

**Environmental Assessment and Regulatory Impact Review for Measures to Protect Right
Whales in their Southeast U.S. Calving Habitat**

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**Southeast Regional Office
National Marine Fisheries Service (NMFS)
National Oceanic and Atmospheric Administration
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Executive Summary

This environmental assessment (EA) is being prepared in accordance with the National Environmental Policy Act (NEPA, 42 USC 4321 et seq.), regulations issued by the Council on Environmental Quality (CEQ) (40 CFR Parts 1500-1508), and guidance issued by the National Oceanic and Atmospheric Administration (NOAA) in Administrative Order 216-6.

This EA analyzes the effects on the quality of the human and natural environment caused by the implementation of two regulations: a proposed permanent rule pursuant to the authority of the Marine Mammal Protection Act (MMPA) and a limited term emergency rule under the Endangered Species Act (ESA). The proposed rule would: 1) Expand the southeast U.S. restricted area, 50 CFR 229.32 (f)(1)(i), to include waters off South Carolina bounded to the north by a straight-line continuation of the South Carolina/North Carolina border into oceanic waters, and extending 35 miles seaward from the shoreline (Figure 1); 2) Prohibit gillnetting in the expanded southeast U.S. restricted area from November 15 through April 15 annually north of 29°00' North (N) latitude (lat.); 3) Prohibit gillnetting in the expanded southeast U.S. restricted area from December 1 through March 31 annually south of 29°00' N lat. with limited exemptions. The ESA emergency rule would prohibit gillnetting in the proposed expanded southeast U.S. restricted area described above, north of 29°00' N lat. effective November 15, 2006, through April 15, 2007, or until the proposed rule become effective or is withdrawn, whichever comes first. NOAA's National Marine Fisheries Service (NMFS) is proposing this joint action to fulfill its obligations under the ESA and MMPA, and under regulations implementing the MMPA at 50 CFR 229.32(g)(1), based on its determination that a right whale mortality, documented on January 22, 2006, was the result of an entanglement by gillnet gear within the southeast U.S. restricted area during the restricted period (November 15-March 31).

Introduction

The National Marine Fisheries Service (NMFS) is mandated by the Marine Mammal Protection Act (MMPA) to reduce the incidental mortality and serious injury of marine mammals associated with commercial fisheries. NMFS is also mandated to conserve species listed as endangered or threatened under the Endangered Species Act (ESA). This Environmental Assessment (EA) evaluates the impacts of actions proposed under both of these statutes and regulations at 50 CFR 229.32, to address interactions between gillnet fisheries in the southeastern United States and the North Atlantic right whale¹ (*Eubalaena glacialis*).

On January 22, 2006, a dead right whale calf was reported offshore of Jacksonville Beach, Florida. The right whale calf was towed ashore and necropsied by a specialized large whale necropsy team. The evidence of recent entanglement was clearly documented by the team. NMFS determined that entanglement and injury to the whale by gillnet gear ultimately led to the death of the animal. Additionally, NMFS determined that both the entanglement and death of the whale occurred within the southeast U.S. restricted area (defined at 50 CFR (f)(1)(i)), during

¹ Right whales are listed as "northern right whales" under the Endangered Species Act. However, this document addresses only the breeding population of right whales in the western North Atlantic, also referred to in some instances as "North Atlantic right whales."

the restricted period (November 15-March 31). A temporary restriction on gillnet fishing in the southeast U.S. restricted area was implemented from February 15, 2006, through March 31, 2006 (71 FR 8223, February 16, 2006), consistent with the requirements of the Atlantic Large Whale Take Reduction Plan's (ALWTRP)'s implementing regulations at 50 CFR 229.32(g)(1), until NMFS could seek input from the Atlantic Large Whale Take Reduction Team (ALWTRT) and additional information could be gathered and analyzed to determine a permanent course of action. It was learned that the Southeast Atlantic gillnet fishery, regulated under the ALWTRP, had recently expanded to target whiting using sink gillnets in an area off Mayport, Florida, thereby increasing gillnet effort in the restricted area.

Because of the recent lethal right whale/gillnet interaction, recent expansion of the South Atlantic gillnet fishery, and the likelihood of similar interactions occurring in areas outside of the current restricted area, NMFS proposes to provide enhanced, permanent protection for right whales in their calving area by expanding the southeast U.S. restricted area, consistent with recommendations by the Marine Mammal Commission (MMC); and prohibiting the use of all gillnet gear in the expanded restricted area, with limited exceptions. This prohibition would reduce the potential for further serious injury and mortality to North Atlantic right whales as the result of gillnet interactions.

1.0 Purpose and Need for Action

The purpose of this action is to reduce the potential for serious injury or mortality to endangered northern right whales from entanglement in commercial gillnet fishing gear in the right whale's only known calving ground along the Southeast U.S. coast. Because of a recent expansion of effort and new method of fishing in the Southeast Atlantic gillnet fishery, new information on shark gillnetting effort, and the documented mortality of a right whale calf resulting from entanglement in gillnet fishing gear, NMFS believes that there is substantial risk of additional gillnet entanglements and resultant serious injury or mortality when right whales return to their southeast calving grounds. This action is therefore needed to provide necessary protections for the northern right whale as required under both the MMPA and the ESA. In accordance with existing ALWTRP regulations, if a serious injury or mortality of a right whale occurs in the southeast U.S. restricted area during the restricted period as a result of an entanglement by gear allowed to be used in that area and time, as occurred in January 2006, NMFS is required to close that area to that gear type for November 15 through March 31 in that and each subsequent year, unless the restricted period is revised or other measures for that gear are implemented (50 CFR 229.32(g)(1) and (2)). NMFS has evaluated fishing gear and methods known to be used in the southeast U.S. restricted area to determine the extent of closure of the area to gillnet fishing, which NMFS wishes to implement as a long-term solution, after allowing for full public input. NMFS estimates that, to allow for full public input on the proposed rule, a permanent rule may not be effective until March 1, 2007. However, right whales begin arriving in the Southeast U.S. calving area around November 15. NMFS must ensure that needed protections are in place in the near-term as well to avoid impacts that would pose a significant risk to the well-being of right whales. NMFS overall intent with this action is to provide near-term and long-term protections for northern right whales on their southeast calving ground from gillnet gear entanglement, while allowing for public participation in the regulatory development process. To

achieve this purpose and need, NMFS has considered the regulatory measures and combinations of regulatory measures discussed in this EA and selected a preferred alternative action.

1.1 Background

On August 6, 1996 (61 FR 40819), NMFS established the ALWTRT to prepare a draft Take Reduction Plan to reduce serious injury and mortality of right, humpback, and fin whales, incidental to commercial fishing operations, as well as to provide conservation benefits to a fourth, non-endangered species, the minke whale. The ALWTRT submitted a report to NMFS on February 1, 1997, with recommendations to reduce the serious injury and mortality of Atlantic large whales; however, the ALWTRT did not reach consensus on some recommendations. Pursuant to the MMPA, NMFS then developed a final ALWTRP and implementing regulations based, in part, on the deliberations of the ALWTRT and incorporating considerable public input. An interim final rule was published in July 1997 (62 FR 39157), and a final rule was published February 16, 1999 (64 FR 7529), with an April 1, 1999, effective date. Since that time, the ALWTRP has been modified several times to include additional measures designed to reduce the serious injury and mortality of large whales in commercial fisheries.

The ALWTRP, codified at 50 CFR 229.32, relies on a combination of fishing gear modifications, gear handling and deployment requirements, and time/area closures to reduce the risk of large whales becoming entangled in commercial fishing gear. Among these measures are specific provisions relevant to the risks posed to right, humpback, and fin whales by commercial fishing operations. Commercial fisheries operating in southeast U.S. waters that are regulated under the ALWTRP include the Southeastern U.S. Atlantic shark gillnet and the Southeast Atlantic gillnet fisheries (as referenced in the 2006 List of Fisheries, 71 FR 48802, August 22, 2006). No other fisheries are known to operate in the southeast U.S. restricted area during the time when right whales are expected to occur.

The southeast U.S. restricted area is defined in 50 CFR 229.32(f)(1)(i) as the waters from 32E00' N lat. (near Savannah, GA) along the coast south to 27E51' N lat. (near Sebastian Inlet, FL) and extending from the shore eastward out to 80E00' W. long. (Figure 1). NMFS also established the southeast U.S. observer area defined as the southeast U.S. restricted area plus an additional area along the coast south to 26E46.5' N. lat. (near West Palm Beach, FL) and extending from the shore eastward out to 80E00' W. long (50 CFR 229.32(f)(1)(ii)).

In the southeast U.S. restricted area, the restricted period is from November 15 through March 31 (50 CFR 229.32(f)(4)(i)) corresponding with the right whale calving season, as it was understood in 1996. Pursuant to 50 CFR 229.32(f)(4)(ii) and (iv), fishermen are prohibited from shark fishing with gillnet gear, defined at 50 CFR 229.2 as gillnet with 5 inches (12.7 cm) or greater stretch mesh, in the restricted area during the restricted period, except for shark strikenet gear (defined at 50 CFR 229.2) of any mesh size fished in accordance with the following provisions: (1) No nets are set at night or when visibility is less than 500 yards (460 m); (2) each set is made under the observation of a spotter plane; (3) no net is set within 3 nautical miles (5.6 km) of a right, humpback, or fin whale; and (4) if a right, humpback, or fin whale moves within 3 nautical miles (5.6 km) of the set gear, the gear is removed immediately from the water (50 CFR

229.32(f)(4)(iv)). Lastly, all gillnet fishermen are prohibited from fishing a straight set of gillnet gear at night within the southeast U.S. restricted area during the restricted period (50 CFR 229.32(f)(4)(iii)).

Because of the right whale's endangered status, NMFS included contingency measures in the ALWTRP regulations that would require further restriction on fishing in the Cape Cod Bay critical habitat, Great South Channel restricted area, and the southeast U.S. restricted area if a right whale mortality or serious injury resulted from the use of certain fishing gear in those areas. Specifically, 50 CFR 229.32(g)(1) states that if a serious injury or mortality of a right whale occurs in the southeast U.S. restricted area during the restricted period as a result of an entanglement by gillnet gear allowed to be used in that area and time, the NOAA Assistant Administrator for Fisheries (AA) shall close that area to that gear type for the rest of that time period and for that same time period in each subsequent year, unless the AA revises the restricted period or implements other measures under 50 CFR 229.32(g)(2).

On January 22, 2006, a dead right whale calf was reported offshore of Jacksonville Beach, Florida. The right whale calf was towed ashore and necropsied by a specialized large whale necropsy team. Evidence of recent entanglement was clearly documented by the necropsy team. Damage to the animal that was judged to be the result of entanglement met NMFS' criteria of a serious injury (i.e., an injury likely to result in mortality) (50 CFR 216.3). The immediate cause of the whale's death (e.g., dehydration, infection) was not determinable. NMFS determined, based on existing data and discussions with scientific investigators, that the right whale's entanglement and serious injury by gillnet gear allowed to be used in the southeast U.S. restricted area during the restricted period ultimately led to the death of the animal. Additionally, NMFS determined that both the entanglement and death of the whale occurred within the southeast U.S. restricted area during the restricted period because: (1) all sightings of this calf occurred within the southeast U.S. restricted area; (2) all the southeast sightings were during the restricted period; (3) mother-calf pairs typically remain on the calving grounds in January; (4) the carcass was found within the southeast U.S. restricted area; and (5) the calf's most likely location when it died was inshore and north of where the carcass was found.

As a result of these findings, NMFS enacted temporary restrictions on gillnet fishing in the southeast U.S. restricted area from February 15, 2006, through March 31, 2006 (71 FR 8223, February 16, 2006), in accordance with the ALWTRP's implementing regulations at 50 CFR 229.32(g)(1). The temporary restrictions were necessary to protect right whales from further serious injury or mortality in the southeast U.S. restricted area due to entanglement in gillnet gear. Since the temporary rule went into effect, NMFS collected and analyzed additional information to determine, with opportunity for public comment, the scope of permanent protective measures required by the regulations.

On March 7, 2006, the final necropsy report was submitted to NMFS. The necropsy report supported NMFS' determination that the right whale calf was seriously injured and ultimately died as the result of entanglement in gillnet gear used in the southeast U.S. restricted area during the restricted period. The mesh size of the gillnet gear involved in the entanglement could not be determined. However, NMFS considers any mesh size of gillnet gear used in the southeast U.S.

restricted area during the restricted period to be allowable gear under current ALWTRP regulations. The use of small mesh gillnets (less than 5 inches (12.7 cm)) stretch mesh is allowed except as restricted at 50 CFR 229.32(f)(4)(iii), and the use of large mesh gillnets is allowed in accordance with 50 CFR 229.32(f)(4)(iv). Therefore, NMFS believes the application of the implementing regulations at 50 CFR 229.32(g)(1) with respect to gillnet gear allowed to be used in the southeast U.S. restricted area during the restricted period was, and continues to be, appropriate.

On April 11 and 12, 2006, NMFS convened a meeting of the ALWTRT's Mid-Atlantic/Southeast Subgroup (the SE Subgroup) to seek input regarding future management options to protect right whales from additional serious injury and mortality from gillnetting within the southeast U.S. restricted area. The SE Subgroup included representatives of commercial fishermen that actively gillnet in the Southeast U.S., right whale scientists, environmentalists, fishery management organizations, and state and federal resource management agencies.

NMFS updated the SE Subgroup on: 1) the ALWTRP as it relates to the Southeast U.S. (including modifications proposed in 70 FR 35894, June 21, 2005), 2) the right whale calf necropsy findings, 3) the temporary rule restricting gillnetting in the southeast U.S. restricted area from February 16, 2006, through March 31, 2006 (71 FR 8223, February 16, 2006), 4) right whale status, 5) habitat and dive characteristics of right whales in the Southeast U.S., 6) Southeast U.S. gillnet fisheries, and 7) existing gillnet-related state and federal regulations. At the meeting, the SE Subgroup discussed various gillnet fishery management options for the fisheries operating in the southeast U.S. restricted area during the restricted period.

The preferred alternative consists of a proposed rule and an emergency rule. The proposed rule would implement the ALWTRP at 50 CFR 229.32(g)(1) and (2) by enacting a permanent closure of a proposed expanded southeast U.S. restricted area to gillnet fishing during new proposed restricted periods, with limited exceptions, in accordance with subsection (g)(2). The preferred alternative would make corresponding amendments to subpart 229.32. Under the ESA, the preferred alternative would enact a temporary, emergency closure of the expanded southeast U.S. restricted area north of 29°00' N lat. to gillnet fishing effective November 15, 2006, through April 15, 2007, or until the proposed rule becomes effective or is withdrawn, whichever comes first.

2.0 Description of the Proposed Action and Alternatives

2.1 Geographic Scope of the Alternatives

NMFS' consideration of the geographical extent of the action area included both the existing southeast U.S. restricted area and the proposed expanded restricted area as shown in Figure 1 below. It was determined that expanding the restricted area to include the waters off South Carolina was necessary under any scenario, and is therefore included under all alternatives below except for the "no-action" alternative. Aerial surveys for right whales conducted between 2001 and 2005 have shown consistent occurrence of right whales in waters off South Carolina

throughout winter months (McLellan *et al.* 2001, Glass *et al.* 2005). In addition, there is evidence that some calving females may remain in this area north of the traditionally defined calving grounds. For example, during the 2004/2005 calving season, right whale #1970 and her calf were observed multiple times off South Carolina by an aerial monitoring team, but were never observed further south off Georgia and Florida (Glass *et al.* 2005). Acoustic monitoring conducted during 2004 and 2005 also demonstrated the presence of right whales off South Carolina during winter months. This includes detections of right whale vocalizations at a monitoring station approximately 30 miles (55.6 km) offshore (Clark 2006). Furthermore, habitat models based upon the aerial survey data collected off Florida and Georgia suggest a strong relationship between the spatial distribution of calving right whales and water temperature and bathymetry. In particular, distribution of calving right whales is strongly correlated with water temperatures between 13-15EC and water depths 15-20m (Keller *et al.* 2006, Garrison 2006). These environmental conditions are typically found off South Carolina to distances of 35 nautical miles (64.8 km) from shore during winter months. The model predictions are consistent with observational evidence from aerial and acoustic surveys. The available data and analyses indicate that the continental shelf off South Carolina is a region where right whales occur on a consistent basis in winter months.

South Carolina commercial fisheries landings data (which distinguishes landings by gear-type since 2003) indicate that only shark has been landed in South Carolina from gillnet fishing and only in 2004 and 2005. Shark was harvested off South Carolina by gillnet from April through October, 2004, and May through September, 2005, for a total of 8,097 and 18,318 pounds of shark harvested in 2004 and 2005, respectively. No shark gillnet landings were reported during the months from November through March 2000 through 2005. Commercial fisheries landings data from the Florida Fish and Wildlife Conservation Commission (FWC) indicate that in Florida, 111,210 pounds of shark were landed in 2004 alone. Consequently, expanding the southeast U.S. restricted area to waters off South Carolina would appear to only minimally impact the amount of shark harvested in the Southeast if the South Carolina landings are reduced or eliminated. However, the action would have conservation benefits to right whales by preventing the potential expansion of gillnetting activity into that area during the time when it is used by right whales.

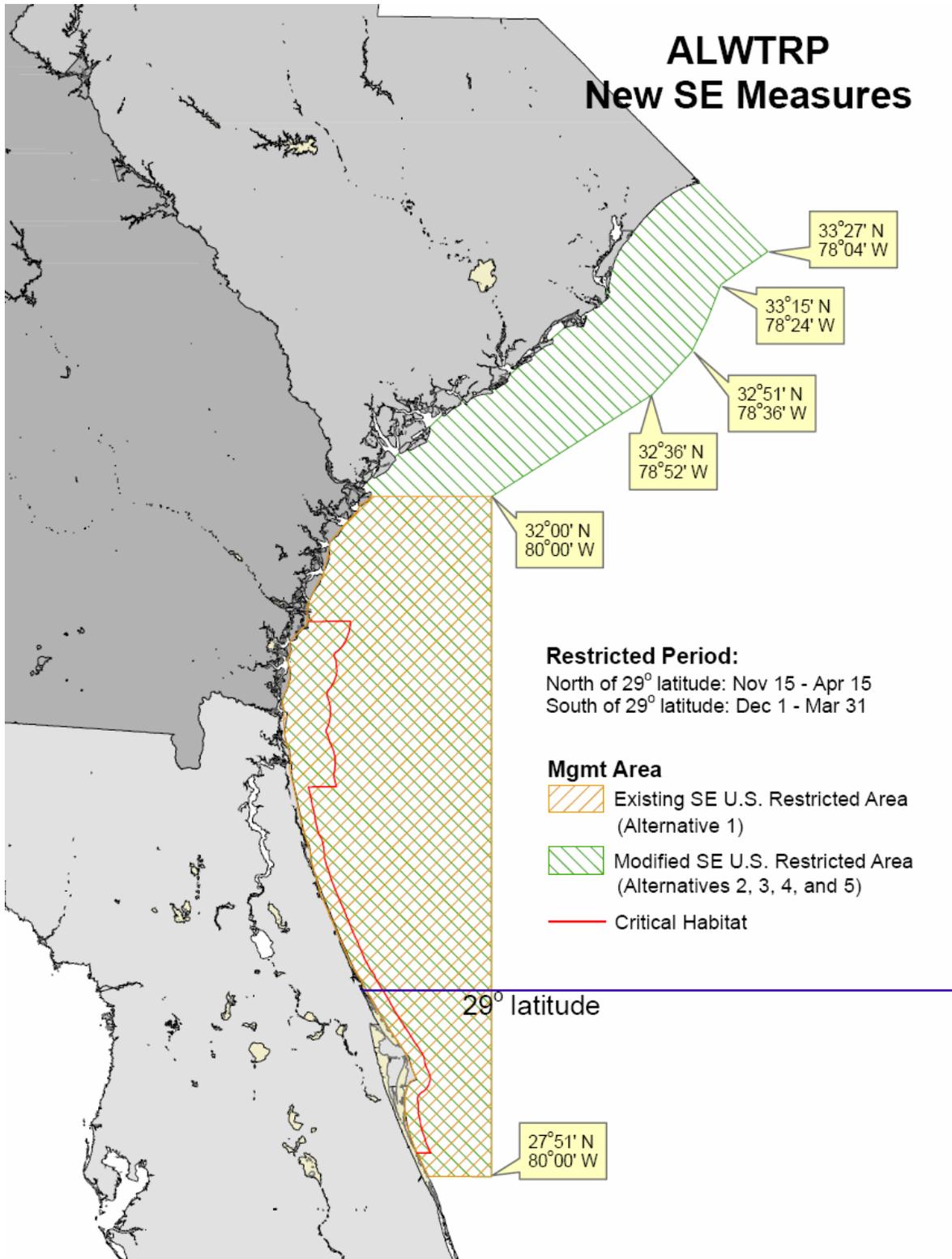


Figure 1: Existing and Expanded Southeast U.S. Restricted Area, and Right Whale Critical Habitat

2.2 Alternatives Considered

2.2.1 Alternative 1: No-Action Alternative

The No-Action Alternative would not expand the area of, or implement any additional gillnet gear restrictions in, the southeast U.S. restricted area. Gillnet fishing in the Southeast U.S. would not be restricted further and would continue at current levels in accordance with:

- 1) 50 CFR 229.32(f) (ALWTRP requirements for the southeast U.S. restricted area and observer area),
- 2) 50 CFR 635 (shark gillnet-related regulations including, but not limited to, §635.69 pertaining to vessel monitoring system requirements for vessels issued a directed shark permit, §635.21(e)(3) pertaining to authorized gear for shark gillnetting, §635.7 pertaining to observer requirements, etc.), and
- 3) 50 CFR 622 (Spanish mackerel-related regulations including, but not limited to, §622.4 pertaining to permits and fees, §622.6 pertaining to vessel and gear identification, §622.41 pertaining to species specific limitations, etc.).

Regulations implementing the ALWTRP require NMFS to close waters of the southeast U.S. restricted area to gillnet fishing in the event of the death of a right whale in that area as a result of entanglement in gillnet fishing gear allowed to be used in there. NMFS has validated its initial determination that gillnet gear allowed to be used in the restricted area at the time of entanglement caused the right whale's death. Thus, NMFS may enact something less than a full and permanent closure of the area only if it finds that characteristics of gillnet gear, technology, or right whale biology negate the need for a permanent closure pursuant to 50 CFR 229.32(g)(2).

2.2.2 Alternative 2: Operational restrictions on all gillnet fisheries in the proposed expanded southeast U.S. restricted area from November 15 - March 31

Alternative 2 would implement permanent operational restrictions in the proposed expanded southeast U.S. restricted area during the current restricted period of November 15 through March 31, annually. Under this alternative, these restrictions would apply to all gillnet fishing within that area. Restrictions would include: a) Only small-mesh gear may be used (less than 3 inch stretch mesh); b) gillnets may not be more than 25 meshes deep; c) head ropes must contain weak links- up to 5 weak links per panel with an 1100-pound breaking strength; d) buoy lines must be constructed of sinking lines with 600-pound breaking strength weak links; e) eight pound Danforth anchors must be attached to each end of the gillnet string; f) all nets must be actively fished; g) no setting of gillnets at night; h) observers must be allowed on board if requested by NMFS; i) fishermen would be required to mark their gillnets to identify the area fished and gear type used (as specified in 50 CFR 229.32(b)(3)); j) no boat may carry or use more than 28 panels of gillnet (approximately 2800 yards).

Like Alternative 1, this alternative must meet the bases in 50 CFR 229.32(g)(2) under which exemptions to a full, permanent closure of the restricted area are allowable. This alternative is based on a proposal from fishing industry members of the SE Subgroup that would be affected by a full, permanent closure and would be applicable to the entire expanded southeast U.S.

restricted area. These members wanted to maintain the ability for Southeast Atlantic gillnet fishery participants to fish in this area for whiting with sink gillnets while prohibiting the use of large-mesh nets. The measures proposed are similar to ALWTRP measures used in other areas (e.g. mid-Atlantic) to reduce the risk of incidental take of right, humpback, and fin whales by gillnet fishing activity. Table 2.2.2.1 provides a comparison between existing ALWTRP measures and those considered under Alternative 2.

Table 2.2.2.1. Summary of existing ALWTRP measures and proposed measures considered by Alternative 2.

	Existing Measures	Alternative 2 Measures
Restricted Area	Existing Restricted Area (see Figure 1)	Expanded Restricted Area (see Figure 1)
Restricted Period	Nov. 15 – Mar. 31	Nov. 15 – Mar. 31
Prohibitions	1) Fishing with shark gillnet gear (defined as gillnet with 5 inches (12.7 cm) or greater stretch mesh) 2) Straight sets of gillnets at night	1) Gillnets with 3 inches (7.6 cm) or greater stretch mesh 2) Gillnets set at night
Exemptions	Fishing for sharks with strikenet gear in accordance with 50 CFR 229.32(f)(4)(iv), which requires that: no nets can be set at night or when visibility is less than 500 yards (460 m); sets must be made under the observation of a spotter plane; no net can be set within 3 nmi (5.6 km) of a right, humpback, or fin whale; and gear must be removed if a right, humpback, or fin whale moves within 3 nmi (5.6 km) of the set gear.	Fishing with gillnet less than 3 inches (7.6 cm) stretch mesh provided: a) gillnets are not more than 25 meshes deep; b) head ropes contain weak links -up to 5 weak links per panel with an 1100-pound breaking strength; c) buoy lines are constructed of sinking lines with 600-pound breaking strength weak links; d) eight pound Danforth anchors are attached to each end of the gillnet string; e) all nets are actively fished; and f) no boat carries or uses more than 28 panels of gillnet (approximately 2800 yards).
Gear Marking	In accordance with 50 CFR 229.32(b)(3)	In accordance with 50 CFR 229.32(b)(3)
Observer Requirement	In accordance with 50 CFR 229.32(f)(3)	None

2.2.3 Alternative 3: Permanent prohibition of gillnets in the proposed expanded southeast U.S. restricted area every year from November 15 - March 31

Alternative 3 would implement the immediate closure of the proposed expanded Southeast U.S. Restricted Area to all gillnets from November 15 through March 31 annually on a permanent basis. No exemptions would be provided during the closure. Table 2.2.3.1 provides a comparison between existing and proposed ALWTRP measures under this Alternative 3.

Table 2.2.3.1. Summary of existing ALWTRP measures and proposed measures considered by Alternative 3.

	Existing Measures	Alternative 3 Measures
Restricted Area	Existing Restricted Area (see Figure 1)	Expanded Restricted Area (see Figure 1)
Restricted Period	Nov. 15 – Mar. 31	Nov. 15 – Mar. 31
Prohibitions	1) Fishing with shark gillnet gear (defined as gillnet with 5 inches (12.7 cm) or greater stretch mesh) 2) No straight sets of gillnets at night	All gillnet gear
Exemptions	Fishing for sharks with strikenet gear in accordance with 50 CFR 229.32(f)(4)(iv), which requires that: no nets can be set at night or when visibility is less than 500 yards (460 m); sets must be made under the observation of a spotter plane; no net can be set within 3 nmi (5.6 km) of a right, humpback, or fin whale; and gear must be removed if a right, humpback, or fin whale moves within 3 nmi (5.6 km) of the set gear.	None
Gear Marking	In accordance with 50 CFR 229.32(b)(3)	None
Observer Requirement	In accordance with 50 CFR 229.32(f)(3)	None

2.2.4 Alternative 4: Establish different restricted periods within a northern and southern zone of the proposed expanded southeast U.S. restricted area, in which gillnetting is prohibited, with limited exemptions

Alternative 4 would be implemented through the standard rulemaking process, with an estimated effective date of February 2007, and divide the proposed expanded southeast U.S. restricted area into northern and southern restricted areas (southeast U.S. restricted area North and southeast U.S. restricted area South, respectively) at 29°00' N. lat. This alternative would prohibit fishing with or possessing gillnets in the southeast U.S. restricted area North annually from November 15 through April 15, based on NMFS' determination that no measures currently available would adequately protect right whales from the risk of serious injury or mortality due to gillnet operations during the restricted period in the southeast U.S. restricted area North. Possession of gillnet aboard a vessel in transit through the southeast U.S. restricted area North during the restricted period is exempt from the restrictions if: All nets are covered with canvas or other similar material and lashed or otherwise securely fastened to the deck, rail, or drum; and all buoys, high flyers, and anchors are disconnected from all gillnets. No fish may be possessed aboard such a vessel in transit.

This alternative would also prohibit gillnetting in the southeast U.S. restricted area South annually from December 1 through March 31. Currently, fishing effort in the southeast U.S. restricted area South consists only of fishermen using small mesh gillnets to target Spanish mackerel (as part of the Southeast Atlantic gillnet fishery), and fishermen using strikenet gear to target sharks (as part of the Southeastern U.S. Atlantic shark gillnet fishery). Therefore, these were the only two fisheries considered for an exemption under 50 CFR 229.32(g)(2). NMFS is proposing to exempt these operations from the gillnet prohibitions, with additional restrictions as discussed in more detail below. The determination to allow for limited exemptions in the southeast U.S. restricted area South during the restricted period is based on several factors, including right whale distribution patterns in this area and time, existing state gillnet prohibitions, and gear characteristics and operational methods used in the deployment of gear by these two fisheries.

As discussed in detail in the proposed rule, NMFS determined that this alternative is consistent with the ALWTRP regulations at 50 CFR 229.32(g)(1) and (2), in that the exempted fisheries, operated under the proposed provisions outlined below, are operationally effective and will protect right whales from the risk of serious injuries and mortalities in the southeast U.S. restricted area South during the restricted period.

This approach of prohibiting gillnet fishing in the southeast U.S. restricted area South during the restricted period, while allowing for limited exemptions for specific fishing operations and practices determined to have a negligible risk to right whales, is consistent with 50 CFR 229.32(g)(1) and (2), and effectively eliminates the risk of any new gillnet fishing operation from emerging in this area during this period without first considering the risk that particular operation poses to right whales, and whether the particular operation meets the conditions for an exemption in 50 CFR 229.32(g)(2).

Additional fishery-specific restrictions would apply as follows:

Southeastern U.S. Atlantic shark gillnet fishery- Fishing for sharks with gillnet in the southeast U.S. restricted area South is exempt from the restrictions if gillnets are fished in accordance with 50 CFR 229.32(f)(4)(iv), which requires that: no nets can be set at night or when visibility is less than 500 yards (460 m); sets must be made under the observation of a spotter plane; no net can be set within 3 nmi (5.6 km) of a right, humpback, or fin whale; gear must be removed if a right, humpback, or fin whale moves within 3 nmi (5.6 km) of the set gear. In addition, the exemption would allow fishing with gillnet for sharks with 5 in. (12.7 cm) or greater stretched mesh if: the gillnet is deployed so that it encloses an area; a valid commercial directed shark limited access permit has been issued to the vessel in accordance with §635.4(e) and is on board; and gillnet must be removed from the water before night or immediately if visibility decreases below 500 yards (460 m). Table 2.2.4.1 provides a comparison between existing and proposed ALWTRP measures for the Southeastern U.S. Atlantic shark gillnet fishery in the southeast U.S. restricted area during the restricted periods.

Table 2.2.4.1. Summary of existing ALWTRP measures and proposed measures for the Southeastern U.S. Atlantic shark gillnet fishery in the southeast U.S. restricted area.

	Existing Measures	Alternative 4 Measures
Restricted Area	Existing Restricted Area (see Figure 1)	Expanded Restricted Area (see Figure 1)
Restricted Period	Nov. 15 – Mar. 31	Nov. 15 – Apr. 15 north of 29E00' N lat.; Dec. 1 – Mar. 31 south of 29E00' N lat.
Prohibitions	Fishing with shark gillnet gear (defined as 5 inches (12.7 cm) or greater stretch mesh).	1) Fishing with or possessing gillnet in the southeast U.S. restricted area North 2) Fishing with gillnet in the southeast U.S. restricted area South
Exemptions	Fishing for sharks with strikenet gear in accordance with 50 CFR 229.32(f)(4)(iv), which requires that: no nets can be set at night or when visibility is less than 500 yards (460 m); sets must be made under the observation of a spotter plane; no net can be set within 3 nmi (5.6 km) of a right, humpback, or fin whale; and gear must be removed if a right, humpback, or fin whale moves within 3 nmi (5.6 km) of the set gear.	Fishing with gillnet for sharks with 5 in (12.7 cm) or greater stretched mesh in the southeast U.S. restricted area South in accordance with existing provisions at 50 CFR 229.32(f)(4)(iv); additionally, gillnet is deployed so that it encloses an area; a valid commercial directed shark limited access permit has been issued to the vessel in accordance with §635.4(e) and is on board; and gillnets must be removed from the water before night or immediately if visibility decreases below 500 yards (460 m).
Gear Marking	In accordance with 50 CFR 229.32(b)(3)	In accordance with 50 CFR 229.32(b)(3)
Observer Requirement	In accordance with 50 CFR 229.32(f)(3)	In accordance with 50 CFR 229.32(f)(3)

Southeast Atlantic gillnet fishery- Fishing with gillnet for Spanish mackerel in the southeast U.S. restricted area South is exempt from the restrictions during the periods December 1 through December 31, and March 1 through March 31 if: a) Gillnets are fished in accordance with Spanish mackerel-specific regulations at 50 CFR 622, b) no net is set at night or when visibility is less than 500 yards (460 m); c) no net is set within 3 nautical miles of a right, humpback, or fin whale; d) gillnet is removed immediately from the water if a right, humpback, or fin whale moves within 3 nautical miles of the set gear; and e) gillnet must be removed from the water before night or immediately if visibility decreases below 500 yards (460 m). The timeframe of the exemption was selected because, typically, peak abundance for right whales in the southeast U.S. restricted area South is in January and February, while important months for harvesting Spanish mackerel are December and March. Table 2.2.4.2 provides a comparison between existing and proposed ALWTRP measures for the Southeast Atlantic gillnet fishery in the

southeast U.S. restricted area during the restricted periods.

Humpback and fin whales are not known to occur in Southeast U.S. waters as frequently as right whales; however, including humpback and fin whales in the provisions, in addition to right whales, provides additional protection to right whales in the event a gillnet fishermen mistakenly identifies a right whale as a humpback or fin whale (even well-experienced field biologists can experience difficulty in identifying large whales by species in some circumstances). Furthermore, including humpback and fin whales in these provisions will further the ALWTRP's goal to reduce incidental mortality and serious injury of right, humpback, and fin whales taken in the course of commercial fishing to insignificant levels approaching a zero rate.

All gillnet gear used in the exempted fisheries must be marked in accordance with existing regulations at 50 CFR 229.32(b)(3).

Table 2.2.4.2. Summary of existing ALWTRP measures and NMFS' proposed management measures for the Southeast Atlantic gillnet fishery in the southeast U.S. restricted area.

	Existing Measures	Alternative 4 Measures
Restricted Area	Existing Restricted Area (see Figure 1)	Expanded Restricted Area (see Figure 1)
Restricted Period	Nov. 15 - Mar. 31	Nov. 15 - April 15 north of 29E00' N lat.; Dec. 1 - March 31 south of 29E00' N lat.
Prohibitions	No straight sets of gillnets at night	1) Fishing with or possessing gillnet in the southeast U.S. restricted area North 2) Fishing with gillnet in the southeast U.S. restricted area South
Exemptions	None	Fishing in southeast U.S. restricted area South with gillnet from December 1-31 and March 1-31 if: 1) In accordance with existing Spanish mackerel regulations at 50 CFR 622; 2) no net is set at night or when visibility is less than 500 yards (460 m); 3) no net is set within 3 nautical miles (5.6 km) of a right, humpback, or fin whale; 4) gillnet is removed immediately from the water if a right, humpback, or fin whale moves within 3 nautical miles (5.6 km) of the set gear, and 5) gillnet must be removed from the water before night or immediately if visibility decreases below 500 yards (460 m).
Gear Marking	In accordance with 50 CFR 229.32(b)(3)	In accordance with 50 CFR 229.32(b)(3)
Observer Requirement	None	None

2.2.5 Alternative 5: Preferred Alternative: Establish different restricted periods within a northern and southern zone of the proposed expanded southeast U.S. restricted area, which prohibits gillnetting with limited exemptions through notice and comment rulemaking, and immediately implement an ESA emergency rule closing the northern zone to possession of and fishing with gillnet

The preferred alternative would consist of Alternative 4 in addition to an ESA emergency rule closing the northern zone of the proposed expanded southeast U.S. restricted area to gillnet fishing and possession of gillnets. The northern zone of the southeast U.S. restricted area is considered to be the core right whale calving area most in need of immediate protection. The emergency rule would take effect on November 15, 2006, to coincide with the date right whales begin to arrive in and utilize their core right whale calving area, and be effective through April 15, 2007, or until the proposed rule becomes effective or is withdrawn, whichever ever comes first.

NMFS has learned of the expressed intent of fishermen to target whiting with gillnets off Jacksonville, Florida until such activity is prohibited. NMFS has also been alerted to the presence of additional shark gillnet fishermen that are working out of Fernandina Beach, Florida and Daytona, Florida. NMFS believes this fishing presents a substantial risk of additional gillnet entanglements and resultant serious injury or mortality when right whales return to their southeast calving grounds this year. Because of the critical status of the endangered northern right whale, the vulnerability of mothers and calves, and the negative impact any additional human-caused mortality would have on the species' ability to survive and recover, NMFS believes that continued gillnet fishing in the southeast calving grounds constitutes a significant risk to the well-being of endangered right whales.

3.0 Affected Environment

There are three broad categories of information that NMFS uses in its evaluations of impacts: physical, biological, and socioeconomic information. Physical information includes geographic, oceanographic, and climatic factors. Biological information includes status and distribution of marine species, prey species, and life history information. Socioeconomic information includes analysis of economic effects on the affected fishing community from regulatory actions and any interrelated or additional social impacts on the affected fishermen or other stakeholders.

The ALWTRP's southeast U.S. restricted area presently consists of state and federal waters off the coasts of Florida and Georgia, from 27°51' N lat. (near Sebastian Inlet, Florida) northward to 32°00' N lat. (near Savannah, Georgia) extending from the shore outward to 80°00' W long. This area would be affected in several ways by the proposed action. First, the proposed action would expand the southeast U.S. restricted area to include waters off the coast of South Carolina. Second, it will divide the proposed expanded southeast U.S. restricted area into the southeast U.S. restricted area North and the southeast U.S. restricted area South, with the boundary between the two areas at 29°00' N lat. Third, it will prohibit gillnetting in the southeast U.S. restricted area North from November 15 through April 15, while in the southeast U.S. restricted area South, gillnetting will be prohibited from December 1 through March 31 with exemptions for shark gillnet and Spanish mackerel gillnet gear. Fourth, it will close the southeast U.S. restricted area North to gillnet fishing and possession of gillnets through an ESA emergency rule effective November 15, 2006, through April 15, 2007, or until the proposed rule becomes effective or is withdrawn, whichever ever comes first.

The affected environment was discussed in detail in Chapter 4 of the "Draft Environmental Impact Statement for Amending the Atlantic Large Whale Take Reduction Plan: Broad-Based Gear Modifications" published in February 2005 (Industrial Economics, Inc. and NMFS 2005).

That section is hereby incorporated by reference and can be obtained through NMFS Northeast Regional Office, or at <http://www.nero.noaa.gov/whaletrp/>.

3.1 Physical Environment

Effective July 5, 1994, three areas of the right whale's range in the United States were declared to be critical habitat by NMFS: (1) Great South Channel, (2) Cape Cod Bay, and (3) the Southeastern U.S. waters. The Southeastern U.S. critical habitat is defined as the coastal waters between 31°15' N lat. and 30°15' N lat. from the coast out 15 nautical miles, and the coastal waters between 30°15' N lat. and 28°00' N lat. from the coast out 5 nautical miles (50 CFR 226.203). Under the ALWTRP regulations (50 CFR 229.32), additional management areas have been defined. The southeast U.S. restricted area has been defined as the waters from 32°00' N lat. (near Savannah, GA) south to 27°51' N lat. (near Sebastian Inlet, FL) and extending from the shore eastward out to 80°00' W long. (50 CFR 229.32 (f)(1)(i)). The southeast U.S. observer area consists of the southeast U.S. restricted area and an additional area extending from the southern boundary of the southeast U.S. restricted area south to 26°46.5' N lat. (near West Palm Beach, FL) and extending from the shore out to 80°00' W long.

The proposed expanded southeast U.S. restricted area (Figure 1) includes waters off South Carolina. The new boundaries will be defined as the area bounded by straight lines connecting the following points from South to North in the order stated:

Point	N Lat.	W Long.
SERA1	27°51'	(¹)
SERA2	27°51'	80°00'
SERA3	32°00'	80°00'
SERA4	32°36'	78°52'
SERA5	32°51'	78°36'
SERA6	33°15'	78°24'
SERA7	33°27'	78°04'
SERA8	(²)	(²)

¹Florida shoreline

²South Carolina/North Carolina shoreline boundary

The Southeast U.S. Observer area (50 CFR 229.32(f)(1)(ii)) will likewise be expanded to include the same area off South Carolina.

Seasonal water temperatures and salinity for waters off South Carolina, Georgia, and Florida are higher than in northeastern waters of the U.S. This is a transition area separating subtropical from temperate southeastern marine communities. The SC/GA/FL area is not considered a foraging ground for right whales; however, the area does provide important calving and nursing habitat for right whales in the North Atlantic. The southeastern U.S. coast is the only known calving area for right whales in the North Atlantic, with the majority of right whales giving birth off Georgia and Florida (NMFS 2005b). See Section 2.1 for additional discussion of the basis for expanding the physical environment affected by this action to South Carolina waters.

3.2 Biological Environment

3.2.1 Marine Mammals

The following marine mammals are known to occur in the waters of the Atlantic: large whales including North Atlantic right, humpback, fin, and minke whales, and small cetaceans, including bottlenose dolphins. The status of all large whales and small cetaceans known to occur in the North Atlantic is discussed in the 2005 Marine Mammal Stock Assessment Report (SAR) (Waring *et al.* 2006), and those sections are hereby incorporated by reference and can be obtained through NMFS, or at <http://www.nmfs.noaa.gov/pr/sars/species.htm>. Information on the use of the above large whale species' use of the affected environment is discussed in detail in Section 4.1 of the DEIS published in February 2005 (Industrial Economics, Inc. and NMFS 2005), and this section is hereby incorporated by reference. Information on bottlenose dolphins' use of the affected environment is discussed in detail in sections 3.2.2.1 and 3.2.2.2 of the Environmental Assessment to implement the Bottlenose Dolphin Take Reduction Plan (NMFS 2006), and those sections are hereby incorporated by reference and can be obtained through NMFS Southeast Regional Office, or at <http://www.nmfs.noaa.gov/pr/interactions/trt/bdtrp.htm>.

3.2.2 Sea Turtles

The following sea turtles are known to occur in the waters of the Atlantic, including the areas under consideration by this EA: leatherback, hawksbill, green, Kemp's ridley, and loggerhead sea turtles. Leatherback, hawksbill, Kemp's ridley, and the Florida breeding population of green sea turtles are classified as endangered under the ESA. Loggerheads are designated as threatened. A thorough review of the life history, status, trends, and threats for sea turtles is available in section 3.2 of the February 15, 2005, *Biological Opinion on the Continued Authorization of Reef Fish Fishing Under the Gulf of Mexico Reef Fish Fishery Management Plan and Proposed Amendment 23* (NMFS 2005a), and that section is hereby incorporated by reference and can be obtained through the NMFS Southeast Regional Office.

3.3 Socioeconomic Environment

The following discussion describes the gillnet fisheries that may be affected by the proposed action. A full discussion of the economic consequences of each alternative is contained within the Regulatory Impact Review (Section 10.0). In southeast Atlantic state and federal waters, commercial fishermen target various finfish and shark species using gillnet gear of varied sizes and deployment techniques. Fisheries operating in the southeast U.S. restricted area during the restricted period and expected to be affected by this rulemaking include the Southeastern U.S. Atlantic shark gillnet and the Southeast Atlantic gillnet fisheries (as defined in the current MMPA List of Fisheries (71 FR 48802, August 22, 2006).

Commercial fisheries landings and fishing effort data have been collected by the state of Florida since November 1984. Florida law (Chapters 370.021, 370.06(2)(a), 370.07(6)(a), and Administrative Code 68E-5.002) requires that all sales of seafood products from the waters of Florida must be reported on a Marine Fisheries Trip Ticket at the time of sale. On November 8, 1994, Florida voters passed a constitutional amendment banning the use of gillnets in all Florida

waters. The amendment became effective July 1, 1995. Georgia law prohibits the use of gillnets in fresh or salt waters, except for commercial fishing for shad and sturgeon in fresh waters (OCGA 27-4-7, -114, -133). Furthermore, since 2000, Georgia law has prohibited landing of sharks, Spanish mackerel, king mackerel, whiting, bluefish, or other designated finfish caught in gillnets. South Carolina prohibits commercial gillnet fishing in state waters, and recreational gillnetting is primarily a summer activity practiced by beachfront property owners.

The NMFS Accumulated Landings System (ALS) database shows that with the exception of shark gillnet landings in 2004 and 2005, there have been no gillnet landings in South Carolina since 2000. The proposed action is not expected to affect gillnet landings in Georgia because Georgia law prohibits shark and finfish gillnet landings. Given the above laws and regulations, expansion of the southeast U.S. restricted area into waters off South Carolina is expected to have minimal impact on gillnet landings in that state (see sections 5.0 and 10.0 below). Most of the economic impacts of this action will be on gillnet fishermen that operate in the southeast U.S. restricted area off Florida and target shark, whiting, and Spanish mackerel.

3.3.1 Southeastern U.S. Atlantic Shark Gillnet Fishery

3.3.1.1 Introduction

The Southeastern U.S. Atlantic shark gillnet fishery is managed by the NMFS Office of Sustainable Fisheries, Highly Migratory Species Division under the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks, under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and implementing regulations at 50 CFR 635. Fishermen who sell sharks caught in federal waters must possess a federal shark permit (directed or incidental). The shark fishery is limited access, so permits can only be obtained through transfer or sale, subject to upgrading restrictions. As of October 2002, approximately 376 fishermen were issued an incidental commercial shark limited access permit and 251 were issued a directed commercial shark limited access permit. In September 2003, there were approximately 351 incidental permit holders and 256 directed permit holders. The addresses of these permit holders range from Texas through Maine with approximately 57% of the directed permit holders and 39% of the incidental permit holders located in Florida.

Federal shark permits are not gear-specific. Most directed permit holders use bottom longline to target sharks. Currently, it is estimated that the number of directed permit holders that use gillnet gear to fish for sharks in the southeast is anywhere from 4 to 30 (Carlson pers. comm.). However, the estimated number of gillnet vessels operating in the southeast U.S. restricted area during the restricted period is approximately 6 (Carlson and Baremore 2002).

Current ALWTRP regulations affect the mesh size and type of shark gillnets that are legally allowed in southeast U.S. Atlantic waters. Shark gillnets have 5-inch or greater stretched mesh when used south of the South Carolina/Georgia border (50 CFR 229.2). In the southeast U.S. restricted area, which is comprised of waters south of that border, no person can fish with shark gillnet gear from November 15 through March 31, except when using strike gillnets under additional provisions (50 CFR 229.32(f)(4)).

Both strike and drift gillnets are used in the Southeastern U.S. Atlantic shark gillnet fishery. A strike gillnet is a gillnet that can be rapidly set in a circle around a school of sharks and actively fished. A drift gillnet is usually set in a straight line and left to fish passively in an area where sharks are thought to move through or be abundant. In the shark gillnet fishery, the same nets are used as either a strike or drift gillnet.

3.3.1.2 Shark Strike Gillnetting

The method of strike gillnetting sharks typically involves the use of teamed vessels: a smaller open set vessel that is about 8 to 10 meters long and equipped with an outboard motor, which has no power roller system, and a typical shark gillnet vessel that is about 12 to 20 meters long and has a hydraulic powered roller system as described by Trent *et al.* (1997). When a school of sharks is located, the strike gillnet is set in a half to full circle around the school using the smaller open vessel. The set starts by throwing a buoy overboard and the water resistance anchors the net as it is deployed over the stern of the boat. Set times are usually less than 20 minutes. If two teams of vessels work together (2 open set boats and 2 drift gillnet boats with power rollers), two nets are set independently in a half circle with the open ends of the half circle facing each other and surrounding the school. After the gillnet is set, a smaller vessel runs rapidly around the inside of the circle to panic and drive sharks into the net. After a soak time of about 15 minutes, the larger vessels with the power roller system pick up one end of the net and begin hauling it back (Carlson and Lee 1999).

The ranges in the lengths, depths, and mesh sizes of strikenet have varied in recent years with no obvious trend; however, maximum mesh size appears to have decreased. During calendar year 2004, observed vessels that strike gillnetted sharks used nets between 548.6 to 1,641.6 meters long and 4.6 to 30.4 meters deep (Carlson *et al.* 2005). Stretched mesh sizes ranged from 7.0 to 9.5 inches (17.8 to 24.1 centimeters) (*ibid*). During 2003, strike gillnet vessels carried nets ranging from 182.4 to 1,368.0 meters long and from 21.3 to 30.4 meters deep, with stretched mesh sizes ranging from 9.0 to 10.0 inches (22.8 to 25.4 centimeters), while in 2002, strike gillnet vessels carried nets ranging from 273.6 to 1,623.4 meters long and from 23.7 to 30.4 meters deep, with stretched mesh sizes ranging from 4.8 to 10.0 inches (12.1 to 25.4 centimeters) (Carlson and Baremore 2003, Carlson and Baremore 2002). In 2001, nets were 457.2 to 914.4 meters long, 22.8 to 27.4 meters deep, with stretched mesh sizes ranging from 5.0 to 15.0 inches (12.7 to 38.1 centimeters) (Carlson 2001).

Vessels that fish in a strike gillnet method probably incur higher costs per trip than when fishing in a drift gillnet method. This is because strike gillnetting usually requires the use of a small vessel (used to run around the school of sharks) and a spotter plane (used to spot schools of fish). While the cost per trip is higher than the traditional drift gillnet method, bycatch in this method is extremely low, catch rates of the target species are high, and vessels can complete a set in less time (one hour versus nine hours). NMFS estimates the smaller vessel could cost between \$2,000 and \$14,000 to buy. Because these second vessels have specific requirements to be sturdy enough to hold the gillnet and move quickly around the school of sharks, it is likely that vessel owners would need to re-fit any used vessel bought for this purpose. Additionally, a second vessel means additional fuel and maintenance costs. Spotter planes in other fisheries are paid based on the percentage of the proceeds from the trip, generally 10-25% of the gross

revenues. Thus, given the average gross revenues per trip, converting from drift gillnet fishing to strike gillnet fishing can be prohibitive if the vessel needs both a second vessel and a spotter plane.

Recently, some strike gillnet vessels have begun striking behind other vessels, such as trawl vessels (e.g., shrimp vessels). This negates the need for a spotter plane outside of right whale calving season and can reduce the variable costs substantially. Additionally, some of the smaller drift gillnet vessels have begun to use shorter nets to strike fish without a second vessel (Carlson and Baremore 2002). Their efforts are moderately successful and can reduce the costs of fishing in a strike gillnet method substantially by reducing the amount of net that needs to be repaired and the amount of additional gear needed.

3.3.1.3 Shark Drift Gillnetting

Shark drift gillnetting began off the coasts of Florida and Georgia in the late 1980s (Carlson and Lee 1999). Historically, a number of the vessels using this fishing method strike netted and drift netted for king mackerel, Spanish mackerel, bluefish, and occasionally for sharks, from November through March. As the method of fishing developed, some fishermen drift gillnetted for sharks from October through April before and after the mackerel seasons. By 1987, many of the shark drift gillnet fishermen were also drift gillnetting for king mackerel during April to September to compensate for the reduction in quotas in their winter fisheries. However, as king mackerel drift gillnetting practices were further restricted in 1990, more fishermen began drift gillnetting for sharks throughout the year.

Generally, shark drift gillnet vessels operate between 4.8 and 14.4 kilometers from shore in areas north of Key West, Florida (about 24°37' to 24°58' N lat.) and between West Palm Beach, FL (about 26°46' N lat.) to Altamaha Sound, GA (approximately, 31°45' N lat.). Vessels fish both multi- and monofilament gillnets ranging in length from 547.2 to 2,736 meters, depths ranging from 9.1 to 13.7 meters, and stretched mesh sizes from 5.0 to 10.0 inches (12.7 to 25.4 centimeters) (Trent *et al.* 1997, Carlson *et al.* 2005). Nets are normally set in a straight line off the stern at night, allowed to drift at the surface for a period of time, and then are hauled onto the vessel when the catch is adequate.

The number of directed permit holders that use drift gillnet gear to fish for sharks has been less than 11 vessels in the past decade and currently is around 5 to 6 vessels (NOAA Fisheries, Sustainable Fisheries Division, Final Amendment 1 to the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks). These fishermen fish off the coasts of Florida and Georgia, but the fishery primarily occurs in two major areas: between Fort Pierce and Port Salerno, Florida, and northwest of Key West, Florida. However, NMFS has received reports that at least one fisherman intends to fish with gillnets for shark in the vicinity of Daytona, Florida, this winter.

3.3.1.4 Southeastern U.S. Atlantic Shark Gillnet Landings

Southeastern U.S. Atlantic shark gillnet landings have decreased from a high of over one million pounds in 2001 (Table 3.3.1.4.1). Since 2001, an average of 74.1% of annual southeast shark

gillnet landings (in pounds, dressed weight) have been in Florida, followed by 23.5% in North Carolina, 2.4% in South Carolina (Table 3.3.1.4.2), and no landings in Georgia.

Table 3.3.1.4.1 Pounds (Dressed Weight) and Dockside Value of Shark Gillnet Landings in Southeast U.S. Atlantic Region.

Year	Pounds	Dockside Value
1997	548,070	\$295,229
1998	188,132	\$153,631
1999	454,263	\$254,872
2000	316,228	\$293,427
2001	1,018,612	\$579,108
2002	572,151	\$407,963
2003	157,708	\$289,157
2004	111,210	\$223,118

Source: NMFS, Southeast Science Center, Accumulated Landings System (ALS) database.

Table 3.3.1.4.2 Georgia, North Carolina, South Carolina, and Florida East Coast Gillnet Landings of Sharks as Percentage of Regional Shark Gillnet Landings

Year	Percent of Regional Landings			
	FL East Coast	GA	NC	SC
1997	68.1%	0.0%	31.9%	0.0%
1998	53.9%	0.0%	46.1%	0.0%
1999	68.9%	14.6%	13.9%	2.5%
2000	36.9%	36.9%	26.2%	0.0%
2001	93.7%	0.0%	6.3%	0.0%
2002	87.9%	0.0%	12.1%	0.0%
2003	44.6%	0.0%	55.4%	0.0%
2004	70.3%	0.0%	20.0%	9.7%

Source: ALS database.

3.3.1.5 Southeastern U.S. Atlantic Shark Gillnetting in Southeast U.S. Restricted Area

Fishing for shark with gillnets greater than 5 inches stretch mesh is currently prohibited in the southeast U.S. restricted area during the restricted period unless gillnet is fished in accordance with 50 CFR 229.32(f)(4)(iv). The southeast U.S. restricted area presently consists of waters off the coasts of Florida and Georgia. Landings of sharks from gillnet gear are prohibited in Georgia, so landings of sharks from gillnet gear on Florida's east coast include all landings of sharks caught in gillnets in the southeast U.S. restricted area. Because the Florida counties of Nassau, Duval, St. John's, Flagler, Volusia, and Brevard are within the southeast U.S. restricted area, it is assumed that the gillnet landings in these counties represent the gillnet landings from the southeast U.S. restricted area. Together, these counties represent Florida Marine Fisheries Trip Ticket Area Codes 722, 728, and 732 (Figure 2).

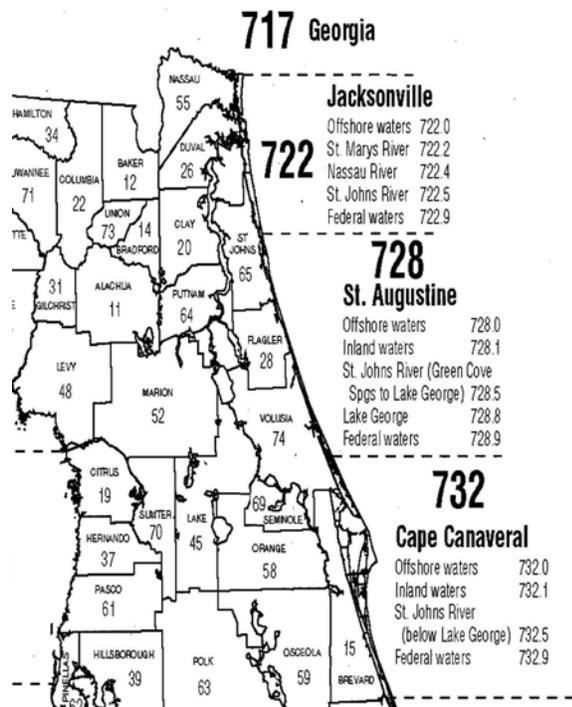


Figure 2: FWC Florida Marine Fisheries Trip Ticket Areas and Codes.

The FWC Trip Ticket database indicates that pounds (whole weight) of shark landed annually from gillnets from 2000 to 2005 in the three Trip Ticket Areas peaked in 2002, while the number of trips has declined significantly since 2000 (Table 3.3.1.5.1).

Table 3.3.1.5.1. Annual Whole Weight Pounds, Trips and Dockside Value of Shark Landed From Gillnets in FL Trip Ticket Area Codes 722, 728, and 732 Combined

Year	Pounds	% Change	Trips	% Change	Value	% Change
2000	576,279		730		\$278,780	
2001	692,799	20.2%	644	-11.8%	\$324,091	16.3%
2002	713,422	3.0%	525	-18.5%	\$291,492	-10.1%
2003	152,271	-78.7%	227	-56.8%	\$73,196	-74.9%
2004	328,572	115.8%	287	26.4%	\$182,841	149.8%
2005 ¹	280,235	-14.7%	180	-37.3%	\$176,708	-3.4%
Avg. ²	492,669		483		\$230,080	

Source: FWC Trip Ticket database.

¹Data for 2005 is preliminary and incomplete. Includes marine fisheries trip tickets reported to the FWC as of November 21, 2005.

²Does not include 2005 preliminary data.

The FWC's Trip Ticket database also indicates that pounds (whole weight) of shark landed from gillnets from November 1 through March 31 in the three areas from 2000 through 2004 represent from 1.3-8.7% of annual pounds of shark landed (Table 3.3.1.5.2). These months cover the southeast U.S. restricted area restricted period, which extends from November 15 through March 31.

Table 3.3.1.5.2. Pounds (Whole Weight) of Shark Landed From Gillnets from November 1 through March 31 in Florida Trip Ticket Areas 722, 728, and 732 Combined (NA: Not Available).

Year	Jan.	Feb.	Mar.	Nov.	Dec.	Total Pounds for 5-Month Period	Annual Pounds	5-Month Pounds as Percent of Annual Pounds Landed
2000	58	2,984	18,222	23,772	178	45,214	576,279	7.8%
2001	19	27	97	36,733	7,893	44,769	692,799	6.5%
2002	1,669	220	46,127	4,410	1,257	53,683	713,422	7.5%
2003	0	0	7,575	3,834	1,767	13,176	152,271	8.7%
2004	1,505	0	207	2,635	65	4,412	328,572	1.3%
2005	22,986	0	17,625	NA	NA	NA	NA	NA

Source: FWC Trip Ticket database.

3.3.1.6 Southeastern U.S. Shark Gillnetting in Observer Area

The southeast U.S. observer area is defined in 50 CFR 229.32(f)(1)(ii) as the southeast U.S. restricted area plus an additional area along the coast south to 26°46.5' N lat. (near West Palm Beach, Florida) and extending from the shore eastward out to 80°00' West longitude. The ALWTRP mandates that, with respect to the Southeastern U.S. Atlantic shark gillnet fishery, observer coverage is required during the right whale calving season from November 15 through March 31 for vessels operating in this area; specifically, no person may fish for shark with gillnet gear unless that person notifies NMFS Southeast Regional Office (SERO) at least 48 hours in advance of departure to arrange for observer coverage. Within the Southeast U.S. Observer Area, but not within the Southeast U.S. Restricted Area, vessels can use drift gillnet gear.

In calendar year 2004, four strike gillnet vessels were observed making 25 sets on 42 trips and four vessels were observed to make 32 drift gillnet sets on 31 trips (Carlson *et al.* 2005). Three strike gillnet vessels were observed making 41 sets on 92 trips and 5 vessels were observed making 24 drift gillnet sets in 2003 (Carlson and Baremore 2003). Five vessels were observed making 41 driftnet sets in 2002 (Carlson and Baremore 2002). Approximately 6 to 8 vessels that have permits to fish for sharks operate in the southeast U.S. restricted area.

During calendar year 2004, the observed catch attributed to strike gillnetting methods consisted of 8 species of sharks (99.9% of total number caught) and 2 species of teleosts and rays (0.1% of total number caught) (Carlson *et al.* 2005). (Table 3.3.1.6.1). The blacktip shark made up 91.2% of the total number of sharks caught, and bycatch included the manta ray and red drum (*ibid*).

Table 3.3.1.6.1. Total Strike Gillnet Shark Catch and Bycatch by Species for All Observed Trips in 2004.

Common Name	Total Number Caught	Percent Sharks/ Bycatch Caught	Percent Kept	Percent Discarded Alive	Percent Discarded Dead
Sharks:					
Blacktip shark	6,705	91.20	99.9	0.1	0.0
Spinner shark	501	6.81	100.0	0.0	0.0
Blacknose shark	123	1.67	100.0	0.0	0.0
Finetooth shark	11	0.15	100.0	0.0	0.0
Atlantic sharpnose shark	4	0.05	100.0	0.0	0.0
Scalloped hammerhead shark	4	0.05	100.0	0.0	0.0
Bonnethead shark	3	0.04	100.0	0.0	0.0
Sand tiger shark	1	0.01	0.0	100.0	0.0
<i>Total Sharks</i>	<i>7,352</i>	<i>100.00</i>	<i>99.9</i>	<i>0.1</i>	<i>0.0</i>
Bycatch:					
Red drum	1	33.3	0.0	100.0	0.0
Manta ray	2	66.7	0.0	100.0	0.0
<i>Total Bycatch</i>	<i>3</i>	<i>3</i>	<i>0.0</i>	<i>100.0</i>	<i>0.0</i>

Source: Carlson *et al.*, February 2005.

Also during calendar year 2004, a total of 4,372 sharks (11 species of shark) were caught in drift gillnets (Table 3.3.1.6.2). Atlantic sharpnose shark, blacknose shark, and blacktip shark made up 89.4% of the total number of sharks caught. The total catch consisted of 54.2% sharks, 45.5% teleosts, and 0.3% rays. Four species of teleosts made up 92.3% of the total number of non-shark species caught: little tunny (53.14%), king mackerel (31.0%), great barracuda (5.2%), and cobia (3.0%).

Table 3.3.1.6.2. Total Shark Drift Gillnet Catch and Bycatch Observed in 2004 by Species

Common Name	Total Number Caught	Percent Sharks/ Bycatch Caught	Percent Kept	Percent Discarded Alive	Percent Discarded Dead
Sharks:					
Atlantic sharpnose shark	2,727	62.4	99.6	0.0	0.4
Blacknose shark	718	16.4	100.0	0.0	0.0
Blacktip shark	462	10.6	35.3	14.5	50.2
Scalloped hammerhead shark	244	5.6	22.1	1.6	76.2
Spinner shark	107	2.4	82.2	4.7	13.1
Finetooth shark	54	1.2	96.3	3.7	0.0
Bonnethead shark	49	1.1	100.0	0.0	0.0
Great hammerhead shark	5	0.1	0.0	20.0	80.0
Carcharhiniformes	3	0.1	0.0	0.0	100.0
Silky shark	1	0.0	100.0	0.0	0.0
Sandbar shark	1	0.0	0.0	0.0	100.0
Tiger shark	1	0.0	100.0	0.0	0.0
<i>Total</i>	<i>4,372</i>	<i>100.0</i>	<i>87.8</i>	<i>1.8</i>	<i>10.3</i>
Bycatch:					
Little tunny	1,963	53.1	85.5	0.0	14.5
King mackerel	1,147	31.0	15.3	0.4	84.3
Great barracuda	193	5.2	100.0	0.0	0.0
Cobia	111	3.0	74.8	3.6	21.6
Atlantic sailfish	67	1.8	0.0	7.5	92.5
Blue runner	59	1.6	100.0	0.0	0.0
Remora	55	1.5	0.0	70.9	29.1
Cownose ray	26	0.7	0.0	38.5	61.5
Atlantic mackerel	17	0.5	100.0	0.0	0.0
Crevalle jack	10	0.3	90.0	0.0	10.0
Dolphin (mahi mahi)	9	0.2	100.0	0.0	0.0
Spanish mackerel	9	0.2	100.0	0.0	0.0
Blackfin tuna	9	0.2	100.0	0.0	0.0
Tripletail	5	0.1	100.0	0.0	0.0
Tarpon	5	0.1	0.0	20.0	80.0
Wahoo	4	0.1	100.0	0.0	0.0
Spotted eagle ray	2	0.1	0.0	100.0	0.0
Red snapper	2	0.1	50.0	0.0	50.0
African pompano	1	0.0	100.0	0.0	0.0
Manta ray	1	0.0	0.0	0.0	100.0
Atlantic moonfish	1	0.0	0.0	0.0	100.0
<i>Total Bycatch</i>	<i>3,696</i>	<i>100.0</i>	<i>61.0</i>	<i>1.8</i>	<i>37.3</i>

Source: Carlson *et al.*, February 2005.

3.3.2 Southeast Atlantic Gillnet Fishery

The Southeast Atlantic gillnet fishery utilizes smaller mesh gillnets, less than 5-inch stretched mesh, and targets mostly coastal migratory finfish species (Spanish mackerel, king mackerel, whiting, and bluefish), depending on the time of year and area fished. Gillnet gear is not an authorized gear type for king mackerel in Federal waters off South Carolina, Georgia or Florida’s Atlantic coast (50 CFR 622.41(c)(i)(B)). In the South Atlantic region, run-around gillnets are an important gear for Spanish mackerel, but cast nets and handline gear now account for the majority of the landings.

Florida’s 1995 prohibition on the use of various net gear reduced landings. Reportedly, Spanish mackerel were concentrated more in state rather than federal waters off the Florida east coast from 2001 through 2003 than from 1995 through 2000. Cast nets became an increasingly important gear and accounted for 1.88 out of 3.20 million pounds (MP) in 2003, or approximately 59% of total South Atlantic Spanish mackerel harvest. Cast nets were followed by “other” gillnets (0.44 MP), run-around gill nets (0.35 MP) and handlines (0.32 MP).

Based on FWC trip ticket data for 2005, NMFS believes that less than 30 vessels currently participate in finfish gillnetting in the southeast U.S. restricted area. Finfish gillnet landings in the counties within the southeast U.S. restricted area have been dominated by the following species: Spanish mackerel, king mackerel, king whiting, bluefish, and cobia. NMFS has received reports that the number of fishermen targeting king whiting may increase as the result of recent successes in landing that species.

3.3.2.1 Spanish Mackerel Gillnet Landings

Data from the Accumulated Landings System shows no gillnet landings of Spanish mackerel in either Georgia or South Carolina. All southeast U.S. Atlantic landings, since 1997, have been from Florida and North Carolina. Spanish mackerel landings have decreased from a high of 2,303,253 pounds in 1998 to 245,553 pounds in 2004 (See Table 3.3.2.1.1).

Table 3.3.2.1.1. Florida Spanish Mackerel Gillnet Landings.

Year	Pounds
1997	1,956,417
1998	2,303,253
1999	1,305,801
2000	1,041,922
2001	922,987
2002	612,839
2003	473,626
2004	245,553

Source: ALS database.

Off the east coast of Florida, cast nets have accounted for more of the landings of Spanish mackerel in recent years than gillnets, and the main season occurs from October to March, compared with the period from May to October farther north. Spanish mackerel is the primary

species targeted by gillnets off the Florida east coast, and the main season for this activity is September through December. Beginning in January, many of the fishermen using gillnets switch to shark fishing or they participate in the cast net fishery that occurs in state waters. The Spanish mackerel gillnetting mainly occurs between Fort Pierce to just north of Cape Canaveral. Less than 30 vessels are active in the fishery with many being outfitted to use either run-around gillnets or stab nets.

From November 1 through March 31 during the period from 2000 through 2004, Spanish mackerel landed annually in the 3 Trip Ticket Areas ranged from 79,198 pounds to about 336,181 pounds (Table 3.3.2.1.2). The value of landings and number of trips dropped significantly from 2000 to 2004. During the same period, pounds landed from November 1 through March 31 represented about 29-63% of pounds landed annually (Table 3.3.2.1.3).

Table 3.3.2.1.2. Pounds, Dockside Value, and Number of Trips for Gillnet Spanish Mackerel Landings from November 1 through March 31 in Florida Trip Ticket Areas 722, 728, and 732.

Year	Pounds	Value	Trips
2000	336,181	\$141,609	291
2001	132,084	\$69,083	171
2002	205,152	\$82,157	190
2003	79,198	\$44,856	91
2004	100,520	\$74,474	95

Source: FWC Trip Ticket database.

Table 3.3.2.1.3. Pounds of Spanish Mackerel Landed from November 1 through March 31 as Percentage of Annual Pounds Landed in Trip Ticket Areas 722, 728, and 732

Year	Pounds Landed During 5 Month Period (Nov. 1 - March 31)	Pounds Landed Annually	Pounds Landed During 5-Month Period as % Annual Pounds
2000	336,181	624,895	53.8%
2001	132,084	338,358	39.0%
2002	205,152	324,839	63.2%
2003	79,198	277,392	28.6%
2004	100,520	180,912	55.6%

Source: FWC Trip Ticket database.

3.3.2.2 King Mackerel Gillnet Landings

King mackerel may be fished for in accordance with 50 CFR 622.41. Pursuant to 50 CFR 622.41(c)(i), gillnet is not an authorized gear for harvesting King mackerel in Federal waters off South Carolina, Georgia or Florida's Atlantic coast. Consequently, King mackerel landed from gillnet in these areas are bycatch when gillnetting other species. A vessel that incidentally catches King mackerel with gillnet with a mesh size less than 4.75 inches may not possess an incidental catch of king mackerel that exceeds 10%, by number, of the total lawfully possessed Spanish mackerel on board (50 CFR 622.41(3)(i)).

Since 1997, there have been no gillnet landings of King mackerel in either Georgia or South Carolina. Table 3.3.2.2.1 depicts Florida Atlantic King mackerel landings from gillnet from 1997-2004.

Table 3.3.2.2.1. Florida Atlantic King Mackerel Gillnet Landings.

Year	Pounds
1997	226,227
1998	24,208
1999	24,175
2000	22,998
2001	25,906
2002	14,579
2003	11,972
2004	14,438

Source: ALS database.

King mackerel caught by gillnet and landed in the FWC Trip Ticket Areas within the southeast U.S. restricted area from November 1 through March 31 increased in 2004, while the number of trips associated with these landings declined after 2000 (Table 3.3.2.2.2). During the period from 2000 through 2004, an annual average of 11 trips were made which landed an average of 1,103 pounds with an average value of \$3,109. Landings of king mackerel from the 3 Trip Ticket Areas made from November 1 through March 31 represent from 0.4-38.5% of annual king mackerel gillnet landings in these areas (Table 3.3.2.2.3).

Table 3.3.2.2.2. Pounds, Dockside Value, and Number of Trips with King Mackerel Landings from Gillnets from November 1 through March 31 for Trip Ticket Areas 722, 728, and 732 Combined.

Year	Pounds	Value	Trips
2000	777	\$1,067	26
2001	83	\$124	5
2002	426	\$353	11
2003	266	\$419	5
2004	3,962	\$3,109	9

Source: FWC Trip Ticket database.

Table 3.3.2.2.3. Pounds of King Mackerel Landings from November 1 Through March 31 as Percentage of Annual King Mackerel Landings from Gillnets for Trip Ticket Areas 722, 728 and 732.

Year	Total Pounds Landed Annually	Total Pounds Landed from Nov. 1 – Mar. 31	Percent Annual Pounds Landed from Nov. 1 – Mar. 31
2000	18,264	777	4.3%
2001	18,867	83	0.4%
2002	13,560	426	3.1%
2003	1,331	266	20.0%
2004	10,287	3,962	38.5%

Source: FWC Trip Ticket database.

3.3.2.3 King Whiting Gillnet Landings

Since 1997, there have been no landings of king whiting (*Menticirrhus americanus*, also known as whiting) by gillnet in either Georgia or South Carolina. Landings of king whiting from gillnet have occurred in only North Carolina and Florida, and historically the largest percentage of landings have been in North Carolina (Table 3.3.2.3.1).

Table 3.3.2.3.1. King Whiting Gillnet Landings (Georgia, South Carolina, North Carolina, and east coast of Florida combined).

Year	Pounds	% FL	% NC
1997	620,890	21.9%	78.1%
1998	370,601	28.8%	71.2%
1999	427,769	20.7%	79.3%
2000	420,593	20.3%	79.7%
2001	416,617	7.6%	92.4%
2002	498,759	6.1%	93.9%
2003	541,441	1.6%	98.4%
2004	483,499	15.6%	84.4%

Source: ALS database.

Gillnet landings of king whiting in the Florida Trip Ticket Areas of 722, 728, and 732 combined from November 1 through March 31 during the period from 2000 through 2004 range from a low of 588 pounds in 2003 to a high of 125,226 pounds in 2004 (Table 3.3.2.3.2). These landings represent from 1.9-58.6% of annual gillnet landings of king whiting from these areas and the southeast U.S. restricted area during the period from 2000 through 2004 (Table 3.3.2.3.3). The dockside value of the landings made from November through March range from a low of \$823 in 2003 to a high of \$128,197 in 2004. During the same period, the number of trips ranged from 62 to 187 (Table 3.3.2.3.2).

Table 3.3.2.3.2. Pounds, Dockside Value, and Number of Trips with King Whiting Landed from November 1 through March 31 in Trip Ticket Areas 722, 728 and 732 Combined.

Year	Pounds	Value	Trips
2000	17,947	\$17,313	187
2001	1,882	\$1,877	89
2002	2,904	\$6,777	102
2003	588	\$823	62
2004	125,226	\$128,197	159

Source: FWC Trip Ticket database.

In the first three months of 2005, gillnet landings of king whiting in the 3 Trip Ticket Area combined were 335,859 pounds; total dockside value of these landings were \$259,102, and the number of trips made to obtain these landings was 281. These figures coupled with 2004 data suggest fishermen are increasingly targeting king whiting with gillnets.

NMFS has become aware of recent increases in gillnet fishing activity in the northern part of the southeast U.S. restricted area (specifically, the Mayport, Florida, area) by fishermen using sink gillnet gear of various mesh sizes targeting demersal finfish, primarily king whiting. In contrast to the overall decreases in landings, trips, and value of the gillnet finfish fishery within the southeast U.S. restricted area as a whole, FWC trip ticket data show that landings, trips, and value of the gillnet demersal finfish fishery within the southeast U.S. restricted area have increased since 2002, mostly due to fishers targeting king whiting with gillnets.

The percentage of annual landings (in pounds) made from November 1 through March 31 increased greatly from 2000 through 2004; however, it was not a continuous increase. Landings during these 5 months represented from 1.9-58.6% of annual landings (See Table 3.3.2.3.3). The biggest increase in landings occurred in 2004 and corresponds to the year when roughly eight vessels began targeting king whiting using sink gillnets off Mayport, Florida. During the SE Subgroup meeting, fishermen reported that in late February 2004, approximately 8 vessels began fishing for whiting using sink gillnet gear off Northeast Florida and that presently, 15 vessels are estimated to participate in this activity.

Table 3.3.2.3.3. Pounds Landed Annually and from November 1 through March 31 in FL Trip Ticket Areas 722, 728 and 732 Combined.

Year	Total Pounds Landed Annually	Total Pounds Landed from Nov. 1 - Mar. 31	Percent Annual Pounds Landed from Nov. 1 - Mar. 31
2000	72,495	17,947	24.8%
2001	50,971	1,882	3.7%
2002	154,675	2,904	1.9%
2003	11,286	588	5.2%
2004	213,733	125,226	58.6%

Source: FWC Trip Ticket database.

3.3.2.4 Bluefish Gillnet Landings

From 2000 through 2004 there were no gillnet landings of bluefish in either Georgia or South Carolina. Gillnet landings of bluefish in the 3 Florida Trip Ticket Areas from November 1 through March 31 from 2000 through 2004 show a general decline and range from 8,977 to 34,939 pounds (Table 3.3.2.4.1). The dockside value of these landings range from \$2,133 to \$11,515 and the number of trips has declined from 212 in 2000 to 85 in 2004. Landings during the right whale calving season represent 30.2-63.6% of annual bluefish gillnet landings in the three areas (Table 3.3.2.4.2).

Table 3.3.2.4.1. Pounds, Dockside Value, and Number of Gillnet Trips with Bluefish Landed in FL Trip Ticket Areas 722, 728 and 732 (Combined from November 1 through March 31).

Year	Pounds	Value	Trips
2000	34,617	\$11,515	212
2001	34,939	\$9,553	159
2002	9,175	\$2,133	118
2003	8,977	\$2,298	70
2004	18,530	\$4,170	85

Source: FWC Trip Ticket database.

Table 3.3.2.4.2. Gillnet Landings of Bluefish in FL Trip Ticket Areas 722, 728, and 732 (Combined from November 1 through March 31) as Percentage of Annual Gillnet Landings.

Year	Total Pounds Landed Annually	Total Pounds Landed from Nov. 1 - Mar. 31	Percent Annual Pounds Landed from Nov. 1 - Mar. 31
2000	86,048	34,617	40.2%
2001	54,953	34,939	63.6%
2002	21,137	9,175	43.4%
2003	29,703	8,977	30.2%
2004	53,225	18,530	34.8%

Source: FWC Trip Ticket database.

3.3.2.5 Cobia and Other Finfish Gillnet Landings

Gillnet is not an authorized gear for cobia in Federal waters off South Carolina, Georgia, or Florida's Atlantic coast (50 CFR 622.41(c)(v)). Consequently, Florida landings of cobia represent bycatch when gillnetting for other species. From 2000 through 2004, there were no landings of cobia from gillnets in either Georgia or South Carolina. During that same period, landings of cobia from gillnets in the South Atlantic declined (Table 3.3.2.5.1). Average annual North Carolina landings from gillnets of cobia represented 66.4% and Florida east coast landings represented 33.6% of all gillnet landings (in pounds) of cobia in the South Atlantic.

Table 3.3.2.5.1. Pounds of Cobia Landed from Gillnets in Southeastern U.S. Atlantic Region from 2000 through 2004.

Year	Landings FL East	Landings NC	Total Landings	% FL East	% NC
2000	5,953	21,333	27,286	21.8%	78.2%
2001	11,182	12,789	23,971	46.6%	53.4%
2002	4,611	9,237	13,848	33.3%	66.7%
2003	3,505	7,333	10,838	32.3%	67.7%
2004	3,821	7,432	11,253	34.0%	66.0%

Source: ALS database.

Within the southeast U.S. restricted area, as represented by the 3 Trip Ticket Areas, landings from gillnet of other species (not shark, king mackerel, Spanish mackerel, bluefish, or king whiting) declined from 26,064 pounds to 3,039 pounds from 2000 through 2004 (Table 3.3.2.5.2). Both dockside value and the number of trips declined from 2000 to 2004.

Table 3.3.2.5.2. Pounds and Dockside Value of Other Species Landed and Taken by Gillnets in FL Trip Ticket Areas 722, 728, and 732 Combined from November 1 through March 31.

Year	Pounds	Value	Trips
2000	26,064	\$42,863	243
2001	8,139	\$12,085	146
2002	12,409	\$12,369	161
2003	3,039	\$3,180	83
2004	10,254	\$9,347	104

Source: FWC Trip Ticket database.

4.0 Environmental Consequences of the Alternatives

The environmental consequences of the alternatives for other media (air quality, water quality, solid waste, and hazardous waste), the physical environment, and for impacts on socioeconomic, biological, and historical resources are analyzed below.

4.1 Biological Consequences

4.1.1 Alternative 1: No-Action Alternative

The No-Action Alternative is the least risk-averse of the alternatives. Under this alternative, no additional gear restrictions would be enacted for the southeast U.S. restricted area and the restricted area will not be expanded to include waters off South Carolina. This alternative is not expected to reduce the risk of injury or mortality to endangered northern right whales as a result of entanglement in gillnet fishing gear. In fact, the risk of serious injury or mortality to right whales may increase during future calving seasons. Continued expansion of the Southeast Atlantic gillnet fishery practice of targeting king whiting with sink gillnets off Northeast Florida is expected, as seen in the last few years, as more local fishermen exploit this fishing opportunity.

This alternative would result in no change to the gillnet fisheries, therefore no change in impacts to other biological resources would be expected.

4.1.2 Alternative 2: Operational restrictions on all gillnet fisheries in the proposed expanded southeast U.S. restricted area from November 15 - March 31

The enactment of operational restrictions as detailed in section 2.2.2 would provide little reduction in the likelihood of gillnet gear interactions with the critically endangered North Atlantic right whale, or reduction in the risk of serious injury and mortality. Although the Southeastern U.S. Atlantic shark gillnet fishery would effectively be eliminated by this alternative, it would still allow for gillnet fishing in the southeast U.S. restricted area with little change to methods currently used by the Southeast Atlantic gillnet fishery when targeting whiting. Fishing effort for whiting is concentrated in the vicinity of the St. Johns River entrances, near the location of the January 2006 entangled right whale calf. At present, effort targeting whiting is the primary gillnet effort in this area, so these measures would not accomplish any significant risk reduction to right whales from gillnet fishing since large amounts of net would still be in the water for long periods of time (long soak time) in the core of the right whale calving area, it is unknown if weak links will release very young calves, and vertical lines are known to present a substantial risk to right whales.

This alternative could potentially result in reduced risk of serious injury or mortality of other species from entanglement incidental to commercial fishing in the Southeastern U.S. Atlantic shark gillnet fishery, since this fishery would be eliminated from the proposed expanded southeast U.S. restricted area during the restricted periods.

4.1.3 Alternative 3: Permanent prohibition of gillnets in the proposed expanded southeast U.S. restricted area every year from November 15 - March 31

Alternative 3 would provide the greatest reduction in the likelihood of gillnet gear interactions with right whales, eliminating the risk of serious injury and mortality incidental to commercial gillnetting activities in the proposed expanded southeast U.S. restricted area during the restricted periods. However, it would also negatively impact gillnet fishing practices that have been determined by NMFS to pose little risk of serious injury or mortality to right whales in accordance with 50 CFR 229.32(g)(2) (i.e., shark strikenetting and Spanish mackerel fishing in the southeast U.S. restricted area South, with additional operational restrictions beyond those which are currently in place).

In addition to achieving the goal of reducing the likelihood of serious injury or mortality to right whales, this alternative is also expected to result in greatly reduced risk of serious injury or mortality risk of other marine mammal species listed in section 3.2.1 and sea turtles listed in section 3.2.2 from gillnetting activity in the proposed expanded southeast U.S. restricted area during the restricted period; however, some displacement of fishing effort outside this area and time could occur as a result of the total closure to gillnetting, resulting in a partial or complete negation of this expected benefit.

4.1.4 Alternative 4: Establish different restricted periods within a northern and southern zone of the proposed expanded southeast U.S. restricted area, in which gillnetting is prohibited, with limited exemptions

This alternative would prohibit fishing with or possessing gillnet in the southeast U.S. restricted area North annually from November 15 through April 15. As a result, the potential for right whale interactions with gillnets in a substantial portion of the right whale calving area would be eliminated during the calving season. Fishing with gillnet would be prohibited in the southeast U.S. restricted area South annually from December 1 through March 31, with exemptions as described in section 2.2.4 above. These exemptions will allow continued gillnet fishing for shark and Spanish mackerel in that zone based on special provisions that must be followed by the participants. NMFS has determined that a combination of existing and new regulatory requirements on the type of gear that can be used in this area and during the restricted period by the proposed exempted fisheries are both operationally effective and capable of protecting right whales from the risk of serious injury and mortality of right whales, pursuant to 50 CFR 229.32(g)(2)(i). The determination to allow for limited exemptions in the southeast U.S. restricted area South during the restricted period is based on several factors, including right whale distribution patterns in this area and time, existing state gillnet prohibitions, and gear characteristics and operational methods used by these two fisheries.

Although some gillnet fishermen may attempt to mitigate losses by moving out of the restricted area during the restricted period, overall fishing effort is not expected to increase as a result of this alternative. If fishermen relocate their gillnet fishing efforts out of the southeast U.S. restricted area and continue fishing at their current level of activity, we believe they are less likely to adversely affect right whales, since our sightings data indicate that right whales are found almost exclusively within the southeast U.S. restricted area between November 15 and April 15.

This alternative could potentially also result in reduced risk of serious injury or mortality to other species that may become entangled in gillnet gear, such as other large whales, bottlenose dolphins, and sea turtles. Fishing effort may be displaced from the northern zone (which, like Alternative 3, would be closed to all gillnetting), but is unlikely from the southern zone, as fishermen could adapt to using gillnet gear and methods allowed in this area. However, some displacement of fishing effort could result in reductions of this expected benefit to other protected species.

This alternative would provide for a full public comment period, preventing a final, permanent rule from being effective by the start of the 2006/2007 calving season. Right whale sightings data indicate that right whales begin arriving in the calving area around mid-November.

4.1.5 Alternative 5: Preferred Alternative: Establish different restricted periods within a northern and southern zone of the proposed proposed expanded southeast U.S. restricted area, which prohibits gillnetting with limited exemptions through notice and comment rulemaking, and immediately implement an ESA emergency rule closing the northern zone to possession of and fishing with gillnet.

The preferred alternative would include all of the environmental consequences of Alternative 4, except this alternative would protect right whales from gillnet entanglement in the core calving area effective November 15, 2006. As such, this alternative would eliminate a significant risk to the well being of right whales from entanglement in gillnet gear in their core calving area during the start of the 2006/2007 right whale calving season.

4.2 Effects on Other Media

The five alternatives would not change the nature of gillnet fishing or any other use of the environment, so implementation of any of the alternatives is not expected to cause additional degradation of water quality, air quality, the physical environment, or human health. Nor do we anticipate a discernible increase in environmental contaminants or solid waste disposal. Implementation of any of the alternatives is not expected to change the gillnet fisheries' effects on historic or cultural resources in the area; therefore, coordination with the State Historic Preservation Officer under the National Historic Preservation Act is not required.

5.0 Socioeconomic Impacts of Management Measure Alternatives

5.1 Alternative 1: No-Action Alternative

This alternative would not change the status quo. It would not expand, or implement any additional gillnet gear restrictions in, the southeast U.S. restricted area. Gillnet fishing in the southeastern U.S. would not be restricted further and would continue at current levels. Consequently, it would not impose any direct costs on gillnet fishermen or indirect costs on related economic sectors. However, this alternative may negatively impact the existence or recovery of right whales, and require more severe fishery management measures such as more extensive closures, which would likely impose significant economic and social impacts over a larger geographic area and for a greater number of fishermen. Additionally, many scientists and environmentalists would be angered and alienated by NMFS' failure to implement 50 CFR 229.32(g)(1).

5.2 Alternative 2: Operational restrictions on all gillnet fisheries in the proposed expanded southeast U.S. restricted area from November 15 - March 31

Alternative 2 would implement permanent operational restrictions in the proposed expanded southeast U.S. restricted area during the current restricted period of November 15 through March 31, annually. These restrictions would apply to all gillnet fishing within that area (see section 2.2.2 for a complete description of the restrictions). This alternative prohibits fishermen from using gillnets with stretched mesh equal to or greater than 3 inches within the southeast U.S. restricted area during the restricted period, which will affect shark and finfish gillnet fishers. Currently, shark gillnets are defined in the ALWTRP implementing regulations as gillnets with 5 inches or greater stretched mesh used south of the South Carolina/Georgia border (50 CFR 229.2). The minimum allowable mesh size for a gillnet used to fish for Spanish mackerel in the South Atlantic EEZ is 3.5 inches stretched mesh, and any vessel that has a gillnet on board with less than 3.5 inches stretched mesh cannot land on the day of that trip more than 500 pounds of

incidentally caught Spanish mackerel (50 CFR 622.41(c)(3)(ii)). A vessel with a gillnet on board that has a mesh size less than 4.75 inches, stretched mesh, cannot possess on a trip an incidental catch of king mackerel that exceeds 10%, by number, of the totally lawfully possessed Spanish mackerel on board (50 CFR 622.41(c)(3)(i)).

The following gillnet fishermen would be affected by Alternative 2:

1. Shark gillnet fishermen off South Carolina who fish from November 15 through March 31.
2. Shark gillnet fishermen using strike gillnets in the southeast U.S. restricted area from November 15 through March 31.
3. Spanish mackerel fishermen who operate in the proposed expanded southeast U.S. restricted area from November 15 through March 31.
4. Other fishermen who use gillnets with mesh sizes equal to or greater than 3 inches and who operate in the proposed expanded southeast U.S. restricted area from November 15 through March 31.

Gillnet fishermen who would not be affected by Alternative 2 include fishermen currently restricted from:

1. Fishing with gillnets in state waters off South Carolina, Georgia, or Florida (by state regulation).
2. Fishing with gillnets in Federal waters off South Carolina, Georgia, or Florida's Atlantic Coast for king mackerel, cobia, bluefish, and little tunny (under 50 CFR 622.41(c)(1)) and snapper-grouper (including jack crevalle) (under 50 CFR 622.41(d)(1)).
3. Fishing with straight sets of gillnet at night within the existing southeast U.S. restricted area during the restricted period (under 50 CFR 229.32(f)(4)(iii)).

To mitigate landings and/or revenue losses, some gillnet fishermen may switch to other authorized gear (such as automatic reel, bandit gear, handline, or rod and reel to fish for Spanish mackerel, or longline to fish for shark) within the proposed expanded southeast U.S. restricted area during the restricted period or increase effort outside the southeast U.S. restricted area and at other times of year. However, the following analysis assumes they do not. Consequently, the following estimates represent maximum potential losses.

Losses of Shark Gillnet Landings

Under current regulations, from November 15 through March 31 of every year, no person can fish with shark drift gillnet gear in the southeast U.S. restricted area. Shark strike gillnet gear is allowed if fished in accordance with 50 CFR 229(f)(4)(iv). This alternative will eliminate shark strikenet landings in the existing southeast U.S. restricted area and both strike and drift gillnet landings in waters off South Carolina during the period from November 15 through March 31 of every year.

There were no shark gillnet landings in South Carolina from 2000 through 2003; however, there were landings of sharks from gillnets in 2004 and 2005 (ALS database, South Carolina Department of Natural Resources). None of these landings occurred during the months from

November through March. Consequently, Alternative 2 is not expected to result in any annual losses to shark gillnet fishermen in South Carolina.

In the southeast U.S. restricted area, gillnet landings of shark have been solely from 3 Florida Trip Ticket Areas. The FWC Trip Ticket database indicates that pounds (whole weight) of shark landed from gillnets from November 1 through March 31 in the combined three areas from 2000 through 2004 represent from 1.3-8.7% of annual pounds landed (Table 6.2.4). On average, landings during the 5-month period represent 32,251 pounds (about 6.4% of the annual shark gillnet landings) and an average dockside value of \$22,661 (about 9.3% of average annual revenues from shark gillnet landings from the combined area).

From November 1 through March 31, average annual November landings are 14,277 pounds with an average dockside value of \$11,433 from 2000 through 2004. These figures represent 44.3% of average pounds landed and 50.4% of average revenues during the 5-month period. Because the restricted period starts November 15, not November 1, the above figures overestimate shark gillnet losses. If November landings during the restricted period (November 15 through November 30) represent 50% of total November landings, Alternative 2 would reduce average annual shark gillnets landings from the southeast U.S. restricted area by 25,112 pounds (about 5.1% of average annual pounds) and by \$16,944 (about 7.4% of average annual dockside revenue).

Losses of Other Gillnet Landings

Spanish mackerel landings would essentially be eliminated by this alternative from the proposed expanded southeast U.S. restricted area from November 15 through March 31 since existing federal fisheries regulations specify a minimum mesh size of 3.5-inches when targeting Spanish mackerel.

From 2000 through 2004 in the southeast U.S. restricted area, landings of Spanish mackerel have been solely from the 3 Florida Trip Ticket Areas. During the 5-month period from November 1 through March 31, gillnet fishers landed an annual average of 170,622 pounds of Spanish mackerel with a dockside value of \$82,436 from 2000 through 2004 (figures derived from Table 6.2.8). These 5-month landings (in pounds) represent 48% of annual landings in these areas. If, on average, all November landings are obtained on and after November 15, Alternative 2 would eliminate up to 170,622 pounds and \$82,436 in revenue from Spanish mackerel landings. However, if average landings from November 15 to the end of the month (that is, the days in November during the restricted period) represent 50% of average total November landings, Alternative 2 would result in losses of Spanish mackerel landings of 101,955 pounds with a dockside value of \$50,447. These losses of pounds landed represent approximately 29% of average annual pounds landed from Spanish mackerel gillnet landings from the Southeast U.S. Restricted Area.

From 2000 through 2004, there were incidental gillnet landings of king mackerel from the southeast U.S. restricted area. On average, 12,462 pounds were landed annually, and from November 1 through March 31, an average of 3,962 pounds (about 31.8% of annual pounds) were landed. If landings on and after November 15 represent 50% of all November landings,

then Alternative 2 would eliminate 709 pounds (5.7%) of annual incidental king mackerel gillnet landings from the southeast U.S. restricted area at an average dockside value of \$642.

From 2000 through 2004 there were no gillnet landings of bluefish in either Georgia or South Carolina, while there were landings of these species in the 3 Florida Trip Ticket Areas. During that time period, an average of 49,013 pounds of bluefish were landed, annually, and 21,248 pounds of bluefish were landed from November 1 through March 31. If average landings of bluefish from November 15 to the end of November represent 50% of average November landings, then average losses of bluefish landings in the southeast U.S. restricted area during the restricted period would be 15,122 pounds (30.9% of annual pounds) with a value of \$4,742.

From 2000 through 2004, an average of 11,981 pounds of other species (not including king whiting) with a dockside value of \$15,969 was landed from gillnets from the southeast U.S. restricted area from November 1 through March 31. If 50% of November landings occur before November 15, an average of 9,023 pounds at a value of \$11,731 would be lost from gillnet landings of other species because of Alternative 2.

Combined Losses of Gillnet Landings Resulting from Alternative 2

Alternative 2 would result in combined maximum annual losses of \$84,506 (\$16,944 from shark gillnet revenues and \$67,562 from finfish gillnet revenues). Table 5.2.1 illustrates expected reductions in annual commercial gillnet landings, by species, as the result of Alternative 2.

Table 5.2.1. Expected reductions in annual commercial gillnet landings, by species, as the result of implementing Alternative 2.

Common Name	Reduction in Avg. Annual Landings (lbs)	Reduction in Avg Annual Percentage	Reduction in Annual Dockside Revenue
Shark	25,112	5.1%	\$16,944
Spanish mackerel	101,955	29%	\$50,447
King mackerel	709	5.7%	\$642
Bluefish	15,122	30.9%	\$4,742
“Other Species”	9,023		\$11,731

Social Impacts

Alternative 2 would result in a substantial decrease in annual gillnet landings of Spanish mackerel and, to a lesser extent, shark. Both of these fishing practices are well-established (i.e., in place more than 9 years) within the Southeastern U.S. gillnet fishing communities. Alternative 2 would eliminate these traditional practices from the Cape Canaveral port area from November 15 through March 31, threaten fishermen’s livelihoods, and may cause well-established fishermen to move their businesses and families. Conversely, annual gillnet landings of whiting would not be, or would be minimally, affected by this alternative. Fishing for whiting with sink gillnets off Florida began in earnest in 2004 by a few fishermen from North Carolina. Social benefits will be realized for these fishermen, through the preservation and opportunity for expansion of their fishing practices.

NMFS cannot verify that the operational measures under this alternative will sufficiently reduce the threat of serious injury or mortality to right whales from gillnets that would be authorized. Failure of these measures to protect right whales, particularly young calves, would negatively impact the existence or recovery of right whales and cause additional management measures in the future. The implementation of this alternative may precipitate doubt and skepticism among those groups and individuals who place an existence or non-use value on natural resources, particularly, on right whales.

5.3 Alternative 3: Permanent prohibition of gillnets in the proposed expanded southeast U.S. restricted area every year from November 15 - March 31

This alternative would implement a complete closure of the proposed expanded southeast U.S. restricted area to all gillnets annually from November 15 through March 31 on a permanent basis. No exemptions would be provided to the closure. Consequently, Alternative 3 would end all gillnet fishing in waters up to 35 nautical miles off the South Carolina coast, as well as those waters in the existing southeast U.S. restricted area off Georgia and the northeast coast of Florida as represented by FL Trip Ticket Areas 722, 728, and 732.

Gillnet fishers could mitigate the losses caused by the closure by switching to other authorized gears and/or increasing their efforts outside the proposed expanded southeast U.S. restricted area and at other times of the year. The following analysis, however, assumes they do not, and, consequently, represents maximum potential losses.

Losses of Shark Gillnet Landings

Since 2001, there have been no gillnet landings of sharks in Georgia. Consequently, this alternative would affect current shark gillnet landings from November 15 through March 31 in Florida and South Carolina waters. Economic losses to shark gillnet fishermen would be the same as the losses from Alternative 2.

Losses of Other Gillnet Landings

This alternative would eliminate gillnet landings of Spanish mackerel, king mackerel, bluefish, king whiting, and other species from November 15 through March 31 in Florida and South Carolina waters. Consequently, it adds the maximum economic losses caused by Alternative 2 to economic losses to king whiting gillnet fishers who operate in the proposed expanded southeast U.S. restricted area during the restricted period.

From 2000 through 2004 there were no gillnet landings of king whiting in either Georgia or South Carolina, while there were landings of these species in the 3 Florida Trip Ticket Areas. During that time period, an average of 61,083 pounds of king whiting were landed, annually, and an average of 29,709 pounds with a dockside value of \$30,997 were landed from November 1 through March 31. During the first three months of 2005, however, gillnet landings of king whiting in the 3 areas combined were 335,859 pounds, with a total dockside value of \$259,102. The 2005 figures coupled with the 2004 data suggest fishers are increasingly targeting king whiting with gillnets. Consequently, it is expected that Alternative 3 would result in landings

losses of king whiting that are more than the 2000 through 2004 averages (29,709 pounds with a dockside value of \$30,997). Thus, annual losses for king whiting fishers are estimated using November through December 2004 and January through March 2005 figures.

During the 5-month period from November 1 through March 31, it is estimated that an average of 348,481 pounds of king whiting are landed and caught from gillnets, with a dockside value of \$272,125 every year. If November 1-15 landings during the restricted period represent 50% of all November landings, then the average losses of king whiting landings would be 348,301 pounds with a value of \$271,696.

Combined Losses of Gillnet Landings Resulting from Alternative 3

Losses of gillnet landings caused by Alternative 3 would be equal to losses of gillnet landings caused by Alternative 2 (Table 5.2.1) plus losses of king whiting gillnet landings. Average annual losses to king whiting fishers caused by Alternative 3 would be 348,301 pounds, with dockside revenues of \$271,696. Combined, Alternative 3 would result in losses of dockside revenue of \$356,202.

Social Impacts

Alternative 3 would result in a substantial decrease in annual gillnet landings of Spanish mackerel and, to a lesser extent, shark. Both of these fishing practices are well established (i.e., in place more than 9 years) within the Southeastern U.S. gillnet fishing communities. Elimination of Spanish mackerel and shark strikenet fishing from the Cape Canaveral port area from November 15 through March 31 would threaten fishermen's livelihoods. Fishermen in this area are well established, and loss of fishing opportunities during this time may cause fishermen to move their businesses and families.

Annual landings for whiting would also decrease substantially because whiting gillnet landings would be eliminated during the restricted period. Whiting fishermen operating in Northeast Florida would be affected, but similar social impacts (i.e., displaced businesses and families) are not anticipated, since there is not a long-standing fishery targeting whiting in this area and fishermen may be better able to move into other fisheries. Fishing for whiting with sink gillnets off Florida began in earnest in 2004 by a few fishermen from North Carolina. A few Northeast Florida shrimp fishermen also supplemented their annual incomes by gillnetting for whiting during the winter. Based on comments made by king whiting fishermen at the SE Subgroup meeting, NMFS expects king whiting fishermen would mitigate losses from this alternative by returning to their pre-2004 fishing practices and areas.

There is a high degree of public support for endangered species protection. In 1996, 79% of randomly selected Americans either strongly or moderately supported using tax dollars to save endangered species (Duda *et al.* 1998). The implementation of this alternative to protect the endangered right whale should precipitate increased satisfaction among those groups and individuals who place an existence or non-use value on natural resources. Social benefits may be realized if this alternative is effective at reducing the risk to North Atlantic right whales, and, incidentally, other marine mammals and sea turtles, of entanglement. If this reduced risk

increases the potential for recovery then society will benefit by preventing a loss of a species and preserving biodiversity.

5.4 Alternative 4: Establish different restricted periods within a northern and southern zone of the proposed expanded southeast U.S. restricted area, in which gillnetting is prohibited, with limited exemptions

The management measures under this alternative are detailed in section 2.2.4. The southeast U.S. restricted area North is adjacent to South Carolina, Georgia, and Northeast Florida (including Florida Trip Ticket Areas 722 (Jacksonville) and 728 (St. Augustine)); the southeast U.S. restricted area South is adjacent to the Cape Canaveral, Florida area (Florida Trip Ticket Area 732).

Losses of Shark Gillnet Landings in the Proposed Expanded Southeast U.S. Restricted Area North

Alternative 4 would prohibit shark gillnetting in the southeast U.S. restricted area North from November 15 through April 15. Shark gillnet landings are prohibited in Georgia, and there were none in South Carolina from 2000 through 2003. The only shark gillnet landings that occurred in South Carolina during the 6-month period from November through April in 2004 and 2005 occurred in April 2004 when 2,013 pounds were landed. Average annual shark gillnet landings in South Carolina from 2002 through 2004 during the period from November 1 through April 30 total 503 pounds with an estimated value of \$345. If all November and April landings occur during the restricted period, Alternative 4 would reduce annual shark gillnet landings in South Carolina by \$345 (503 pounds); however, if November 1-15 and April 16-30 landings during the restricted period represent 50% of all November and April landings, respectively, Alternative 4 would reduce annual shark gillnet landings in South Carolina by \$173 and 252 pounds.

Shark gillnet landings in Florida Trip Ticket Areas 722 and 728 (southeast U.S. restricted area North) from November 1 through April 30 varied from zero to 38,229 pounds during the years from 2000 through 2004, with an annual average of 12,768 pounds and a dockside value of \$7,712 (Table 5.4.1). These landings occurred only in the months of November and April. These averages would represent an over-estimation of losses from reduced shark gillnet landings in Florida from the northern zone because the restricted period is actually from November 15 through April 15. If November 1-15 landings during the restricted period represent 50% of all November landings, and if April 16-30 landings during the restricted period represent 50% of all April landings, Alternative 4 would reduce shark gillnet landings in Florida from the southeast U.S. restricted area North by \$3,856 and 6,384 pounds. If all November and April landings occur during the restricted period, average annual shark gillnet landings would be reduced by 13,271 pounds (503 lbs from South Carolina plus 12,768 lbs from Florida) with a dockside value of \$8,057 (\$345 from South Carolina plus \$7,712 from Florida). If 50% of November and April landings occur during the restricted period, Alternative 4 would reduce average annual shark gillnet revenues in the Southeast U.S. Restricted Area North (South Carolina and Florida combined) by 6,636 pounds (252 lbs from South Carolina plus 6,384 lbs from Florida) with a dockside value of \$4,029 (\$173 from South Carolina plus \$3,856 from Florida).

Table 5.4.1. Annual Shark Gillnet Landings in FL Trip Ticket Areas 722 and 728 Combined.

Year	Pounds	Value
2000	10,367	\$8,791
2001	5,283	\$2,692
2002	38,229	\$19,360
2003	0	\$0
2004	9,963	\$7,716
<i>Avg.</i>	<i>12,768</i>	<i>\$7,712</i>

Source: FWC Trip Ticket database.

If a rule to implement this alternative were to go into effect on March 1st of its first year of implementation, the losses incurred during the first year (2007) may not be as great as those estimated above because the prohibition would not include the period January 1 through February 28. However, during the months of January and February from 2000 through 2004 no shark gillnet landings occurred in the northern zone. Consequently, the losses incurred during the first year may be equal to the losses in each subsequent year.

Other Costs of Alternative 4 to Shark Gillnet Fishermen in the Proposed Expanded Southeast U.S. Restricted Area North

Alternative 4 also extends existing vessel monitoring system (VMS) requirements for shark gillnet fishers for an additional 15 days in the northern zone (from March 31 to April 15). Shark gillnet fishers are not expected to incur any additional costs, however, because they currently have all equipment necessary to comply with the proposed requirement.

Losses of Other Gillnet Landings in the Proposed Expanded Southeast U.S. Restricted Area North

As previously mentioned, Georgia law prohibits landings from gillnets (with the exception of shad). Moreover, there have been no reported landings from gillnets of Spanish mackerel, king mackerel, king whiting, bluefish, or other finfish species in South Carolina. Thus, this alternative affects only Florida gillnet finfish fishers that operate and land their catch in the Trip Ticket Areas 722 and 728.

During the 6-month period from November 1 through April 30 from 2000 through 2004, an average of 102 pounds of Spanish mackerel with a dockside value of \$86 were landed from gillnets and caught in the northern zone. In the first four months of 2005, however, 1,509 pounds with a dockside value of \$1,159 were landed from gillnets. It is possible that, since 2005, Spanish mackerel fishers are increasingly targeting the species in the northern zone during these 5 months. Consequently, this analysis uses November through December 2004 and January through April 2005 landings of Spanish mackerel to estimate losses of gillnet landings to Spanish mackerel fishers in the northern zone, although this method may over-estimate losses to Spanish mackerel gillnet fishers who operate in the northern zone. It is estimated that Spanish mackerel fishers in the northern zone would lose 1,509 pounds with a dockside value of \$1,159,

annually. If November and April landings during the restricted period represent 50 percent of November 1 – 15 and April 16 – 30 landings, respectively, average annual losses of Spanish mackerel landings would be 1,384 pounds with a dockside value of \$1,067.

Average annual landings of king whiting during the 5-month period from 2000 through 2004 vary significantly from landings during the first 4 months of 2005. Consequently, November and December 2004 figures and the January through April 2005 figures are used to estimate average annual losses of gillnet landings of king whiting from the northern zone. If all November and April landings occur within the restricted period, average annual losses of king whiting landings in the northern zone would be 419,418 pounds with a value of \$327,053. If November and April landings during the restricted period represent 50% of November 1-15 and April 16-30 landings, respectively, however, average annual losses of king whiting from the northern zone would be 356,604 pounds with a dockside value of \$276,824.

Average annual landings of other finfish species (bluefish, king mackerel, and other species) during the 5-month period from 2000 through 2004 in the northern zone total 553 pounds at a dockside value of \$850. If 50% of November and April landings represent landings during the restricted period, then average annual losses of gillnet landings of other finfish species would be 386 pounds, with a dockside value of \$485.

If all November and April landings occur during the restricted period, the combined annual and recurring losses of finfish gillnet landings would be 421,462 pounds (1,509 pounds from Spanish mackerel plus 419,418 pounds from king whiting plus 535 pounds from other finfish) with a dockside value of \$320,062 (\$1,159 from Spanish mackerel plus \$327,053 from king whiting plus \$850 from other species). If 50% of November and April landings occur during the restricted period, the combined annual and recurring losses of finfish gillnet landings would be 358,374 pounds (1,384 pounds from Spanish mackerel plus 356,604 pounds from king whiting plus 386 pounds from other species) with a dockside value of \$278,376 (\$1,067 from Spanish mackerel plus \$276,824 from king whiting plus \$485 from other species).

If a rule to implement this alternative were to go into effect on March 1st of its first year (2007), the losses of other gillnet landings during the first year (2007) may not be as great as estimated above. In 2005 combined January and February gillnet landings of Spanish mackerel in the northern zone were 1,114 pounds with a value of \$862 (there were no landings in February). If these landings represent January through February first year landings, the losses of Spanish mackerel gillnet fishers during the first year would be 395 pounds (1,509 pounds less 1,114 pounds) with a dockside value of \$297 (\$1,159 less \$862), assuming all November and April landings occur during the restricted period. If 50% of November and April landings occur during the restricted period, the losses of Spanish mackerel landings during the first year would be 270 pounds (1,384 pounds less 1,114 pounds) with a dockside value of \$205 (\$1,067 less \$862).

In 2005 combined January and February landings of gillnet landings of king whiting were 195,715 (102,740 + 92,975) pounds with a value of \$146,240 (\$74,949 + \$71,291). If the January and February 2005 landings represent January through February first-year landings, assuming implementation on March 1st, the losses of king whiting landings during the first year would be 225,747 pounds (419,418 pounds less 195,715 pounds) with a dockside value of

\$180,813 (\$327,053 less \$146,240), assuming all November and April landings occur during the restricted period. If 50% of November and April landings occur during the restricted period, the first-year losses of king whiting landings would be 160,514 pounds (356,604 lbs less 195,715 lbs) with a dockside value of \$130,584 (\$276,824 less \$146,240).

Average annual landings of other finfish species (bluefish, king mackerel, and other species) during January and February from 2000 through 2004 in the northern zone total 268 pounds at a dockside value of \$184. If these averages represent the January and February first-year landings, the first-year losses of gillnet landings of these other finfish species would be 285 pounds (553 lbs less 268 lbs) with a dockside value of \$666 (\$850 less \$184), assuming all November and April landings occur during the restricted period. If 50% of November and April landings occur during the restricted period, the losses of landings of other species would be 117 pounds (386 lbs less 269 lbs) with a dockside value of \$301 (\$485 less \$184).

If a rule to implement this alternative were to go into effect on March 1st, 2007, the first-year losses of non-shark gillnet landings would total 226,427 lbs (395 lbs of Spanish mackerel plus 225,747 lbs of king whiting plus 285 lbs of other finfish) with a value of \$181,776 (\$297 from Spanish mackerel landings plus \$180,813 from king whiting landings plus \$666 from other finfish landings), assuming all November and April landings occur during the restricted period. If 50 percent of November and April landings occur during the restricted period, the first-year losses of non-shark landings in the northern zone would total 160,901 pounds (270 lbs from Spanish mackerel landings plus 160,514 lbs from king whiting landings plus 117 lbs from other species landings) with a dockside value of \$131,090 (\$205 from Spanish mackerel landings plus \$130,584 from king whiting landings plus \$301 from landings of other species).

Combined Losses of Gillnet Landings in the Proposed Expanded Southeast U.S. Restricted Area North

If all November and April landings occur during the restricted period, the average annual and recurring losses of gillnet landings in the northern zone would be 434,733 pounds (13,271 lbs from shark landings plus 421,462 pounds from non-shark landings) with a dockside value of \$328,119 (\$8,057 from shark landings plus \$320,062 from non-shark landings). If 50% of November and April landings occur during the restricted period, the average annual and recurring losses of gillnet landings in the northern zone would be 365,006 pounds (6,632 lbs from shark landings plus 358,374 lbs from non-shark landings) with a dockside value of \$282,405 (\$4,029 from shark landings plus \$278,376 from non-shark landings). See Table 5.4.2.

If a rule to implement this alternative were to go into effect on March 1st, and all of the November and April landings occur within the restricted period, the losses of landings during the first year (2007) would be 214,299 pounds (6,636 lbs from shark landings + 207,663 lbs from other landings) with a value of \$171,221 (\$4,029 from shark landings + \$167,192 from other landings). If 50% of November and April landings occur within the restricted period, the losses during the first year would be 167,537 pounds (6,636 lbs from shark landings plus 160,901 pounds from non-shark landings) with a dockside value of \$131,090 (\$4,029 from shark landings plus \$131,090 from non-shark landings). See Table 5.4.2.

Table 5.4.2. Recurring and First-Year Costs from Alternative 4 in North

	All Nov. and Apr. Landings in Res. Period	50% Nov. and Apr. Landings in Res. Period	All Nov. and Apr. Landings in Res. Period	50% Nov. and Apr. Landings in Res. Period
	Pounds	Dockside Value	Pounds	Dockside Value
Recurring Cost	434,733	\$320,062	365,006	\$282,405
First-Year Cost	214,299	\$171,221	167,537	\$131,090

Losses of Shark Gillnet Landings in the Proposed Expanded Southeast U.S. Restricted Area South

Alternative 4 would not affect current shark gillnetting operations in the Southern Zone because the new measures are not substantially different from existing restrictions (shark gillnet fishing in this area is already restricted to the use of strikenets). Additional provisions required for shark gillnetters as a result of this rulemaking (i.e., removing all nets from the water at night and during periods of low visibility) should not have a negative impact on landings as it does not restrict the setting of gear, just how quickly it must be removed once the gear has been set and the catch has been made. Consequently, there would be no losses in landings or associated dockside revenues.

Other Costs of Alternative 4 to Shark Gillnet Fishermen in the Proposed Expanded Southeast U.S. Restricted Area South

Alternative 4 also reduces existing vessel monitoring system (VMS) requirements for shark gillnet fishers by 15 days in the southern zone (from November 15 to December 1). Shark gillnet fishers are not expected to realize any cost savings because they currently have all equipment necessary to comply with the proposed requirement.

Losses of Other Gillnet Landings in the Proposed Expanded Southeast U.S. Restricted Area South

Alternative 4 would prohibit all finfish gillnet fishing in the Southern Zone during the 4-month period from December 1 through March 31, with exemptions for Spanish mackerel gillnet fishing which would be allowed, under special provisions, from December 1 through December 31 and from March 1 through March 31.

During the above 4-month period from 2000 through 2004, an average of 4,255 pounds of king whiting were landed in the southern zone with a dockside value of \$4,318, annually. Figures from January 1 through March 31, 2005, do not suggest that king whiting gillnet fishers are increasingly targeting the species in the southern zone. Consequently, it is expected that this alternative would result in average annual recurring losses to king whiting gillnet fishers of \$4,318 (4,255 pounds). If a rule implementing this alternative were to go into effect on March 1st, 2007, the first-year losses to king whiting gillnet fishers would be 2,863 pounds (4,255 lbs

less 1,392 lbs) with a dockside value of \$2,925 (\$4,318 less \$1,393).

From 2000 through 2004 for the same 4-month period, average landings of other finfish, except Spanish mackerel and king whiting, were 13,580 pounds with a dockside value of \$9,642, annually. Average January and February landings from 2000 through 2004 for this species are 809 pounds (8 pounds of king mackerel plus 120 lbs of bluefish plus 681 lbs of other species) with a dockside value of \$1,316 (\$59 from king mackerel plus \$64 from bluefish plus \$1,193 from other species). If a rule implementing this alternative were to go into effect on March 1st, 2007, the first-year losses to other finfish gillnet fishers, excluding Spanish mackerel and king whiting fishers, would be 12,771 pounds (13,580 lbs less 809 lbs) with a dockside value of \$8,362 (\$9,642 less \$1,316).

Spanish mackerel gillnet fishers would not be able to take the species in the southern zone during the months of January and February. From 2000 through 2004, landings during these 2 months averaged 5,442 pounds, with a dockside value of \$2,928, annually. This analysis assumes Spanish mackerel gillnet fishers would not experience any losses of landings during the other months of the restricted period. Consequently, annual losses to Spanish mackerel gillnet fishers in the southern zone would be \$2,928 (5,442 pounds). If a rule implementing this alternative were to go into effect on March 1st, 2007, Spanish mackerel gillnet fishers will not experience any losses during the first year.

Combined annually recurring losses of finfish landings would be 18,644 pounds (4,255 lbs of king whiting landings plus 13,580 of Spanish mackerel plus 809 lbs of other finfish) with a dockside value of \$16,888 (\$4,318 from king whiting landings plus \$2,928 from Spanish mackerel landings plus \$9,642 from other finfish landings). If a rule implementing this alternative were to go into effect on March 1, 2007, first-year losses would be 15,634 pounds (2,863 pounds of king whiting plus 0 pounds of Spanish mackerel plus 12,771 from other finfish) with a dockside value of \$11,287 (\$2,925 from king whiting plus \$0 from Spanish mackerel plus \$8,362 from other finfish species).

Combined Losses of Gillnet Landings in the Proposed Expanded Southeast U.S. Restricted Area South

This alternative would not produce any losses of shark gillnet landings and associated revenue in the Southern Zone. Thus, combined annually recurring losses to gillnet fishers would be 18,644 pounds with a dockside value of \$16,888. If this rule is implemented on March 1, 2007, first-year losses would be 15,634 pounds with a dockside value of \$11,287.

Combined Losses of Gillnet Landings Resulting from Alternative 4

Annual recurring costs of this alternative would be 453,377 pounds (434,733 lbs from northern zone plus 18,644 pounds from southern zone) with a dockside value of \$336,950 (\$320,062 from northern zone plus \$16,888 from southern zone), if all November and April landings in the northern zone occur during the restricted period. If 50 percent of the November and April landings in the northern zone occur during the restricted period, these annually recurring losses are 383,650 pounds (365,006 lbs from northern zone plus 18,644 pounds from southern zone)

with a dockside value of \$299,293 (\$282,405 from northern zone plus \$16,888 from southern zone).

If a rule implementing this alternative were to go into effect on March 1, 2007, and all of the November and April landings in the northern zone occur within the restricted period, the first-year losses would be 229,933 pounds (214,299 pounds from northern zone plus 15,634 pounds from southern zone) with a dockside value of \$182,508 (\$171,221 from northern zone plus \$11,287 from the southern zone). However, if 50 percent of November and April landings in the northern zone occur within the restricted period, the first-year losses would be 183,171 (167,537 pounds from northern zone plus 15,634 pounds from southern zone) with a dockside value of \$142,377 (\$131,090 from northern zone plus \$11,287 from southern zone) (See Table 5.4.3).

Table 5.4.3. Annual Losses Caused by Alternative 4

	All Northern Nov. and Apr. Landings in Res. Period		50% Northern Nov. and Apr. Landings in Res. Period	
	Pounds	Dockside Value	Pounds	Dockside Value
Recurring Cost	453,377	\$336,950	383,650	\$299,293
First-Year Cost	229,933	\$182,508	183,171	\$142,377

Social Impacts

This alternative would most likely garner support from Georgia and South Carolina natural resource agencies and commercial fishermen (excluding a potential few gillnet fishermen) as the effect of this action would be to extend existing state laws regarding gillnetting prohibitions into federal waters for the November 15 to April 15 timeframe.

This alternative reduces the risk of gillnet entanglement to right whales and other protected species and social benefits may be realized as a result. There is a high degree of public support for endangered species protection. In 1996, 79% of randomly selected Americans either strongly or moderately supported using tax dollars to save endangered species (Duda *et al.* 1998). The implementation of this measure to protect the endangered right whale should precipitate increased satisfaction among those groups and individuals who place an existence or non-use value on natural resources. Social benefits may be realized if this alternative is effective at reducing the risk to North Atlantic right whales, and, incidentally, other marine mammals and sea turtles, of entanglement. If this reduced risk increases the potential for recovery then society will benefit by preventing a loss of a species and preserving biodiversity.

However, if this alternative was selected and did not become operative until March 1, 2007, a significant risk to the well-being of right whales will exist since they will begin arriving in the calving area around November 15, 2006, and right whale mother/calf pairs will be vulnerable to serious injury or mortality from entanglement in commercial gillnet gear in the core calving habitat for over half of the 2006/2007 calving season. Implementation of this alternative may precipitate doubt and skepticism among those groups and individuals who place an existence or non-use value on natural resources, particularly, on right whales. Additionally, many scientists

and environmentalists would be angered and alienated by NMFS' failure to protect right whales by the November 15 start of the 2006/2007 calving season.

While this alternative may place an economic burden on some fishermen, it does not prohibit gillnetting altogether as fishing with gillnet for shark and Spanish mackerel would be allowed, with provisions in place to protect whales. Both of these fishing practices are well-established (i.e., in place more than 9 years) within the southeastern U.S. gillnet fishing communities. Annual landings for whiting would decrease because whiting gillnet landings would be eliminated during the restricted period. Fishing for whiting with sink gillnets off Florida began in earnest in 2004 by a few fishermen from North Carolina. A few Northeast Florida shrimpers also supplemented their annual incomes by gillnetting for whiting during the winter. Under this alternative, NMFS assumes that the majority of the whiting fishermen would either return to their pre-2004 fishing practices or search for other fishing alternatives.

5.5 Alternative 5: Preferred Alternative: Establish different restricted periods within a northern and southern zone of the proposed expanded southeast U.S. restricted area, which prohibits gillnetting with limited exemptions through notice and comment rulemaking, and immediately implement an ESA emergency rule closing the northern zone to possession of and fishing with gillnet

The recurring annual losses resulting from this alternative are equal to the recurring annual losses caused by Alternative 4 (383,650 pounds with a value of \$299,293, assuming 50% of November and April landings in the northern zone occur during the restricted period). However, losses would also be incurred in 2006 (unlike Alternative 4) with losses of November 15 through December 31 landings in the northern zone and losses of December landings in the southern zone.

First Year (2006) Losses of Gillnet Landings in the Proposed Expanded Southeast U.S. Restricted Area North

This alternative includes an emergency rule which would implement the prohibitions of Alternative 4 from November 15, 2006, through February 28, 2007. Consequently, the first-year losses of Alternative 5 are incurred from November 15, 2006 through December 31, 2006, which is in contrast to first-year losses of Alternative 4, which occur from March 1, 2007, through December 31, 2007.

No shark gillnet landings in South Carolina were reported during the months of November or December in 2004 or 2005. The only shark gillnet landings in the northern zone that occurred during the months of November and December from 2000 to 2004 occurred in November 2000 (10,367 pounds with a value of \$8,791). This analysis assumes that 50% of the November landings would be lost. Although it is likely that there would be no losses of shark gillnet landings in the northern zone during the first year (2006), it is estimated that the first-year loss could be 1,037 pounds (10,367 lbs x 0.5 divided by 5) with a value of \$879 (\$8,791 x 0.5 divided by 5).

From 2000 through 2004 Spanish mackerel landings in the northern zone during the months of

November and December totaled (42 pounds from November plus 294 pounds in December) with a dockside value of \$251 (\$17 in November and \$234 in December). If 50% of the average November landings plus the average of all December landings represent the first-year loss of Spanish mackerel landings, the first-year loss would be 63 pounds with a dockside value of \$243.

Landings of king whiting have increased over time. During the months of November and December 2004 a total of 12,622 pounds (360 during November plus 12,262 during December) with a value of \$12,502 (\$450 during November plus \$12,025 during December) were landed in the northern zone. This analysis assumes 50% of the November 2004 landings plus all of the December 2004 landings represent the landings that would be lost during the first year. Thus, during the first year 12,442 pounds (180 + 12,262) of king whiting would be lost with a value of \$12,250.

During the months of November and December from 2000 through 2004 landings of other finfish species (bluefish, king mackerel, and other species) in the northern zone totaled 269 (84 during November plus 185 from December) pounds with dockside value of \$700 (\$34 from November and \$666 from December), for an annual average of 54 pounds and \$140. If 50% of the average November landings plus all of the average December earnings represent the first-year loss of landings of other finfish species, the first-year loss would be 45 pounds with a value of \$137.

The total 2006 loss of gillnet landings in the northern zone would be 13,587 pounds (1,037 + 63 + 12,442 + 45) with a dockside value of \$13,509 (\$879 + \$243 + \$12,250 + \$137).

Recurring Losses of Gillnet Landings in the Proposed Expanded Southeast U.S. Restricted Area North

If November and April landings within the restricted period represent 50% of November 1-15 and April 16-30 landings, respectively, average annual recurring losses of gillnet landings in the northern zone would be 365,006 pounds (6,636 pounds from shark landings plus 358,374 pounds from finfish landings) with a value of \$282,405 (\$4,029 from shark landings plus \$278,376 from finfish landings).

First Year (2006) Losses of Gillnet Landings in the Proposed Expanded Southeast U.S. Restricted Area South

Alternative 5 would not affect current shark gillnetting operations in the Southern Zone because existing shark gillnet operations in the southern zone are consistent with the exemption. Consequently, there would be no first-year losses in landings or associated dockside revenues.

This analysis assumes Spanish mackerel gillnet fishers would not experience any losses of landings during the month of December of the restricted period because it is believed that current Spanish mackerel gillnet fishing operations in the southern zone are consistent with the exemption.

Landings of king whiting have not increased over time in the southern zone. In fact, they have declined during the month of December since peaking in 2001. Over the 5-year period from 2000 through 2004, average December landings of king whiting in the southern zone are 450 pounds with a dockside value of \$444.

Landings of other finfish species in the southern zone during the month of December from 2000 through 2004 total 26,296 pounds with a dockside value of \$12,620. The average annual December landings during this 5-year period were 5,259 pounds with a value of \$2,524. This average represents the lost landings of other finfish species during the first-year of this alternative.

The total first-year loss of landings in the southern zone would be 5,709 pounds (0 + 0 + 450 + 5,259) with a dockside value of \$2,968 (\$444 + \$2,524).

Recurring Losses of Gillnet Landings in the Proposed Expanded Southeast U.S. Restricted Area South

This alternative would not produce any losses of shark gillnet landings and associated revenue in the Southern Zone. Annual losses to Spanish mackerel gillnet fishers would be \$2,928 (5,442 pounds) and annual losses to other finfish gillnet fishers would be \$13,960 (17,835 pounds). Combined recurring losses to gillnet fishers in the southern zone would be \$16,888 (23,277 pounds).

Combined Losses of Gillnet Landings Resulting from Alternative 5

Alternative 5 would result in annual recurring losses of dockside revenues from gillnet landings of \$299,293 (\$282,405 from the northern zone plus \$16,888 from the southern zone) and reduce pounds landed by 388,283 pounds (365,006 pounds from the northern zone plus 23,277 pounds from the southern zone).

The total first-year loss would be 19,296 pounds (13,587 from northern zone plus 5,709 from southern zone) with a dockside value of \$16,477 (\$13,509 from northern zone plus \$2,968 from southern zone) (Table 5.5.1).

Table 5.5.1. Losses of Landings Due to Alternative 5

Year	Lost Pounds	Lost Revenue (Nominal \$)
2006 (first year)	19,296	\$16,477
2007	388,283	\$299,293
2008	388,283	\$299,293
Every following year	388,283	\$299,293

6.0 Cumulative Impacts

A complete cumulative effects analysis is discussed in detail in Chapter 9 of the DEIS for

amending the ALWTRP published in February 2005 (Industrial Economics, Inc. and NMFS 2005), and this chapter is hereby incorporated by reference. The DEIS identifies 5 Valued Ecosystem Components (VECs). VECs are features of the affected environment that are valued because of their ecological, scientific, cultural, socio-economic, historical, or aesthetic significance. The VECs referred to in the 2005 ALWTRP DEIS included: North Atlantic right whales, other protected species, habitat, affected fisheries, and fishing dependent communities. The cumulative effects of the alternatives considered for this action are included below.

6.1 Cumulative Effects of Alternatives Considered

6.1.1. Alternative 1: No-Action Alternative

The No Action alternative is not expected to affect four out of the five VECs being considered here, as this alternative would not alter the current state of the ALWTRP. However, negative effects would be expected on right whales in light of the recent entanglement and mortality of the right whale calf and the risk of additional entanglements in the future.

6.1.2. Alternative 2: Operational restrictions on all gillnet fisheries in the proposed expanded southeast U.S. restricted area from November 15 - March 31

This alternative, involving operational measures on gillnetting throughout the southeast U.S. restricted areas North and South is expected to affect all five of the VECs being considered here. North Atlantic right whales and other protected species would be afforded protection from injury or mortality from gillnets used in the Southeastern U.S. Atlantic shark gillnet fishery as these fishermen use gillnets with greater than 3 inches stretch mesh. Additional protection to North Atlantic right whales during shallow dives would be provided by this alternative as gillnets would be a maximum depth of 25 meshes, restricting gillnets to within approximately four feet of the ocean floor (as opposed to gillnets spanning from the ocean's surface to the ocean floor). Because gillnets would be restricted to within approximately four feet of the ocean floor; consequently, fishery resources that exploit the water column above this level would be expected to experience a positive effect from this alternative. Finally, Southeast Atlantic gillnet fishery participants that fish for whiting using sink gillnets would be positively affected by this alternative, as the southeast U.S. restricted area would effectively be reserved for their sole use.

This alternative is expected to negatively affect North Atlantic right whales and other protected species as the threat from gillnet with extended soak times (periods of up to several hours) would remain in the core right whale calving area and throughout the southeast U.S. restricted area. Increases in the number of vessels targeting whiting within the Southeast Atlantic gillnet fishery are expected to continue. Impacts to bottom habitats from gillnets are expected due to interactions between fishing gear (from scraping leadlines, anchors, etc.) and the ocean floor. Consequently, the negative effects of this fishing technique on North Atlantic right whales, other protected species, and habitat are expected to increase. Participants of the Southeastern U.S. Atlantic shark gillnet fishery and the Southeast Atlantic gillnet fishery targeting Spanish mackerel would be negatively affected as the present techniques and gillnet gear used in those fisheries would be prohibited.

Cumulatively, there would be no positive benefit to North Atlantic right whales from this alternative. Instead, there will be long-term negative effects on the right whale population resulting from this alternative, due to increasing likelihood over time that right whales may become seriously injured or killed due to entanglement in gillnet fishing gear, as well as long-term negative effects on protected species and habitats. Cumulative effects on gillnet fisheries and their associated communities would be mixed, with NC- and northeast Florida-based fishermen targeting whiting realizing a positive effect, and central east coast Florida-based fishermen targeting sharks and Spanish mackerel realizing a negative effect.

6.1.3. Alternative 3: Permanent prohibition of gillnets in the proposed expanded southeast U.S. restricted area every year from November 15 - March 31

This alternative is expected to have a cumulative positive effect on four out of the five VECs being considered here (all but the fishing dependent communities). Positive effects would be expected on North Atlantic right whales, other protected species, and fishery resources as the threat of injury or mortality to these resources from gillnetting activities would be eliminated in the restricted area during the restricted periods. Short-term positive effects would also be expected for bottom habitats, as gillnets would not be interacting (damage from scraping leadlines, anchors, etc.) with the ocean floor. Consequently, the positive effects of this alternative on North Atlantic right whales, other protected species, fishery resources, and habitat are expected to increase over time, resulting in a positive cumulative effect. Negative short-term effects would be expected for the Southeastern U.S. Atlantic shark gillnet and Southeast Atlantic gillnet fishing communities, as gillnetting would be prohibited in the restricted areas during the restricted periods. However, it is difficult to predict whether this alternative will result in a negative cumulative impact on fishing dependent communities, as the positive cumulative impact on fishery resources may benefit fishing dependent communities in the long-term if they are able to develop other, less harmful fishing methods and gear that have less potential for bycatch of right whales and other species.

6.1.4. Alternative 4: Establish different restricted periods within a northern and southern zone of the proposed expanded southeast U.S. restricted area, in which gillnetting is prohibited, with limited exemptions

This alternative would provide positive impacts on North Atlantic right whales. The threat of serious injury or mortality as the result of entanglement in commercial gillnet fishing gear in the southeast U.S. restricted area North during the annual calving seasons beginning in 2007/2008 would be eliminated. As described in section 4.1.4, the threat of serious injury or mortality from gillnet entanglement in the southeast U.S. restricted area South would be greatly reduced once this alternative become operative. Similarly, this alternative is expected to have positive impacts on other protected species.

There would be positive impacts for habitat and fishery resources as a result of this alternative. There would be positive impacts on habitat in the southeast U.S. restricted areas North during the restricted period because there would no interactions between fishing gear and the ocean floor. There would also be a positive impact on fishery resources in this area over time due to less fishing effort. In the South, impacts on habitat and fishery resources would still be positive, but

to a lesser degree than in the North.

Negative effects would be anticipated for fishing dependent communities, although overall negative affects would not be as great as in alternative 3. Under Alternative 4, the Southeast Atlantic gillnet fishery practice of fishing for Spanish mackerel and the Southeastern U.S. Atlantic shark gillnet fishery practice of strikenetting in the southeast U.S. restricted area South would be exempted, with certain conditions, from the gillnet prohibition. However, gillnetting would be eliminated in the restricted period during the restricted time, and the communities dependent on this fishery would experience negative short-term impacts.

Cumulative impacts are expected to be positive overall for right whales, other protected species, habitat, and fishery resources as a result of this alternative. Over time, this is expected to have a neutral impact on fishing communities as fishermen adapt and find other, less harmful fishing methods that have less potential for bycatch of right whales and other species.

6.1.5. Alternative 5: Preferred Alternative: Establish different restricted periods within a northern and southern zone of the proposed expanded southeast U.S. restricted area, which prohibits gillnetting with limited exemptions through notice and comment rulemaking, and immediately implement an ESA emergency rule closing the northern zone to possession of and fishing with gillnet

Alternative 5 is expected to have the same positive effects as Alternative 4 for right whales, other protected species, and habitat, but would have the additional benefit of increased protection for right whales in the core calving area by the start of the 2006/2007 calving season, greatly reducing a significant risk to the well-being of this endangered species. Other protected species would be positively affected by reduced risk of entanglement in commercial gillnet gear in the restricted areas during restricted periods. Intermittent positive effects would also be expected for bottom habitats, as gillnets would not be interacting (damage from scraping leadlines, anchors, etc.) with the ocean floor during the closed periods.

Negative effects anticipated for fisheries and fishing dependent communities as a result of the preferred alternative would be greater than under Alternative 4 because the closure of the southeast U.S. restricted area North would be in effect several months earlier, but overall negative affects would not be as great as in Alternative 3, which has no exemptions for the Southeast Atlantic gillnet fishery targeting Spanish mackerel and the Southeastern U.S. Atlantic shark gillnet fishery using strikenets.

Cumulative impacts are expected to be positive overall for right whales, other protected species, and habitat as a result of the preferred alternative. Over time, as with Alternative 4, this alternative is expected to have a neutral impact on fishing communities as fishermen adapt and find other, less harmful fishing methods that have less potential for bycatch of right whales and other species.

7.0 Rationale for Selecting the Preferred Alternative

Alternative 5, the establishment of different restriction periods within a northern and southern zone of the proposed expanded southeast U.S. restricted area, with provisions for limited exemptions to those restrictions in the southern zone, and the closure of the southeast U.S. restricted area North to gillnetting through an ESA emergency rule effective November 15, 2006, was determined to be the preferred alternative based upon environmental and socioeconomic considerations. As detailed in sections 4, 5, and 6 above, the preferred alternative provides necessary protections under the ESA and MMPA for right whales. These protections are more than what can be provided by just the operational restrictions in the proposed expanded southeast U.S. restricted area North outlined in Alternative 2, and will begin reducing the threat of serious injury and mortality due to entanglement by the start of the 2006/2007 right whale calving season, several critical months sooner than Alternative 4. The preferred alternative has a lesser economic impact than a complete closure of the southeast U.S. restricted area to gillnet fisheries, as outlined in Alternative 3. NMFS has determined that the exemptions for shark strikenets and Spanish mackerel gillnet fishing, in accordance with the provisions of the preferred alternative, are consistent with the requirements of 50 CFR 229.32(g)(1) and (2) for modifying a full, permanent closure of the restricted area during the restricted period.

8.0 Other Applicable Laws

In accordance with legal mandates, NMFS must consider the effect of the Proposed Action on small businesses, marine mammals, endangered species, essential fish habitat, and the human environment. The proposed action consists of the preferred alternative described in sections 1-7 above.

8.1 Executive Order 12866 and Regulatory Flexibility Act (RFA)

Executive Order (E.O.) 12866 requires that a Regulatory Impact Analysis be prepared for all regulatory actions that are of public interest. To meet this mandate NMFS requires the preparation of a Regulatory Impact Review (RIR) for proposed actions. The RIR does three things: 1) it provides a comprehensive review of the incidence and magnitude of impacts associated with a proposed or final regulatory action, 2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problem, and 3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way.

The RIR also serves as the basis for determining whether a proposed rule is a “significant regulatory action.” Pursuant to E.O. 12866, a regulation is considered a "significant regulatory action" if it: (1) has an annual effect on the economy of \$100 million or more or adversely affects in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; (2) creates a serious inconsistency or otherwise interferes with an action taken or planned by another agency; (3) materially alters the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raises novel legal or

policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866.

E.O. 12866 requires that the Office of Management and Budget review regulatory programs that are likely to be “significant.” NMFS complies with the E.O. through the preparation of a Regulatory Impact Review (RIR). The proposed permanent component of the preferred alternative evaluated in this EA has been determined to be not significant for the purposes of the E.O. The RIR follows in Section 10.

Congress passed the Regulatory Flexibility Act (RFA) to ensure that Federal agencies consider the impacts of regulations, taking into account the special needs and concerns of small businesses through an initial regulatory flexibility analysis. The RFA requires analysis of a proposed regulation only when notice and comment rulemaking is required under the Administrative Procedure Act (APA). The regulatory flexibility analysis for the proposed permanent rule follows in Section 11. RFA does not apply to the emergency rule.

8.2 National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) requires Federal agencies to assess the effects of major Federal actions upon the human environment in the form of an environmental impact statement or EA. The analysis describes the level of significance of the impacts expected to result from the proposed Federal action. NMFS prepared this EA in accordance with NEPA.

8.3 Endangered Species Act (ESA)

The ESA imposes on all Federal agencies a duty to ensure that agency actions do not jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of the Critical Habitat of such species. Under the ESA, a federal agency must consult with either the National Marine Fisheries Service (for most marine species) or the U.S. Fish and Wildlife Service (for remaining species) to evaluate the effects of a proposed action on ESA-listed species. If the action agency determines, through preparation of a biological assessment or informal consultation, that the proposed action is “not likely to adversely affect” listed species or Critical Habitat, a formal consultation is not required so long as the expert agency concurs.

A section 7 consultation was completed for the proposed action. It was determined that the action is not likely to adversely affect any listed species or designated critical habitat. If new information reveals additional effects to listed species or its Critical Habitat in a manner or to an extent not previously considered, NMFS will reinitiate consultation under the ESA.

8.4 Marine Mammal Protection Act (MMPA)

The proposed action will not adversely affect marine mammals. Instead, the proposed action will reduce serious injury and mortality of right whales due to entanglement in gillnet gear by reducing gillnet use in the whales’ calving area during annual calving season. The additional protection provided by the proposed action will further NMFS’ actions to accomplish the goals

under section 118 of the MMPA, specifically to reduce mortality and serious injury of marine mammals incidental to commercial fishing operations.

8.5 Paperwork Reduction Act (PRA)

The purpose of the PRA is to minimize the paperwork burden for individuals, small businesses, educational and nonprofit institutions, and other persons resulting from the collection of information by or for the Federal government. The proposed action associated with this EA does not contain a collection-of-information requirement for the purposes of the Paperwork Reduction Act.

8.6 Essential Fish Habitat (EFH)

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, Federal agencies must undergo a consultation process regarding any of their actions authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken that may adversely affect EFH. The area affected by the proposed action has been identified as EFH through several FMPs. Because the proposed action involves the temporary removal of fishing effort, and does not increase or alter gear use, NMFS determined that the proposed gillnet restrictions would not adversely affect EFH of species managed by NMFS or the South Atlantic Fishery Management Council. Further coordination on this matter was not deemed necessary unless future modifications are proposed which may adversely impact EFH.

8.7 Environmental Justice

Executive Order 12898 requires that federal actions address environmental justice in decision-making process. In particular, the environmental effects of the actions should not have a disproportionate effect on minority and low-income communities. The proposed action is not expected to have a disproportionate effect on minority or low-income communities, as it will affect all gillnet fishermen that fish in the southeast U.S restricted area, regardless of minority status or income level.

8.8 Coastal Zone Management Act

NMFS determined that the proposed action is consistent to the maximum extent practicable with the enforceable policies of the approved coastal zone management programs of South Carolina, Georgia, and Florida. Letters were sent to those states for their concurrence.

8.9 Executive Order 12630

Executive Order 12630 requires that federal actions address and ensure with due regard for fiscal accountability, for the financial impact of the obligations imposed on the federal government by the Just Compensation Clause of the Fifth Amendment, and for the Constitution. The Fifth Amendment of the United States Constitution provides that private property shall not be taken for public use without just compensation. Pursuant to Department of Commerce Takings Guidelines, the proposed action represents a category of actions that does not represent a taking

of private property.

8.10 Federalism

Executive Order 13132 requires that federal actions ensure for the division of governmental responsibilities between the national government and the states that was intended by the Framers of the Constitution, to ensure that the principles of Federalism established by the Framers guide the executive departments and agencies in the formulation and implementation of policies, and to further the policies of the Unfunded Mandates Reform Act. This Executive Order, to the extent practicable and permitted by law, ensures that no agency will promulgate any regulation that has Federalism implications, that imposes substantial direct compliance costs on state and local governments, and that is not required by statute.

NMFS does not believe the proposed action contains policies with federalism implications under E.O. 13132. However, the Assistant Secretary for Legislative and Intergovernmental Affairs will provide notice of the proposed action and request for comments to the appropriate official(s) of the states adjacent to the proposed expanded Southeast U.S. Restricted Area.

8.11 Information Quality Act

Section 515 of Public Law 106-554, 44 U.S.C. § 3516 (Section 515) requires that each federal agency subject to the Paperwork Reduction Act, 44 U.S.C. Chapter 35, issue guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of the information it disseminates. Section 515 also directs each federal agency to establish an administrative mechanism that allows affected persons to seek and obtain correction of information maintained and disseminated by the agency that does not comply with information quality guidelines issued by the Office of Management and Budget (OMB).

NMFS followed all applicable guidelines for maximizing the quality, objectivity, utility, and integrity of the information used in the development of the proposed action as required by the Information Quality Act (Section 515 of Public Law 106-554). A pre-dissemination review completed by the Protected Resources Division of the Southeast Regional Office on October 18, 2006, found the proposed action complies with the guidelines.

9.0 Regulatory Impact Review

9.1 Introduction

NMFS requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: (1) it provides a comprehensive review of the level and incidence of impacts associated with a regulatory action; (2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives which could be used to solve the problem; and (3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way.

The RIR also serves as the basis for determining whether any proposed regulations are a "significant regulatory action" under certain criteria provided in Executive Order 12866 (E.O. 12866) and whether the approved regulations will have a "significant economic impact on a substantial number of small business entities" in compliance with the Regulatory Flexibility Act of 1980 (RFA).

9.2 Problems and Objectives

The purpose and need, issues, problems, and objectives of the proposed action are presented elsewhere in this document and are incorporated herein by reference. In summary, the purpose of the two rules comprising the proposed action is to reduce the incidental serious injury and mortality of North Atlantic right whales incidental to commercial gillnet fishing in the Southeast U.S. Atlantic ocean. Benefits to other marine species, including endangered humpback and fin whales, will also result.

9.3 Methodology and Framework for Analysis

This RIR assesses management measures from the standpoint of determining the resulting changes in costs and benefits to society. To the extent practicable, the net effects of regulatory measures should be stated in terms of producer and consumer surplus, changes in profits, employment in the direct and support industries where practicable. However, much of this information does not exist for the gillnet fisheries or areas of fisheries covered by the proposed action. Therefore, the impacts analysis of the rules focuses on direct impacts to commercial gillnet fishermen participating in the Southeastern U.S. Atlantic shark gillnet and Southeast Atlantic gillnet fisheries who operate in the Southeast U.S. Atlantic.

9.4 Description of Fisheries

The description of the Southeast U.S. Atlantic shark gillnet fishery and the Southeast Atlantic finfish gillnet fishery presented in Section 3.3 are incorporated herein by reference.

9.5 Impacts of Management Measures

The rules affect fishermen in the Southeastern U.S. Atlantic shark and Southeast Atlantic gillnet fisheries that operate in the proposed expanded southeast U.S. restricted area, which includes waters off South Carolina, Georgia, and northeast Florida. Additional details on the economic impacts of the proposed management alternatives are included in Section 5 and are incorporated herein by reference.

9.5.1 Alternative 1: No-Action Alternative

This alternative would not change the status quo. It would not expand the area of, or implement any additional gillnet gear restrictions in, the Southeast U.S. Restricted Area. Gillnet fishing in the southeast U.S. would continue at current levels. Consequently, this alternative would not impact gillnet fishers or economic benefits in terms of protecting right whale beyond the economic baseline.

9.5.2 Alternative 2: Operational restrictions on all gillnet fisheries in the proposed expanded southeast U.S. restricted area from November 15 - March 31

Alternative 2 would reduce average annual shark gillnet landings by 25,112 pounds (about 5.1% of average annual pounds landed from the southeast U.S. restricted area) and by \$16,944 (about 7.4% of average annual dockside revenue). It would also result in losses of Spanish mackerel gillnet landings of 101,955 pounds (about 29% of average annual pounds landed from southeast U.S. restricted area) with a dockside value of \$50,447. Alternative 2 would eliminate 709 pounds (5.7%) of annual incidental king mackerel gillnet landings at an average dockside value of \$642.

Alternative 2 would also affect bluefish landings and other species. Average annual losses of bluefish gillnet landings would be 15,122 pounds (30.9% of annual pounds) with a value of \$4,742. An annual average of 9,023 pounds at a value of \$11,731 would be lost from gillnet landings of other species.

Alternative 2 would result in combined maximum losses of \$84,506 (\$16,944 from shark gillnet revenues plus \$67,562 from finfish gillnet revenues).

The enactment of operational restrictions as detailed in 2.2.2 would provide a reduction in the likelihood of gillnet gear interactions with the critically endangered North Atlantic right whale, reducing the risk of serious injury and mortality.

At present, effort targeting whiting is the primary gillnet effort in this area, so these measures would not accomplish certain risk reduction to right whales from gillnet fishing since large amounts of net would still be in the water for long periods of time (long soak time) in the core of the right whale calving area, it is unknown if weak links will release very young calves, and vertical lines are known to present a substantial risk to right whales.

This alternative may result in limited risk reduction from serious injury or mortality to right whales and other protected species from entanglement incidental to commercial fishing, as it would eliminate the Southeastern U.S. Atlantic shark gillnet fishery from the proposed expanded southeast U.S. restricted area during the restricted periods.

9.5.3 Alternative 3: Permanent prohibition of gillnets in the proposed expanded southeast U.S. restricted area every year from November 15 - March 31

Losses of gillnet landings caused by Alternative 3 would be equal to losses of gillnet landings caused by Alternative 2 plus losses of king whiting gillnet landings. Alternative 2 would reduce gillnet dockside revenues by \$84,506 (\$16,944 from reduced shark landings plus \$67,562 from reduced finfish landings). Average annual losses to king whiting fishers caused by Alternative 3 would be 348,301 pounds, with dockside revenues of \$271,696. Combined, Alternative 3 would result in losses of dockside revenue of \$356,202.

Alternative 3 would provide the greatest reduction in the likelihood of gillnet gear interactions

with the critically endangered North Atlantic right whale, reducing the risk of serious injury and mortality. It would also result in a reduction in the risk of injury or mortality to other species that may become incidentally entangled in gillnet gear.

9.5.4 Alternative 4: Establish different restricted periods within a northern and southern zones of the proposed expanded southeast U.S. restricted area, in which gillnetting is prohibited, with limited exemptions

Alternative 4 would result in annual losses of dockside revenues from gillnet landings of \$299,293 (\$282,405 from the northern zone plus \$16,888 from the southern zone) and reduce pounds landed by 383,650 pounds (365,006 pounds from the northern zone plus 18,644 pounds from the southern zone). If a rule implementing this alternative were to go into effect March 1st, 2007, first year (2007) losses would be less, as fishing could continue through February 28. First year losses would be 183,171 pounds (167,537 lbs from the northern zone + 15,634 lbs from southern zone) with a value of \$142,377 (\$131,090 from the northern zone + \$11,287 from the southern zone).

Alternative 4 would eliminate the threat of serious injury or mortality to North Atlantic right whales from entanglement in gillnet gear in the proposed expanded southeast U.S. restricted area North—an area that encompasses the core of the right whale calving area (used for longer periods of time by a large number of right whales that distribute themselves further from shore in this area), beginning about March 1, 2007. The threat of serious injury or mortality to North Atlantic right whales from entanglement in gillnet gear in the southeast U.S. restricted area South (southern part of calving area) would be negligible as the result of operational and gear characteristics used in the exempted gillnet fishing techniques, inclusive of the added restrictions required under this alternative. This alternative would protect right whale from the risk of interactions with gillnet gear in the southeast U.S. restricted area South, after approximately March 1, 2007, while still allowing certain gillnet fishing to occur.

9.5.5 Alternative 5: Preferred Alternative: Establish different restricted periods within a northern and southern zone of the proposed expanded southeast U.S. restricted area, which prohibits gillnetting with limited exemptions through notice and comment rulemaking, and immediately implement an ESA emergency rule closing the northern zone to possession of and fishing with gillnet.

Alternative 5 would result in annual losses of dockside revenues from gillnet landings of \$299,293 (\$282,405 from the northern zone plus \$16,888 from the southern zone) and reduce pounds landed by 388,283 pounds (365,006 pounds from the northern zone plus 23,277 pounds from the southern zone). First year (2006) losses would be 19,296 pounds (13,587 from northern zone plus 5,709 from southern zone) with a dockside value of \$16,477 (\$13,509 from northern zone plus \$2,968 from southern zone).

This preferred alternative would eliminate the threat of serious injury or mortality to North Atlantic right whales from entanglement in gillnet gear in the proposed expanded southeast U.S. restricted area North—an area that encompasses the core of the right whale calving area (used for longer periods of time by a large number of right whales that distribute themselves further from

shore in this area), with the additional benefit of protecting whales at the beginning of their 2006/2007 calving season. The threat of serious injury or mortality to North Atlantic right whales from entanglement in gillnet gear in the southeast U.S. restricted area South (southern part of calving area) would be negligible as the result of operational and gear characteristics used in the exempted gillnet fishing techniques, inclusive of the added restrictions required under the preferred alternative. This alternative would protect right whales from the risk of interactions with gillnet gear in the southeast U.S. restricted area South while still allowing certain gillnet fishing to occur.

9.5.6 Comparison of Costs and Benefits of Alternatives

Alternative 3 is the alternative with the highest maximum cost and the highest benefit, while Alternative 1 (no-action) is the least cost alternative but, offers no added protection against entanglements (See Table 9.5.6.1). Alternative 5, because it would be implemented sooner, would cause a loss of fishing revenue beginning November 15, 2006, and thus have a greater cost than Alternative 4 during the first fishing season; however, after this first season, the annual costs of these two alternatives are the same. Alternative 2 offers a relatively low level of protection to right whales at the second lowest cost. Alternative 5, the preferred alternative, has a cost greater than Alternative 2, 3 or 4, but offers increased protection and thus yields greater benefit than those alternatives.

Table 9.5.6.1. Comparison of Costs and Benefits of Alternatives

Alternative	Annual Cost	Benefit
1	\$0	No added protection
2	\$84,506	Added protection, but less than Alt. 3, 4, or 5
3	\$356,202	Highest protection
4	\$299,385	Added protection, greater than Alt. 2, less than Alt. 3 or 5
5	\$299,385 ²	Added protection, greater than Alt. 2 and 4, less than Alt. 3

It should be noted that the estimates of revenue loss represent a worst-case scenario, as NMFS anticipates that fishermen could displace to other areas and/or other fishing activities.

9.6 Public and Private Costs of Regulations

The preparation, implementation, enforcement, and monitoring of this or any Federal action involves the expenditure of public and private resources which can be expressed as costs associated with the regulations. Costs associated with management measures in Alternative 5 include:

² The annually recurring costs of Alternatives 4 and 5 are the same; however, Alternative 5 would implement the prohibitions in November 2006, as opposed to Alternative 4, which implements the same prohibitions in March 2007. Consequently, Alternative 5 costs begin in 2006 and the annually recurring costs begin in 2007, while Alternative 4 costs begin in 2007 and the annually recurring costs begin in 2008.

NMFS administrative costs of document preparation, meetings and review	\$100,000
Annual law enforcement costs	\$50,000
TOTAL	\$150,000

9.7 Determination of Significant Regulatory Action

Pursuant to Executive Order (E.O.) 12866, a regulation is considered a "significant regulatory action" if it: (1) has an annual effect on the economy of \$100 million or more or adversely affects in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; (2) creates a serious inconsistency or otherwise interferes with an action taken or planned by another agency; (3) materially alters the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866.

The proposed permanent rule will not meet the \$100 million threshold, nor are there expected to be any significant adverse effects on prices, employment or competition. Measures in this action do not adversely affect the environment, public health or safety, or state, local, or tribal governments or communities, nor do they interfere or create inconsistency with any action of another agency, including state fishing agencies. No effects on the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof have been identified. The actions in the proposed action represent normal management options or practices and, therefore, do not raise novel legal or policy issues.

Since the proposed permanent rule will not meet any of the conditions listed above, it is determined that the proposed and emergency rules, if implemented, would not constitute a "significant regulatory action" under E.O. 12866.

10.0 Regulatory Flexibility Analysis

10.1 Introduction

The purpose of the Regulatory Flexibility Act (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the proposed rule and applicable statutes, to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration. The RFA does not contain any decision criteria; instead, the purpose of the RFA is to inform the agency, as well as the public, of the expected economic impacts of the alternatives contained in the EA or amendment (including framework management measures and other regulatory actions) and to

ensure that the agency considers alternatives that minimize the expected impacts while meeting the goals and objectives of the applicable statutes.

With certain exceptions, the RFA requires agencies to conduct a regulatory flexibility analysis for each proposed rule. Emergency rules under ESA section 4(b)(7) are exempt from the requirements of the APA, including notice and comment periods, and are thus one of the exceptions to the RFA requirement for a regulatory flexibility analysis. Thus, this regulatory flexibility analysis pertains only to the proposed permanent rule portion of the management measures included in the preferred alternative. The regulatory flexibility analysis is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. In addition to analyses conducted for the RIR, the regulatory flexibility analysis provides: (1) a description of the reasons why action by the agency is being considered; (2) a succinct statement of the objectives of, and legal basis for the proposed rule; (3) an identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule; (4) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; (5) a description of the projected reporting, record-keeping, and other compliance requirements of the final rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; (6) a description of significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities.

10.2 Statement of Need For, Objectives of, and Legal Basis for the Proposed Rule

The purpose and need, issues, problems and objectives of the proposed rule described in detail elsewhere in this document are incorporated herein by reference. In summary, the purpose for this proposed rule is to address the requirements of 50 CFR 229.32(g)(1) and to reduce serious injury and mortality to North Atlantic right whales incidental to commercial gillnet fishing in the Southeast U.S. Atlantic Ocean. The Marine Mammal Protection Act and the Endangered Species Act provide the statutory bases for the proposed rule.

10.3 Identification of All Relevant Federal Rules which may Duplicate, Overlap or Conflict with the Proposed Rule

This action proposes to restrict gillnet fishing in an expanded southeast U.S. restricted area, consistent with the requirements of the ALWTRP's implementing regulations. The ALWTRP, implemented through regulations at 50 CFR 229.32, relies on a combination of fishing gear modifications, operational restrictions, and time/area closures to reduce the risk of large whales becoming entangled in commercial fishing gear. In the southeast U.S. observer area, which is the southeast U.S. restricted area plus an additional area, the ALWTRP regulations mandate observer coverage of the Southeastern U.S. Atlantic shark gillnet fishery during the restricted period (November 15 through March 31), which corresponds to the right whale calving season. Additionally, fishermen are prohibited from using shark gillnet gear as defined in the southeast U.S. restricted area from November 15 through March 31 (50 CFR 229.2 and 50 CFR 229.32(f)(f)(i)). Shark gillnetting using strike gear is allowed in the southeast U.S. restricted area under certain conditions (50 CFR 229.32(f)(4)(iv)). Lastly, all gillnet fishermen are

prohibited from fishing gillnet in straight sets at night within the southeast U.S. restricted area during the restricted period (50 CFR 229.32(f)(4)(iii)).

NMFS included in the ALWTRP regulations contingency measures that would allow further restriction on fishing in the southeast U.S. restricted area if a right whale mortality or serious injury resulted from the use of certain fishing gear in that area during the restricted period. Specifically, 50 CFR 229.32(g)(1) states that if a serious injury or mortality of a right whale occurs in the southeast U.S. restricted area from November 15 through March 31 as a result of an entanglement by gillnet gear allowed to be used in that area and time, the Assistant Administrator of Fisheries (AA) shall close that area to that gear type for the rest of that time period and for that same period in each subsequent year, unless the AA revises the restricted period or implements other measures, as provided in 50 CFR 229.32(g)(2).

NMFS published a proposed rule on June 21, 2005 (70 FR 35894), to amend the ALWTRP. Where possible, efforts were made to ensure consistency between this action and the 2005 proposed rule. However, since the proposed rule was published, a right whale calf was entangled in, and ultimately died, as the result of gillnet authorized to be used in the southeast U.S. restricted area during the restricted period. As the result of this mortality, and consistent with 50 CFR 229.32(g)(1), NMFS is required to prohibit gillnet fishing in the southeast U.S. restricted area unless, consistent with requirements of 50 CFR 229(g)(2) appropriate revisions can be made. This action addresses the requirements of 50 CFR 229(g)(1) and (2) whereas it was not necessary to address these requirements in the 2005 proposed rule.

Fishery management regulations issued pursuant to the MSA for fish species targeted by the Southeast Atlantic gillnet fishery are included within federal fishery regulations for Fisheries of the Caribbean, Gulf, and South Atlantic (50 CFR 622). Among the species within the prosecuted fisheries are king mackerel, Spanish mackerel, cobia, little tunny, and bluefish. This action does not conflict with any of these regulations. Existing Spanish mackerel regulations are being incorporated into this action as some of the fishing requirements (e.g., limited quantities of allowable gear, limited soak time, etc.) to ensure protection for right whales even if the regulations at 50 CFR 622 change.

Fishery management regulations issued pursuant to the MSA for shark species targeted by the Southeastern U.S. Atlantic shark gillnet fishery are included within federal fishery regulations for Atlantic Highly Migratory Species (HMS) (50 CFR 635). This action does not conflict with any of these regulations and efforts are made to coordinate ALWTRP and HMS regulations.

The specific requirements for vessels to have either a commercial directed shark limited access permit, issued in accordance with 50 CFR 635.4(e) or a commercial vessel permit issued in accordance with 50 CFR 622.4(a)(2)(iv), and to comply with specific gear and operational requirements, effectively eliminates the risk of any new gillnet fishing operation from emerging in this area during this period that have not first without first considering the risk that particular operation poses to right whales.

10.4 Description of the Projected Reporting, Record-Keeping and Other Compliance Requirements of the Proposed Rule, including an Estimate of the Classes of Small Entities

which will be Subject to the Requirement and the Type of Professional Skills Necessary for the Preparation of the Report or Records

The proposed rule will divide the proposed expanded Southeast U.S. Restricted Area into a northern and southern zone at 29°00' N lat. This alternative will prohibit gillnetting north of the line annually from November 15 through April 15, and south of the line annually from December 1 through March 31. During the restricted period no person may fish (including, but not limited to, setting, hauling back, or leaving in the ocean) with, or possess any gillnet unless all gillnets are covered with canvas or other similar material and lashed or otherwise securely fastened to the deck or the rail, and all buoys larger than 6 inches (15.24 cm) in diameter, high flyers, and anchors are disconnected. Special provisions would apply as follows:

1) Southeastern U.S. Atlantic shark gillnet fishery: Fishing for sharks with strike gillnet gear in the south zone of the Southeast U.S. Restricted Area is exempt from the restrictions if: a) No nets are set at night or when visibility is less than 500 yards (460 m); b) each set is made under the observation of a spotter plane; c) no net is set within 3 nautical miles of a right, humpback, or fin whale; d) the gear is removed immediately from the water if a right, humpback, or fin whale moves within 3 nautical miles of the set gear.

2) Southeast Atlantic gillnet fishery: Fishing with gillnet for Spanish mackerel in the Southeast U.S. Restricted Area South is exempt from the restrictions during the periods December 1 through December 31, and March 1 through March 31 if: a) Gillnet mesh size is between 3.5 inches (8.9 cm) and 4.9 inches (12.4 cm) stretched mesh; b) a valid commercial vessel permit for Spanish mackerel has been issued to the vessel and is on board; c) fishing is conducted using run-around gillnet or stab net; d) no person fishes with, sets, places in the water, or has on board a gillnet with a float line longer than 800 yd (732 m); e) no more than two gillnets, including any net in use, is possessed at any one time, and the two gillnets must have stretched mesh sizes (as allowed under the regulations) that differ by at least 0.25 inches (0.64 cm); f) no person soaks a gillnet for more than 1 hour; g) no nets are set at night or when visibility is less than 500 yards (460 m); h) no net is set within 3 nautical miles of a right, humpback, or fin whale; i) the gear is removed immediately from the water if a right, humpback, or fin whale moves within 3 nautical miles of the set gear; j) the float line of each gillnet possessed must have a maximum of 9 distinctive floats (i.e., distinctive from the usual net buoys) spaced uniformly at a distance of 100 yards (91.4 meters) or less, and each such distinctive float must display the official number of the vessel.

10.5 Description and Estimate of the Number of Small Entities to which the Proposed Rule Will Apply

Commercial fishing vessels that operate in the proposed expanded southeast U.S. restricted area from November 15 through April 15 (waters off South Carolina, Georgia, and northeast Florida) and use gillnets would be affected by this rule. This rule is expected to have greatest impact on gillnet fishermen targeting whiting, shark and Spanish mackerel.

Six to eight shark gillnet fishing vessels and up to 56 finfish gillnet fishing vessels will be affected by this rule. The Small Business Administration defines a small entity in the

commercial fishing sector as a firm that is independently owned and operated, is not dominant in its field of operation, and has average annual gross receipts not in excess of \$4 million (2002 NAICS 11411). It is assumed that all of the affected vessels represent small businesses.

10.6 Substantial Number of Small Entities Criterion

All of the vessels that are engaged in shark and finfish gillnet fishing in the proposed expanded southeast U.S. restricted area are small businesses. This proposed rule would affect all of those businesses. Consequently, it will affect a substantial number of small businesses.

10.7 Significant Economic Impact Criterion

The outcome of “significant economic impact” can be ascertained by examining two issues: disproportionality and profitability.

Disproportionality: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities?

All vessel operations affected by the rule are considered small entities so the issue of disproportionality does not arise in the present case.

Profitability: Do the regulations significantly reduce profit (or revenue) for a substantial number of small entities?

The proposed rule would reduce average annual shark gillnet revenues in the northern zone by \$4,029 (from 6,636 pounds) because of the gillnet prohibition in this area annually from November 15 – April 15, and would have no effect on shark gillnet revenues in the southern zone because the new measures are not substantially different from existing restrictions (shark gillnet fishing in this area is already restricted to the use of strikenets). Total lost shark gillnet revenues represent about 2% of average annual shark gillnet revenues, or \$230,080 in the southeastern U.S. restricted area. As six to eight shark gillnet vessels would be affected by this action, each shark gillnet fishing vessel would lose on average from \$504 to \$672 annually from lost shark landings.

It is estimated that Spanish mackerel fishermen in the northern zone would lose 1,384 pounds with a dockside value of \$1,067, annually because of the gillnet prohibition in this area annually from November 15 – April 15. These landings represent less than half a percent of annual Spanish mackerel gillnet landings in the southeast U.S. restricted area. Annual losses to Spanish mackerel gillnet fishers in the southern zone would be \$2,928 (5,442 pounds). These landings represent about 1% of annual Spanish mackerel gillnet landings in the southeast U.S. restricted area.

Most of the king whiting fishing effort occurs in the northern zone, so the closure of the area to gillnetting November 15 – April 15 annually would cause average annual losses of 356,604 pounds with a dockside value of \$276,824, and losses from the southern zone of \$4,318 (4,255 pounds). These combined losses of landings may represent a significant amount of annual

landings of king whiting. However, comments made by king whiting fishermen at the SE Subgroup meeting suggest these losses could be mitigated by moving into other areas and/or targeting other species at other times of the year, resulting in minimal long-term impacts for these fishermen from the proposed rule.

Average annual losses of gillnet landings of other finfish species in the northern zone would be 386 pounds, with a dockside value of \$485, and in the southern zone would be \$13,960 (17,835 pounds), which combined represent about 5% of revenues from these species annual gillnet landings in the southeast U.S. restricted area.

10.8 Description of Significant Alternatives Considered but Not Chosen

Discussion of the expected impacts of the alternatives considered in development of this action is contained in Sections 4, 5, and 6 and is incorporated herein by reference. A summary of these alternatives follows.

Alternative 1: No-action alternative

This alternative would not change the status quo. It is rejected because it prevents NMFS from meeting the requirements of the ESA and MMPA to prevent prohibited taking of the endangered northern right whale.

Alternative 2: Enactment of operational restrictions on all gillnet fisheries

Alternative 2 would implement permanent limited operational restrictions in the proposed expanded southeast U.S. restricted area during the current restricted period of November 15 through March 31, annually.

The enactment of operational restrictions, as detailed in Section 2.2.2, would provide a reduction in the likelihood of gillnet gear interactions with endangered right whales, reducing the risk of serious injury and mortality. This alternative would also result in a reduction in the risk of injury or mortality to other species that may become incidentally entangled in gillnet gear. However, the restrictions would only reduce and not eliminate the threat of serious injury and mortality of right whales from gillnet.

Alternative 3: Permanent prohibition of gillnets

This alternative would implement the immediate closure of the proposed expanded southeast U.S. restricted area to all gillnets from November 15 through March 31 annually on a permanent basis. No exemptions would be provided during the closure. Consequently, it is the highest cost alternative, with annual dockside losses of \$356,202.

Alternative 3 would provide the greatest reduction in the likelihood of gillnet gear interactions with endangered right whales during their annual calving season, reducing the risk of serious injury and mortality. However, it would also negatively impact gillnet fisheries that operate in a manner that poses minimal risk of right whale entanglement, injury, and mortality. In addition to

achieving the intention of reducing the likelihood of injury or mortality to right whales, this alternative would also result in a reduction in the risk of injury or mortality to other species that may become incidentally entangled in gillnet gear.

Alternative 4: Establish different restricted periods within northern and southern zones with limited exemptions, with implementation in March 2007

Alternative 4 is the same as the preferred alternative, without the emergency rule.

11.0 References

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