/injured: Bottlenose dolphin, Biscayne Bay estuarine; Bottlenose dolphin, Central Florida (FL) coastal; Bottlenose dolphin, Eastern Gulf of Mexico (GMX) coastal; Bottlenose dolphin, FL Bay; Bottlenose dolphin, GMX bay, sound, estuarine (FL west coast portion); Bottlenose dolphin, Indian River Lagoon estuarine system; Bottlenose dolphin, Jacksonville estuarine system; Bottlenose dolphin, Northern GMX coastal.

Gear description/method for fishing: Traps are the most typical gear type used for the commercial and recreational stone crab fishery. Baited traps are frequently set in waters of 65 ft (19.8 m) depth or less in a double line formation, generally 100-300 ft (30.5-91.4 m) apart, running parallel to a bottom contour. Buoys are attached to the trap/pot via float line.

Target Species: Florida stone crab (*Menippe mercenaria*).

Spatial/temporal distribution of effort: Operates primarily nearshore in the State of Florida. Stone crab fishing outside of this area is likely very minimal. The margins of seagrass flats and bottoms with low rocky relief are also favored areas for trap placement. The season for commercial and recreational stone crab harvest is from October 15 to May 15.

Management and regulations: There is not fishery management plan for stone crab, but rather, the federal and state fishery is managed by the Florida Fish and Wildlife Commission in order to streamline state and federal management. Besides Florida, Southeastern states do not specifically offer stone crab permits, rather they provide general trap/pot endorsements.

Total Effort: Due to the Stone Crab Trap Reduction Schedule [F.A.C Chapter 68B-13.010(3)(f) Florida Statutes], the number of commercial trap certificates issued by the State of Florida has decreased from approximately 1,475,000 in the 2002-2003 fishing season to 1,119,449 in the 2011-2012 fishing season. The Stone Crab Trap Reduction Schedule [F.A.C Chapter 68B-13.010(3)(f) Florida Statutes] will eventually reduce the number of trap tags to 600,000 trap/pots statewide. Pots will be reduced by a pre-specified percentage each year until the number of trap tags reaches 600,000 (Muller *et al.* 2006).

Observer Coverage: There is no observer coverage in this fishery.

Comments: Based on the similar gear type used in a number of different pot fisheries (e.g., blue crab, spiny lobster, etc.) especially in coastal Florida waters, bottlenose dolphin strandings associated with this fishery are likely underestimated. Derelict trap/pot gear is also a substantial concern for marine life entanglements. In FL, commercial trap/pot buoys are required to be marked with the letter "X," the trap owner's stone crab endorsement number (in characters at least 2 inches high), and a tag that corresponds to a valid FWC-issued trap certificate.

III. Historical Fishery Descriptions

Atlantic Foreign Mackerel

Prior to 1977, there was no documentation of marine mammal bycatch in DWF activities off the Northeast coast of the U.S. With implementation of the Magnuson Fisheries Conservation and Management Act (MFCMA) in that year, an Observer Program was established which recorded fishery data and information on incidental bycatch of marine mammals. DWF effort in the U.S. Atlantic Exclusive Economic Zone (EEZ) under MFCMA had been directed primarily towards Atlantic Mackerel and Squid. From 1977 through 1982, an average mean of 120 different foreign vessels per year (range 102-161) operated within the U.S. Atlantic EEZ. In 1982, there were 112 different foreign vessels; 16%, or 18, were Japanese Tuna longline vessels operating along the U.S. east coast. This was the first year that the Northeast Regional Observer Program assumed responsibility for observer coverage of the longline vessels. Between 1983 and 1991, the numbers of foreign vessels operating within the U.S. Atlantic EEZ each year were 67, 52, 62, 33, 27, 26, 14, 13, and 9 respectively. Between 1983 and 1988, the numbers of DWF vessels included 3, 5, 7, 6, 8, and 8 respectively, Japanese longline vessels. Observer coverage on DWF vessels was 25-35% during 1977-1982, and increased to 58%, 86%, 95% and 98%, respectively, in 1983-1986. One hundred percent observer coverage was maintained during 1987-1991. Foreign fishing operations for Squid ceased at the end of the 1986 fishing season and for Mackerel at the end of the 1991 season. Documented interactions with white sided dolphins were reported in this fishery.

Pelagic Drift Gillnet

In 1996 and 1997, NMFS issued management regulations which prohibited the operation of this fishery in 1997. The fishery operated during 1998. Then, in January 1999 NMFS issued a Final Rule to prohibit the use of drift net gear in the North Atlantic Swordfish Fishery (50 CFR Part 630). In 1986, NMFS established a mandatory self-reported fisheries information system for Large Pelagic Fisheries. Data files are maintained at the SEFSC. The estimated total number of hauls in the Atlantic Pelagic Drift Gillnet Fishery increased from 714 in 1989 to 1,144 in 1990; thereafter, with the introduction of quotas, effort was severely reduced. The estimated number of hauls from 1991 to 1996 was 233, 243, 232, 197, 164, and 149 respectively. Fifty-nine different vessels participated in this fishery at one time or another between 1989 and 1993. In 1994 to 1998 there were 11, 12, 10, 0, and 11 vessels, respectively, in the fishery. Observer coverage, expressed as percent of sets observed, was 8% in 1989, 6% in 1990, 20% in 1991, 40% in 1992, 42% in 1993, 87% in 1994, 99% in 1995, 64% in 1996, no fishery in 1997, and 99% coverage during 1998. Observer coverage dropped during 1996 because some vessels were deemed too small or unsafe by the contractor that provided observer coverage to NMFS. Fishing effort was concentrated along the southern edge of Georges Bank and off Cape Hatteras, North Carolina. Examination of the species composition of the catch and locations of the fishery throughout the year suggest that the Drift Gillnet Fishery was stratified into two strata: a southern, or winter, stratum and a northern, or summer, stratum. Documented interactions with North Atlantic right whales, humpback whales, sperm whales, pilot whale spp., Mesoplodon spp., Risso's dolphins, common dolphins, striped dolphins and white sided dolphins were reported in this fishery.

Atlantic Tuna Purse Seine

The Tuna Purse Seine Fishery occurring between the Gulf of Maine and Cape Hatteras, North Carolina is directed at large medium and giant Bluefin Tuna (BFT). Spotter aircraft are typically used to locate fish schools. The official start date, set by regulation, is 15 July of each year. Individual Vessel Quotas (IVQs) and a limited access system prevent a derby fishery situation. Catch rates for large medium and giant Tuna can be high and consequently, the season can last only a few weeks, however, over the last number of years, effort expended by this sector of the BFT fishery has diminished dramatically due to the unavailability of BFT on the fishing grounds.

The regulations allocate approximately 18.6% of the U.S. BFT quota to this sector of the fishery (5 IVQs) with a tolerance limit established for large medium BFT (15% by weight of the total amount of giant BFT landed.

Limited observer data is available for the Atlantic Tuna Purse Seine Fishery. Out of 45 total trips made in 1996, 43 trips (95.6%) were observed. Forty-four sets were made on the 43 observed trips and all sets were observed. A total of 136 days were covered. No trips were observed during 1997 through 1999. Two trips (seven hauls) were observed in October 2000 in the Great South Channel Region. Four trips were observed in September 2001. No marine mammals were observed taken during these trips. Documented interactions with pilot whale spp. were reported in this fishery.

Atlantic Tuna Pelagic Pair Trawl

The Pelagic Pair Trawl Fishery operated as an experimental fishery from 1991 to 1995, with an estimated 171 hauls in 1991, 536 in 1992, 586 in 1993, 407 in 1994, and 440 in 1995. This fishery ceased operations in 1996 when NMFS rejected a petition to consider pair trawl gear as an authorized gear type in the Atlantic Tuna Fishery. The fishery operated from August to November in 1991, from June to November in 1992, from June to October in 1993 (Northridge 1996), and from mid-summer to December in 1994 and 1995. Sea sampling began in October of 1992 (Gerrior *et al.* 1994) where 48 sets (9% of the total) were sampled. In 1993, 102 hauls (17% of the total) were sampled. In 1994 and 1995, 52% (212) and 55% (238), respectively, of the sets were observed. Nineteen vessels have operated in this fishery. The fishery operated in the area between 35N to 41N and 69W to 72W. Approximately 50% of the total effort was within a one degree square at 39N, 72W, around Hudson Canyon, from 1991 to 1993. Examination of the 1991-1993 locations and species composition of the bycatch, showed little seasonal change for the six months of operation and did not warrant any seasonal or areal stratification of this fishery (Northridge 1996). During the 1994 and 1995 Experimental Pelagic Pair Trawl Fishing Seasons, fishing gear experiments were conducted to collect data on environmental parameters, gear behavior, and gear handling practices to evaluate factors affecting catch and bycatch (Goudy 1995, 1996), but the results were inconclusive. Documented interactions with pilot whale spp., Risso's dolphin and common dolphins were reported in this fishery.

Part B. Description of U.S. Gulf of Mexico Fisheries

I. Data Sources

Items 1 and 2 describe sources of marine mammal mortality, serious injury or entanglement data, and item 3 describes the source of commercial fishing effort data used to generate maps depicting the location and amount of fishing effort and the numbers of active permit holders. In general, commercial fisheries in the Gulf of Mexico have had little directed observer coverage and the level of fishing effort for most fisheries that may interact with marine mammals is either not reported or highly uncertain.

1. Southeast Region Fishery Observer Programs

Two fishery observer programs are managed by the SEFSC that observe commercial fishery activity in the U.S. Gulf of Mexico. The Pelagic Longline Observer Program (POP) administers a mandatory observer program for the U.S. Atlantic Large Pelagics Longline Fishery. The program has been in place since 1992, and randomly allocates observer effort by eleven geographic fishing areas proportional to total reported effort in each area and quarter. Observer coverage levels are mandated under the Highly Migratory Species FMP (HMS FMP, 50 CFR Part 635). The second is the Southeastern Shrimp Otter Trawl Fishery Observer Program. Prior to 2007, this was a voluntary program administered by SEFSC in cooperation with the Gulf and South Atlantic Fisheries Foundation. The program was funding and project dependent, therefore observer coverage is not necessarily randomly allocated across the fishery. In 2007, the observer program was expanded, and it became mandatory for fishing vessels to take an observer if selected. The program now includes more systematic sampling of the fleet based upon reported landings and effort patterns. The total level of observer coverage for this program is ~ 1% of the total fishery effort. In each Observer Program, the observers record information on the total target species catch, the number and type of interactions with protected species (including both marine mammals and sea turtles), and biological information on species caught. In each Observer Program, the observers record information on the total target species catch, the

number and type of interactions with protected species including both marine mammals and sea turtles, and biological information on species caught.

2. Regional Marine Mammal Stranding Networks

The Southeast Regional Stranding Network is a component of the Marine Mammal Health and Stranding Response Program (MMHSRP). The goals of the MMHSRP are to facilitate collection and dissemination of data, assess health trends in marine mammals, correlate health with other biological and environmental parameters, and coordinate effective responses to unusual mortality events (Becker *et al.* 1994). The Southeast Region Strandings Program is responsible for data collection and stranding response coordination along the U.S. Gulf of Mexico coast from Florida through Texas. Prior to 1997, stranding and entanglement data were maintained by the New England Aquarium and the National Museum of Natural History, Washington, D.C. Volunteer participants, acting under a letter of agreement with NOAA Fisheries, collect data on stranded animals that include: species; event date and location; details of the event including evidence of human interactions; determinations of the cause of death; animal disposition; morphology; and biological samples. Collected data are reported to the appropriate Regional Stranding Network Coordinator and are maintained in regional and national databases.

3. Southeast Region Fisheries Logbook System

The FLS is maintained at the SEFSC and manages data submitted from mandatory fishing vessel logbook programs under several FMPs. In 1986, a comprehensive logbook program was initiated for the Large Pelagics Longline Fisheries, and this reporting became mandatory in 1992. Logbook reporting has also been initiated since the early 1990s for a number of other fisheries including: reef fish fisheries; snapper-grouper complex fisheries; federally managed shark fisheries; and king and Spanish mackerel fisheries. In each case, vessel captains are required to submit information on the fishing location, the amount and type of fishing gear used, the total amount of fishing effort (e.g., gear sets) during a given trip, the total weight and composition of the catch, and the disposition of the catch during each unit of effort (e.g., kept, released alive, released dead). FLS data are used to estimate the total amount of fishing effort in the fishery and thus expand bycatch rate estimates from observer data to estimates of the total incidental take of marine mammal species in a given fishery.

4. Marine Mammal Authorization Program

Commercial fishing vessels engaging in Category I or II fisheries are automatically registered under the Marine Mammal Authorization Program (MMAP) in order to lawfully take a non-endangered/threatened marine mammal incidental to fishing operations. These fishermen are required to carry an Authorization Certificate onboard while participating in the listed fishery, must be prepared to carry a fisheries observer if selected, and must comply with all applicable take reduction plan regulations.. All vessel owners, regardless of the category of fishery they are operating in, are required to report, within 48 hours of the incident even if an observer has recorded the take, all incidental injuries and mortalities of marine mammals that have occurred as a result of fishing operations (NMFS-OPR 2003). Events are reported by fishermen on the Marine Mammal Mortality/Injury forms then submitted to and maintained by the NMFS Office of Protected Resources. The data reported include: captain and vessel demographics; gear type and target species; date, time and location of event; type of interaction; animal species; mortality or injury code; and number of interactions. Reporting forms are available online at http://www.nmfs.noaa.gov/pr/pdfs/interactions/mmap_reporting_form.pdf.

II. Gulf of Mexico Commercial Fisheries

Spiny Lobster Trap/Pot Fishery

Current category: Category III

Basis for current classification on the LOF: Entanglements of cetaceans in trap/pot fisheries have been documented, but the degree to which marine mammals become entangled in this fishery needs to be investigated further.

Current list of marine mammal species/stocks killed/injured: Bottlenose dolphin, Biscayne Bay estuarine; Bottlenose dolphin, FL Bay estuarine; Bottlenose dolphin, Central FL coastal; and Bottlenose dolphin, Eastern GMX coastal.

Gear Description: Spiny lobster trap/pot gear most commonly used in the commercial fishery consists of a cube made of wooden slats. Wire traps are occasionally used, but more frequently in deeper water. Concrete is typically poured in the bottom of traps to weight them. A buoy is attached to the trap via a float line and floated at the

surface. Buoys attached to spiny lobster traps must be marked with the letter "C" in Florida state waters. Tags displaying the crawfish endorsement number are also required on all traps by the state of Florida. Diving to collect spiny lobster is another known fishing method.

The type of bait used in traps depends on fisher preference. Some traps are set unbaited, some are baited with fish scraps, sardines, cat food or cowhide, while others are baited with legal sized or undersized lobsters used to attract larger lobsters. Soak times average from 8 to 28 days, with soak times increasing as the season progresses and catch rates decline (Matthews 2001).

Target Species: Caribbean spiny lobster (*Panulirus argus*), smooth tail spiny lobster (*Panulirus lauvicauda*) and spotted spiny lobster (*Panulirus guttatus*).

Spatial/temporal distribution of effort: The distribution of the commercial and recreational spiny lobster harvest off Florida is almost exclusively limited to the waters of the Florida Keys (GMFMC and SAFMC 1982). Effort occurs on both the Atlantic and Gulf side of the Florida Keys; however, diving for lobster is most common on the Gulf side (NMFS 2009). Fishing occurs from very nearshore areas out to water depths of 200 ft, although most fishing occurs in waters less than 100 ft.

The commercial and regular recreational spiny lobster seasons (in both state and federal waters of Florida and other Gulf states) start on August 6 and end on March 31 (F.A.C. Chapter 68B-24.005(1) Florida Statutes; 50 CFR 640.20(b)) with the exception of the two-day sport season in which trap gear is prohibited.

Management and Regulations: Since the majority of this fishery occurs off South Florida, the management involves both State and Federal jurisdictions. The fishery is currently managed via bag limits, minimum size limits, regulated fishing seasons for the commercial and recreational sectors, gear restrictions, trap construction requirements and a trap limitation and permitting program.

Total Effort: Over the last 10 years, commercial trap fishing has been the dominant gear type in the spiny lobster fishery, accounting for approximately 70 percent of all commercial landings (Robson 2006). The remaining landings are collected via divers by hand or via bully nets (which accounts for only a very small percentage). A trap limitation program initiated by the State of Florida in 1993 has reduced the number of lobster traps available annually from approximately one million to 485,891 trap tag certificates for the 2010 season (A. Podey, Florida Fish and Wildlife Conservation Commission (FFWCC) to A. Herndon, NMFS, pers. comm., 2010).

Observer Coverage: There is no observer coverage in this fishery.

Comments: Based on the similar gear type used in a number of different trap/pot fisheries (e.g., blue crab, stone crab, etc.) especially in coastal Florida waters, bottlenose dolphin strandings associated with this fishery are likely underestimated. Derelict trap/pot gear is also a substantial concern for marine life entanglements. It is estimated that between 10-20% of all traps (i.e., 50,000-100,000) are lost annually.

Southeastern U.S. Atlantic, Gulf of Mexico Stone Crab Trap/Pot Fishery

Current category: Category II

Basis for current classification on the LOF: Based on analogy to the Category II "Atlantic blue crab trap/pot" fishery, and serious injury and mortality to bottlenose dolphins (multiple stocks) reported in stranding data.

Current list of marine mammal species/stocks killed/injured: Bottlenose dolphin, Biscayne Bay estuarine; Bottlenose dolphin, Central Florida (FL) coastal; Bottlenose dolphin, Eastern Gulf of Mexico (GMX) coastal; Bottlenose dolphin, FL Bay; Bottlenose dolphin, GMX bay, sound, estuarine (FL west coast portion); Bottlenose dolphin, Indian River Lagoon estuarine system; Bottlenose dolphin, Jacksonville estuarine system; Bottlenose dolphin, Northern GMX coastal.

Gear description/method for fishing: Traps are the most typical gear type used for the commercial and recreational stone crab fishery. Baited traps are frequently set in waters of 65 ft (19.8 m) depth or less in a double line formation,

generally 100-300 ft (30.5-91.4 m) apart, running parallel to a bottom contour. Buoys are attached to the trap/pot via float line.

Target Species: Florida stone crab (*Menippe mercenaria*)

Spatial/temporal distribution of effort: Operates primarily nearshore in the state of Florida. Stone crab fishing outside of this area is likely very minimal. The margins of seagrass flats and bottoms with low rocky relief are also favored areas for trap placement. The season for commercial and recreational stone crab harvest is from October 15 to May 15.

Management and regulations: There is not fishery management plan for stone crab, but rather, the federal and state fishery is managed by the Florida Fish and Wildlife Commission in order to streamline state and federal management. Besides Florida, Southeastern states do not specifically offer stone crab permits, rather they provide general trap/pot endorsements.

Total Effort: Due to the Stone Crab Trap Reduction Schedule [F.A.C Chapter 68B-13.010(3)(f) Florida Statutes], the number of commercial trap certificates issued by the State of Florida has decreased from approximately 1,475,000 in the 2002-2003 fishing season to 1,119,449 in the 2011-2012 fishing season. The Stone Crab Trap Reduction Schedule [F.A.C Chapter 68B-13.010(3)(f) Florida Statutes] will eventually reduce the number of trap tags to 600,000 trap/pots statewide. Pots will be reduced by a pre-specified percentage each year until the number of trap tags reaches 600,000 (Muller *et al.* 2006).

Observer Coverage: There is no observer coverage in this fishery.

Comments: Based on the similar gear type used in a number of different pot fisheries (e.g., blue crab, spiny lobster, etc.) especially in coastal Florida waters, bottlenose dolphin strandings associated with this fishery are likely underestimated. Derelict trap/pot gear is also a substantial concern for marine life entanglements. In FL, commercial trap/pot buoys are required to be marked with the letter "X," the trap owner's stone crab endorsement number (in characters at least 2 inches high), and a tag that corresponds to a valid FWC-issued trap certificate.

Gulf of Mexico Menhaden Purse Seine Fishery

Current category: Category II

Basis for current classification on the LOF: Based on a review of observer data from 1992-1995. Observers recorded 9 incidental takes, 8 (3 mortalities) from the Western Gulf of Mexico [GMX] coastal bottlenose stock and 1 from the Northern GMX coastal stock. All of the lethal takes occurred in an area encompassing the Western GMX coastal stock of bottlenose dolphins. Extrapolating the takes from the average observer effort indicated the annual average mortality and serious injury was 68 animals/year, exceeding 100% of the Potential Biological Removal (PBR) level for the Western coastal stock (PBR=29), qualifying this fishery as a Category I fishery on the LOF. However, NMFS categorized this fishery as a Category II pending a revised analysis of stock structure for bottlenose dolphin in the GMX. If all bottlenose stocks in the GMX were grouped together PBR would equal 154, putting the fishery in Category II (68 animals/year is 44% of PBR when PBR is 154).

Current list of marine mammal species/stocks killed/injured ((1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, GMX bay, sound, estuarine; Bottlenose dolphin, Northern GMX coastal(1); Bottlenose dolphin, Western GMX coastal (1). Gear description/method for fishing: This fishery uses purse seine gear. All catch is processed at the "mother ship."

Target species: Menhaden and thread herring.

Spatial/temporal distribution of effort: This fishery operates in bays, sounds, and nearshore coastal waters along the GMX coast. The majority of the fishing effort is concentrated off Louisiana and Mississippi, with lesser effort off Florida, Alabama, and Texas .

Management and regulations: Florida prohibits the use of purse seines in state waters. This fishery is managed under the Gulf States Marine Fisheries Commission Interstate Gulf Menhaden Fishery Management Plan.

Observer coverage: Observed in 1992, 1994, and 1995 through an observer program conducted by Louisiana State University. There has been no observer coverage since 1995. There was a pilot observer program conducted in 2011.

Gulf of Mexico Gillnet Fishery

Current category: Category II

Basis for current classification on the LOF: Primarily by analogy with other Category I and II Atlantic gillnet fisheries, as well as research takes and stranding data Gulf of Mexico (GMX) bottlenose dolphin stocks showing signs of interaction with gillnets, and a recommendation from the Atlantic Scientific Review Group (SRG) to elevate unless there were data to the contrary.

Current list of marine mammal species/stocks killed/injured: Bottlenose dolphin, GMX bay, sound, and estuarine; Bottlenose dolphin, Northern GMX coastal; Bottlenose
dolphin, Western GMX coastal.

Gear description/method for fishing: This fishery uses any type of gillnet configuration, including strike and straight gillnets.

Target species: This fishery targets a wide variety of target species, including, but not limited to: black drum, sheepshead, weakfish, mullet, spot, croaker, king mackerel, Spanish mackerel, Florida pompano, flounder, shark, menhaden, bluefish, blue runner, ladyfish, spotted seatrout, croaker, kingfish, and red drum.

Spatial/temporal distribution of effort: This fishery operates year-round in waters north of the U.S.-Mexico border and west of the fishery management council demarcation line between the Atlantic Ocean and the Gulf of Mexico. Gillnets are currently prohibited in Texas and Florida state waters. Mississippi currently has no state permits available for gillnet fisheries.

Management and regulations: Gillnet gear is prohibited in Texas and Florida state waters, but fixed and runaround gillnets are currently used in Louisiana and Alabama with highly variable fishing effort. Fishing for king mackerel, Spanish mackerel, cobia, cero, little tunny, dolphin fish, and bluefish are managed under the Coastal Migratory Pelagic Resources Fishery Management Plan (CMPR FMP). In the Gulf of Mexico, CMPR FMP species are the only federally managed species for which gillnet gear is authorized, and only run-around gillnetting for these species is allowed. In state waters, state and Gulf States Marine Fisheries Commission Interstate FMPs apply. Furthermore, Texas state does use gillnets for research that have associated takes of bottlenose dolphins.

Observer coverage: There has not been observer coverage in this fishery.

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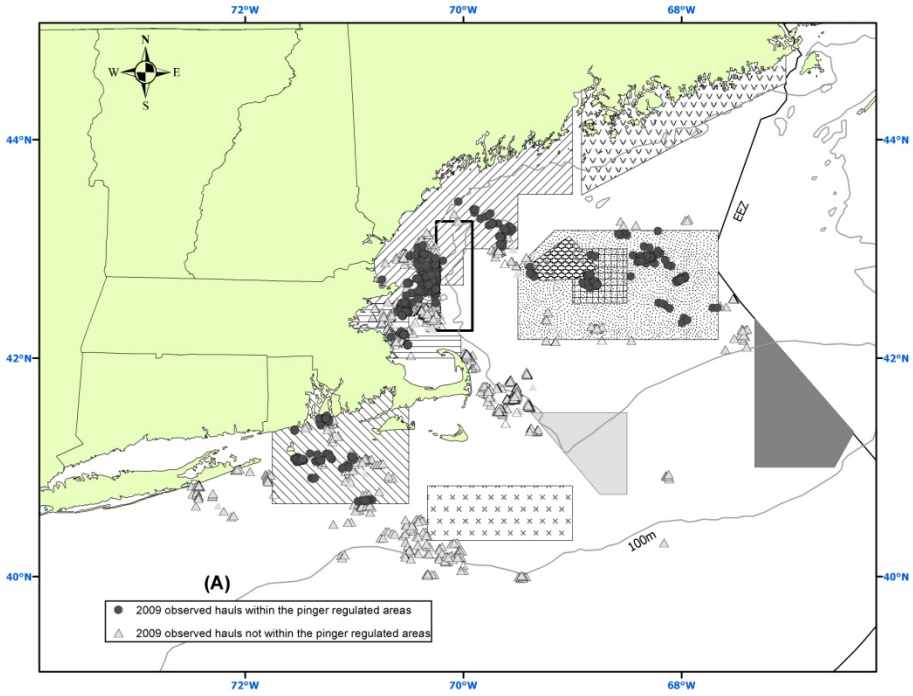
Appendix III: Fishery Descriptions - List of Figures

Figure 1. 2009 Northeast sink gillnet observed hauls (A) and observed takes (B).



Multispecies Fisheries Management Plan year-round closures:

Closed Area 1 | Closed Area 2 | Western Gulf of Maine Closed Area | Nantucket Lightship Closed Area | Cashes Ledge Closure

Harbor porpoise Take Reduction Plan management areas:

Offshore Closure | Northeast Closure | MidCoast Closure | Mass Bay Closure | Cape Cod South Closure | Cashes Ledge Closure

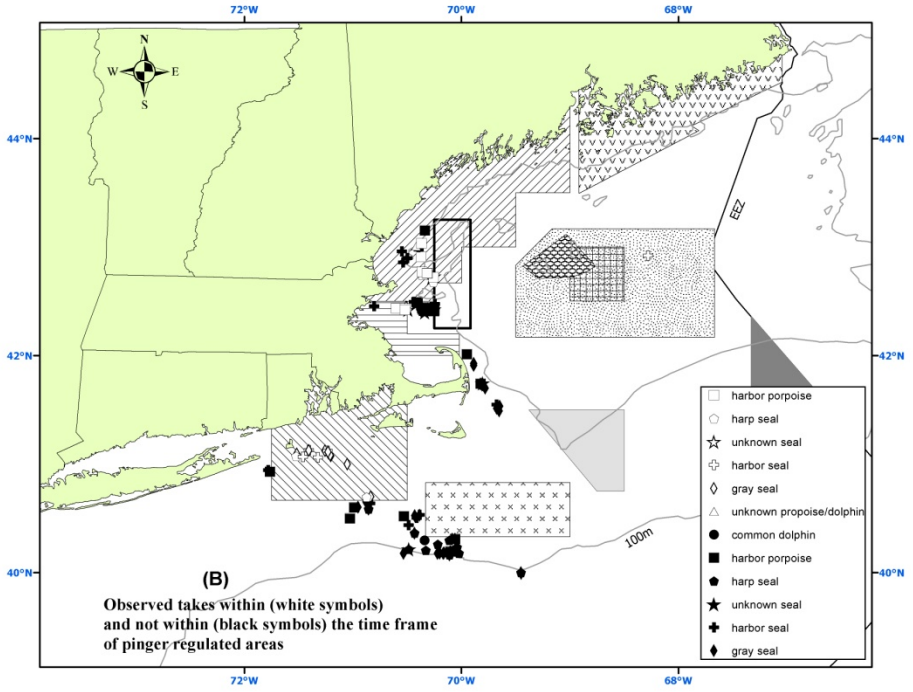
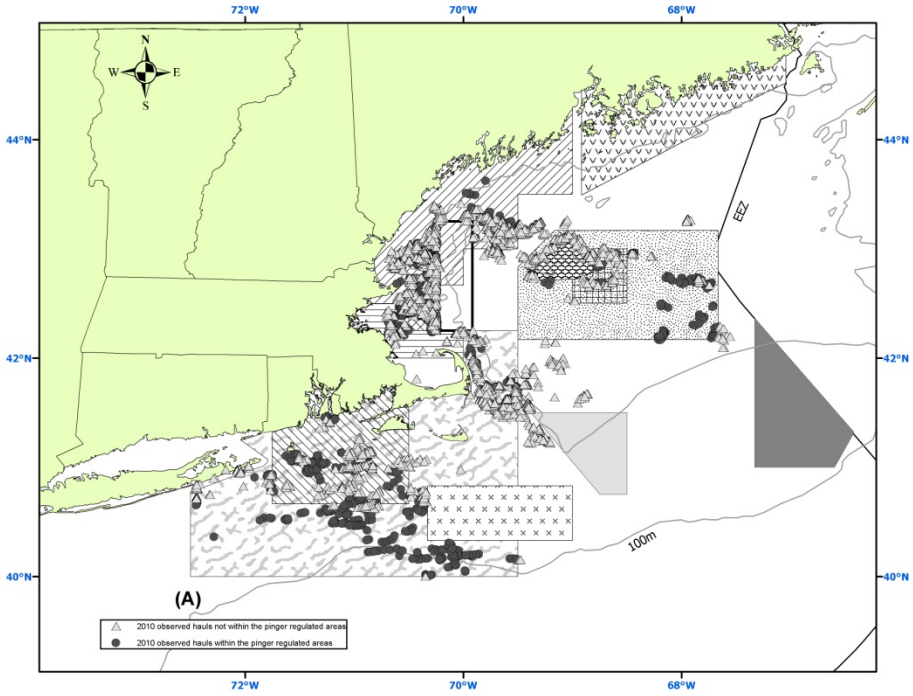


Figure 2. 2010 Northeast sink gillnet observed hauls (A) and observed takes (B).



Multispecies Fisheries Management Plan year-round closures:

Closed Area 1 | Closed Area 2 | Western Gulf of Maine Closed Area | Nantucket Lightship Closed Area | Cashes Ledge Closure

Harbor porpoise Take Reduction Plan management areas:

Offshore Closure | Northeast Closure | MidCoast Closure | Mass Bay Closure | Cape Cod South Closure | Cashes Ledge Closure

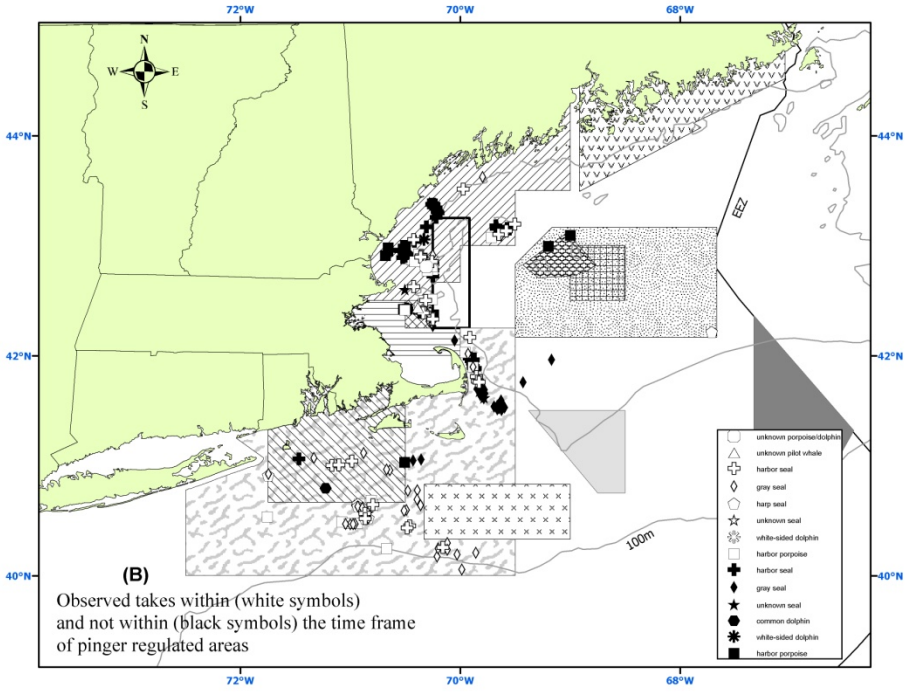
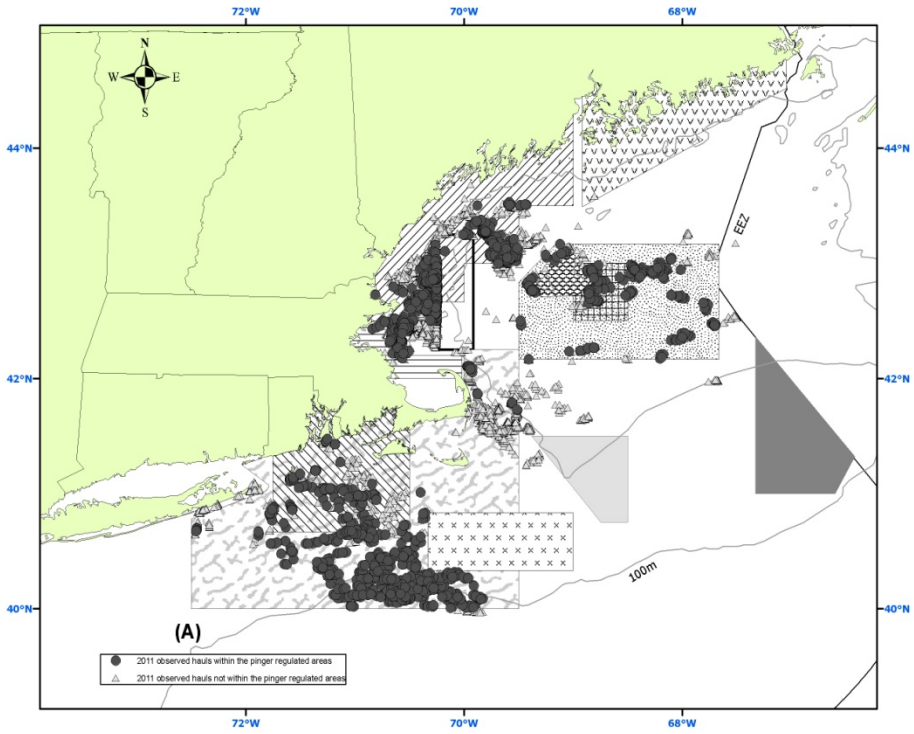


Figure 3. 2011 Northeast sink gillnet observed hauls (A) and observed takes (B).



Multispecies Fisheries Management Plan year-round closures:

Closed Area 1 | Closed Area 2 | Western Gulf of Maine Closed Area | Nantucket Lightship Closed Area | Cashes Ledge Closure

Harbor porpoise Take Reduction Plan management areas:

Offshore Closure | Northeast Closure | MidCoast Closure | Mass Bay Closure | Cape Cod South Closure | Cashes Ledge Closure

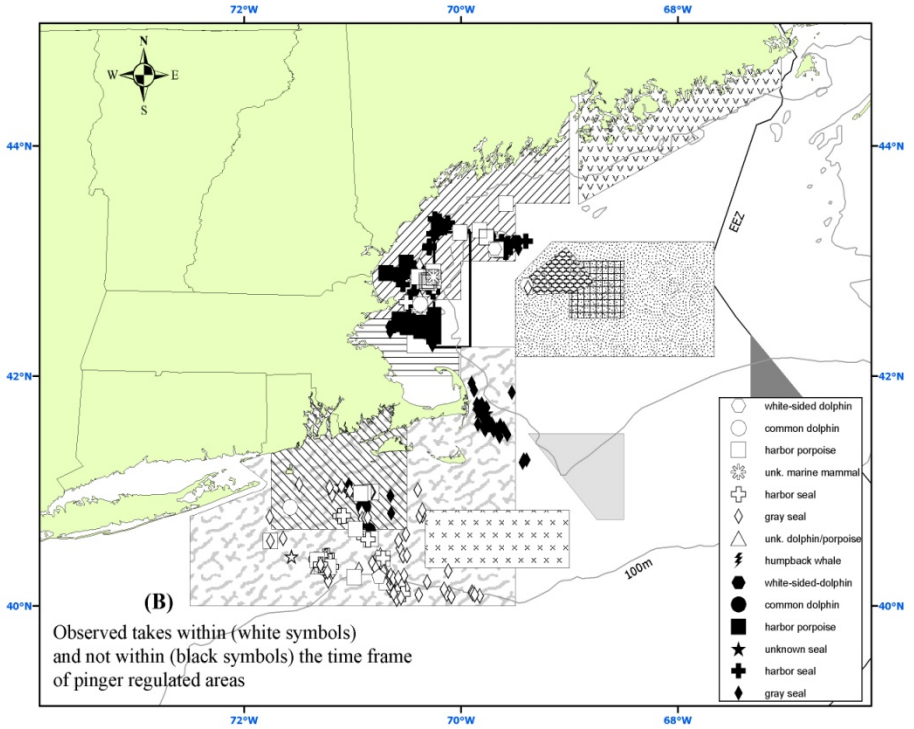
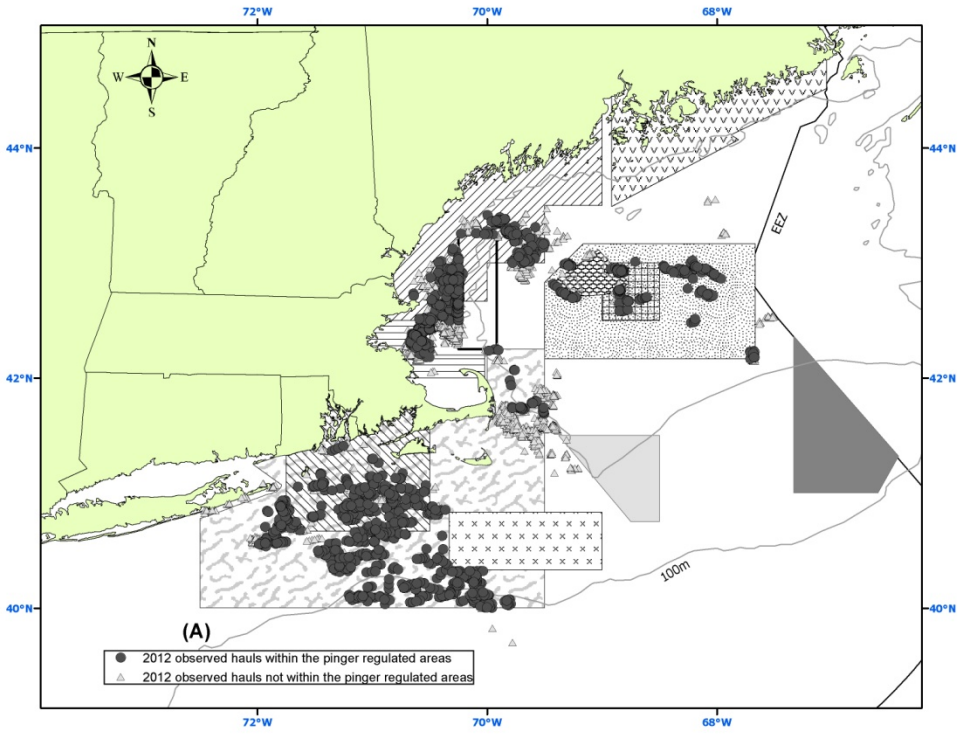


Figure 4. 2012 Northeast sink gillnet observed hauls (A) and observed takes (B).



Multispecies Fisheries Management Plan year-round closures:

Closed Area 1 | Closed Area 2 | Western Gulf of Maine Closed Area | Nantucket Lightship Closed Area | Cashes Ledge Closure

Harbor porpoise Take Reduction Plan management areas:

Offshore Closure | Northeast Closure | MidCoast Closure | Mass Bay Closure | Cape Cod South Closure | Cashes Ledge Closure

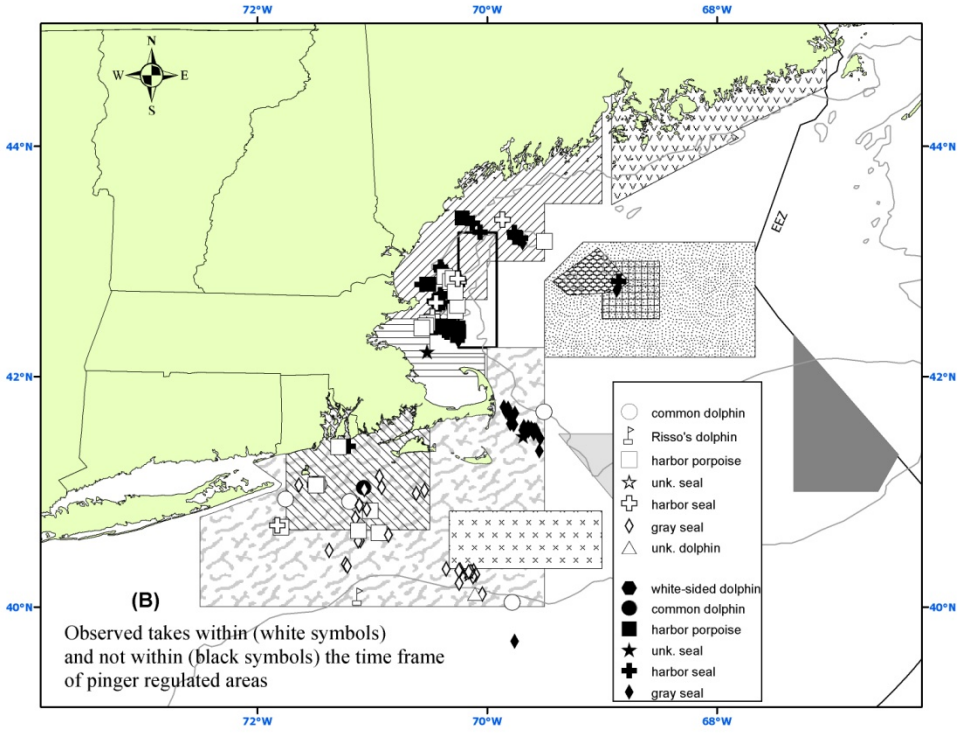
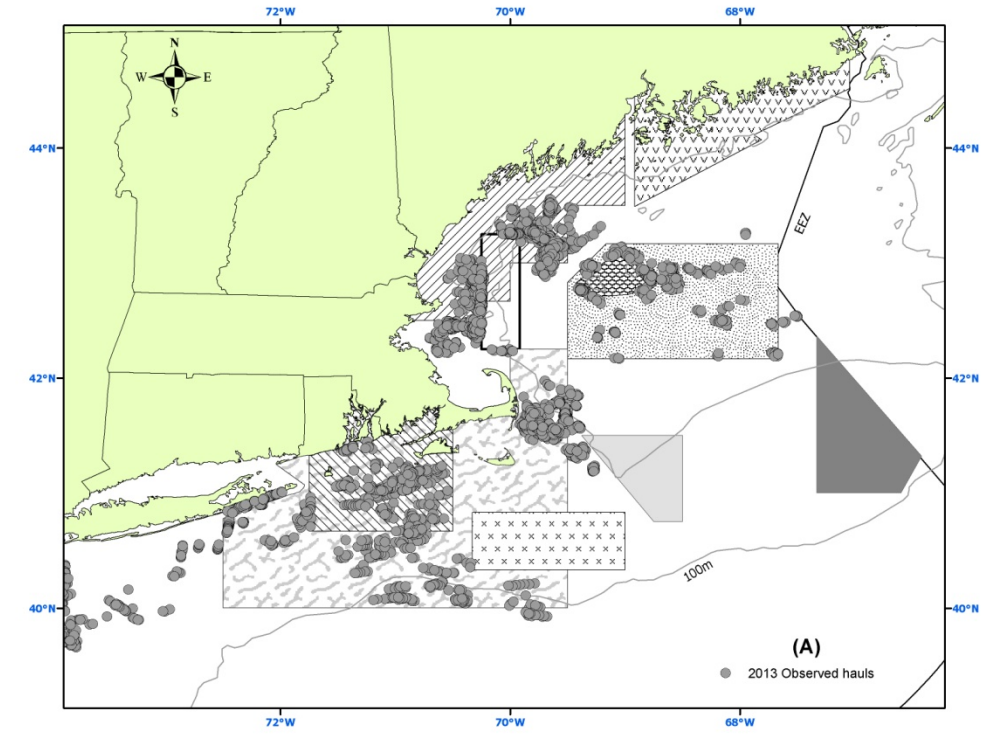


Figure 4. 2013 Northeast sink gillnet observed hauls (A) and observed takes (B).



Multispecies Fisheries Management Plan year-round closures:

Closed Area 1 | Closed Area 2 | Western Gulf of Maine Closed Area | Nantucket Lightship Closed Area | Cashes Ledge Closure

Harbor porpoise Take Reduction Plan management areas:

Offshore Closure | Northeast Closure | MidCoast Closure | Mass Bay Closure | Cape Cod South Closure | Cashes Ledge Closure

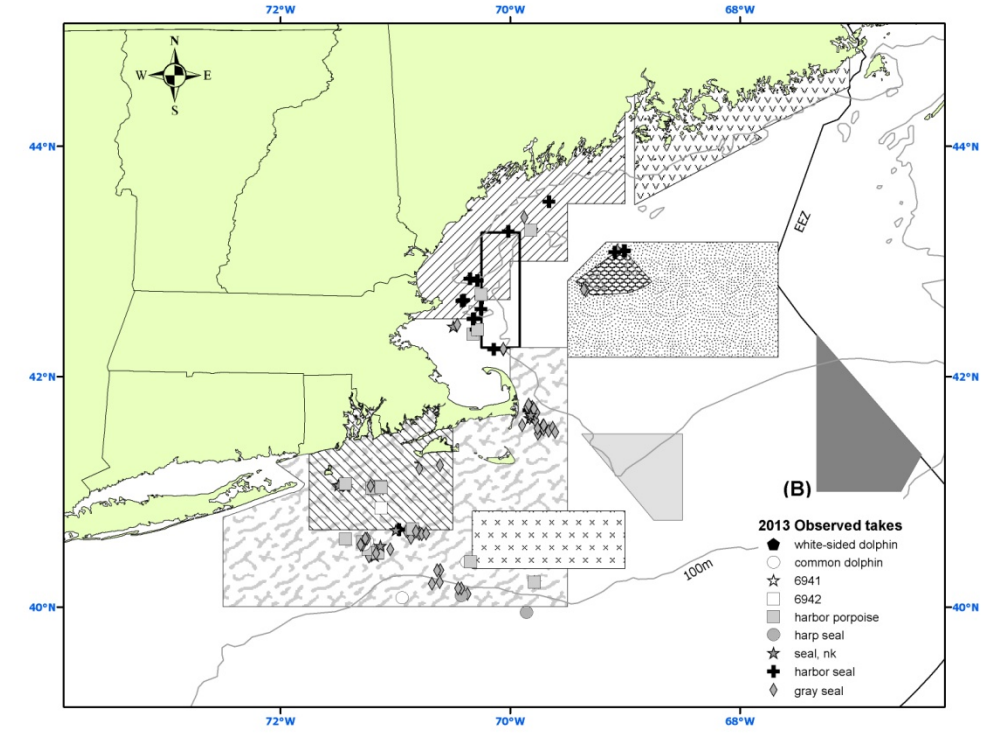
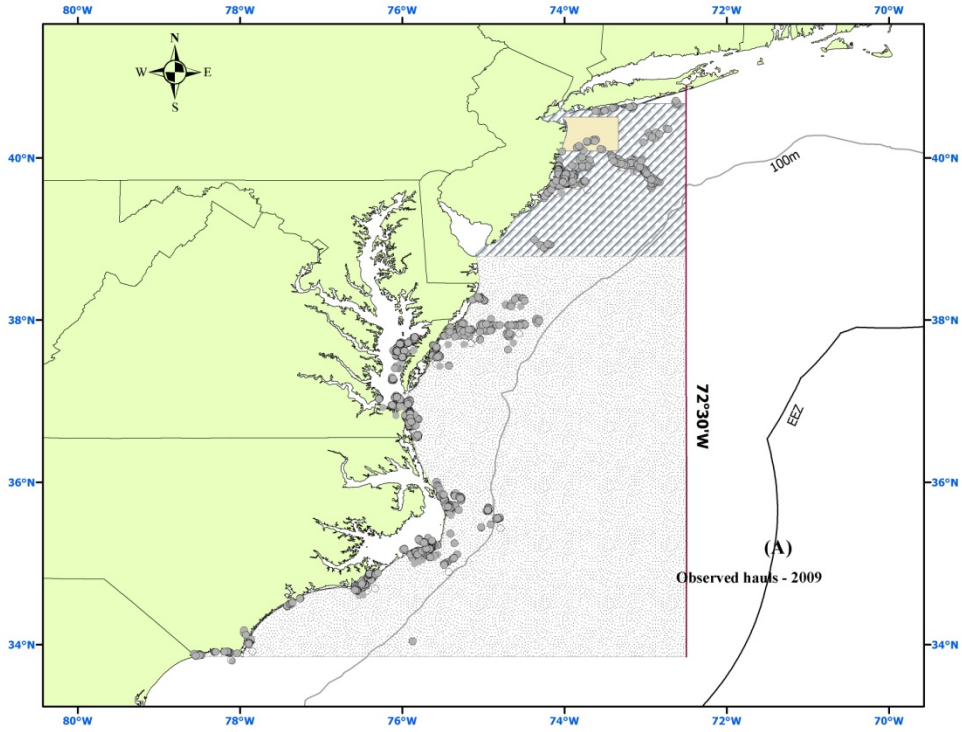


Figure 6. 2009 Mid-Atlantic gillnet observed hauls (A) and observed takes (B).



Harbor porpoise Take Reduction Plan management areas:

Southern mid-Atlantic waters New Jersey Mudhole waters off New Jersey

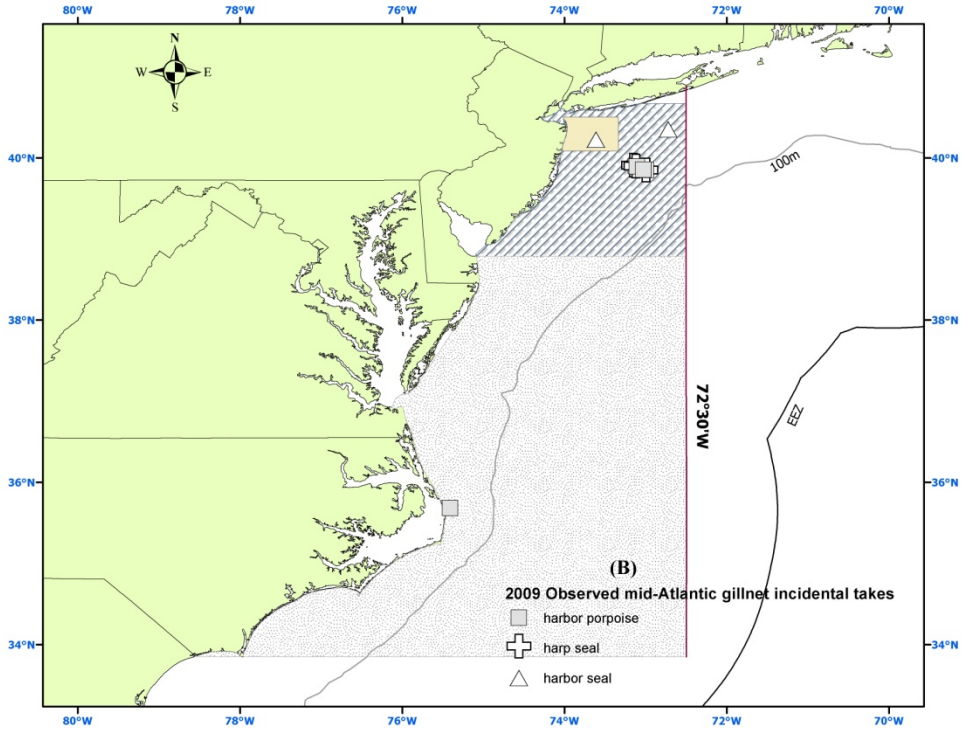
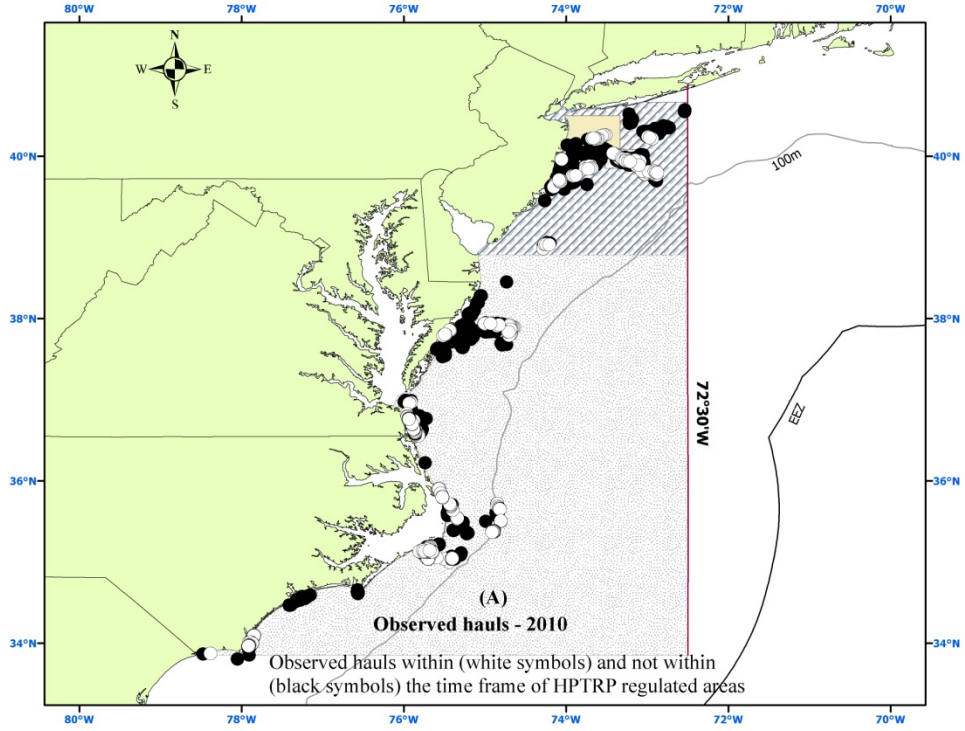


Figure 7. 2010 Mid-Atlantic gillnet observed hauls (A) and observed takes (B).



Harbor porpoise Take Reduction Plan management areas:

Southern mid-Atlantic waters | New Jersey Mudhole | waters off New Jersey

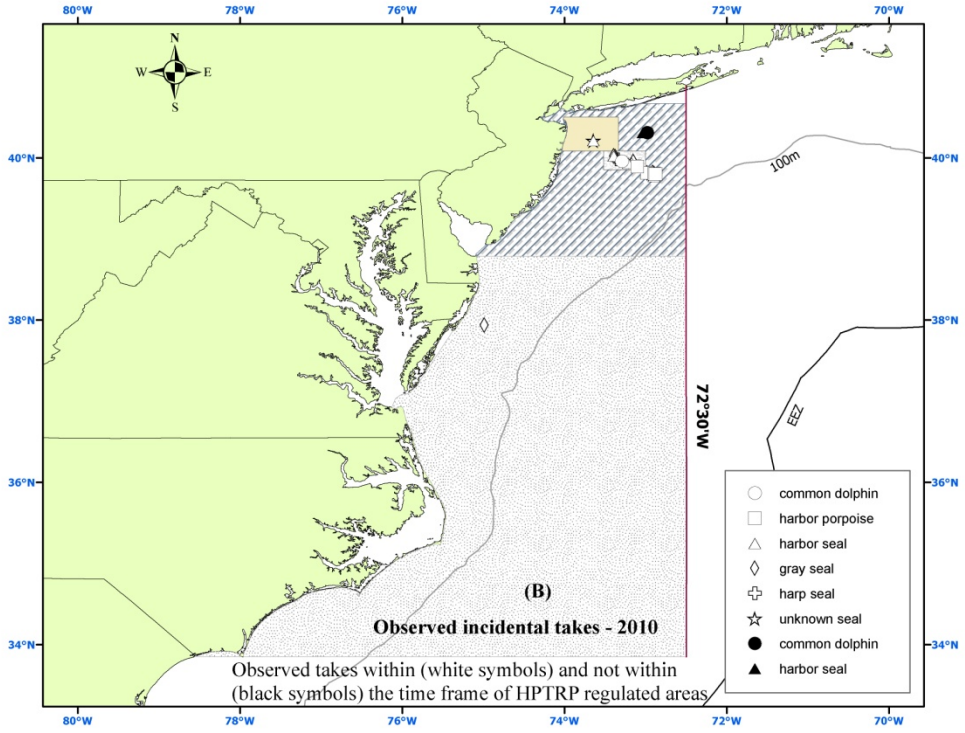
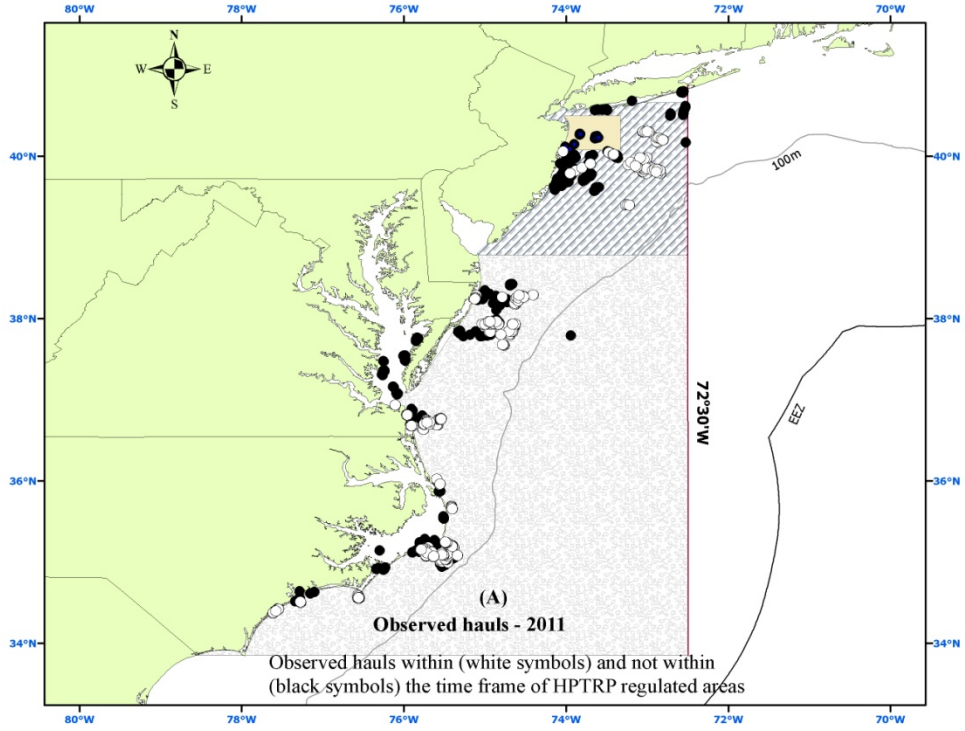


Figure 8. 2011 Mid-Atlantic gillnet observed hauls (A) and observed takes (B).



Harbor porpoise Take Reduction Plan management areas:

Southern mid-Atlantic waters | New Jersey Mudhole | waters off New Jersey

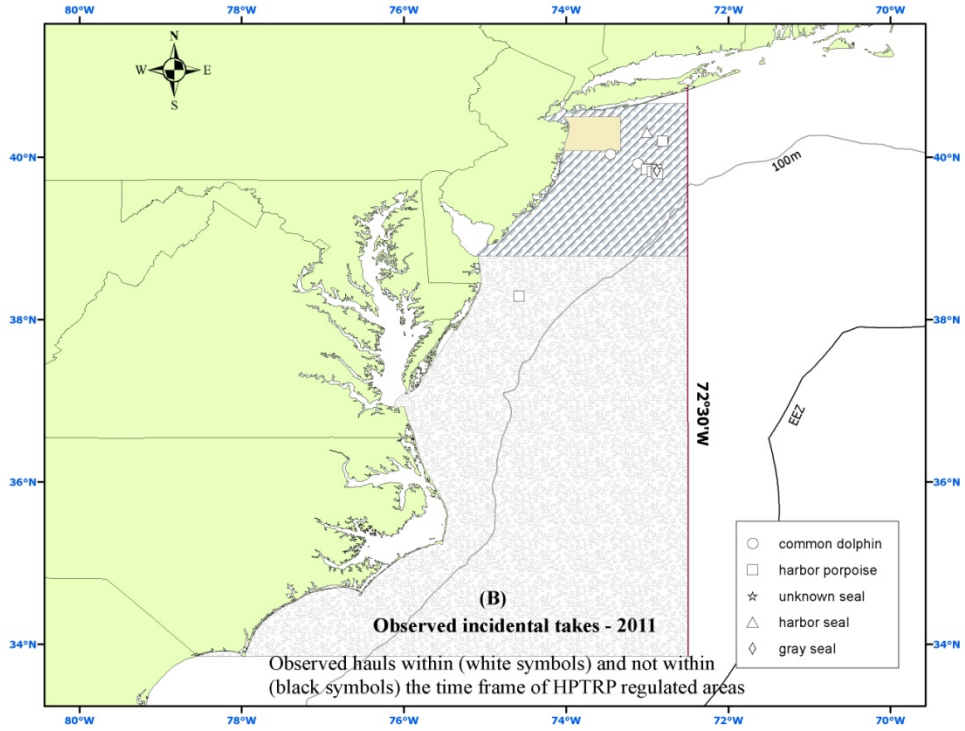
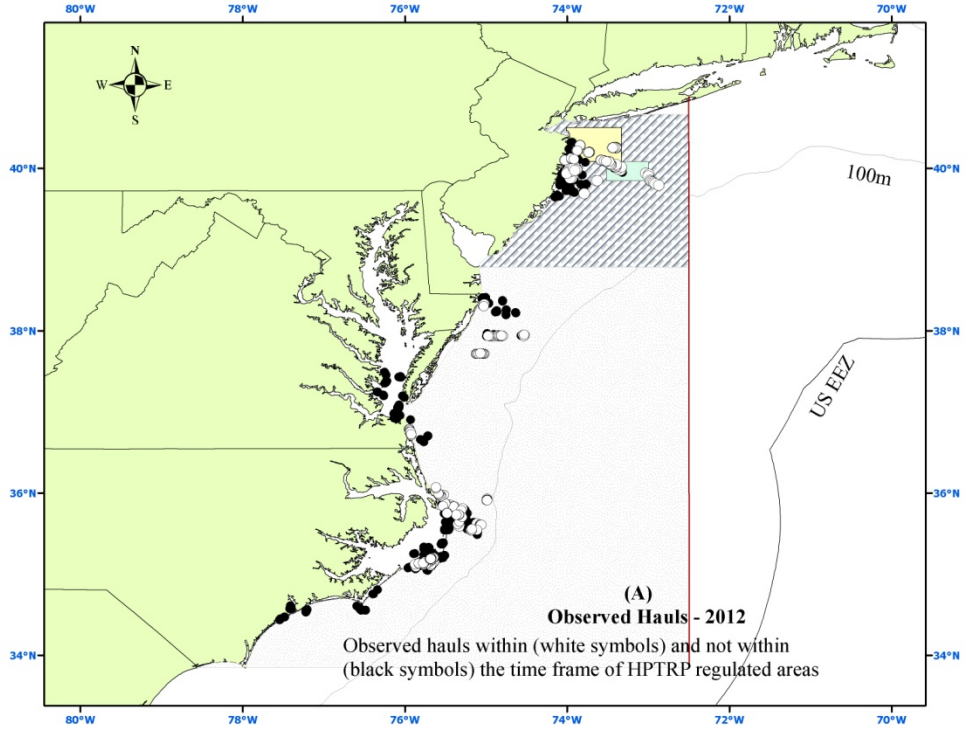


Figure 9. 2012 Mid-Atlantic gillnet observed hauls (A) and observed takes (B).



Harbor porpoise Take Reduction Plan management areas:

Southern mid-Atlantic waters | New Jersey Mudhole | waters off New Jersey

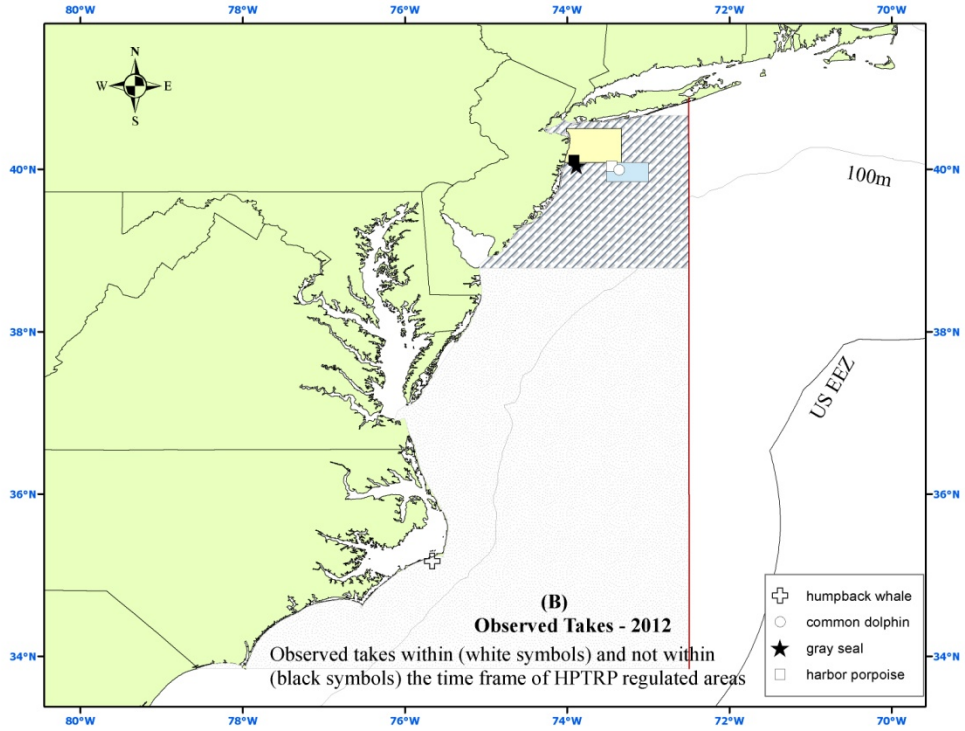
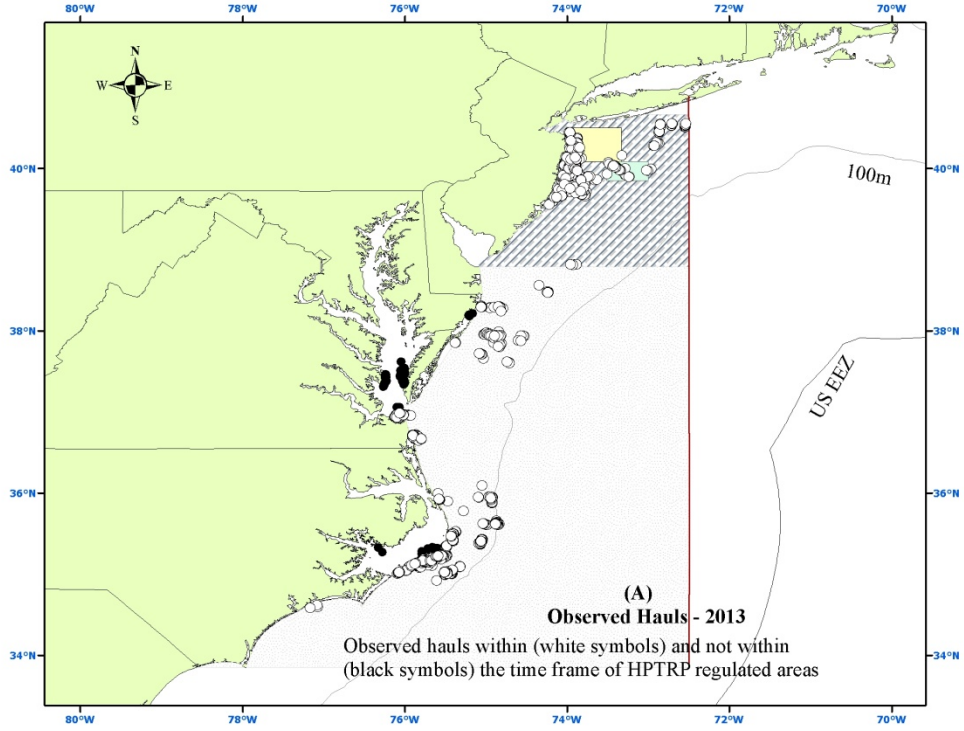


Figure 10. 2013 Mid-Atlantic gillnet observed hauls (A) and observed takes (B).



Harbor porpoise Take Reduction Plan management areas:

Southern mid-Atlantic waters | New Jersey Mudhole | waters off New Jersey

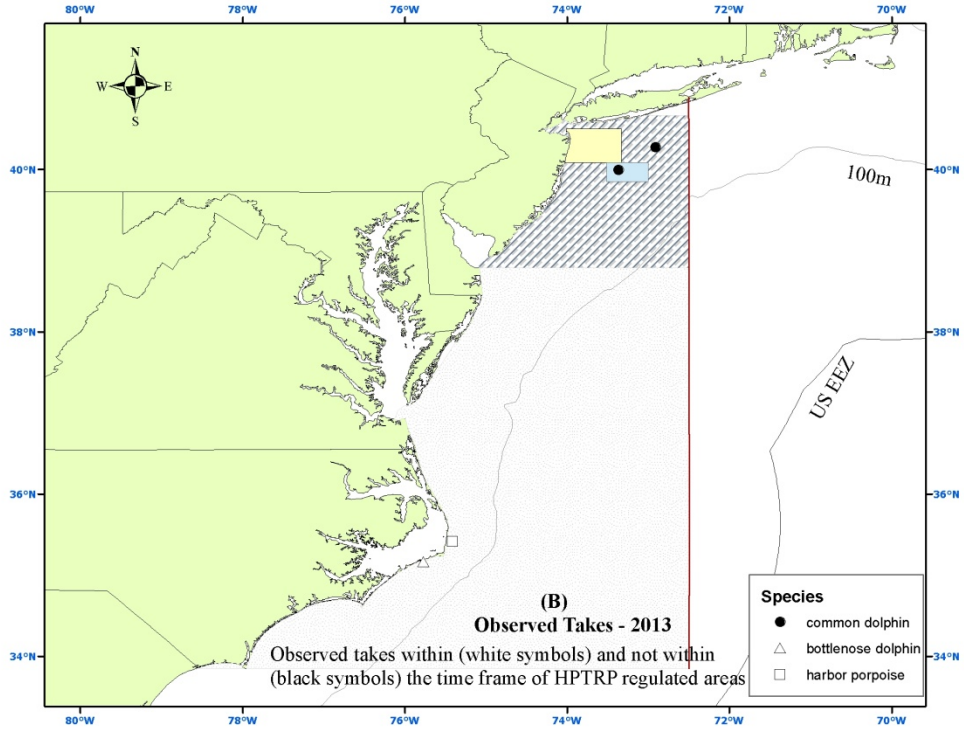


Figure 11. 2009 Mid-Atlantic bottom trawl observed tows (A) and observed takes (B).

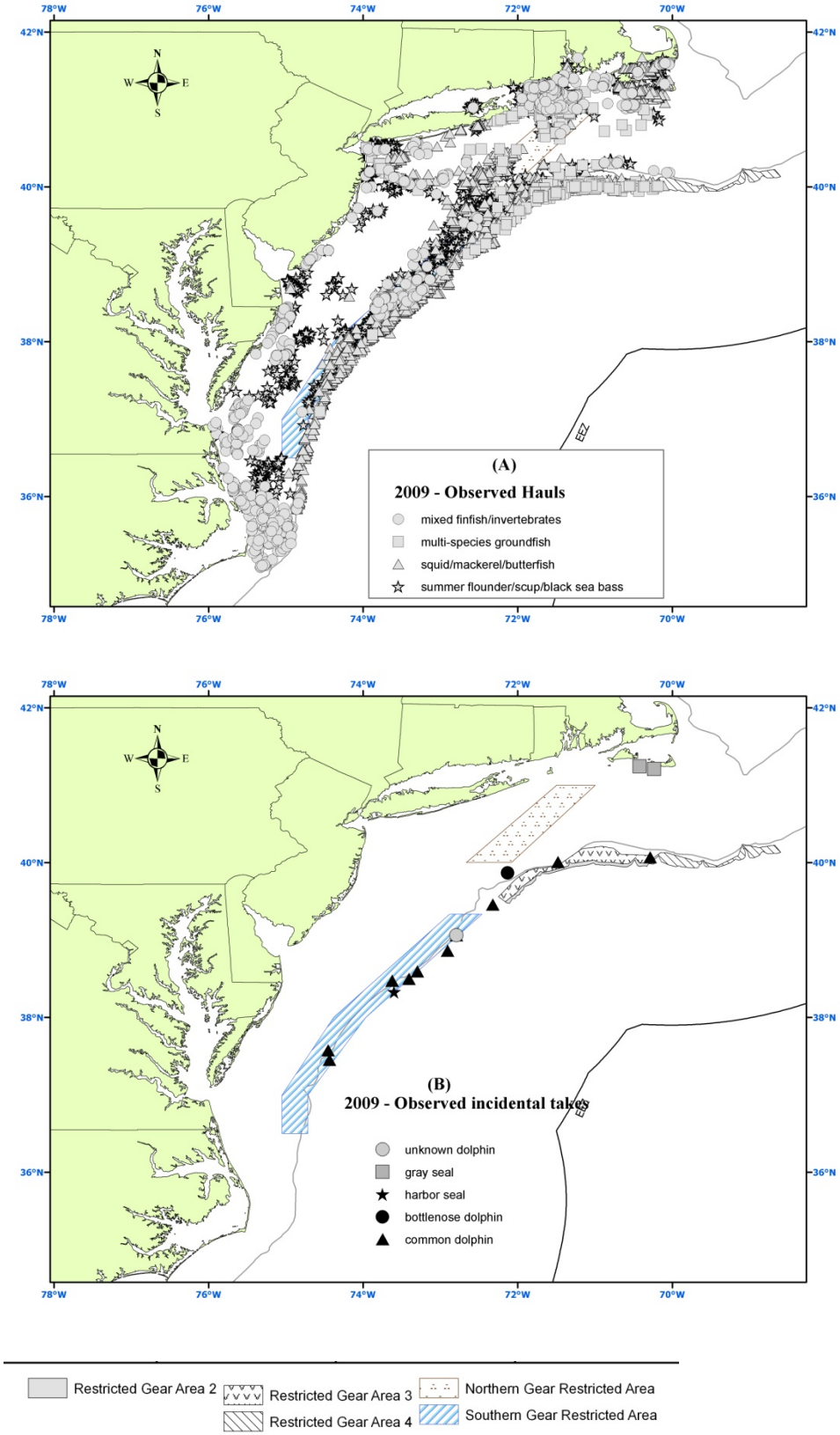


Figure 12. 2010 Mid-Atlantic bottom trawl observed tows (A) and observed takes (B).

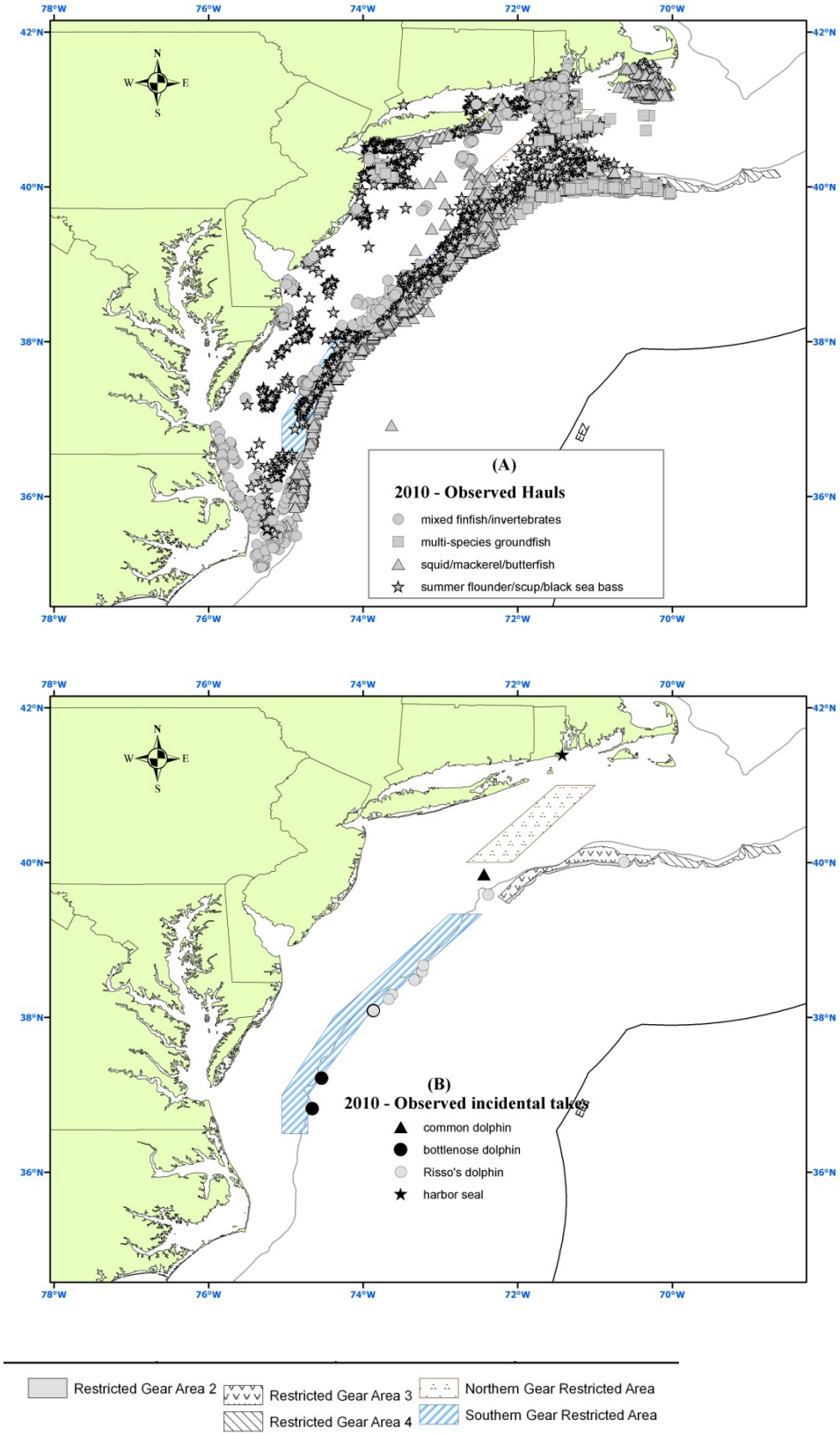


Figure 13. 2011 Mid-Atlantic bottom trawl observed tows (A) and observed takes (B).

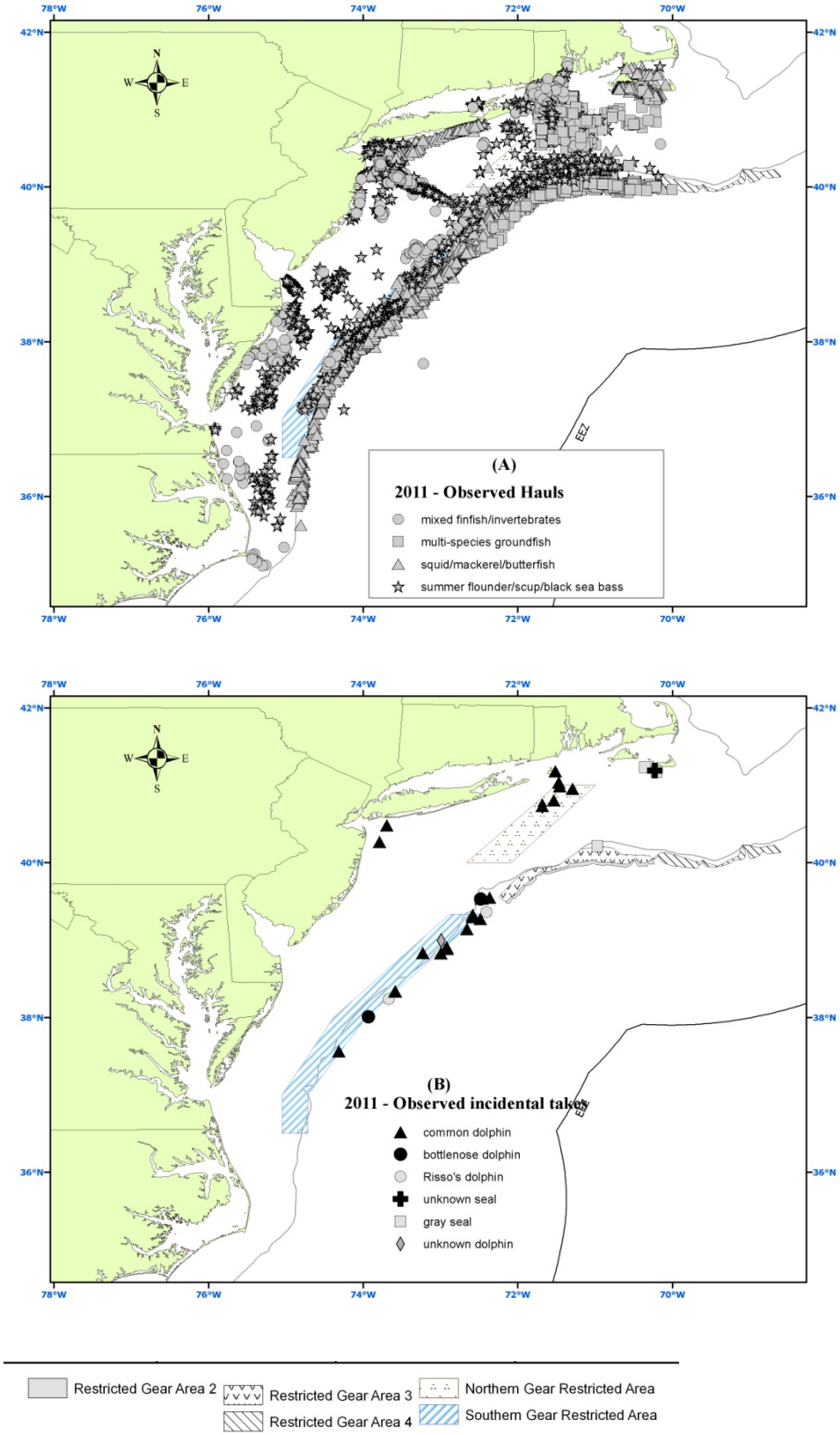


Figure 14. 2012 Mid-Atlantic bottom trawl observed tows (A) and observed takes (B).

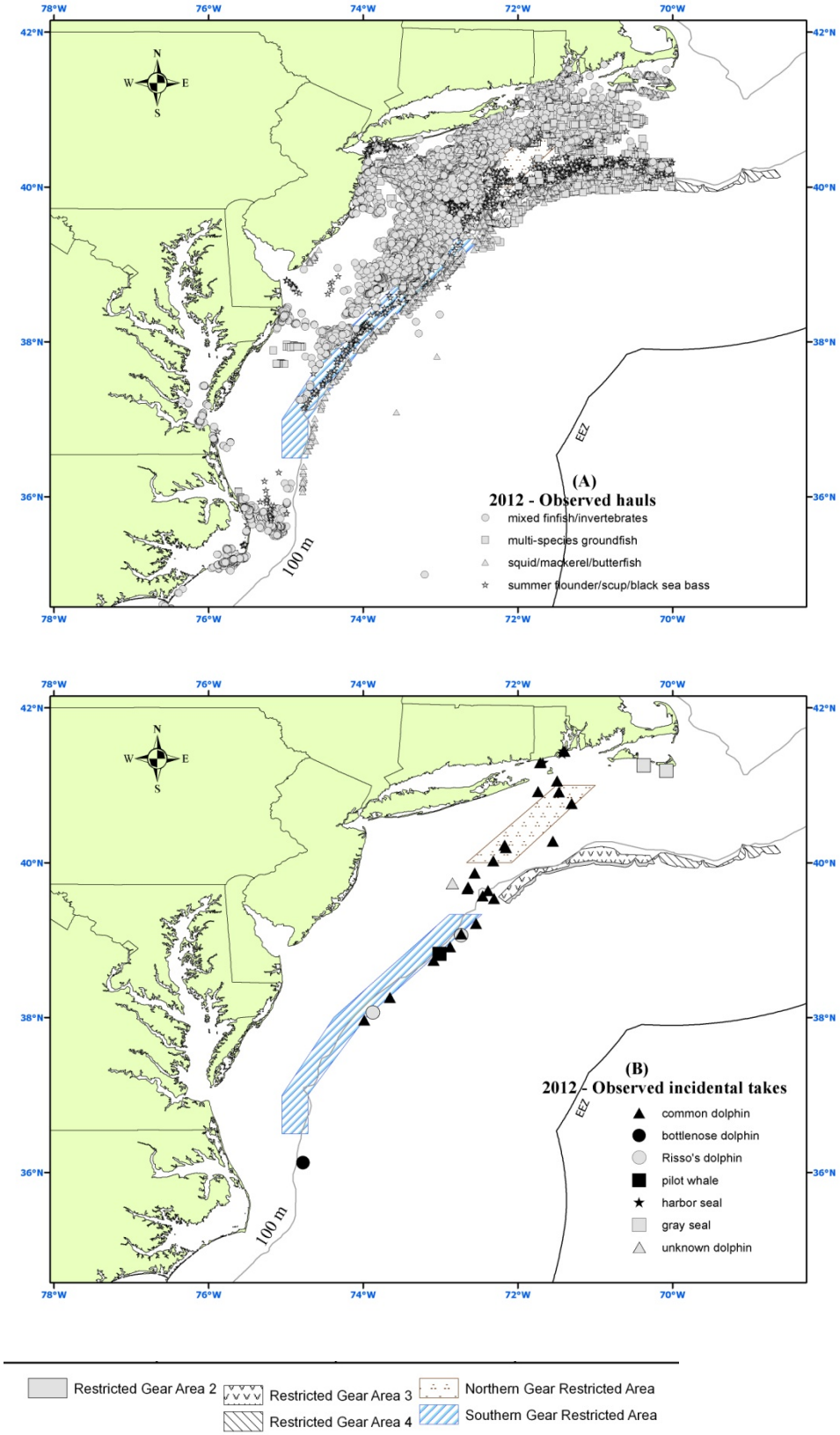


Figure 15. 2013 Mid-Atlantic bottom trawl observed tows (A) and observed takes (B).

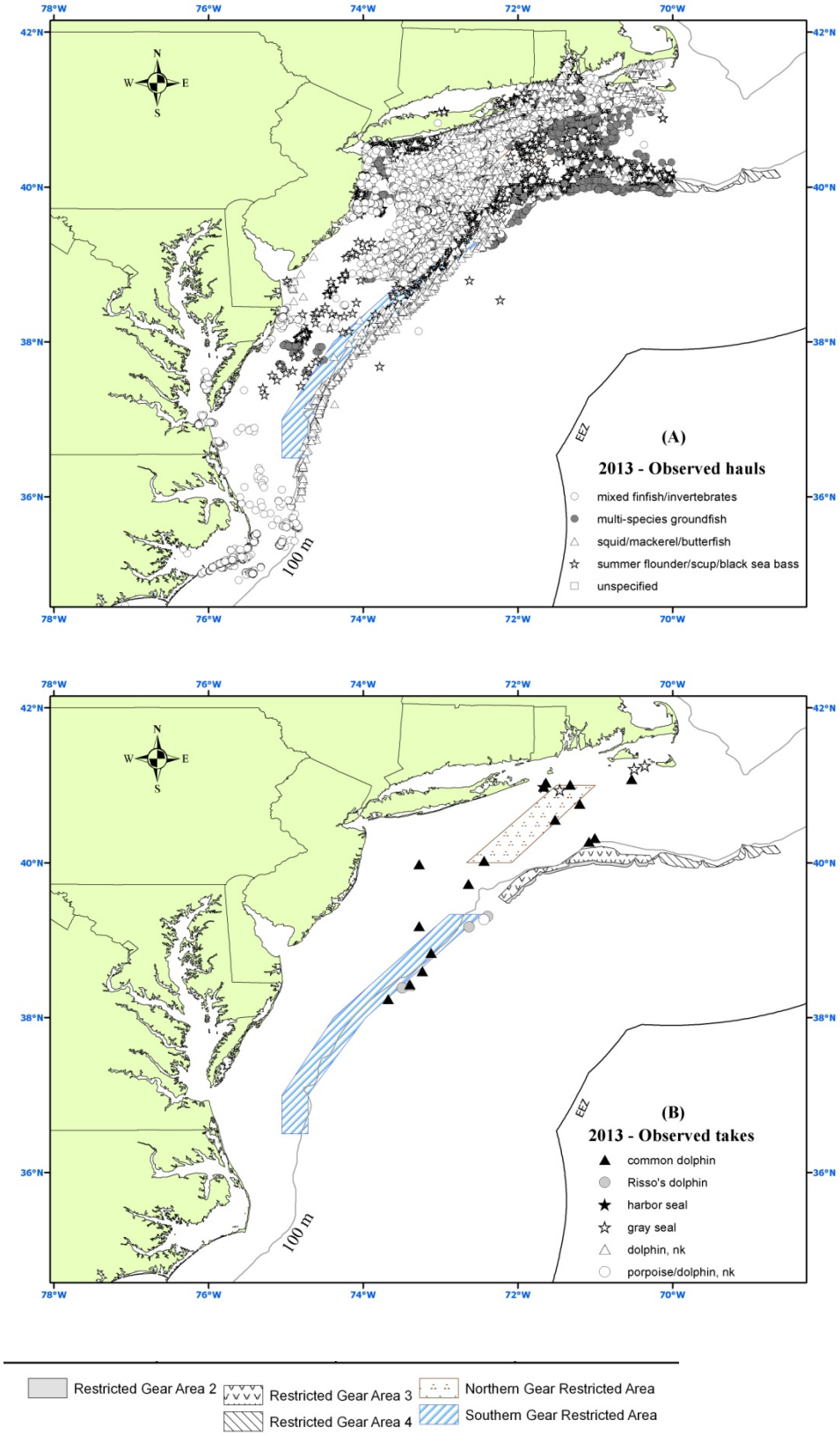


Figure 16. 2009 Northeast bottom trawl observed tows (A) and observed takes (B).

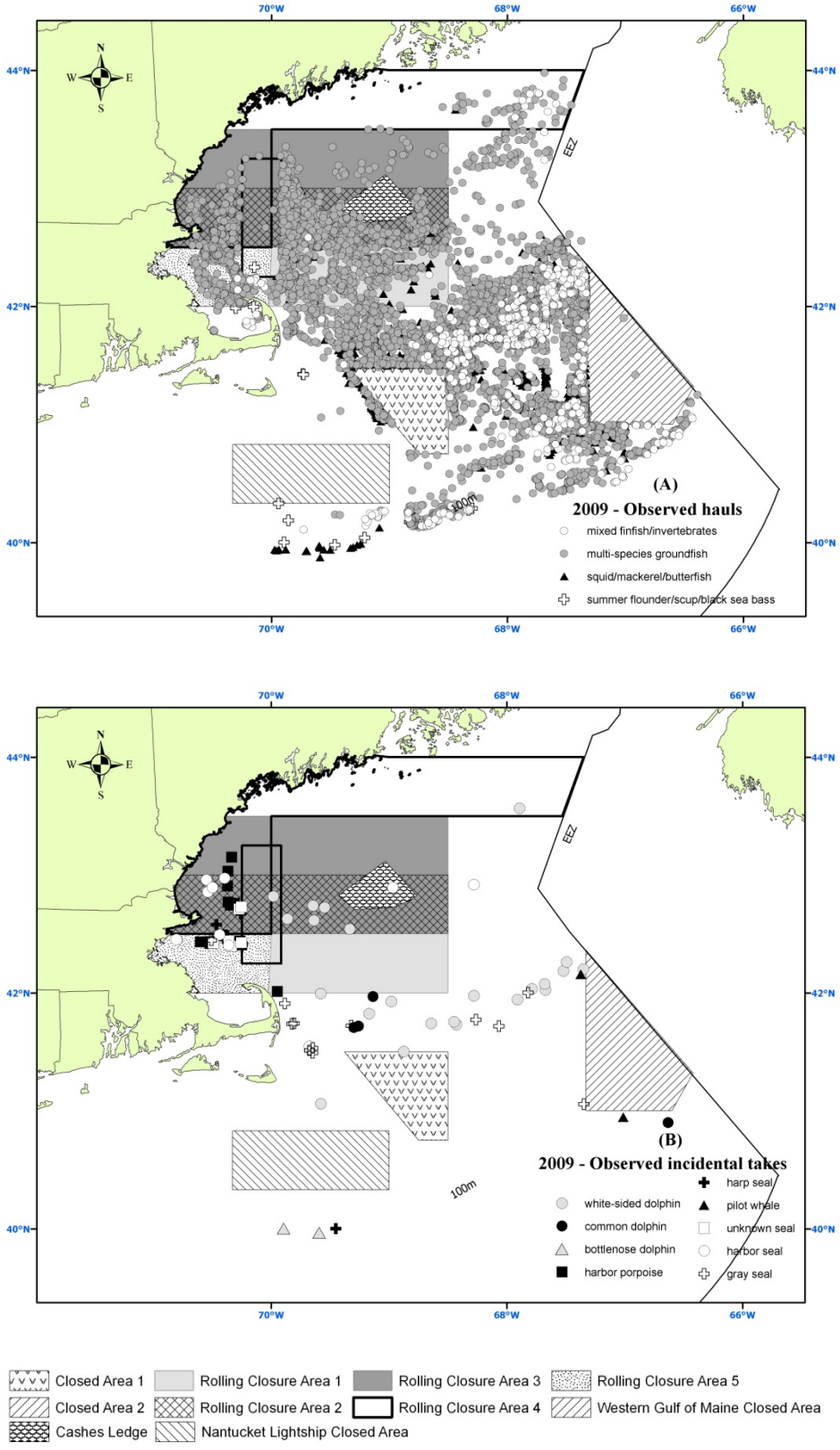


Figure 17. 2010 Northeast bottom trawl observed tows (A) and observed takes (B).

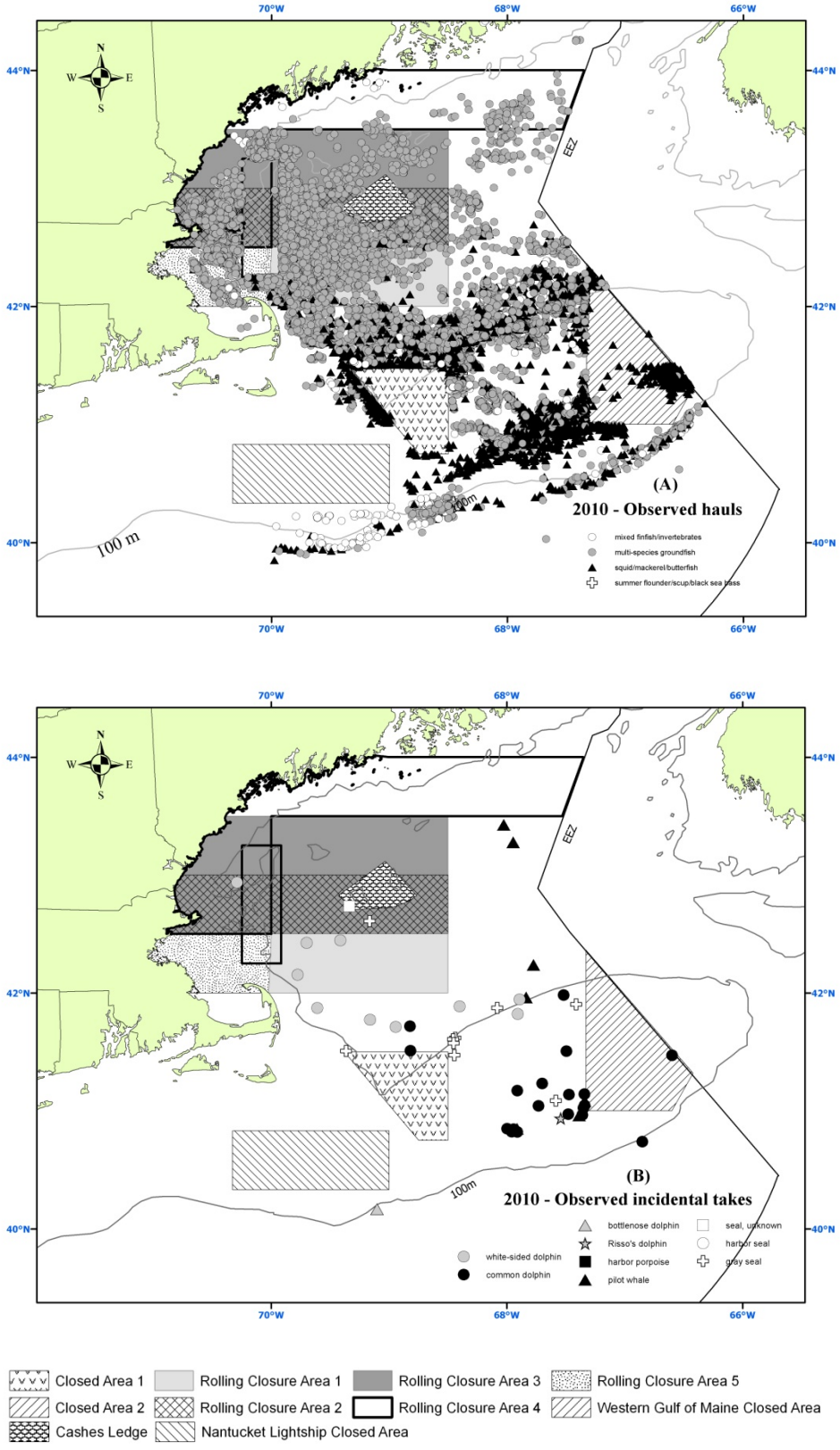


Figure 18. 2011 Northeast bottom trawl observed tows (A) and observed takes (B).

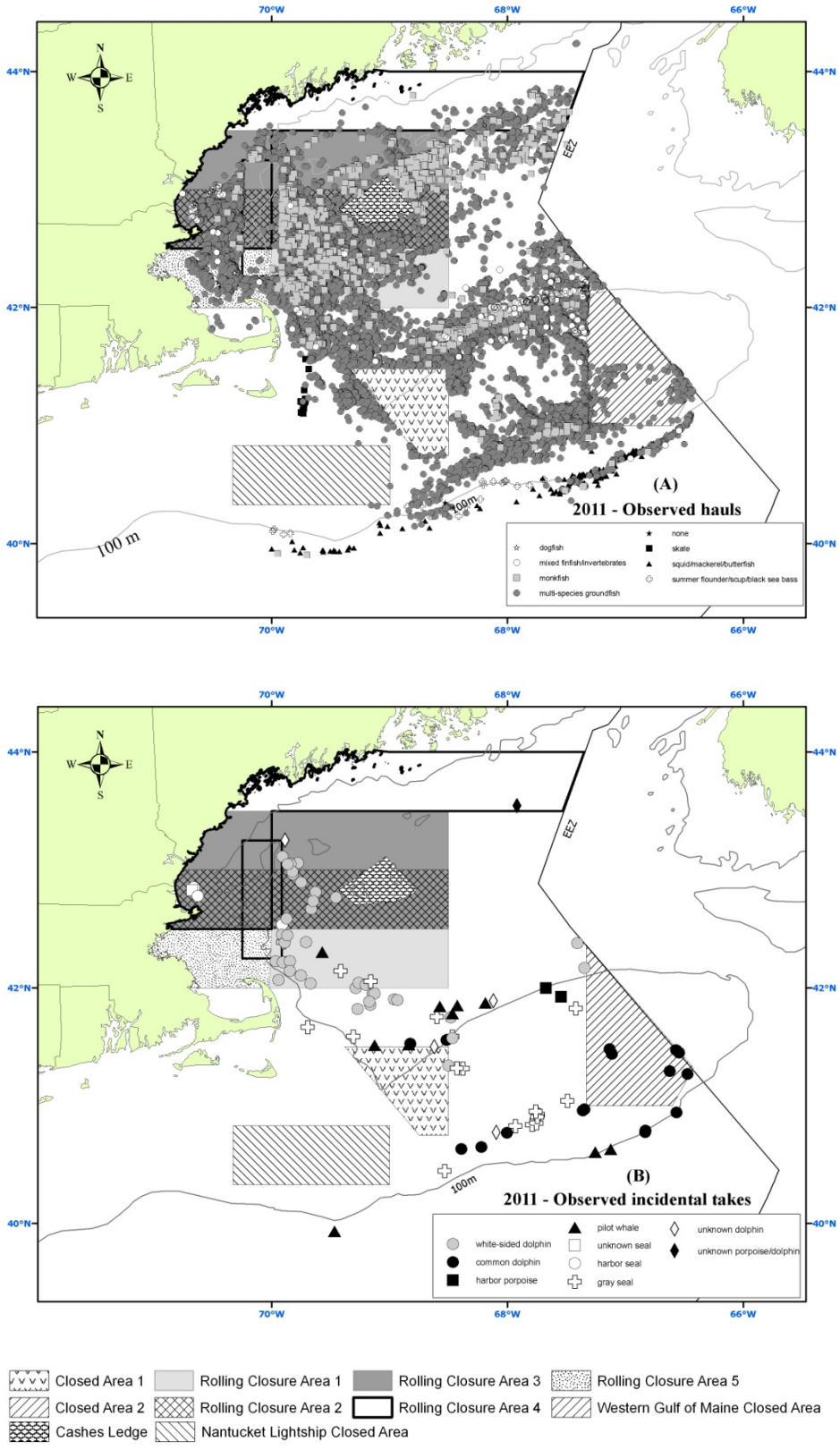


Figure 19. 2012 Northeast bottom trawl observed tows (A) and observed takes (B).

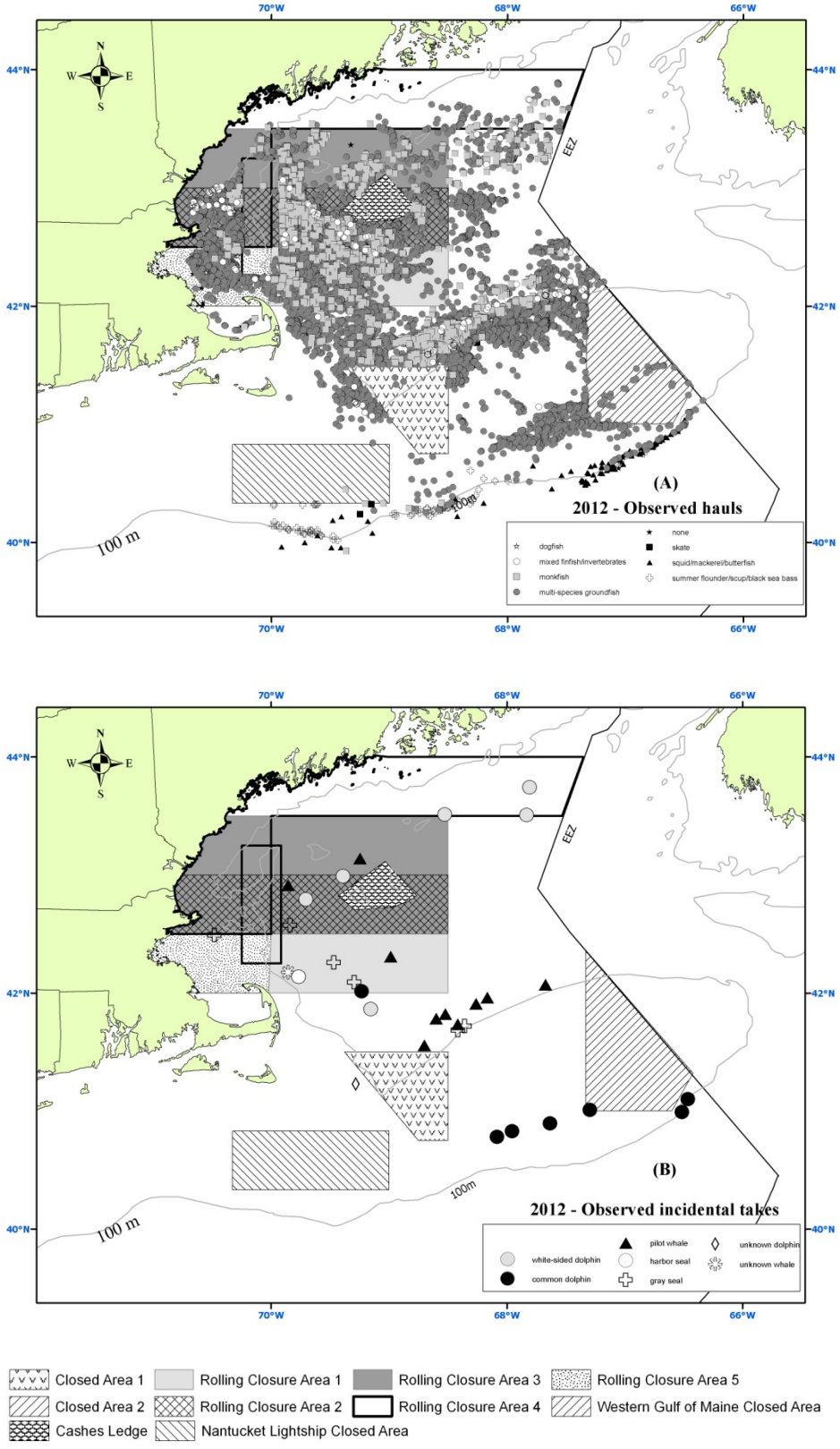


Figure 20. 2013 Northeast bottom trawl observed tows (A) and observed takes (B).

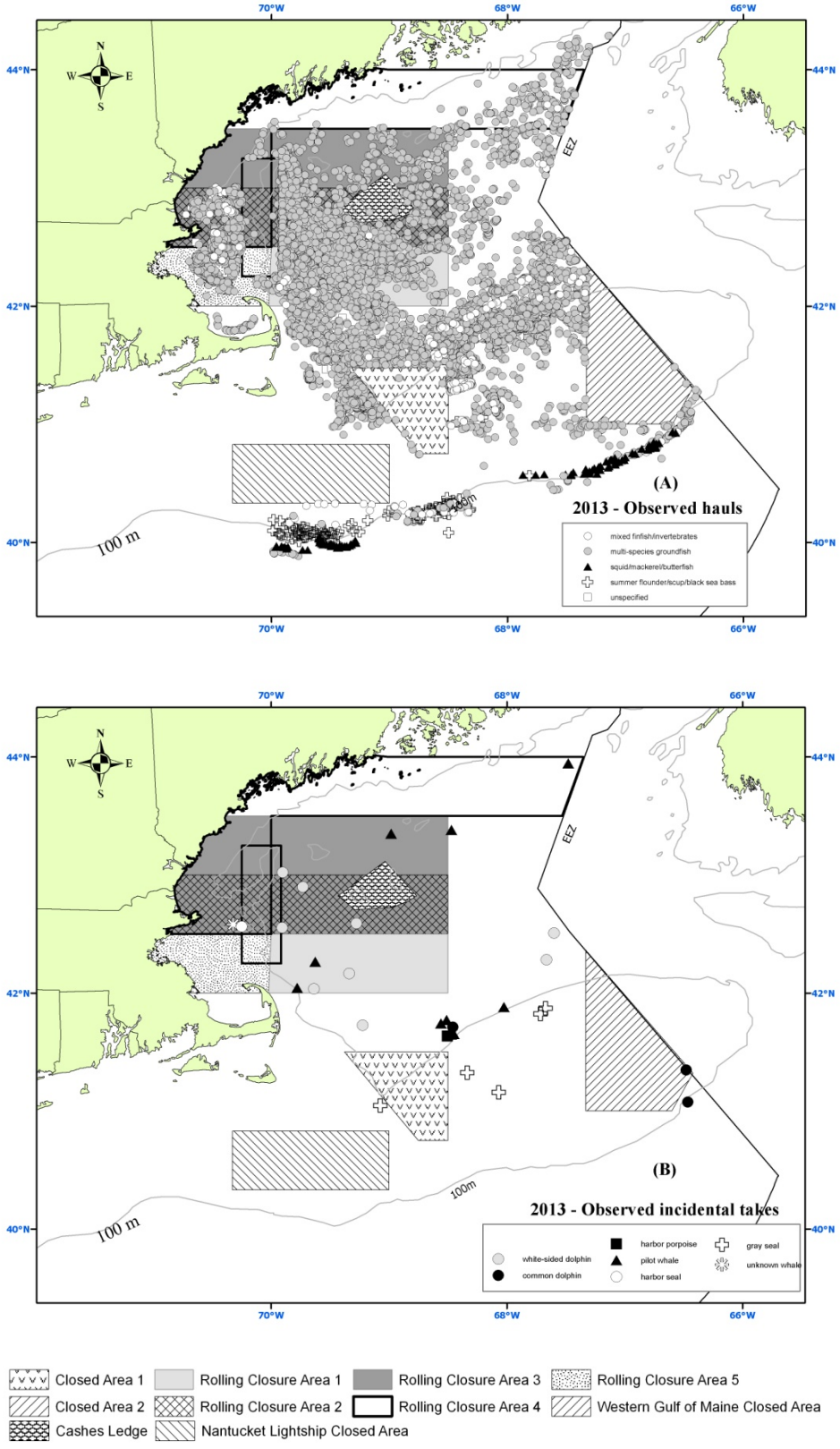
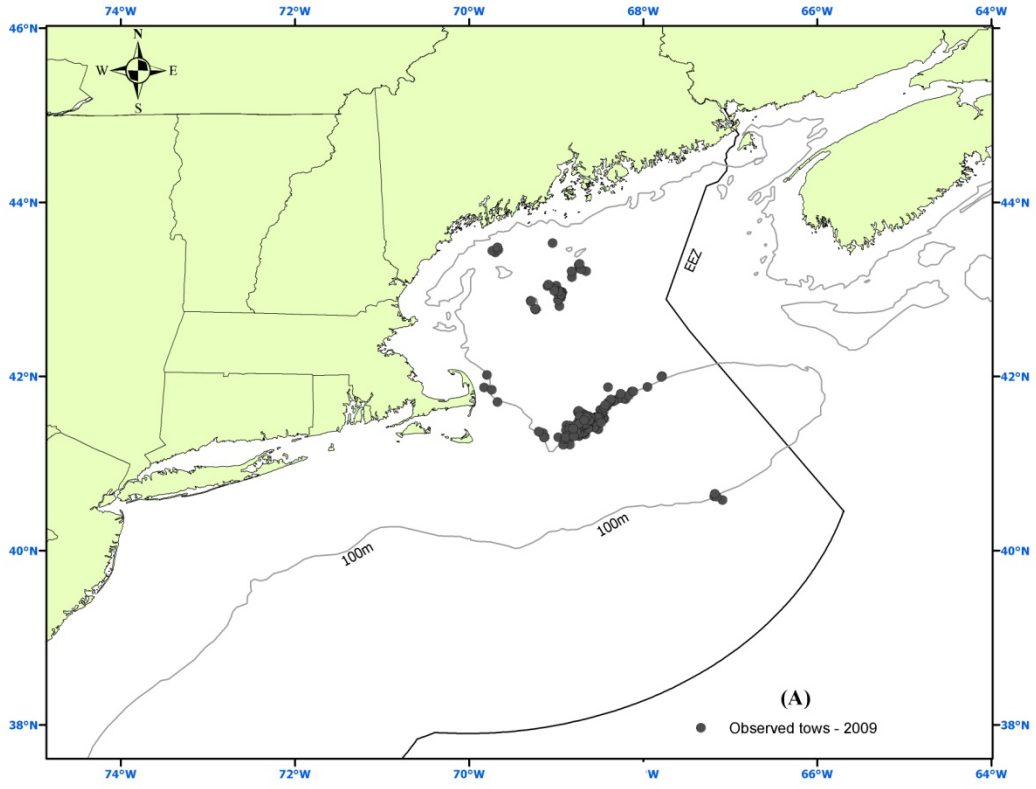


Figure 21. 2009 Northeast mid-water trawl observed tows (A) and observed takes (B).



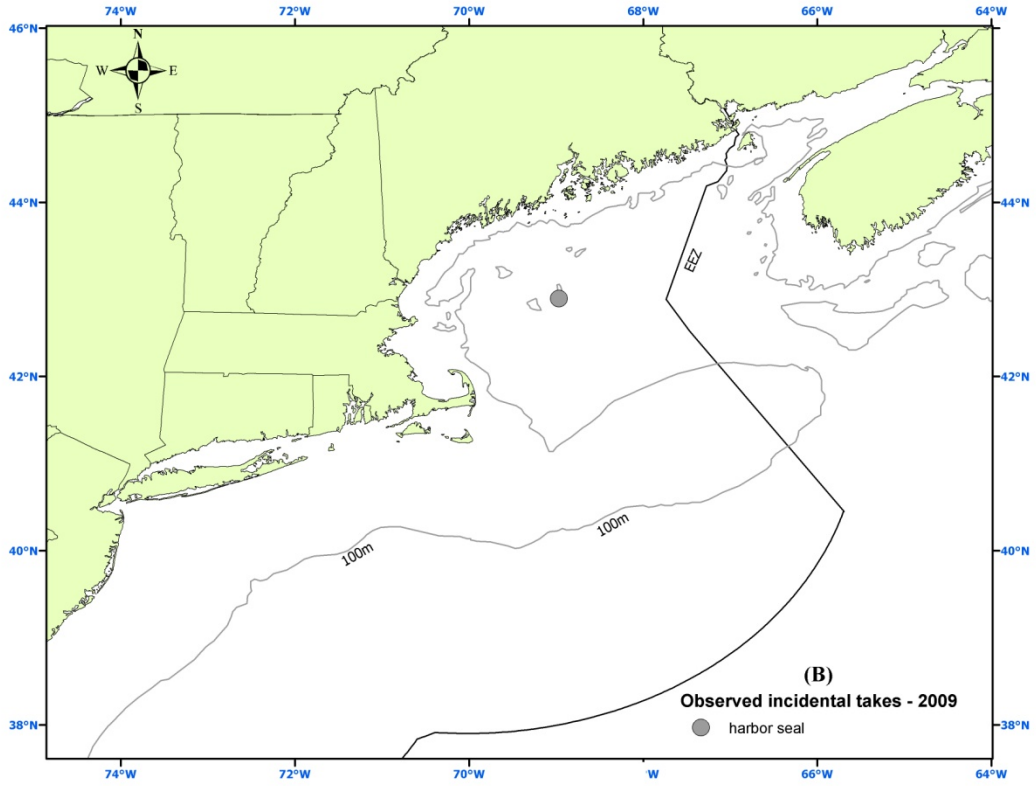


Figure 22. 2010 Northeast mid-water trawl observed tows (A) and observed takes (B).

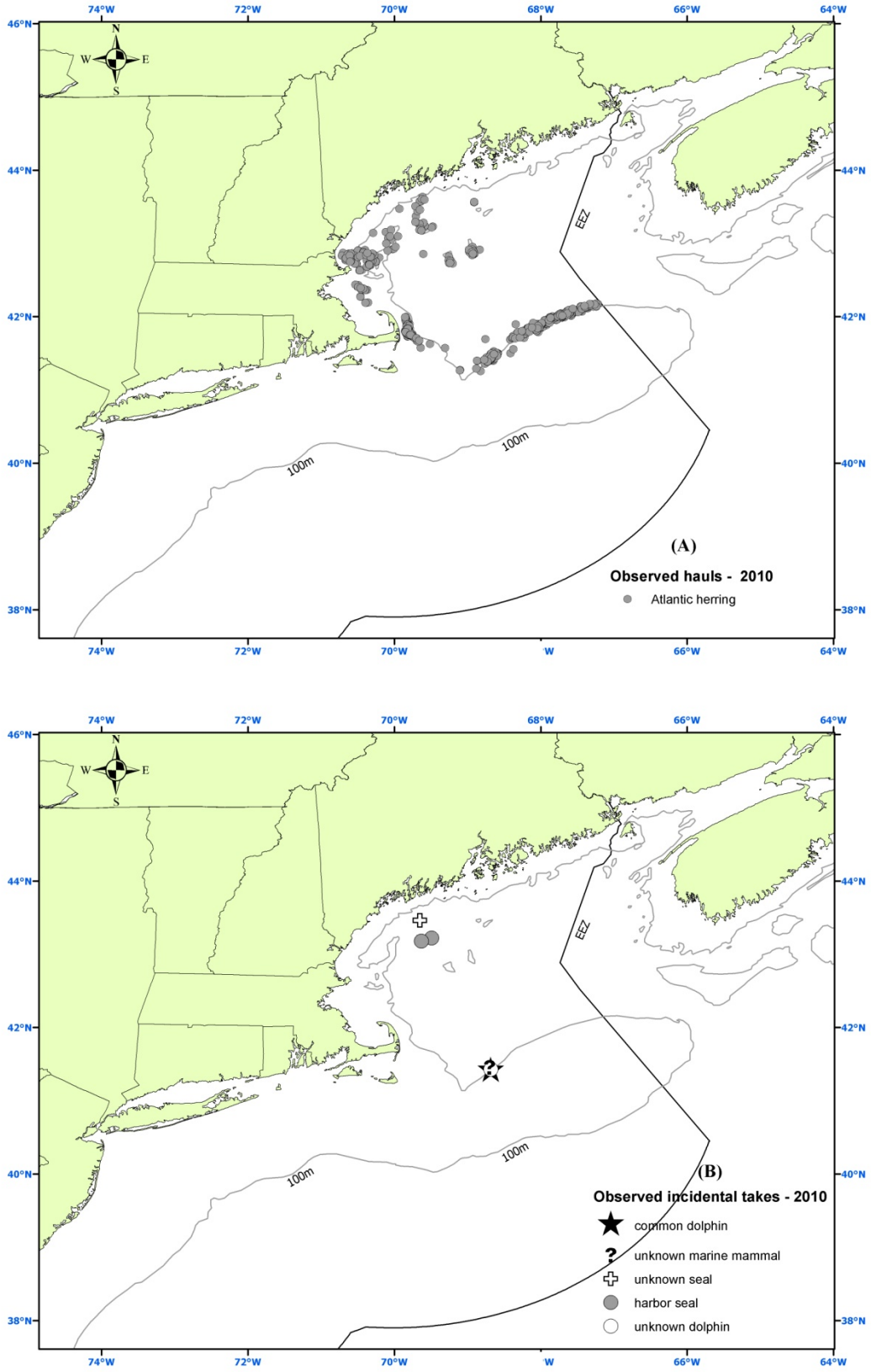
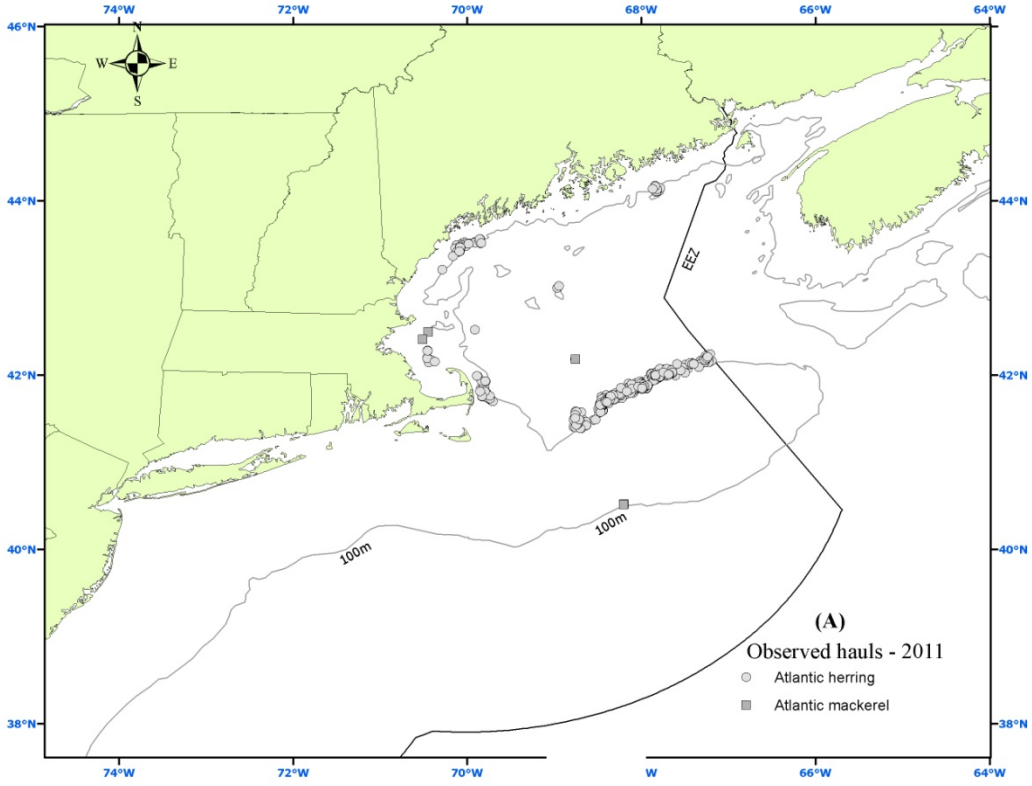


Figure 23. 2011 Northeast mid-water trawl observed tows (A) and observed takes (B).



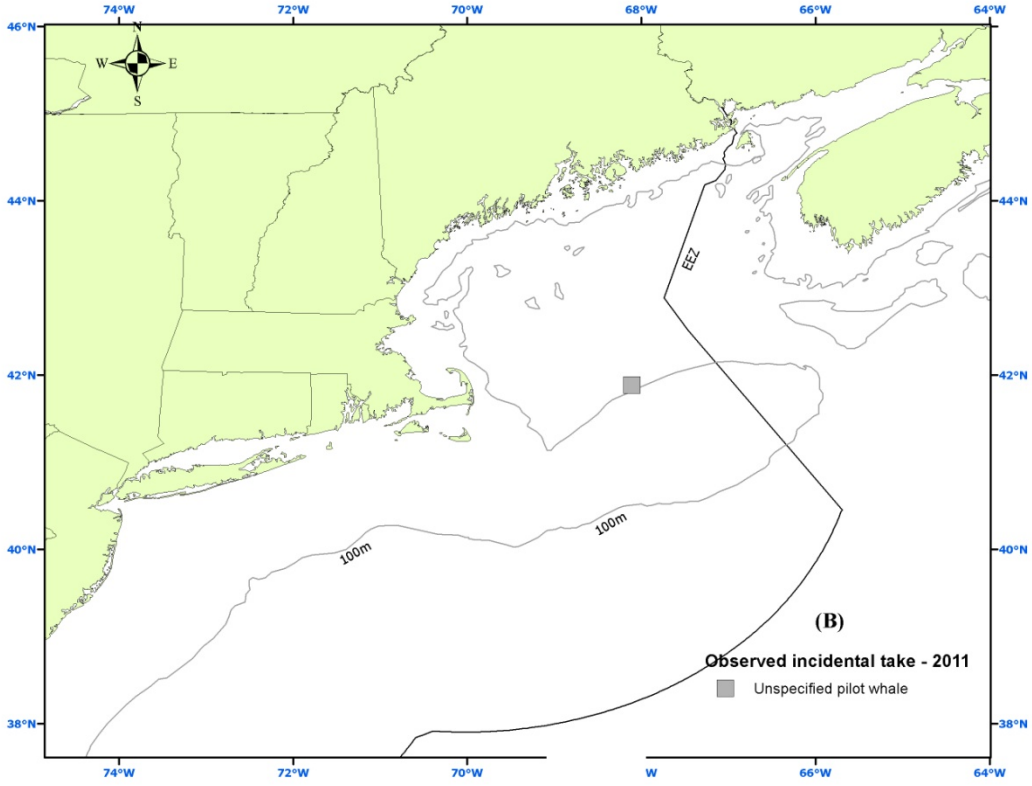
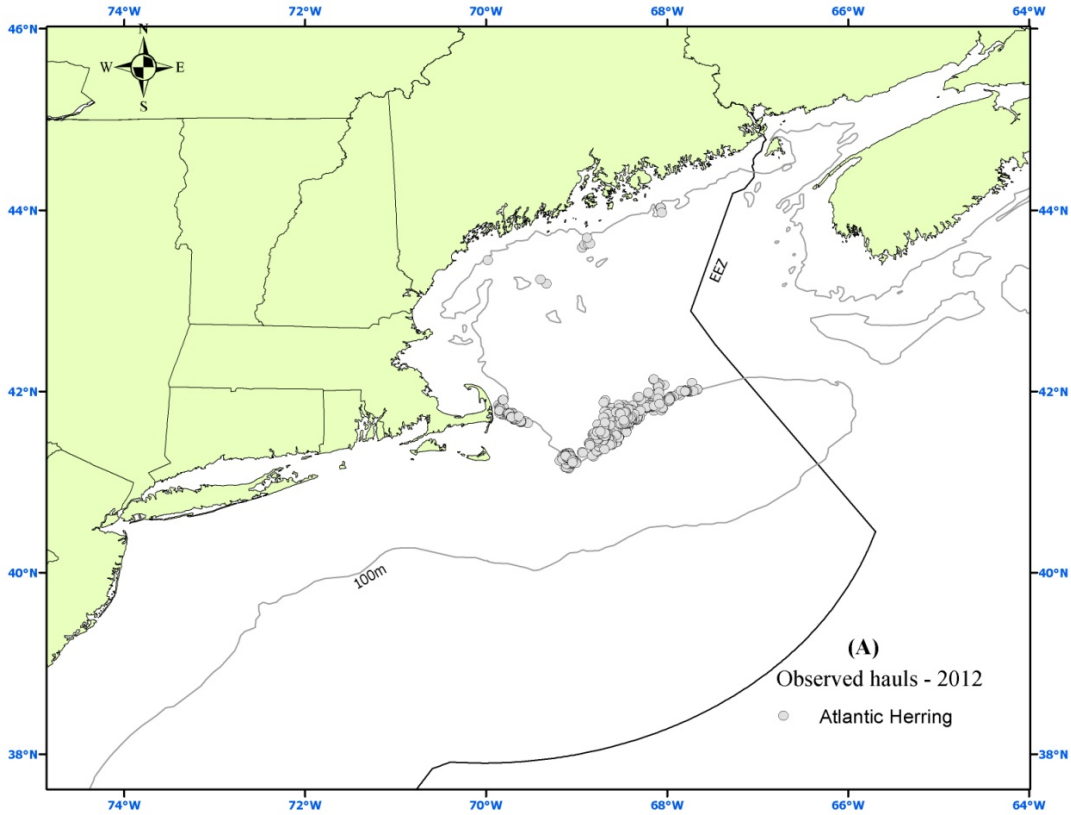


Figure 24. 2012 Northeast mid-water trawl observed tows (A) and observed takes (B).



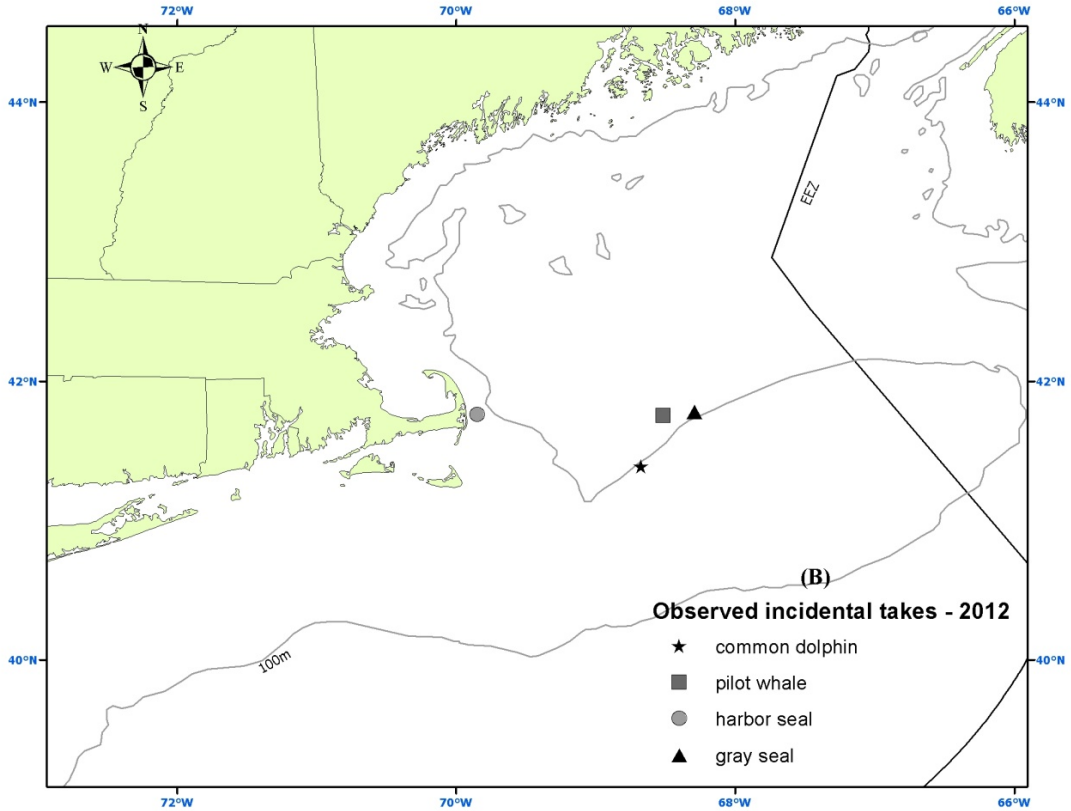
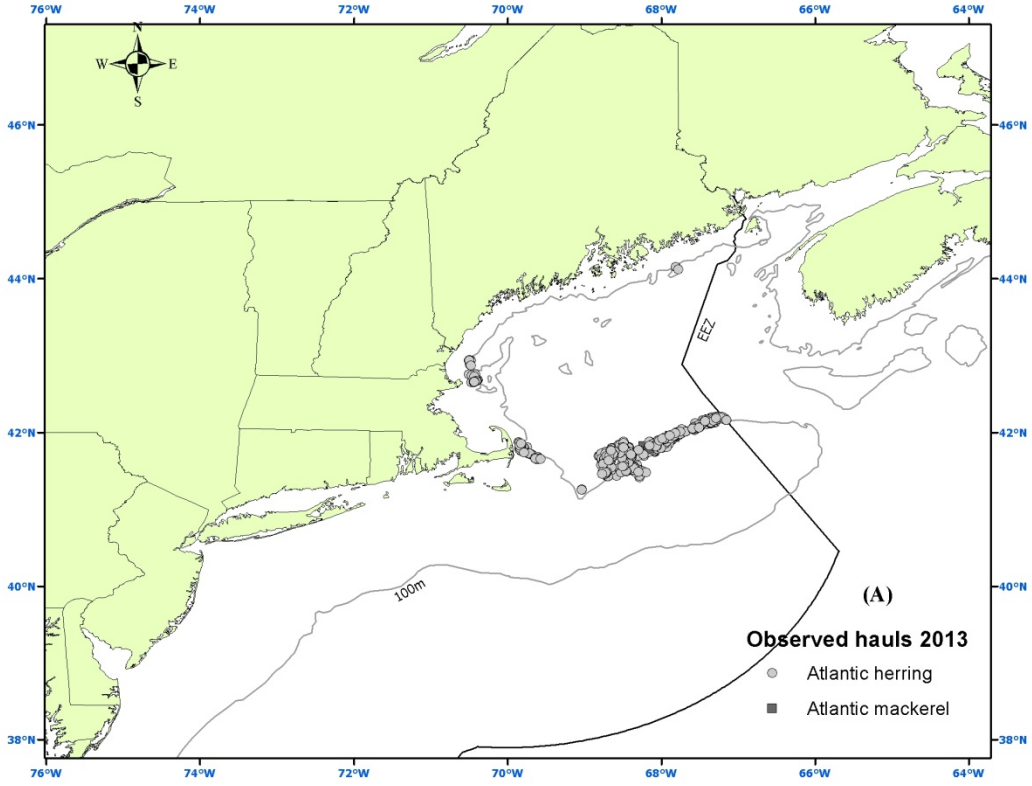


Figure 25. 2013 Northeast mid-water trawl observed tows (A) and observed takes (B).



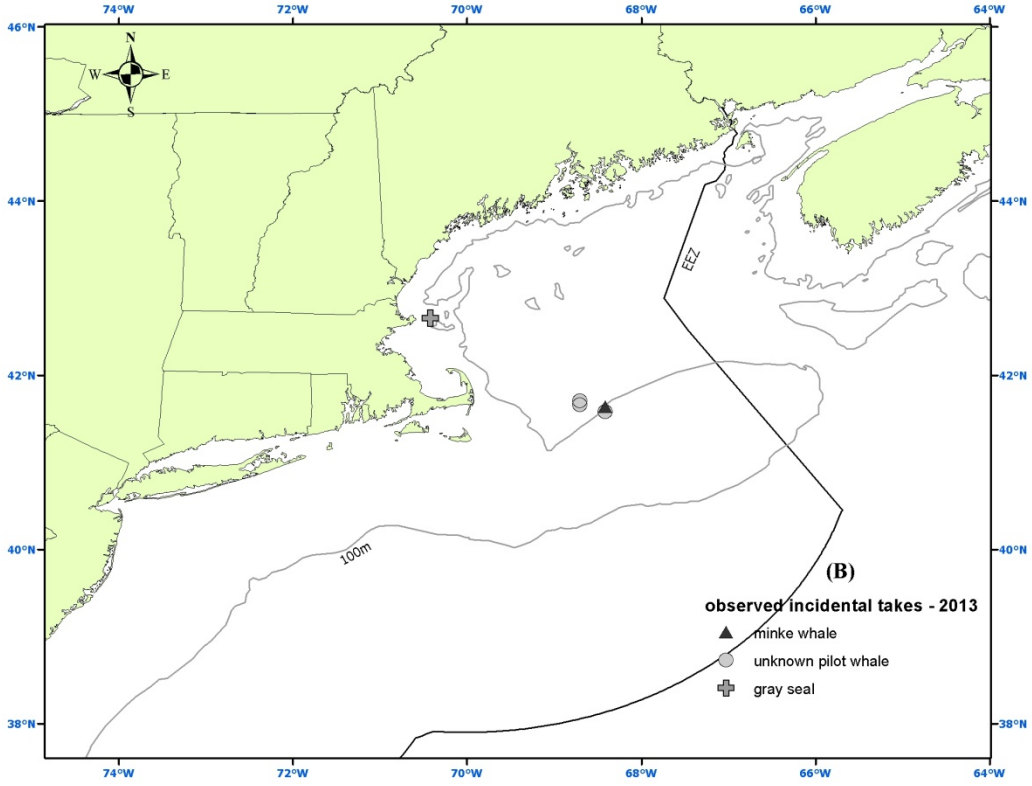
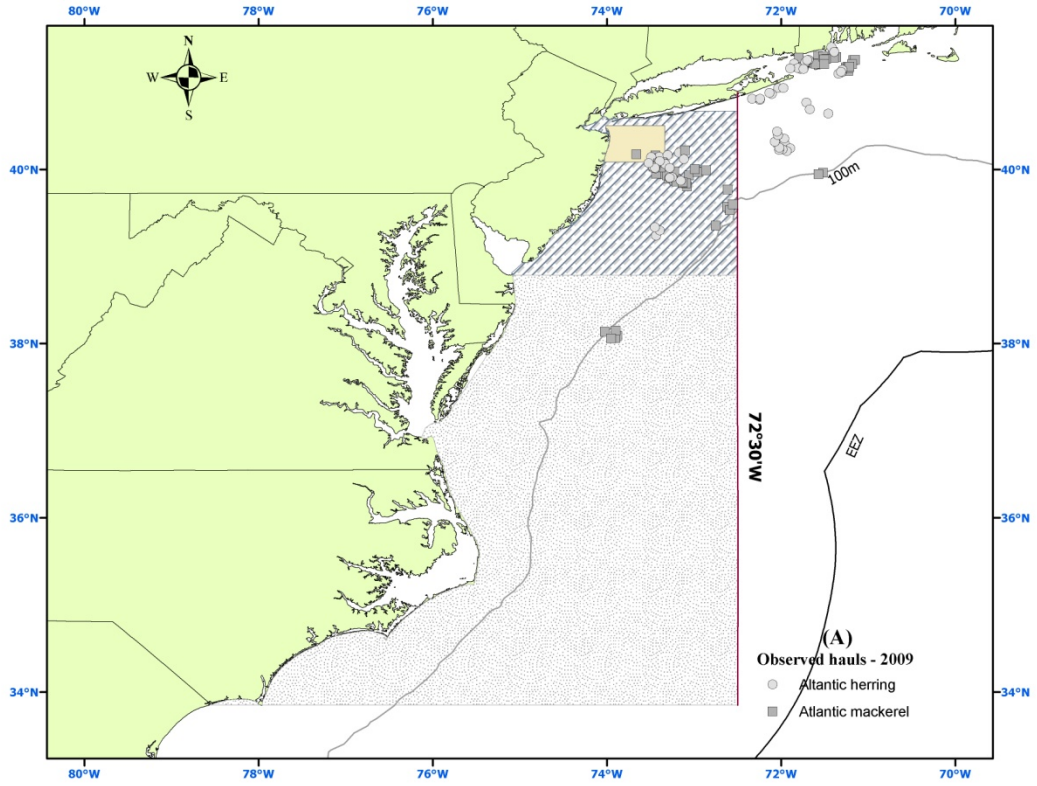


Figure 26. 2009 Mid-Atlantic mid-water trawl observed tows (A) and observed takes (B).



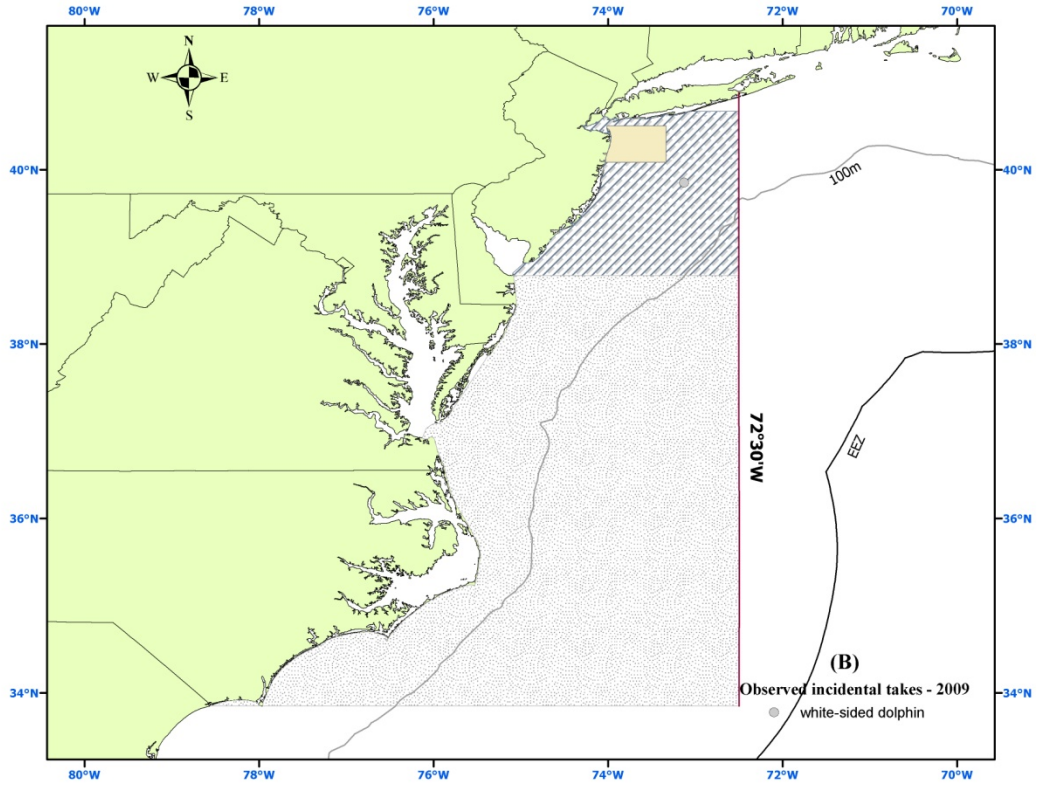
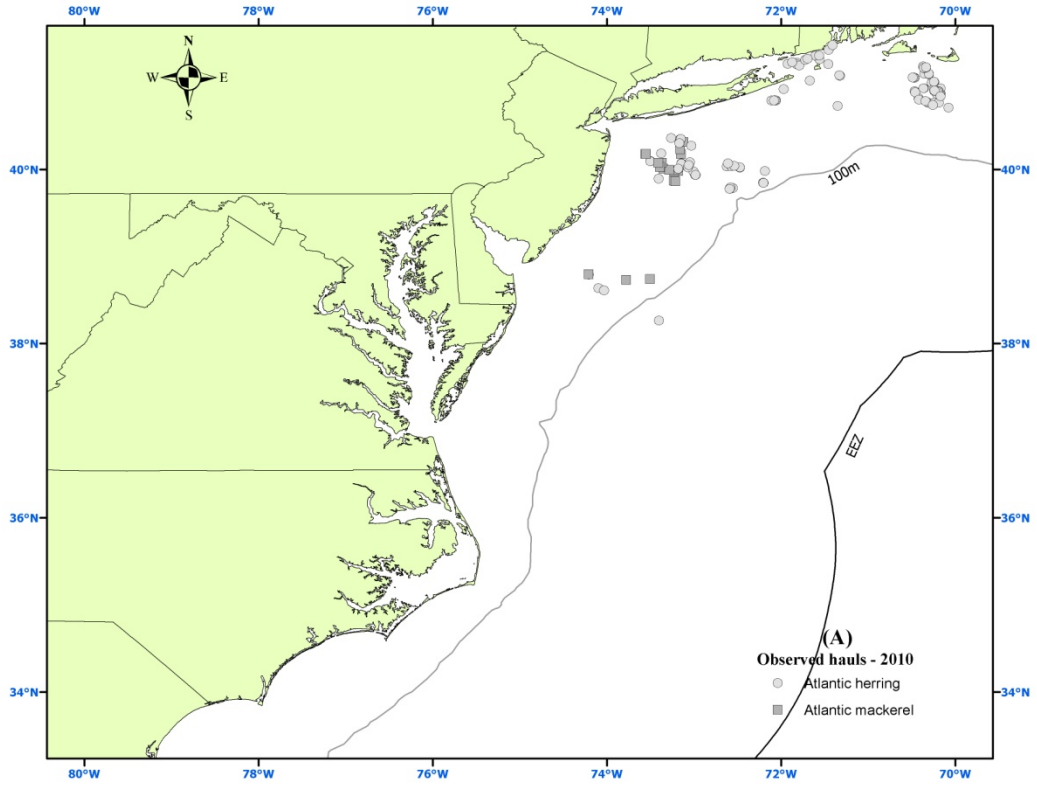


Figure 27. 2010 Mid-Atlantic mid-water trawl observed tows (A) and observed takes (B).



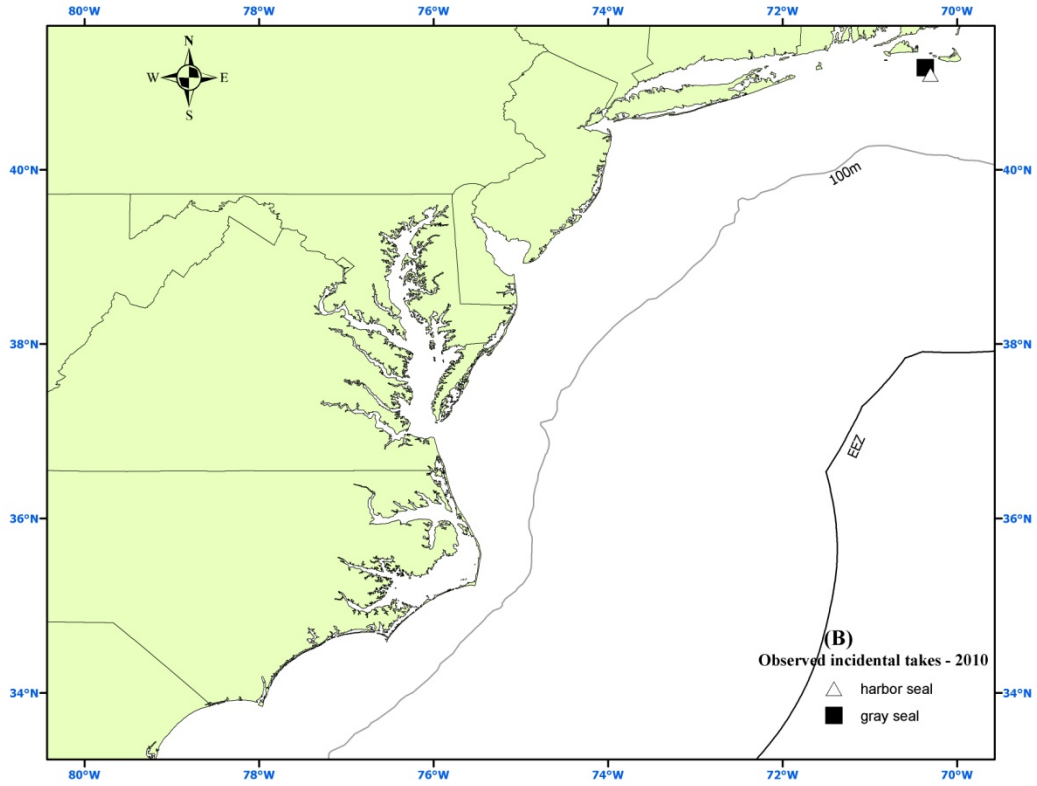
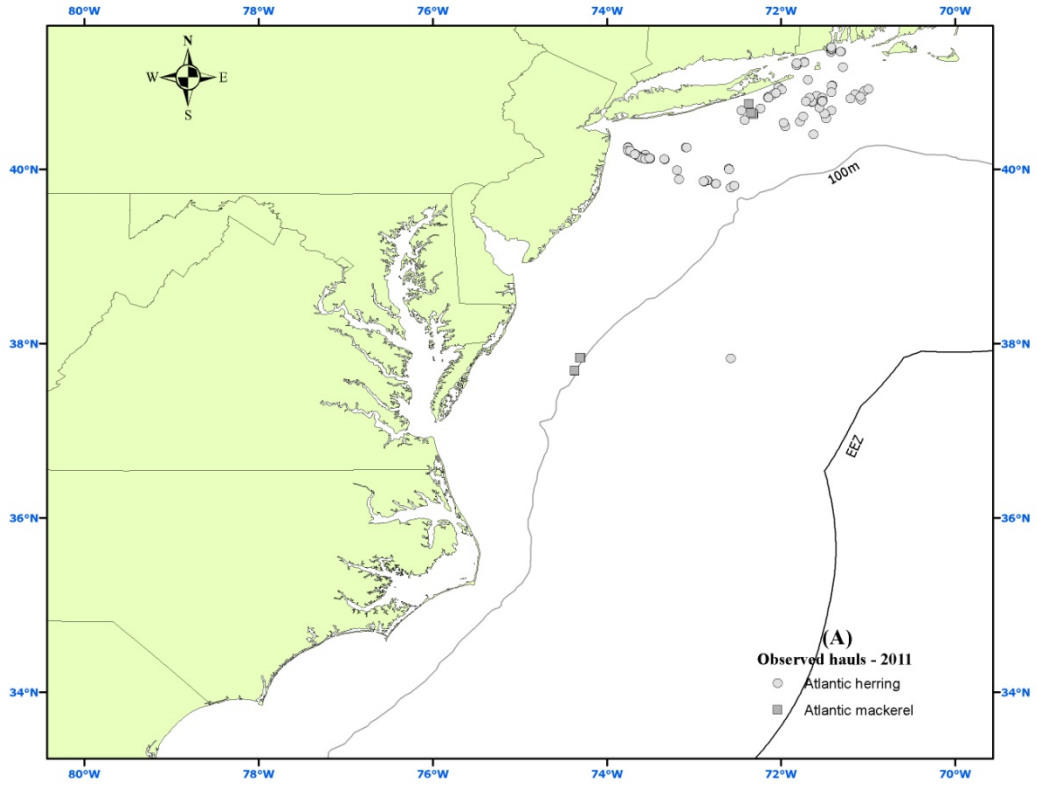


Figure 28. 2011 Mid-Atlantic mid-water trawl observed tows (A) and observed takes (B).



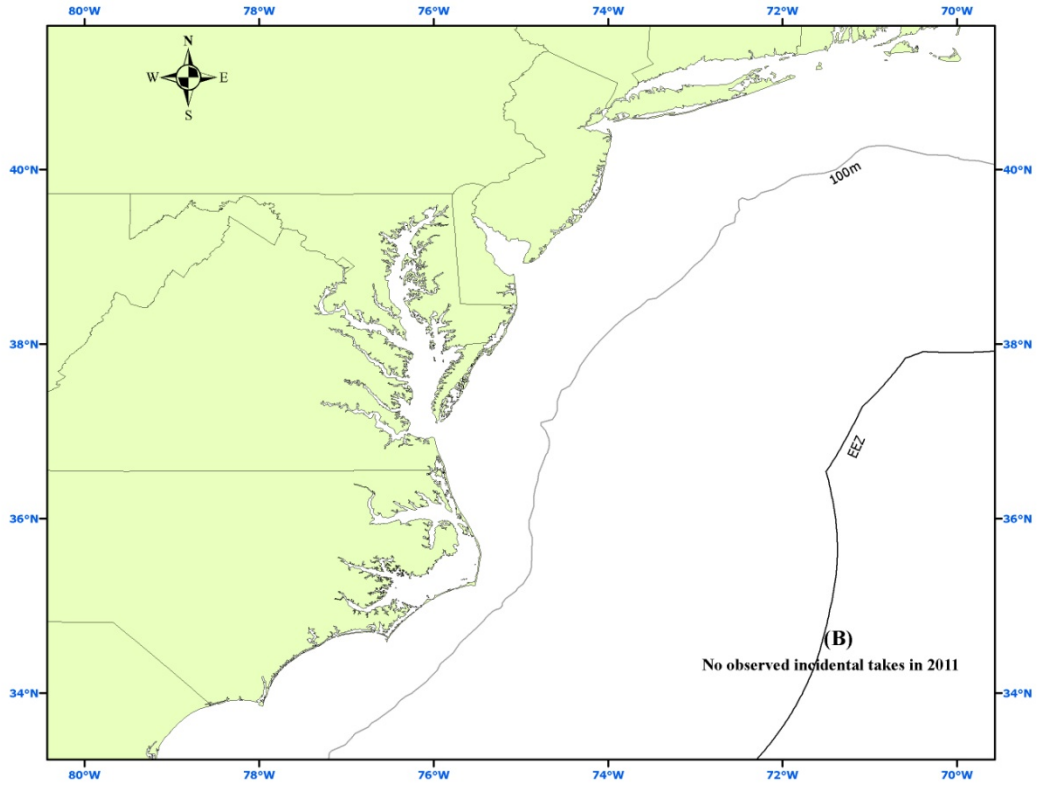


Figure 29. 2012 Mid-Atlantic mid-water trawl observed tows (A) and observed takes (B).

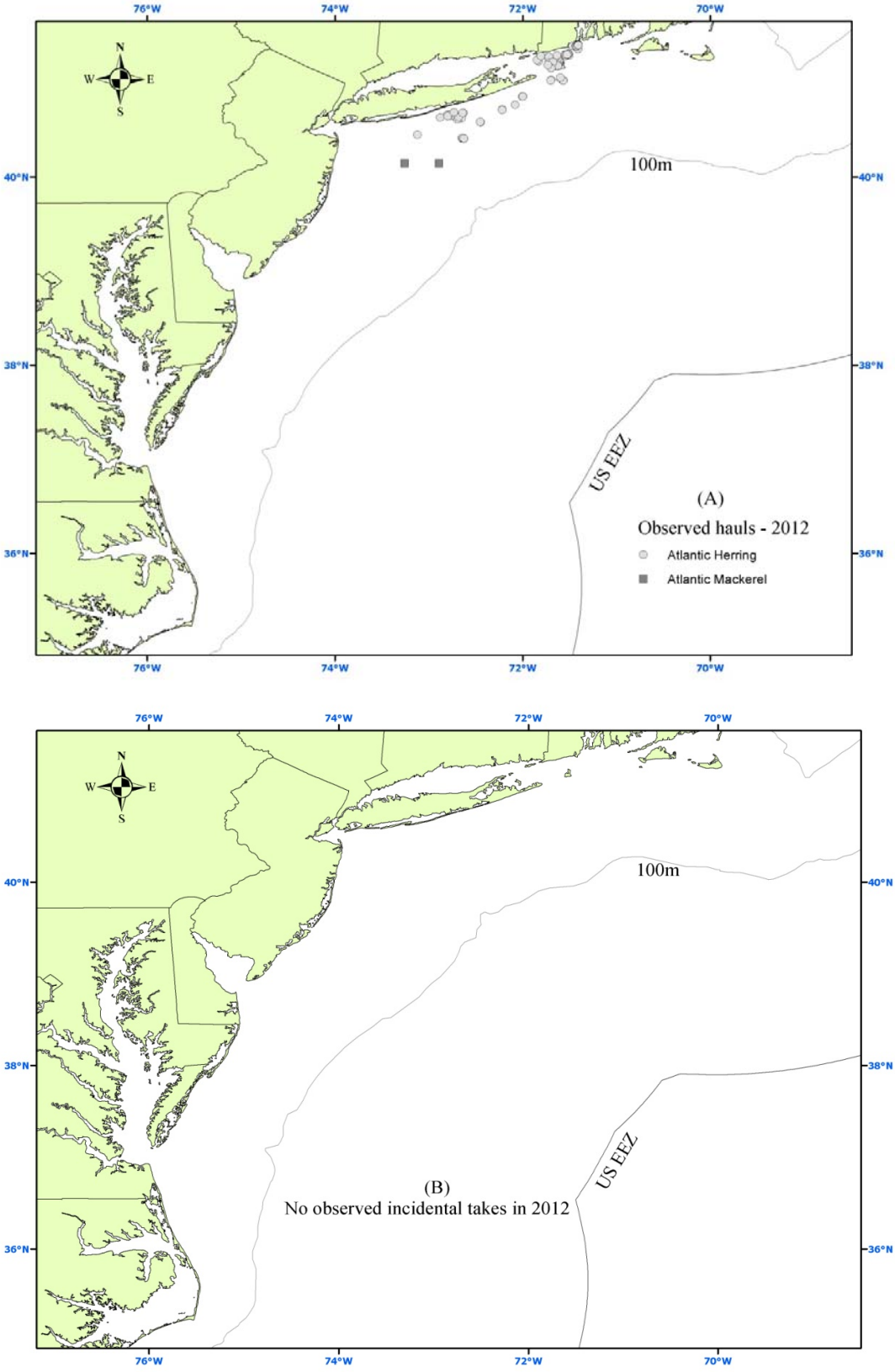


Figure 30. 2013 Mid-Atlantic mid-water trawl observed tows (A) and observed takes (B).

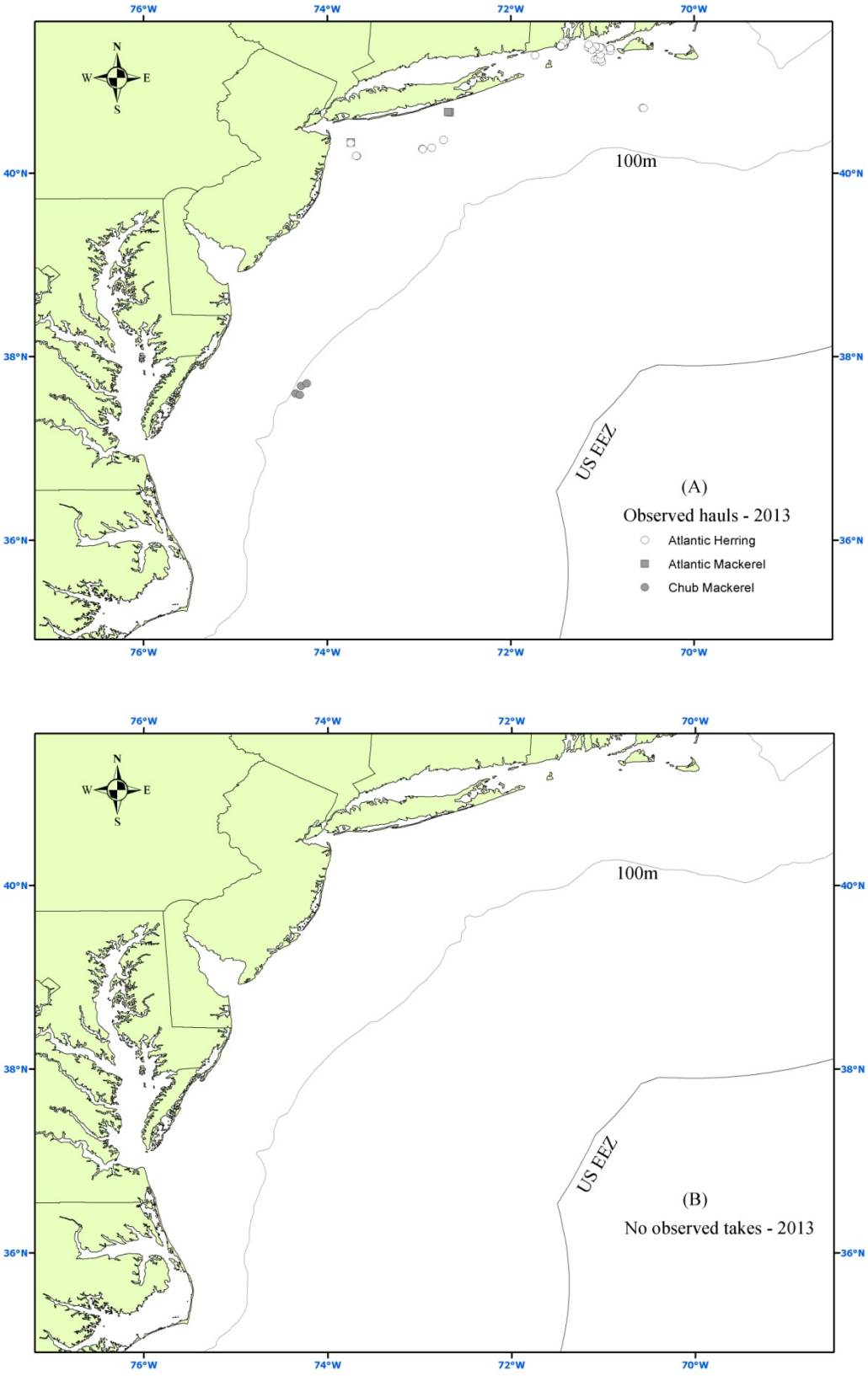
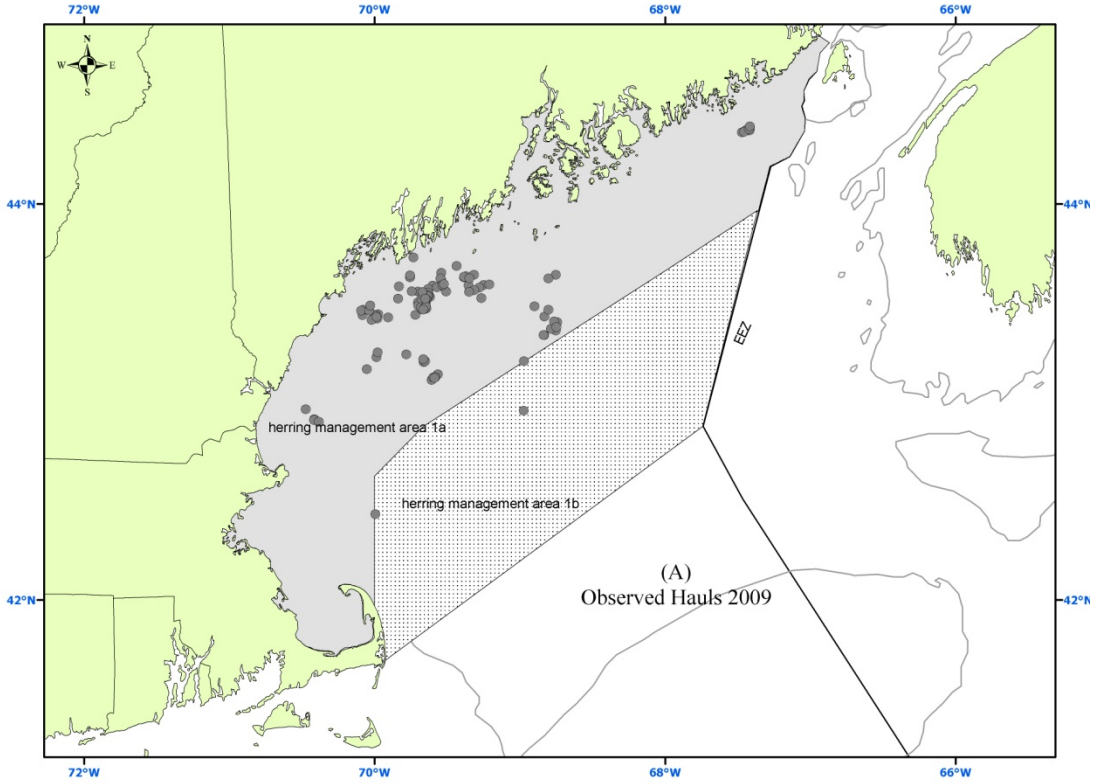


Figure 31. 2009 Herring Purse Seine observed hauls (A) and observed takes (B).



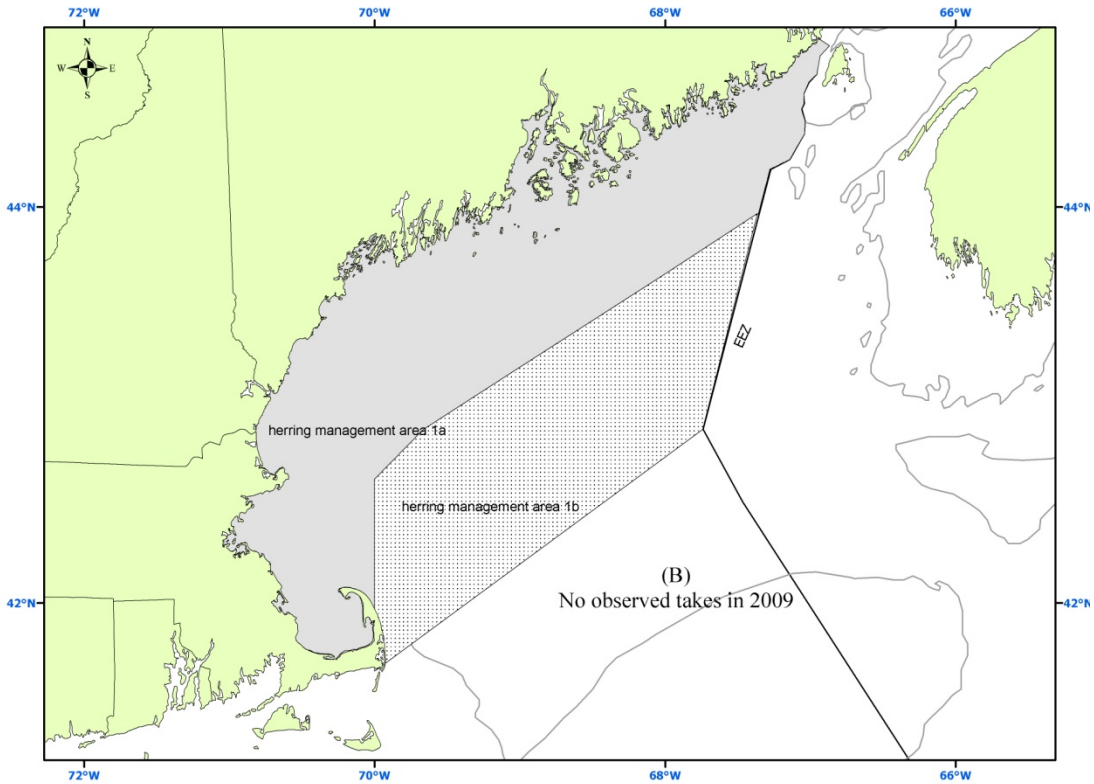
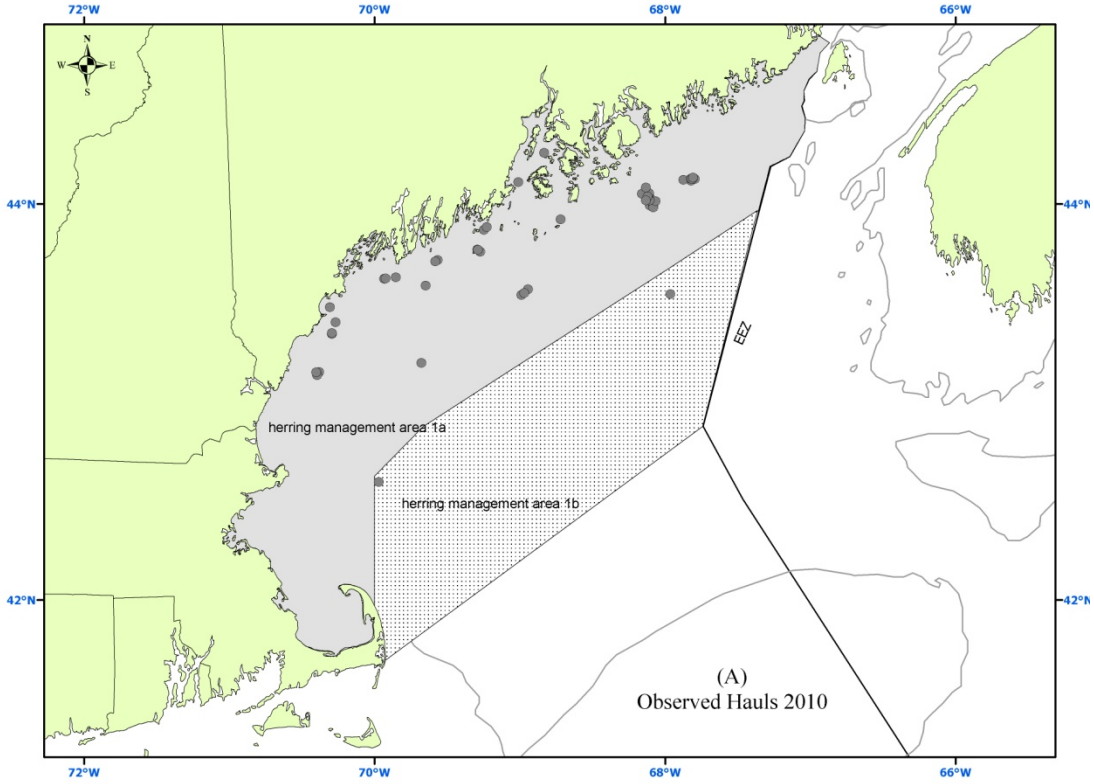


Figure 32. 2010 Herring Purse Seine observed hauls (A) and observed takes (B).



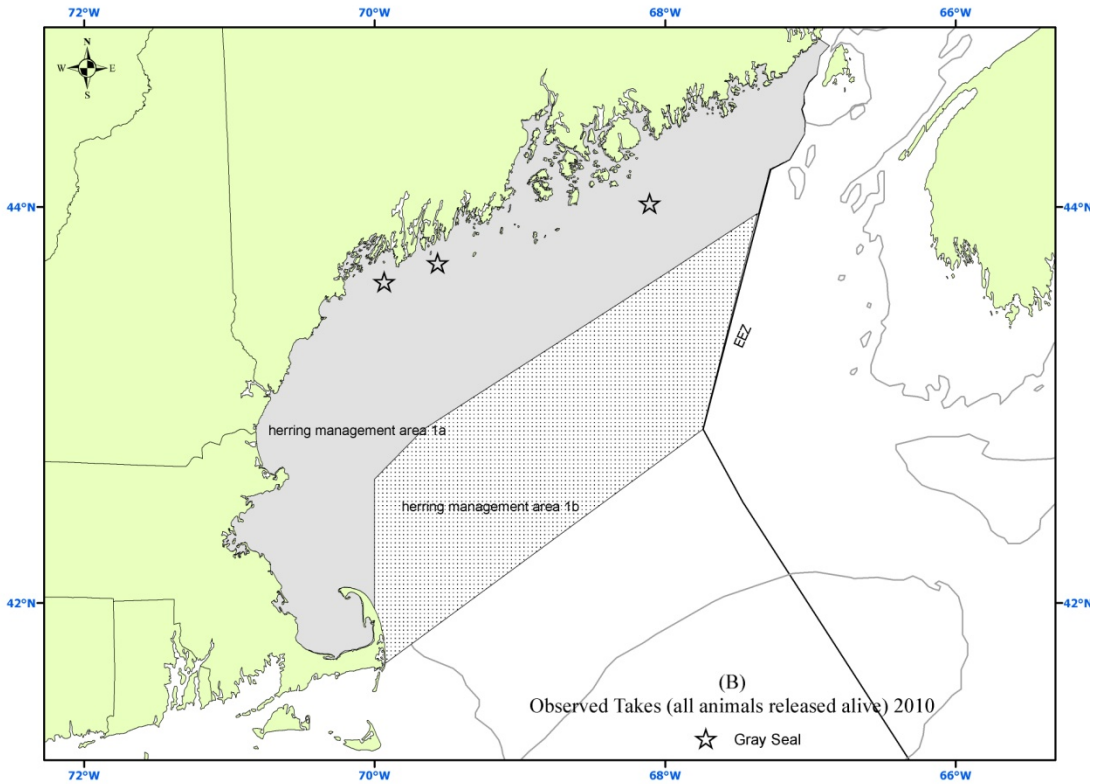
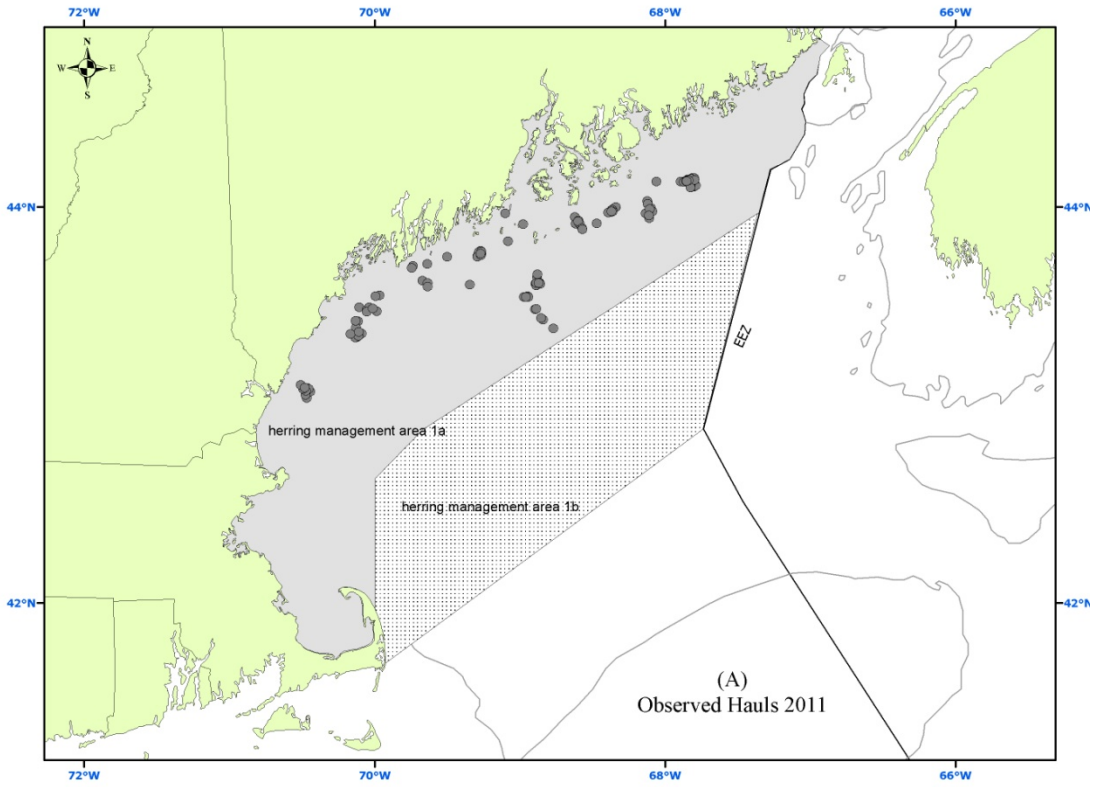


Figure 33. 2011 Herring Purse Seine observed hauls (A) and observed takes (B).



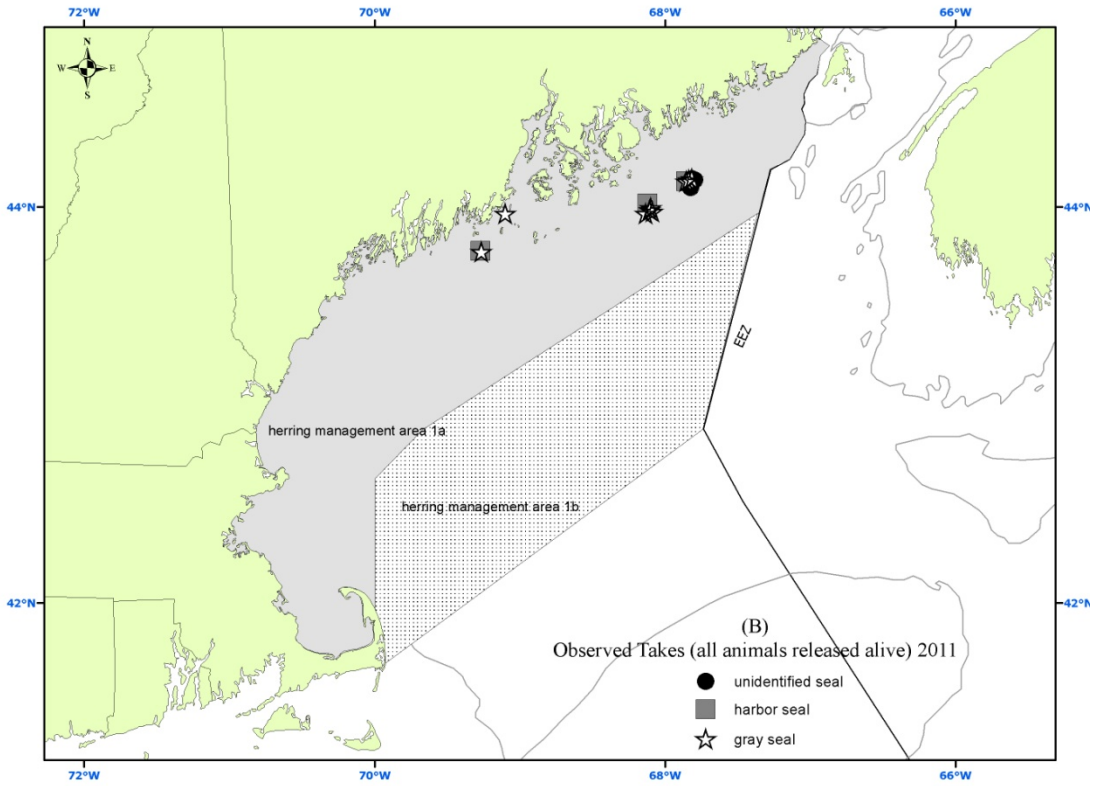


Figure 34. 2012 Herring Purse Seine observed hauls (A) and observed takes (B).

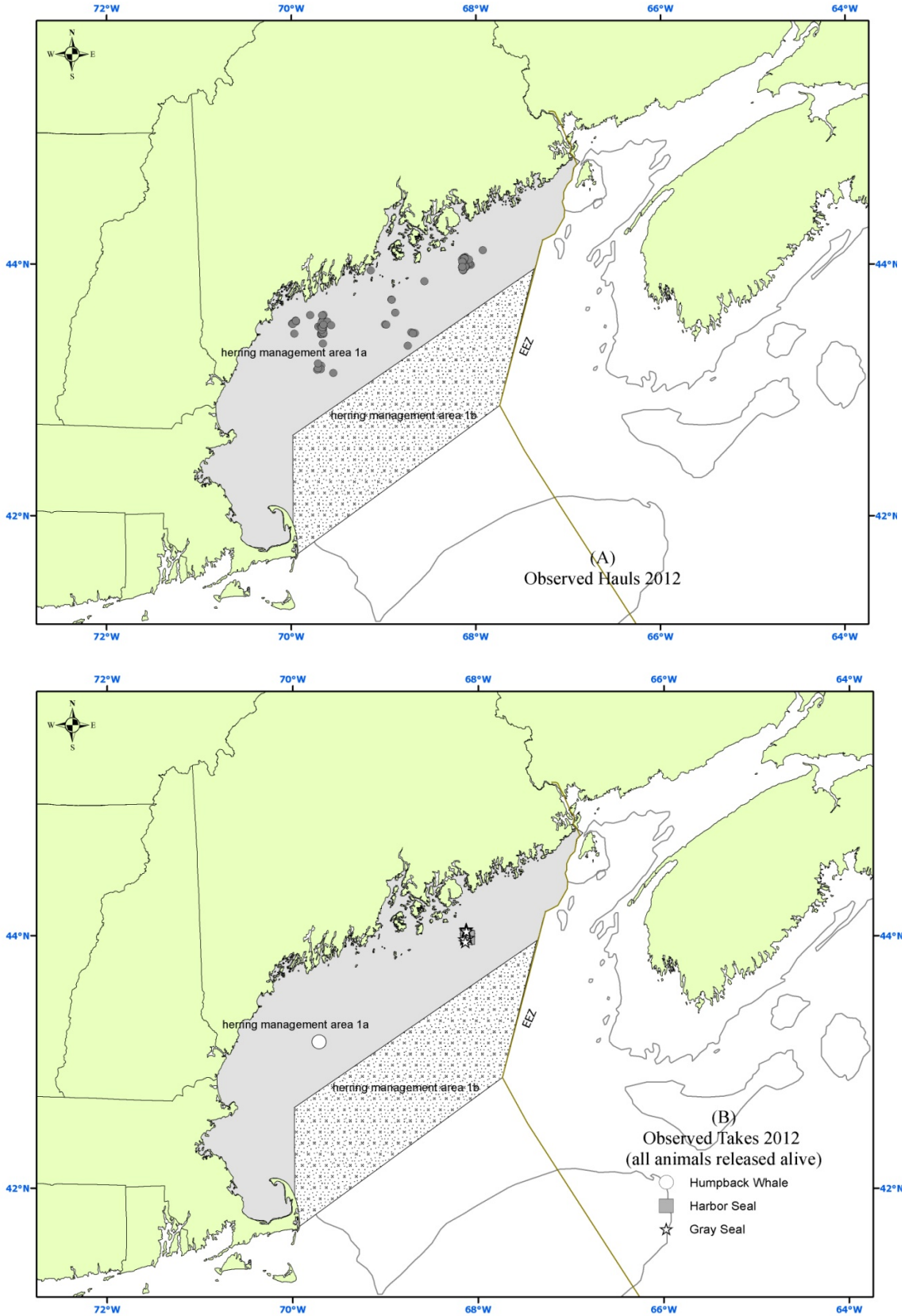
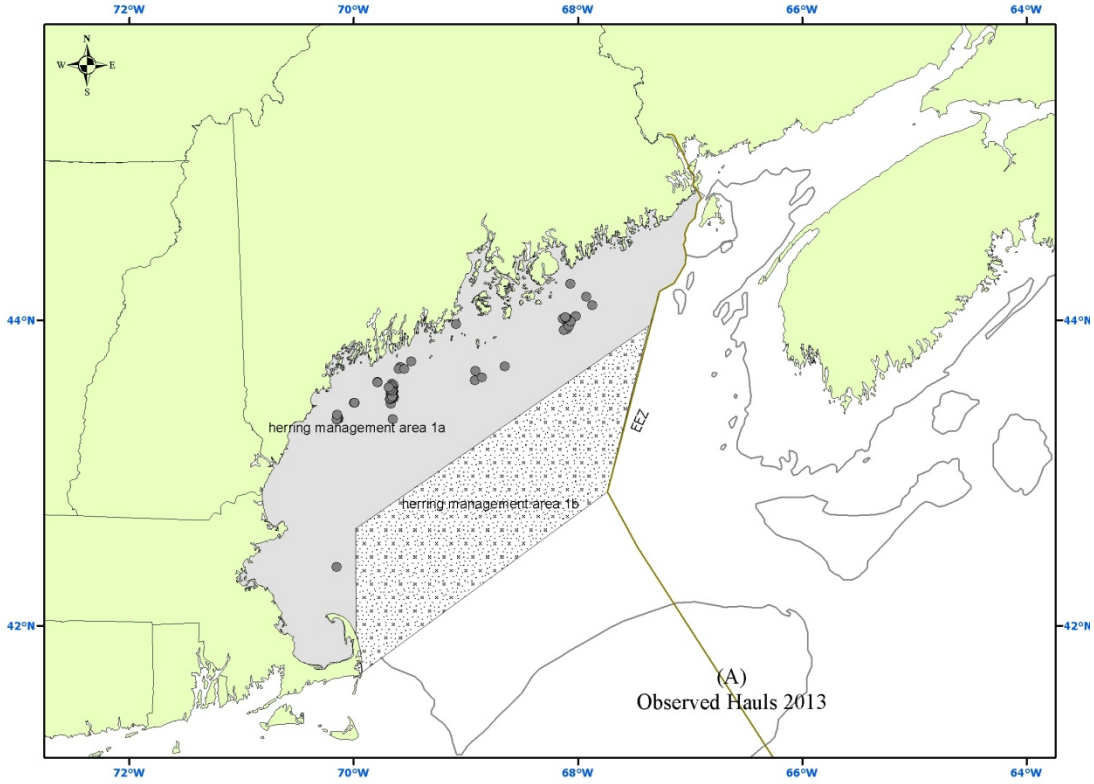


Figure 35. 2013 Herring Purse Seine observed hauls (A) and observed takes (B).



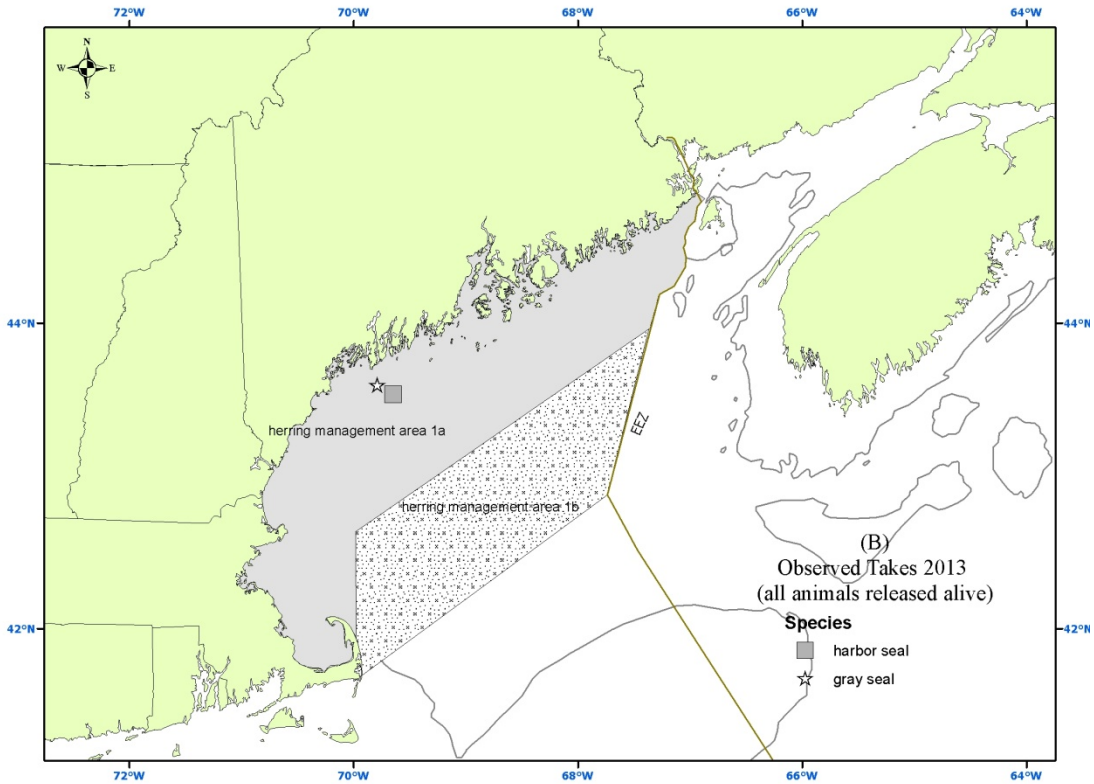


Figure 36. Observed sets and marine mammal interactions in the Pelagic longline fishery along the U.S. Atlantic coast during 2009. The boundaries of the Florida East Coast (FEC), South Atlantic Bight (SAB), Mid-Atlantic Bight (MAB), Northeast Coastal (NEC), and Sargasso Sea (SAR) fishing areas are shown. Seasonal closed areas instituted in 2001 under the HMS FMP are shown as hatched areas.

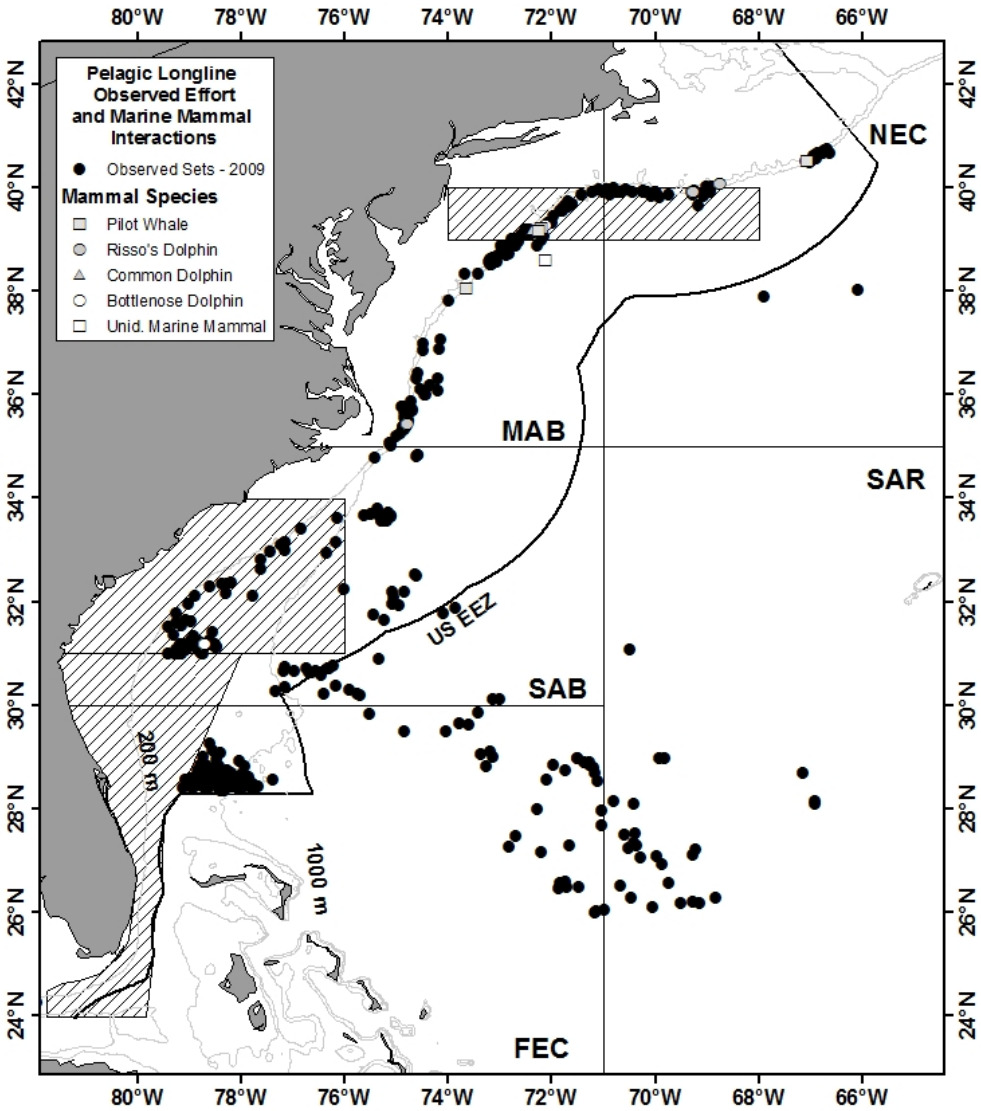


Figure 37. Observed sets and marine mammal interactions in the Pelagic longline fishery along the U.S. Atlantic coast during 2010. The boundaries of the Florida East Coast (FEC), South Atlantic Bight (SAB), Mid-Atlantic Bight (MAB), Northeast Coastal (NEC), and Sargasso Sea (SAR) fishing areas are shown. Seasonal closed areas instituted in 2001 under the HMS FMP are shown as hatched areas.

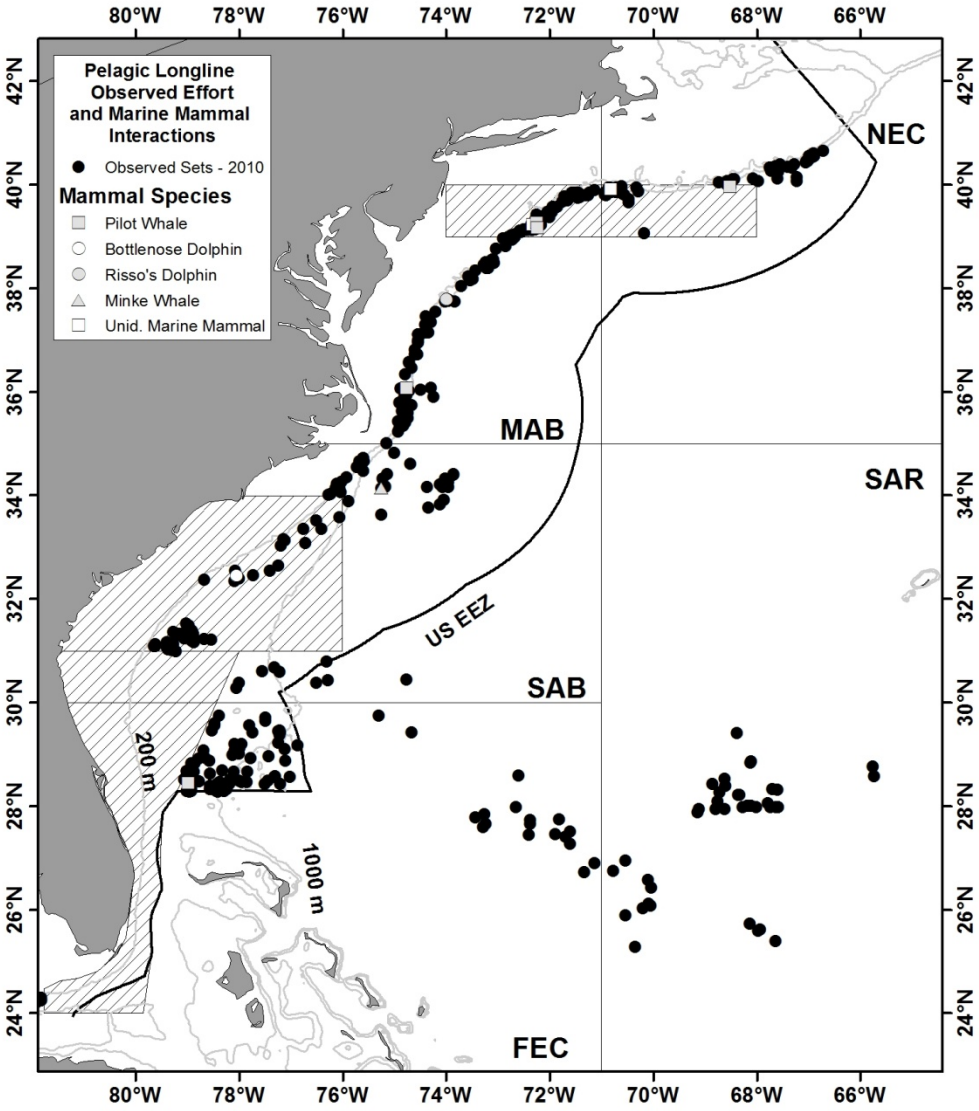


Figure 38. Observed sets and marine mammal interactions in the Pelagic longline fishery along the U.S. Atlantic coast during 2011. The boundaries of the Florida East Coast (FEC), South Atlantic Bight (SAB), Mid-Atlantic Bight (MAB), Northeast Coastal (NEC), and Sargasso Sea (SAR) fishing areas are shown. Seasonal closed areas instituted in 2001 under the HMS FMP are shown as hatched areas.

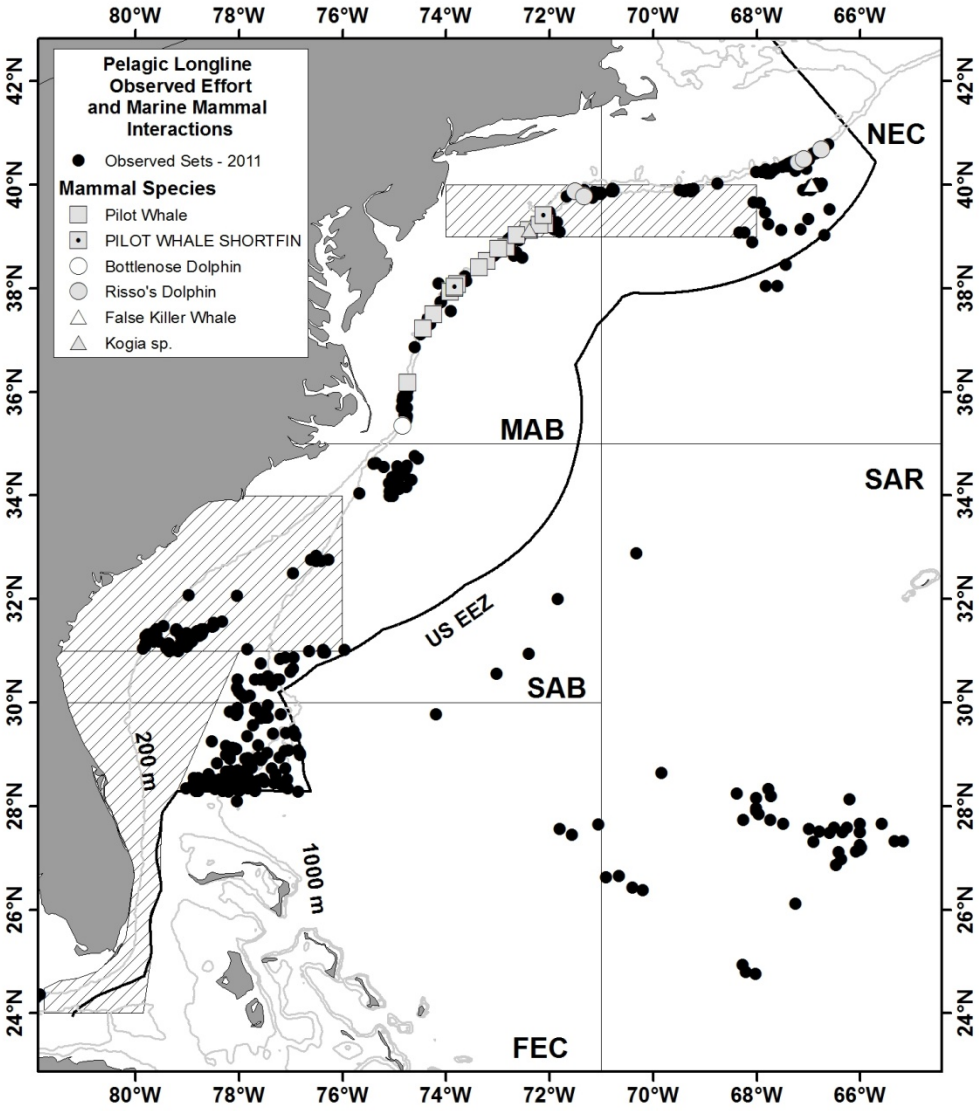


Figure 39. Observed sets and marine mammal interactions in the Pelagic longline fishery along the U.S. Atlantic coast during 2012. The boundaries of the Florida East Coast (FEC), South Atlantic Bight (SAB), Mid-Atlantic Bight (MAB), Northeast Coastal (NEC), and Sargasso Sea (SAR) fishing areas are shown. Seasonal closed areas instituted in 2001 under the HMS FMP are shown as hatched areas.

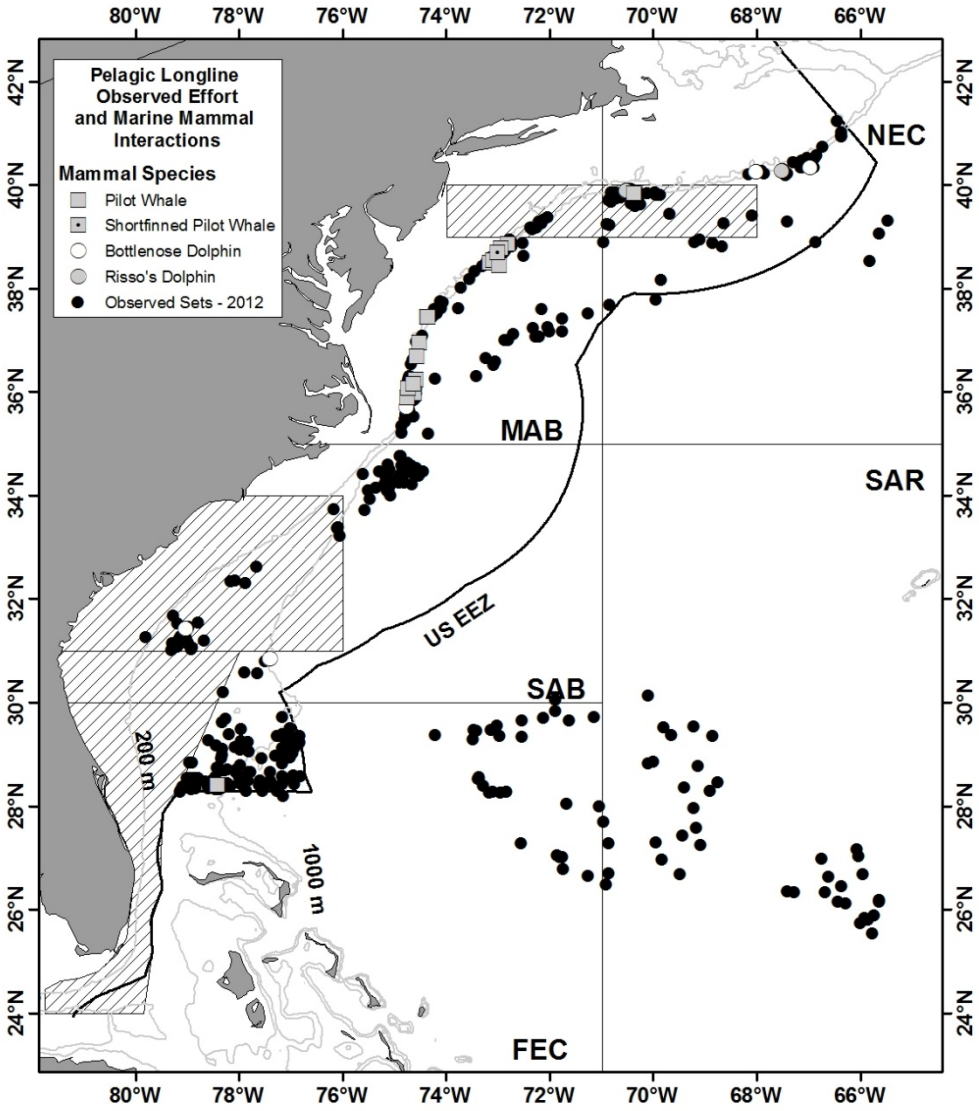


Figure 40. Observed sets and marine mammal interactions in the Pelagic longline fishery along the U.S. Atlantic coast during 2013. The boundaries of the Florida East Coast (FEC), South Atlantic Bight (SAB), Mid-Atlantic Bight (MAB), Northeast Coastal (NEC), and Sargasso Sea (SAR) fishing areas are shown. Seasonal closed areas instituted in 2001 under the HMS FMP are shown as hatched areas.

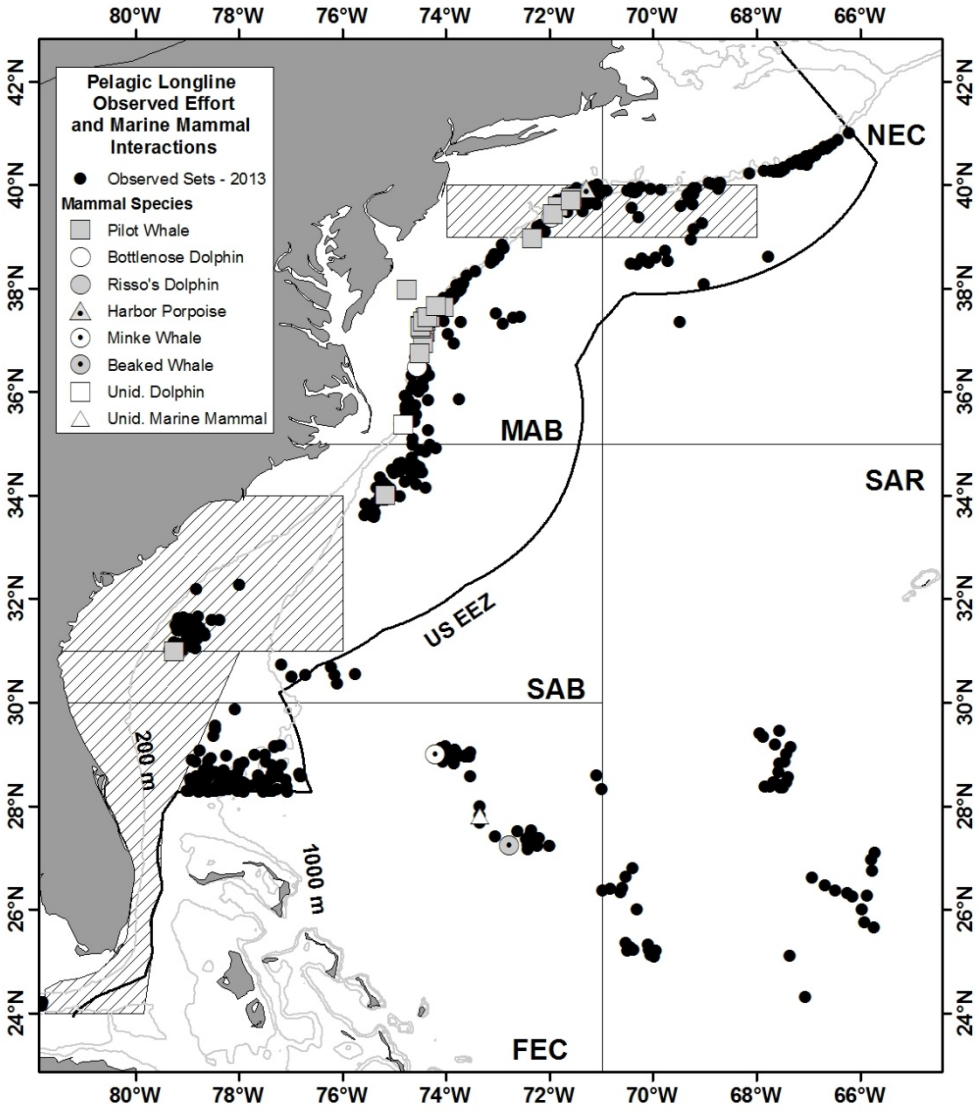


Figure 41. Observed sets in the Pelagic longline fishery in the Gulf of Mexico during 2012. Closed areas in the DeSoto canyon instituted in 2009 are shown as hatched areas.

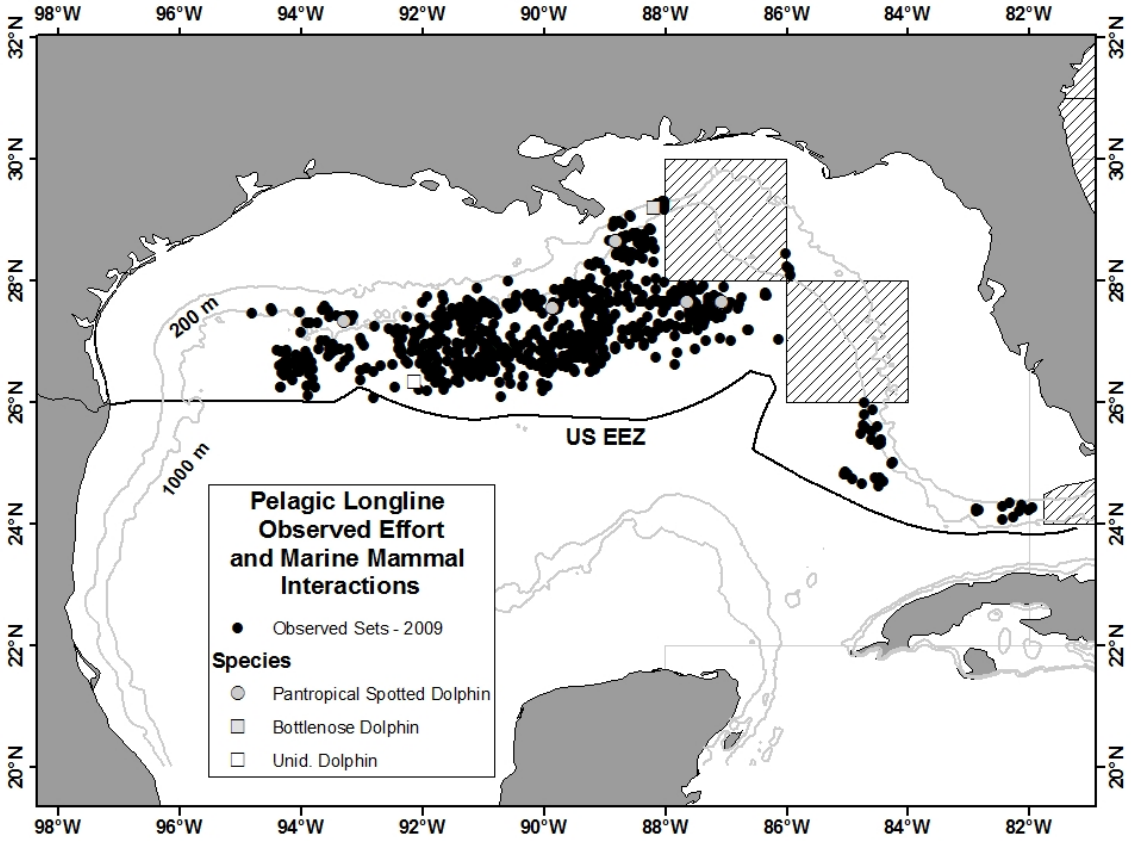


Figure 42. Observed sets in the Pelagic longline fishery in the Gulf of Mexico during 2010. Closed areas in the DeSoto canyon instituted in 2010 are shown as hatched areas.

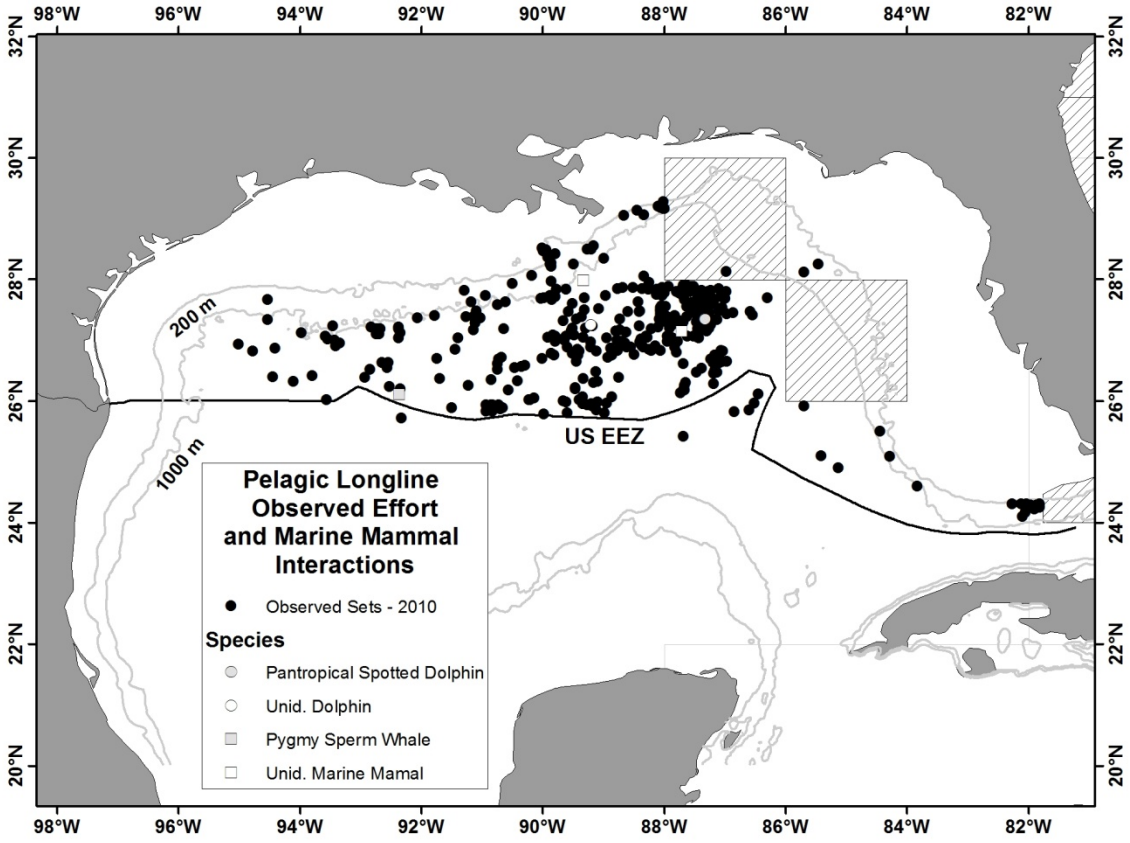


Figure 43. Observed sets in the Pelagic longline fishery in the Gulf of Mexico during 2011. Closed areas in the DeSoto canyon instituted in 2001 are shown as hatched areas.

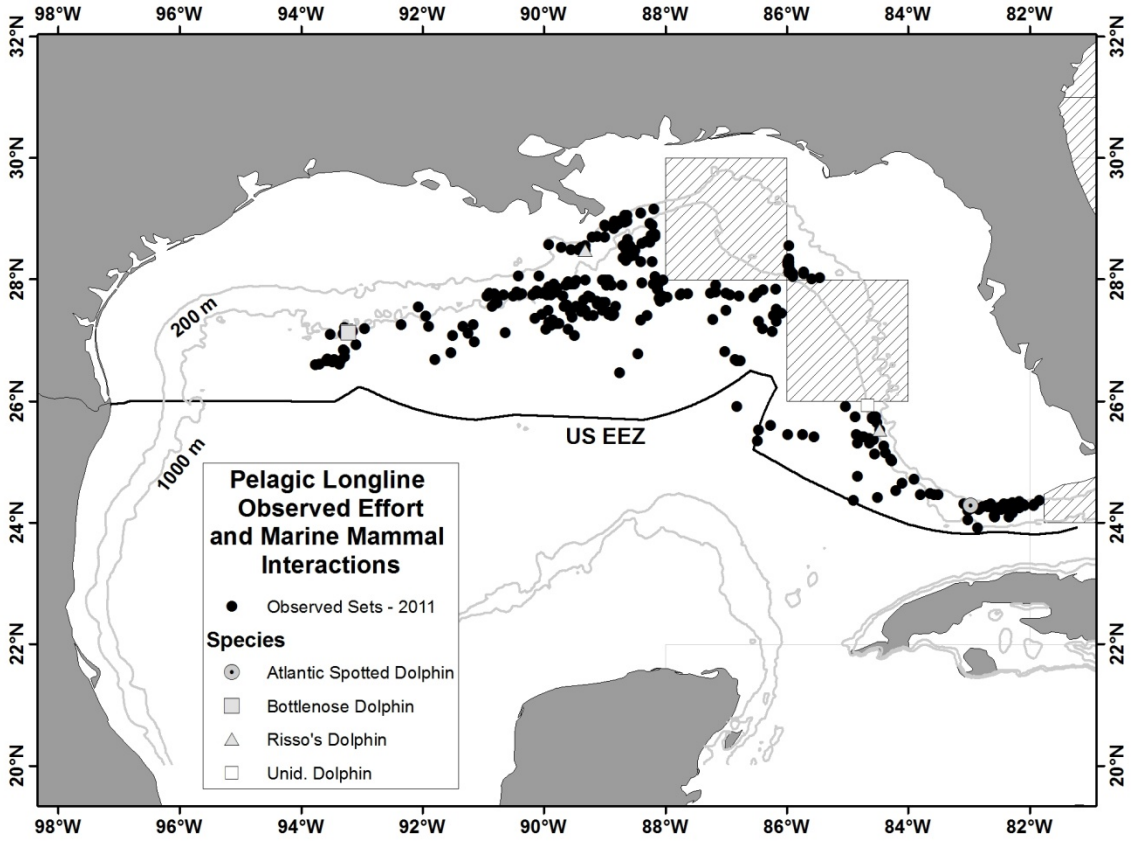


Figure 44. Observed sets in the Pelagic longline fishery in the Gulf of Mexico during 2012. Closed areas in the DeSoto canyon instituted in 2001 are shown as hatched areas.

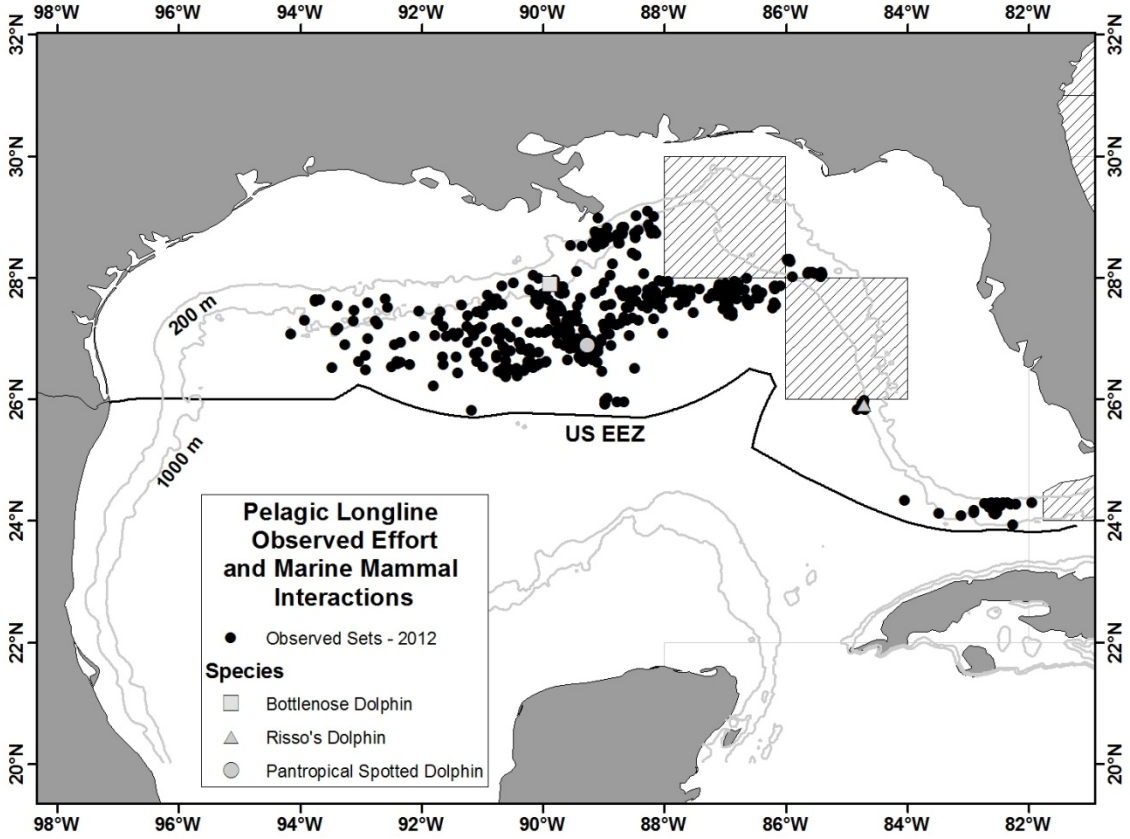


Figure 45. Observed sets in the Pelagic longline fishery in the Gulf of Mexico during 2013. Closed areas in the DeSoto canyon instituted in 2001 are shown as hatched areas.