

## EXECUTIVE SUMMARY

The United States Coast Guard (USCG) provides maritime humanitarian, law enforcement, and safety services to the people of the United States. In the Atlantic, these services are performed in estuarine, coastal, and offshore marine waters from Maine to Florida and including Puerto Rico and the U.S. Virgin Islands. USCG operations have the potential for interacting with various species of fish and wildlife, including threatened or endangered marine mammals and sea turtles, and their habitats that are protected under U.S. laws and regulations.

The USCG has authority under Federal laws to carry out programs, in consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), to protect and conserve threatened and endangered marine species and their habitats. The USCG has reviewed its various operations and consulted with NMFS to determine the appropriate means of meeting these requirements for protecting living marine resources.

This final environmental impact statement (FEIS) has been prepared to assist in the process of determining the appropriate methods to be undertaken by the USCG to protect and conserve marine plants and animals and their habitats while continuing to perform the multiple missions of the USCG. This FEIS describes the proposed action of the USCG and focuses on an evaluation of the potential effects of the Preferred Alternative and the No Action Alternative on the U.S. Atlantic marine environment, with emphasis on protected species. The adoption and implementation of the USCG Atlantic Protected Living Marine Resources Initiative (the Initiative or APLMR) is the Preferred Alternative.

### Purpose and Need

The USCG proposes this action to aid in the fulfillment of its missions, including protection of the environment, while fulfilling the USCG obligations to protect listed species. The Preferred Alternative, adoption of the Initiative, consists of two components: (1) an Internal Program focusing on the USCG operation of its vessels and aircraft in the Atlantic area and USCG enforcement of the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA); and (2) a Conservation Program focusing on other USCG activities, including interactions between USCG personnel and the public. The Preferred Alternative is designed to improve the USCG efforts under various statutes and initiatives while securing the remainder of its missions.

Protected living marine resources are found in estuarine, coastal and continental shelf waters on both a permanent and seasonal basis over the entire length of the U.S. Atlantic coast from the Maine/Canada border to Key West, FL. Although protected species of whales and marine turtles are the major focus of this FEIS, the protected West Indian (or Florida) Manatee, Johnson's sea grass, and several species of protected birds and fish also are considered.

The Coast Guard needs to develop programs that recognize the critical habitats of endangered and protected species and maximize efforts to decrease the risk of future protected species interactions. The Preferred Alternative is an effort to more effectively satisfy both applicable environmental laws — specifically the MMPA and the ESA — and memoranda of understanding (MOU) designed to encourage USCG protection of endangered and protected species while continuing to meet mission requirements.

## ALTERNATIVE ACTIONS, INCLUDING THE PREFERRED ALTERNATIVE

### No Action Alternative

The No Action Alternative would continue with current efforts to protect the marine environment. It does not, however, include a coordinated effort between all organizational components and across all Districts to oversee and direct activities to protect the marine environment. Further, it does not have the organizational structure to evaluate and implement new limits on vessel and aircraft movements, nor would a formal ecosystem based Conservation Program be adopted. Observations of protected species would be reported and individual animals would be avoided, but without any regimen or protocol to maximize effectiveness.

### Proposed Action (Preferred Alternative)

The USCG considered the Proposed Action to improve efforts at conservation and recovery of populations of protected marine mammals and sea turtles in U.S. waters of the Atlantic Ocean. Under the Preferred Alternative, the USCG would adopt and implement the Coast Guard Atlantic Protected Living Marine Resources Initiative. In the No Action Alternative, the USCG would continue to perform its multiple missions without implementing the Protected Living Marine Resources Initiative. Several alternatives were presented in previous analyses (USCG Biological Assessment dated 1 August 1995, Environmental Assessment dated 22 September 1995, and DEIS dated 31 July 1996) and were dismissed from consideration because they would not allow the Coast Guard to effectively carry out its missions nor provide adequate protection for environmental resources including protected species and habitats.

The Preferred Alternative is composed of two main components, an Internal Program and a Conservation Program. Each component is composed of several elements or activities designed to protect and conserve living marine resources more effectively. These activities were developed from recommendations provided to the USCG by the NMFS in Biological Opinions issued in September 1995 and July 1996, and public comments received in response to the Environmental Assessment of Potential Impacts of U.S. Coast Guard Activities Along the U.S. Atlantic Coast and the DEIS.

The Internal Program of the Preferred Alternative consists of operating procedures for USCG vessels and aircraft in the Atlantic area that would prevent, to the maximum extent possible, harmful interactions with protected living marine resources, and operational directives concerning operating procedures.

The USCG Internal Program to be implemented as part of the Preferred Alternative includes the following activities:

- The USCG Atlantic Area and District commands would use the directives and guidance provided in the Commandant Instruction on Protected Living Marine Resources as the basis for developing operating procedures for their respective areas and units.
- The USCG would develop and update as necessary the USCG Atlantic Area and First, Fifth, and Seventh District's Marine Mammals and Endangered Species Act Protection Programs. The programs would provide:

- a) a description of areas of special interest including designated critical habitats and marine sanctuaries;
  - b) enforcement procedures;
  - c) a description of marine animal stranding response protocols;
  - d) operational control and monitoring responsibilities; and
  - e) procedures for USCG units that assist in the salvage, rescue, or disposal of marine mammals.
- Operating directives to USCG vessel commanding officers and coxswains would be revised to clearly state the speed standard developed in response to the reasonable and prudent alternative in NMFS' July 1996 Biological Opinion. The interim speed guidance which was issued in August 1996 is as follows: to avoid a collision with a whale during the course of normal operations, USCG vessels transiting critical habitat, migratory routes and high-use areas shall use extreme caution, be alert, and reduce speeds, as appropriate. Appropriate reduced speeds should be based on the factors identified in Rule 6 (Safe Speed) of the International/Inland Navigation Rules (COMDTINST M16672.2C). Additional reductions in speed should be considered when a whale is sighted or known to be in the immediate vicinity or within 5 nm of the vessel. In these situations, vessels shall use those courses and speeds as appropriate, yet navigationally prudent, to avoid a collision with a whale, clear the area and, if necessary, reduce speed to the minimum at which the vessel can be kept on course or come to all stop.
  - The USCG would enhance enforcement of the MMPA and ESA. Public education about proper boat-handling techniques around whales, sea turtles, and manatees would be a fundamental part of the USCG enhanced enforcement efforts.
  - The USCG would, when appropriate and feasible, provide other agencies with platforms to conduct endangered species surveys of designated critical habitats and high use areas, and to conduct research and recovery efforts during stranding and recovery operations.
  - The USCG would increase awareness of the marine environment and its inhabitants, particularly endangered species, through cross-agency training programs designed to train and educate USCG personnel. Focus of the training would be to instruct USCG vessel crews how to identify protected marine mammals and sea turtles and maneuver around them safely.
  - The USCG would train Vessel Traffic Services (VTS) and Group personnel concerning endangered marine species residing or visiting their Area of Responsibility (AOR) so that USCG personnel can issue NAVTEX bulletins and a Notice to Mariners when sightings of endangered species are reported.
  - The USCG would publish and broadcast seasonal notices notifying mariners to use caution in critical habitats and high use areas for endangered and threatened marine animals. The USCG would notify mariners by Marine Radiotelephone (operated on VHF-FM frequency) of any sightings of endangered species in an area and advise vessels to proceed with caution through the area.
  - The USCG would plot critical habitat and marine sanctuary boundaries on its regional navigational, aeronautical, and law enforcement working charts in order to alert crews of USCG vessels and aircraft of sensitive habitats.

- The USCG would provide guidance and directions to USCG vessels and aircraft during non-emergency transits of designated critical habitats, marine sanctuaries, and areas of intermittent protected species concentrations. USCG vessels and aircraft would avoid, whenever possible, sensitive seal rookeries around low tide. When passing a seal haul-out site, appropriate speeds and distances would be observed.
- The USCG would continue to post a lookout on its vessels. Vessel lookouts would be provided NMFS certified training in the identification of marine mammals. Operational directives to USCG vessels would be revised to specify that lookouts, who have successfully completed marine mammal training, would be posted during transits made within 20 nautical miles of shore and through protected habitats.
- During standard operations, and following a whale sighting, USCG vessels would, to the extent possible, maintain a minimum distance of 500 yards from right whales and 100 yards from other whales. Unless it is positively determined to be another species, all whales sighted will be assumed to be right whales.
- The USCG will modify the Air Operations Manual to bring it in line with current Federal Aviation Regulations and the USCG will comply with whatever altitude restrictions are in place. Current aircraft guidance would be written to indicate that a 2000 ft altitude would be maintained in the critical habitat except during those portions of non-emergency missions requiring surveillance and identification of vessels. USCG aviation units would continue to enhance and update flight charts with regard to wildlife habitat.

The Conservation Program consists of interactions of USCG personnel with other Federal and state agencies and the public to promote conservation of protected species. For example:

- The USCG would work with NMFS, recovery implementation teams, and other agencies to develop information on critical habitats, marine sanctuaries, and endangered species migration routes, feeding areas, and breeding areas for use by mariners and boaters. The USCG would:
  - a) include protected species awareness information in basic boating safety training provided to the public;
  - b) incorporate whale, sea turtle, and beach nesting bird conservation information in the USCG Sea Partners marine pollution prevention education efforts;
  - c) distribute information geared towards cautioning commercial and recreational vessel traffic about collisions with right whales as part of the USCG Vessel Documentation and Inspection Program;
  - d) work with NMFS, USFWS, recovery implementation teams, and other agencies to develop a Merchant Mariner Curriculum on endangered species and to develop whale identification and awareness information that could be distributed to the public and merchant vessel operators applying for USCG licenses to operate vessels.
- The USCG would continue to actively participate and support regional multi-agency recovery implementation teams, groups, and task forces. The USCG would maintain active membership in the Southeastern Implementation Team for the Recovery of the Northern Right Whale and continue to contribute to the Southeastern United States early warning right whale surveys. The USCG would continue to perform regular reconnaissance flights in right whale critical habitat areas.

- The USCG Districts would develop MOUs with NMFS, the National Marine Sanctuaries Program, and the New England and Southeastern Regional Implementation Teams regarding implementation of the right and humpback whale recovery plans.
- The USCG would work with the New England Right and Humpback Whale Implementation Teams and the Southeastern Right Whale Implementation Team to develop a Mid-Atlantic Implementation Team, or expand existing team coverage to include the Mid-Atlantic area.
- The USCG would cooperate with NMFS, USFWS, and recovery implementation teams to develop a program to provide timely information on current whale locations to commercial vessels coming into major ports.
- The Coast Guard would continue to work with NMFS, USFWS, the Recovery Plan Implementation Teams, and other federal agencies to determine the feasibility and applicability of new technology or research and development efforts in recovery strategies for endangered and protected species. The Recover Plan Implementation Teams and multi-agency efforts provide synergy of effort and resources and, most importantly, the teams can evaluate the potential impacts of any initiative on the marine environment.
- The USCG would participate in the ESA Inter-Agency Working Group currently headed by USFWS.
- The USCG would work with NMFS and USFWS to investigate facility lighting options at turtle nesting areas at beach-side USCG stations.
- The USCG would continue to review requests for permits for marine recreational events on a case by case basis, with respect to potential danger of harm to protected species. The USCG would continue working with the USFWS and Florida DEP on guidelines for marine events in manatee habitats.
- The USCG would continue to support efforts by NMFS to develop a workable protective distance rule for non-USCG vessels for protected whales. Should such a rule be enacted, the USCG would enforce it, and, if necessary, modify its own vessel approach distance requirements.
- The USCG would work with other U.S. agencies, such as the State Department and U.S. Navy, to develop proposals to designate critical habitat and high use areas as Particularly Sensitive Sea Areas (PSSAs) and/or Areas To Be Avoided (ATBA) that protect species habitats beyond 3 nautical miles through the United Nations International Maritime Organization.

By comparison, the Preferred Alternative contains individual elements designed to protect and conserve living marine resources more effectively than the No Action Alternative. The Internal Program uses USCG directives to establish USCG policy supporting the Conservation Program and implementing USCG operating procedures to protect living marine resources. Under this program, standards of conduct are established, as well as distinct lines of authority and responsibility for carrying out USCG policy with respect to the Preferred Alternative. Directives for interaction between USCG personnel and other Federal and state agencies, as well as public awareness groups, to promote conservation of protected species would be established under the Conservation Program.

Given the requirement for the Coast Guard to effectively comply with all environmental laws, determine how it will respond to the July 1996 Biological Opinion (BO), and enhance its compliance with MOUs designed to encourage USCG protection of endangered species and marine mammals, the No Action Alternative is neither practical nor reasonable. It is included in this FEIS to serve as a baseline that will allow decision makers and the public to compare the environmental effects of the two alternatives.

## Comparison of Alternatives

Under both alternatives, the USCG would continue to implement currently mandated environmental protection measures (e.g., TEDs regulations). However, if the Preferred Alternative is adopted, measures, beyond those described in the No Action Alternative, to protect and enhance living marine resources would be enacted. The most significant difference between the No Action and Preferred Alternatives is the potential decrease in the chance of vessel–wildlife collisions. For endangered species such as the right whale, “takes” of any kind are unacceptable. If the No Action Alternative is chosen over Preferred Alternative, USCG operational conditions would exist that would be more likely to result in future collisions with endangered and threatened species. This adverse impact would be significant for right whales and manatees. Formally adopting the USCG Atlantic Protected Living Marine Resources Initiative would allow the USCG to conduct mandated daily operations while more effectively complying with environmental laws such as the ESA and the MMPA.

When added to other adverse effects, such as habitat degradation, strikes from other vessels, and entanglement in fishing gear, the Preferred Alternative may significantly benefit right whales and other listed species. The comprehensive APLMR Initiative is designed to protect and enhance endangered species. Adjusting vessel speed, avoiding intentional approaches to whales, avoiding important habitats, and educating lookouts may significantly reduce the potential for USCG vessel collisions and harassment of cetaceans, manatees, pinnipeds and turtles. Public education may decrease the potential for collisions of private and commercial vessels and endangered species. These efforts, when combined with the efforts of numerous state, Federal, and private agencies, may provide the resources needed to successfully facilitate the recovery of endangered species such as the right whale.

There are concerns, however, that the vessel speed and approach protocols will adversely affect fisheries law enforcement activities, and may result in a significant, adverse impact on populations of fish and turtles that are presently under management (see Conservation Efforts). The impact on the effectiveness of enforcement efforts will be carefully monitored to ensure that the benefits of the Preferred Alternative outweigh any negative impacts.

## The Affected Environment

**The Physical Environment.** The physical, chemical, and biological characteristics of the marine environment along the U.S. Atlantic coast determine the distribution of marine and coastal biological resources. The U.S. Atlantic coast can be divided into three regions: the North Atlantic (Gulf of Maine and Georges Bank), the Middle Atlantic (Nantucket Shoals to Cape Hatteras), and the South Atlantic (Cape Hatteras to Key West). These regions have a complex topography and physical oceanography. Climates range from cool temperate to subtropical and tropical. These regions include several large estuaries, such as the Chesapeake Bay, the largest estuary in the United States. Estuarine and coastal marine waters of the U.S. Atlantic coast provide a wide variety of physical habitats for protected species of marine plants and animals and the food web resources upon which they depend.

**The Biological Environment.** Several species of protected marine mammals and sea turtles are found in estuarine, coastal, or continental shelf waters, at least on a seasonal basis, over the entire length of the U.S. Atlantic coast from the Maine/Canada border to Key West, FL. As part of an integrated strategy to protect and restore populations of these endangered/threatened species, Critical Habitats and National Marine Sanctuaries have been designated along the Atlantic coast in areas where one or more of these species may congregate in large numbers on a seasonal basis. Critical Habitats for right whales are Great South Channel, MA; Cape Cod Bay, MA; and coastal waters of the southeastern

United States from approximately the mouth of the Altamaha River, GA, to approximately Sebastian Inlet, FL. A Critical Habitat for nesting leatherback and hawksbill sea turtles is located at Sandy Point, St. Croix, U.S. Virgin Islands. Several National Marine Sanctuaries have been designated along the U.S. Atlantic coast in part because they are considered important habitats for endangered/ threatened species. These include Stellwagen Bank National Marine Sanctuary, MA (humpback and fin whales) and the Archie Carr National Marine Sanctuary, FL (nesting loggerhead, green, leatherback, and hawksbill sea turtles). Several other areas along the U.S. east coast are important high-use areas for some species and life stages of endangered or threatened species. High-use habitats, in addition to those designated as Critical Habitats and National Marine Sanctuaries include all of the Gulf of Maine (especially Jeffreys Ledge), Long Island Sound and the waters south of Long Island, the offshore waters, mouths, and lower reaches of Delaware and Chesapeake Bays, waters adjacent to Cape Hatteras, isolated sandy beaches along the coasts of South Carolina and Georgia, the beaches and coastal waters of south Florida from Cape Canaveral to Key Biscayne, small islands off Puerto Rico, and the U.S. Virgin Islands.

The right, humpback, and fin whales are all listed as endangered in the western North Atlantic Ocean. They are observed frequently in nearshore waters along the U.S. Atlantic coast at different times of year. The blue, sei, and sperm whales, also listed as endangered in the western North Atlantic, are restricted primarily to more northerly waters and to offshore slope and deep ocean waters and are rarely encountered inshore along the coast of the United States. All six species of endangered whales make large-scale seasonal migrations to the north in the spring to foraging areas and to the south in the fall to wintering and reproduction areas. In addition, the minke whale and other marine mammals that are not listed under the ESA but are protected under the MMPA inhabit the waters of the western North Atlantic.

Due to intense exploitation, the right whale is critically endangered and in danger of becoming extinct, and there is a major effort being made to protect this species. Current estimates indicate that fewer than 350 right whales survive in the western North Atlantic population. Right whales, some with newborn or yearling calves, arrive in the Great South Channel and Cape Cod Bay in late February and remain until about May to feed in the rich patches of zooplankton there. They then move north to Canadian waters for the remaining months of summer and early fall. Some right whales pass through Cape Cod Bay and the Great South Channel on their way south in the late fall to wintering grounds. A small fraction of the right whale population consisting of pregnant or lactating females and some juveniles, winter in nearshore waters off Georgia and northern Florida. Most calving takes place in this area. The winter distribution of the remainder of the North Atlantic population of right whales is not known. During spring and fall migrations between summer feeding areas and winter habitats, some right whales move through the Middle and South Atlantic Bights inshore of the Gulf Stream.

The western North Atlantic population of humpback whales numbers about 5,500 animals, of which perhaps as many as 800 individuals visit New England waters once or more during the summer to feed. Of the estimated 7,200 fin whales in the western North Atlantic population, as many as 5,000 visit coastal waters of the U.S. between the Canadian border and Cape Hatteras and as many as 3,000 may visit the Gulf of Maine during the summer. Humpback and fin whales visit coastal waters of the Gulf of Maine, mainly the Great South Channel, Stellwagen Bank, and Jeffreys Ledge, to feed on small schooling fish and euphausiids during spring and summer each year. Some individuals make frequent foraging migrations between these areas and the southern Bay of Fundy and the banks off Nova Scotia, Canada during the summer.

In the fall, all the humpbacks and most of the fin whales migrate south from New England and Canadian waters. The winter distribution of fin whales is poorly understood. Some congregate in the Middle Atlantic Bight, particularly in continental shelf waters east of New Jersey and the Delmarva Peninsula. Most of the humpbacks migrate southward through the Middle Atlantic Bight in offshore waters to wintering grounds in the Caribbean. Most of the humpback whales, including the reproductively active adults, winter on Silver and Navidad Banks off the north coast of the Dominican Republic, Virgin Bank off the Leeward Islands, Mona Passage off Puerto Rico, and Samana Bay, Dominican Republic. Humpback calving occurs in these protected southern waters. Some juvenile humpbacks may spend the winter off Virginia, especially off the mouth of the Chesapeake Bay, and along the North Carolina coast north of Cape Hatteras. The mouth of the Delaware Bay may also be important winter habitat for some juveniles. Fin and humpback whales migrate northward in the spring in coastal and offshore waters, some passing near Bermuda.

Sei and blue whales occur primarily in boreal and subarctic waters north of the U.S. border. They may visit nearshore waters of the Gulf of Maine on rare occasions during the summer in pursuit of their preferred zooplankton food. There have been only a few sightings of these whales in the vicinity of Stellwagen Bank in recent years. Sperm whales are restricted primarily to deep offshore waters on the continental slope, where they may dive to great depths in pursuit of their cephalopod food. In spring and summer, they occasionally are sighted in deep water of the Middle Atlantic Bight and off southern Georges Bank. In the winter, they may congregate in large numbers in deep water east and northeast of Cape Hatteras.

The harbor porpoise is the smallest of the western North Atlantic cetaceans. They are found in shallow coastal waters from Canada to North Carolina. The Gulf of Maine population numbers approximately 54,300 individuals. Highest densities of harbor porpoises occur in the northern Gulf of Maine/Bay of Fundy in late summer. Most human-induced mortalities in harbor porpoises are from incidental catches in the groundfish gillnet fishery. The porpoises are sufficiently fast and maneuverable that they can avoid motor vessels easily.

There are five species of pinnipeds (seals) that occur in coastal waters of the western North Atlantic, primarily in northern New England waters and Canada. The harbor seal is the most abundant, followed by the gray seal. Three ice seals (the harp, hooded, and ringed seal) are northern species that rarely venture into U.S. coastal water. None of the western North Atlantic seals are listed as threatened or endangered.

The Florida manatee is one of the most severely endangered marine mammals in the United States. Recent censuses have recorded 1,856 animals in fresh, estuarine and coastal waters of Florida. One-third or more of manatee deaths are due to interactions with humans. The major anthropogenic cause of manatee mortality is collisions with boats and barges, mostly vessels longer than 24 ft. Most of the vessel-related mortalities occur on the Atlantic coast of Florida, primarily in Brevard County and in the St. Johns River. No-wake zones, manatee protection areas, and an extensive educational effort have been implemented by state and Federal agencies to mitigate these adverse human impacts.

The loggerhead sea turtle, with an estimated population of nearly 400,000 individuals in the western North Atlantic, is the most abundant sea turtle in coastal waters of the eastern U.S. It is listed as threatened throughout its range. Green turtles, with the exception of breeding populations in Florida and on the Pacific coast of Mexico which are listed as endangered, also are listed as threatened. The other sea turtles encountered in U.S. Atlantic coastal waters, the Kemp's ridley, leatherback, and hawksbill turtles, are all listed as endangered in the western North Atlantic.

Loggerheads nest on sandy beaches from Key Biscayne, FL, northward to North Carolina south of Cape Hatteras. Peak nesting occurs south of Cape Canaveral. Green turtles, and to a lesser extent leatherback turtles, also nest on south Florida beaches. Most nesting of leatherback and hawksbill turtles in U.S. Atlantic waters is in the U.S. Virgin Islands, including the recently-designated sea turtle critical habitat at Sandy Point, St. Croix, and Puerto Rico. Nearly the entire population of Kemp's Ridley turtles nests along a single, 15-km beach at Rancho Nuevo, Mexico.

All five species of sea turtles spend the first one or more years after hatching in the offshore pelagic environment associated with rafts of sargassum weed or in convergence zones. Their distribution during this juvenile, pelagic period is poorly understood. As sub-adults, they move into nearshore waters to feed and grow. During the summer, sub-adult loggerhead, ridley, and to a lesser extent green turtles migrate northward along the U.S. Atlantic coast to feed in nearshore waters as far north as the southern Gulf of Maine. Important feeding areas for these species include Long Island Sound and the southern parts of Delaware and Chesapeake Bays. In the fall, they migrate southward and tend to congregate in large numbers in coastal waters, inlets, and lagoons of south Florida. During northward migrations in spring and southward migrations in fall, these turtles may be abundant in coastal waters off Cape Hatteras. Subadult turtles also may be abundant during the winter in nearshore waters of North Carolina south of Cape Hatteras.

Leatherbacks are highly pelagic and come into coastal waters, primarily during the summer, to feed on jellyfish. They are temperate animals, preferring more northern waters for foraging than the other species. They are encountered frequently during the summer in the Gulf of Maine and southward around Long Island and off Chesapeake Bay. In the winter, they sometimes congregate in large numbers off Cape Canaveral. Hawksbills are a tropical species, restricted to the warmer Caribbean Sea. They occur sporadically in south Florida and in greater numbers around Puerto Rico and the U.S. Virgin Islands. They tend to congregate over coral and other hard bottom reef areas less than about 40 m deep where they feed on benthic animals, particularly sponges.

The major interactions between whales and human activities that may lead to injury or death of the whales include entanglement in fishing gear and marine debris, collisions with vessels, marine pollution, habitat change, and general harassment. Twenty-seven percent of documented right whale mortalities along the Atlantic coast between 1973 and 1993 were due all or in part to collisions with vessels.

Sea turtles experience similar unfavorable interactions with human activities. More than 17% of turtles stranded along the U.S. Atlantic coast since 1988 showed evidence of collision with a vessel or the propeller of a vessel. However, the major documented source of mortality of sea turtles, particularly loggerheads, ridleys, and greens, is entanglement in fishing gear, particularly shrimp nets. This source of mortality alone may account for 50,000 deaths each year in U.S. waters. Sea turtles are vulnerable to human disturbance during nesting, through nesting habitat alteration or destruction, vehicular traffic on nesting beaches, and artificial lighting of nesting beaches which disorients emerging females and seaward migrating hatchlings. In addition, adult sea turtles and their eggs are still heavily exploited in some areas for food or turtle products, particularly tortoise-shell.

Although populations of several species of marine fish along the U.S. Atlantic coast have been severely depleted by overexploitation, only one species, the shortnose sturgeon, has been listed federally as an endangered species. The shortnose sturgeon has not been observed in marine waters in several years.

Seagrass beds are important marine habitats all along the U.S. Atlantic coast. They are particularly important along the southeast coast of the U.S. where they provide important habitat for green turtles. One species, Johnson's seagrass, has been proposed as a threatened species. Its distribution is restricted to a short segment of the Atlantic coast of Florida from Sebastian Inlet to central Biscayne Bay. The viability of the species is threatened by human trampling attributable to increased land use, reduced water quality due to nutrient overenrichment from urban and agricultural land runoff, activities related to inlet maintenance, channel dredging, anchor mooring, and vessel traffic with resulting propeller scouring.

There are several coastal and marine birds that are listed as threatened or endangered at the Federal or state levels. Federally protected (listed under the ESA) coastal and marine birds include the bald eagle, the peregrine falcon, the piping plover, the roseate tern, and the wood stork. The main anthropogenic threat to eagles and falcons is from pesticide use. Habitat loss and degradation and disturbance by humans have contributed to piping plover decreases.

**The Socioeconomic Environment.** The socioeconomic environment of the U.S. Atlantic coast includes commercial and recreational fishing, recreational boating, and commercial, recreational, and military vessel operations. The marine commercial fishery catch in the eastern U.S. in 1994 was more than 860 thousand tons, worth \$1.1 billion. A total of 8,342 vessels (>5 net registered tons) and 35,235 boats (<5 net registered tons) participated in this commercial fishery in 1993. Approximately 72,000 people are employed in this industry as harvesters. An additional 22,000 people are employed as processors and wholesalers of fishery products.

An estimated 184 million fish were caught during more than 50,400 recreational fishing trips to coastal and offshore waters of the U.S. Atlantic coast in 1993. Most of the fish caught in the recreational fishery were caught within 3 miles of shore.

The western North Atlantic is used heavily by commercial vessels. More than 50,000 large merchant vessels visited Atlantic ports and channels in 1989. The majority of these visits were to U.S. south Atlantic ports. In terms of total tons of cargo, the Port of New York/New Jersey is the largest port on the east coast of the U.S. Norfolk, VA, is the second largest port on the east coast in terms of total tons of cargo, and sixth largest in terms of vessel traffic. Major ports in high use areas for protected marine mammals include Boston, MA, Portland, ME, Norfolk, VA, and Savannah, GA.

A total of 426 Federal agency vessels are operated out of homeports on the U.S. Atlantic coast. The U.S. Navy operates 167 vessels, the U.S. Army Corps of Engineers has 145 vessels, and the USCG operates 104 vessels. NOAA and EPA operate the remaining 11 vessels.

Whale watching is an economically important industry at several locations along the U.S. Atlantic coast. Most whale watching is from motor vessels carrying 20 to 300 passengers. The heaviest concentration of whale watching activity occurs in the Gulf of Maine from several harbors in Maine, New Hampshire, and Massachusetts. Some whale watching occurs out of several harbors bordering the New York Bight, and along the Atlantic coast of Maryland and Virginia. In the south, whale watch vessels out of Hilton Head Island, SC, and Jekyll Island, GA, focus on wintering right whales in nearshore waters.

### **Environmental Consequences of No Action and Preferred Alternatives**

**The No Action Alternative.** Under this No Action Alternative, the USCG would continue operations as usual without the implementation of the USCG Atlantic Protected Living Marine Resources Initiative. Under this alternative, most protection activities would be conducted under the Marine Environmental

Protection Program and Law Enforcement organizational components. Measures to protect and enhance endangered and threatened species would be implemented when necessary but without the benefit of a comprehensive plan which takes an ecosystem approach. Routine operations that may lead to environmentally significant alteration of the physical environment include coastal and nearshore engineering projects, such as construction of USCG stations and aids to navigation and, to a lesser extent, routine vessel operations in coastal waters. The USCG is required under the National Environmental Policy Act (NEPA) to perform an environmental assessment or an environmental impact statement for all major construction, repair, and maintenance projects performed in areas important to protected species. Therefore, these activities will not be covered in this FEIS. Under the No Action Alternative, ongoing conservation efforts will have a positive and significant impact on the physical and biological environment, and USCG Operations will have a significant positive effect on the socioeconomic environment. However, vessel operations have the potential to significantly impact wildlife, primarily via vessel collisions. The potential impacts to the physical, biological, and socioeconomic environments are discussed in further detail below.

**Impacts of the No Action Alternative on the Physical Environment.** Operation of propeller-driven vessels in shallow water may resuspend bottom sediments, resulting in increases in turbidity in the water, reducing overall water quality. Boat wakes may erode shoreline, particularly along steep-walled channels that are not protected by breakwaters or riprap. However, the USCG, in regulating vessel traffic in coastal waters, assists in minimizing physical damage to the marine environment resulting from routine commercial and recreational vessel operations.

There is always the danger of releases of fuel oil to the marine environment through operational accidents and during fueling operations. There were between 4,841 and 10,644 releases each year of crude or refined oil to U.S. marine waters between 1973 and 1993. Very few of these releases were from USCG vessels. USCG activities contributed well under 0.1 percent of the total volume of petroleum releases to U.S. territorial waters each year. The USCG impact to marine water quality is considered non-significant. However, one of the missions of the USCG is oil spill response. In directing and managing response and cleanup efforts after marine oil spills, the USCG plays a major role in protecting coastal marine environments from physical and biological damage from oil spills.

Vessel operation guidelines clearly state speed guidance to prevent sediment resuspension and shoreline erosion in sensitive areas. Fuel releases from USCG vessels, when they do occur, are usually small and it is unlikely they will significantly impact water or air quality. Vessel exhaust is unlikely to contribute significantly to the total hydrocarbon load in the environment. Therefore, under the No Action Alternative, USCG vessel operations do not significantly impact the physical environment.

Because the number of USCG aircraft in operation in the Atlantic area is small, and the number of sorties flown from different USCG and commercial air fields is low compared to the numbers flown by commercial and private aircraft, the contribution of USCG aircraft operations to air pollution is small and very localized. Therefore, under the No Action Alternative, aircraft operations do not significantly affect the physical environment.

One of the USCG's primary missions is protection of the marine environment. The specific measures that protect the physical environment include oil and hazardous spill response efforts and controlling ship movements within U.S. waters. All of these measures benefit endangered and threatened species and their habitat. Therefore, under the No Action Alternative, USCG conservation efforts would have a positive and significant impact on the physical environment.

**Impacts of the No Action Alternative on the Biological Environment.** Part of the USCG mission is environmental protection. Therefore, under the No Action Alternative, the USCG efforts in support of endangered species protection would remain as they are today, and would include revising area contingency plans as needed and enforcing fisheries regulations and turtle excluder device regulations on shrimp vessels.

Routine USCG activities may inadvertently result in adverse effects on the biological environment through acoustic and physical harassment of wildlife due to the presence of USCG vessels, aircraft, coastal stations, and the personnel required to operate them. There is also a risk that USCG vessels may become involved in collisions with wildlife.

The most important hazard to the biological environment from USCG operations is collisions of USCG vessels with wildlife, particularly protected whales, manatees, and sea turtles, during routine and emergency operations. The majority of USCG activities are vessel-based and collisions with large whales have been reported three times in the last five years. Collisions with large vessels are particularly problematic for whales, manatees, and turtles because they often are fatal to the protected animal. USCG vessels are active in many of the cetacean and sea turtle high-use areas along the U.S. Atlantic coast because these areas also are used extensively by commercial ships, fishermen, and recreational boaters. The species at greatest danger of being involved in a ship strike, because of their behavior, are the right whale and the manatee. Humpback whales are also involved in ship strikes.

Under the No Action Alternative, there are no additional measures to prevent collisions with marine animals. It is possible, therefore, that some cetaceans, particularly the right whale and the Florida manatee, may be subject to significant adverse impacts from USCG vessels. Pinnepeds are not particularly vulnerable to ship collisions, so it is unlikely that USCG vessel operations will affect them in any significant manner. Collisions by USCG vessels with sea turtles are believed to be uncommon, so it is not likely that USCG vessels operating under the No Action Alternative would pose a significant risk to sea turtles, providing that not more than one per year was taken. Marine birds, fish, and invertebrates are not usually vulnerable to collision and there would be no significant impact to these populations from USCG vessel operation.

Vessel noise is another source of disturbance to marine animals. USCG vessel operations add noise to an already noisy environment. Typically, as the size of a motor vessel increases, the amount of noise it generates increases. Most USCG vessels are less than 100 ft in length and produce underwater sounds, mainly from engine and propeller noises, that are easily detected above ambient noise by whales and possibly sea turtles, but are well below the sound intensities associated with severe disturbance or injury. Whales seem to acclimate readily to vessel noises that are not too loud. However, it is not known if vessel noises in the frequency range of whale vocalizations may interfere with their long-range communication. Sea turtles seem undisturbed by all but the loudest underwater noises.

Whales may be displaced from preferred feeding or breeding areas by frequent disturbance from the presence of large numbers of motor vessels. However, in some cases, whales become habituated to the presence of vessels and may even be attracted to them.

Marine wildlife may be disturbed by USCG aircraft. It is unclear if the noise from aircraft or their physical presence is the primary source of disturbance for wildlife. Feeding whales seem to be less disturbed by low-flying aircraft than whales engaged in other activities. Disturbance is minimized by maintaining altitudes greater than about 1,000 ft. However, some USCG aircraft activities, particularly search and rescue operations, must be performed at low altitude, even under 500 ft. Such operations have the potential

to disturb cetaceans, manatees and seals. This disturbance is short-lived and long-term effects are likely to be non-significant except for critically endangered species (such as the northern right whale).

Human presence and activities in wildlife habitat can disturb protected species. Nesting sea turtles in particular may be affected by USCG activities on or near nesting beaches. Loggerhead, green, leatherback, and hawksbill turtles nest on Atlantic coast beaches of the southern U.S., Puerto Rico, and the U.S. Virgin Islands. Some USCG activities involve construction on sand beaches that may be nesting habitat for sea turtles; these activities are addressed in site-specific NEPA analyses. Artificial lighting, associated with USCG stations and docks, may disorient adult females coming ashore to nest and newly hatched turtles attempting to reach the water, causing failure of the nesting effort and increased predation and mortality of the hatchlings.

Low altitude USCG aircraft activities may disturb endangered birds, particularly during nesting. Otherwise, USCG operations would have little or no effect on federally protected marine and coastal birds. The USCG actively protects species identified in the Migratory Bird Treaty Act through careful scheduling of maintenance activities.

**Impacts of the No Action Alternative on the Socioeconomic Environment.** The USCG has a significant positive impact on the marine socioeconomic environment of the U.S. Atlantic coast. The various mission activities of the USCG are essential for the protection of human health, property, and the marine environment; for enforcement of state, Federal, and international laws; and for ensuring the security of the United States. The USCG develops, establishes, maintains, and operates aids to marine navigation, icebreaking facilities, education programs for safe boat handling, and rescue facilities. The USCG is responsible for the management of oil spill response and cleanup activities in U.S. waters. In addition, the USCG participates in enforcement and regulation of the billion dollar commercial and recreational fishing industry.

**Cumulative Impacts of the No Action Alternative: Physical Environment.** For the purposes of a NEPA analysis, “cumulative impact” is defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time

Vessels and aircraft adversely affect the physical environment. The USCG operates less than 1 % of all vessels and aircraft operating along the U.S. Atlantic coastline. Routine USCG vessel and aircraft operations that would be carried out under the No Action Alternative have limited potential to adversely affect marine life and coastal birds through direct collision, resulting in injury or death, and physical and noise disturbance, possibly resulting in altered feeding and social behaviors, displacement from favored habitats, or chronic sublethal injury. These potential effects of USCG activities are superimposed on a wide variety of commercial and recreational activities in U.S. Atlantic coastal waters that, taken together, produce adverse cumulative effects in marine and coastal animals and their habitats. The impacts of USCG vessel and aircraft activities are, in and of themselves, minor. Under the No Action Alternative, the USCG contribution to cumulative effects are offset or mitigated by the environmental protection activities performed by the USCG.

**Cumulative Impacts of the No Action Alternative: Biological Environment.** The area of greatest concern with respect to cumulative effects of human activities on the success and recovery of populations of protected species is collisions of motor vessels with endangered whales, particularly northern right and humpback whales, and manatees. Collisions often are fatal or cause serious injury to the

protected species. USCG vessels rarely collide with wildlife, and USCG vessels of all sizes on the U.S. Atlantic coast represent less than 0.01 percent of total small craft and less than 0.5 percent of large vessels that operate in U.S. Atlantic coastal waters each year. Current operations of USCG vessels, in and of themselves, would therefore have little negative impact on the future survival of most endangered and threatened species. However, there have been three collisions of USCG vessels with whales in the last five years. At least one of these collisions resulted in the death of a right whale. Because the western North Atlantic population is at a low level (probably less than 350 animals), continuing activities that do not focus on minimizing adverse interactions with right whales could tend to increase the significance of the negative impact.

Entanglement or entrapment in fishing gear is also a threat to the survival of protected species of whales and sea turtles in the western Atlantic Ocean. USCG enforcement of fishing regulations, particularly the turtle excluder device regulations for shrimp boats, would benefit the protected species. Other USCG activities, such as oil spill response, would also help mitigate environmental harm from other human activities, such as commercial and recreational boating.

**Cumulative Impacts of the No Action Alternative: Socioeconomic Environment.** The cumulative effects of USCG activities on the socioeconomic environment are primarily positive. The primary mission of the USCG under this alternative is to provide marine humanitarian, safety, and law enforcement services for the people of the United States.

**The Preferred Alternative.** In the Preferred Alternative, the USCG would adopt the USCG Atlantic Protected Living Marine Resources Initiative. Under the Initiative many new activities intended to improve protection of threatened or endangered species of marine animals and aid in the recovery of their populations in U.S. waters of the Atlantic Ocean would be implemented. The proposed action is the Preferred Alternative.

**Impacts of the Preferred Alternative on the Physical Environment.** Under the interim speed protocol developed by the NMFS and the USCG, the USCG would adjust the speed of their vessels during non-emergency operations in important habitats of protected species when the animals may be present. Adjustment of USCG vessel speed would decrease effects on the physical environment by reducing resuspension of bottom sediments and erosion of shorelines. It would also decrease the likelihood of accidents that might result in the release of fuel oil to the marine environment.

**Impacts of the Preferred Alternative on the Biological Environment.** Under the Preferred Alternative, changes would be made to internal USCG procedures to reduce potential adverse impacts on living marine resources, especially endangered and threatened species, resulting from USCG and non-USCG activities in U.S. Atlantic coastal waters. The proposed changes include modifications of USCG operations, especially those involving vessel and aircraft movements within habitats important to protected marine animals. In addition, the USCG would establish a Conservation Program to facilitate public education programs and cooperation with other Federal agencies.

Several provisions of the Preferred Alternative would substantially decrease the risk of collisions with protected marine mammals and sea turtles by USCG and other vessels. Boundaries of known high-use habitats for protected species would be plotted on locally held navigational, aeronautical, and law enforcement working charts, enabling USCG personnel in the field to determine when they enter or approach an area where the likelihood of encounters with protected species is high. This would enable the USCG to adjust vessel speed in accordance with speed guidance in non-emergency operations when transiting high-use areas of endangered or threatened species. Posting of a lookout, trained in marine mammal identification, on all USCG vessels, would also substantially decrease the risk of collisions with

marine animals. Training of USCG personnel in whale identification and methods for safe vessel operation in the vicinity of protected species would further decrease the likelihood of collisions.

The USCG also would assist in decreasing the risk of collisions between protected species and non-USCG vessels through law enforcement efforts that target vessel operators that act in a manner that may result in injury or harassment of protected species. The USCG would also continue or initiate several activities to educate the public and increase their awareness of the hazards to protected species of vessel operations and the conservation measures, such as minimum approach distances and no-wake zones, intended to protect the animals. The USCG would notify mariners of the presence of protected species in critical habitat areas and advise them to use extreme caution to avoid adverse interactions with the protected species. Educational efforts would also aid in decreasing the risk of collisions between aircraft and marine and coastal birds.

These activities in the Preferred Alternative would have the effect of significantly decreasing the likelihood of collisions between protected species, particularly whales and manatees, and vessels in coastal waters of the U.S. Atlantic. It is not possible to completely eliminate the risk of collisions between protected species and motor vessels of all types and sizes. Therefore, there is always the potential for significant impacts, but that potential is minimized by the Preferred Alternative.

Harassment by vessel and aircraft noise may be a problem for whales, seals, manatees, and marine birds. The extent of this disturbance would be decreased in the Preferred Alternative by reducing the frequency and adjusting the speed of transits through critical habitat and high-use areas by USCG vessels and low-flying aircraft. The main source of noise disturbance of nesting birds and seals in rookeries is from low-flying aircraft. Restriction of USCG flights to altitudes greater than 2,000 ft, except in emergency situations, would substantially reduce this source of disturbance.

The augmentation of USCG cooperative efforts with other agencies, particularly NMFS and USFWS, in implementing and improving activities designed to protect and enhance the recovery of populations of protected species along the U.S. Atlantic coast would contribute to improvement in the environmental conditions for the protected species. Cooperative efforts would focus on enhancing protection and recovery of endangered whale populations and research to improve the ability of vessels to avoid collisions and understand the other causes of injury and death of protected species. Cooperative efforts also would improve education of the agencies themselves and the public about protected species issues and would facilitate broadcasting of information about protected species distribution and precautions to mariners.

Entanglement in fishing gear and debris is an important anthropogenic source of injury and death to protected marine mammals and sea turtles. Procedures to follow when an entangled whale or turtle is encountered would be documented. Collaboration between the USCG and volunteer stranding networks would improve the possibility of rescuing entangled animals and may lead to development of approaches for decreasing the risk of entanglement.

The Preferred Alternative represents a commitment of money and trained USCG personnel to increased efforts to protect threatened and endangered species. This may have the effect of decreasing the ability of the USCG to fulfill its other essential missions. Vessel speed adjustments may decrease the area of coastal waters that the USCG can patrol, reducing the fisheries and traffic law enforcement activities that can be performed.

**Impacts of the Preferred Alternative on the Socioeconomic Environment.** The Preferred Alternative would have positive effects on the socioeconomic environment. The Preferred Alternative would ensure compliance of the USCG with state and Federal laws protecting marine mammals and other

protected species. It would facilitate cooperation among state and Federal agencies, which could ultimately save limited public resources. Educating the public about the behavior and distribution of protected species in the western North Atlantic Ocean, and their responsibilities for stewardship of these intrinsically valued resources, would result in a positive effect on the socioeconomic environment. However, potential impacts on the USCG ability to efficiently conduct fisheries law enforcement (*i.e.*, protect fish populations) may have a negative impact on the fishing industry. Therefore the net impact on the socioeconomic environment may not be significantly positive.

**Cumulative Impacts of the Preferred Alternative.** The cumulative negative effects of the Preferred Alternative would be substantially less than those of the No Action Alternative and, on the whole, the effects of the Preferred Alternative would be positive. The overall incidence of vessel collisions (both USCG and non-USCG) with protected species would decrease, enabling severely depleted populations, such as those of the right whale, an opportunity to experience a more rapid recovery.

Increased educational efforts, within the USCG, through inter-agency initiatives, and for the boating public and commercial mariners, would have the effect of increasing the awareness of the people who use the coastal waters of the Atlantic about the effects of their activities on protected species and their habitats. Hopefully, this increased awareness would lead to improvements in our understanding of how the people of the U.S. Atlantic coast can perform commercial and recreational marine activities in a manner compatible with the protection and restoration of protected species.

When added to other adverse affects, such as habitat degradation, strikes from other vessels, and entanglement in fishing gear, the Preferred Alternative will benefit northern right whales and other listed species. The comprehensive APLMR initiative is designed to protect and enhance endangered species. Adjusting vessel speed, avoiding intentional approaches to whales, avoiding important habitats, and educating lookouts may significantly reduce the potential for USCG vessel collisions and harassment of cetaceans, manatees, pinnipeds and turtles. Public education may decrease the potential for collisions of private and commercial vessels and endangered species. These efforts, when combined with the efforts of numerous state, Federal, and private agencies, may provide the resources needed to successfully facilitate the recovery of endangered species such as the right whale.