

**Green Sea Turtle**

*(Chelonia mydas)*

**State Status:** Threatened, 1981

**Federal Status:** Threatened, 1978

**Recovery Plans:** Federal, 1998



**Loggerhead Sea Turtle**

*(Caretta caretta)*

**State Status:** Threatened, 1981

**Federal Status:** Endangered, 2011 (North Pacific Distinct Population Segment)  
(Threatened, 1978-2011)

**Recovery Plans:** Federal, 1998

Figure 1. Green (upper right) and loggerhead (above) sea turtles (photos by Andy Bruckner, NOAA, and NOAA, respectively).

All sea turtles occurring in U.S. waters are listed under the Endangered Species Act (ESA) and are under the joint jurisdiction of the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). Measures to reduce sea turtle interactions in fisheries are implemented through regulations and permits under the ESA and Magnuson-Stevens Fishery Conservation and Management Act. Regulations were first instituted in 1992 to require turtle excluder devices in shrimp trawl fisheries to reduce interactions between turtles and trawl gear; prior to these protective regulations, bycatch in U.S. fisheries was estimated to result in the death of 71,000 sea turtles annually. Since implementation of mitigation measures, estimated mortality has declined by about 94% (Finkbeiner et al. 2011).

Sea turtles are protected by various international treaties and agreements as well as national laws. They are listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), which prohibits international trade of these species. The U.S. is also a party to the Inter-American Convention for the Protection and Conservation of Sea Turtles, which is the only binding international treaty dedicated exclusively to marine turtles.

**Green Sea Turtles**

Green sea turtles are the largest of the hard-shelled sea turtles. Adults reach lengths of up to 5 feet and weights of 250-400 pounds. Growth is slow and sexual maturity occurs at 20-50 years. Adults are unique among sea turtles in that they are herbivorous, feeding primarily on seagrasses and algae. This diet is thought to give them greenish-colored fat, from which they take their name.

Adult females return every 2-4 years to lay eggs at

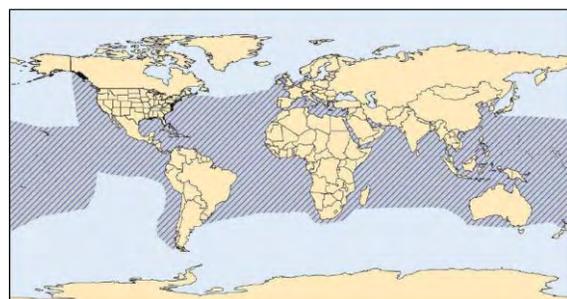


Figure 2. Range of green sea turtles (NMFS, Office of Protected Resources).

the same sandy beaches where they were born. Females nest at approximately two-week intervals, laying an average of five clutches of eggs. In Florida, green turtle nests contain an average of 135 eggs, which incubate for about 2 months before hatching. After emerging from the nest, hatchlings swim to the open ocean, where they feed close to the surface on a variety of pelagic plants and animals. Once juveniles reach 3-5 years of age, they leave the pelagic habitat and travel to nearshore foraging sites. Adult females migrate from foraging areas to mainland or island nesting beaches and may travel hundreds or thousands of miles each way.

Green sea turtles generally occur in tropical and subtropical waters near islands and along continental coasts between 30°N and 30°S (Figure 2). Nesting occurs in over 80 countries. In the eastern North Pacific, they primarily occur south of San Diego, but rarely extend northward to southern Alaska. Green sea turtles are rarely recorded in Washington. Four individuals were stranded on outer coast beaches from 2002-2012, with the most recent of these occurring in November 2010 (K. Wilkinson and L. Todd, unpublished data).

**Population trends.** The two largest nesting populations are found at Tortuguero on the Caribbean coast of Costa Rica, where about 22,500 females nest each year, and Raine Island on the Great Barrier Reef in Australia, where 18,000 females nest. In the U.S., green turtles nest primarily along the coast of Florida, where 200-1,100 females nest annually. Extensive population declines have occurred in all oceans (NMFS and USFWS 2007). Trends at 32 nesting areas around the world indicated a 48-65% decline in the number of females nesting over the past 100-150 years.

**Conservation.** The principal cause of population declines is harvest of eggs and adults on nesting beaches and juveniles and adults on feeding grounds (NMFS and USFWS 1998a, 2007). These harvests continue in many areas and inhibit recovery. Incidental capture in fishing gear also adversely affects the species. Green turtles are also threatened in some areas of the world by a disease known as fibropapillomatosis. In the U.S., NMFS and USFWS have established regulations to eliminate or reduce threats to sea turtles. Since 1989, the U.S. has prohibited the importation of shrimp harvested in a manner that adversely affects sea turtles.

In Washington, a man was successfully prosecuted under the federal ESA for capturing and killing a green sea turtle on the beach at Ocean Park in 2003. A turtle that stranded in poor condition in November 2009 on the Long Beach Peninsula was taken to the Oregon Coast Aquarium and then to SeaWorld San Diego for rehabilitation. It was released into the wild off San Diego in June 2011.

### Loggerhead Sea Turtle

Loggerheads are named for their relatively large heads, which support powerful jaws and enable them to feed on hard-shelled prey, such as whelks and conches. The diet of all life stages is mostly benthic invertebrates (crabs, other crustaceans and mollusks) and occasionally jellyfish. Adults average about 3 feet long and weigh up to 250 lbs. Sexual maturity is reached at an average of 45 years of age. Females lay eggs in three to five nests per nesting season, with 80-120 eggs in a clutch. Incubation lasts about two months, with hatching occurring between late June and mid-November. Loggerheads nest on ocean beaches, generally preferring high energy, relatively narrow, steeply sloped, coarse-grained beaches. The species is known to make long migrations; some Pacific loggerheads migrate over 7,500 miles (12,000 km) between nesting beaches in Japan and feeding grounds off Mexico.

Loggerheads occur throughout the tropical and temperate regions of the Atlantic, Pacific, and Indian Oceans (Figure 3). In the eastern Pacific, loggerheads have been reported as far north as Alaska, and as far south as Chile. Along the U.S. west coast, occasional sightings are reported from the coasts of Washington and Oregon, but most records are of juveniles off the coast of California. The west coast of

Mexico, including the Baja Peninsula, provides critically important habitat for juvenile loggerheads. Loggerheads nest in tropical and subtropical regions, and the only known nesting areas for loggerheads in the North Pacific are found in southern Japan (Conant et al. 2009). Loggerhead turtles are rarely recorded in Washington. No individuals were stranded on outer coast beaches in the state from 2002-2012 (K. Wilkinson and L. Todd, unpublished data).

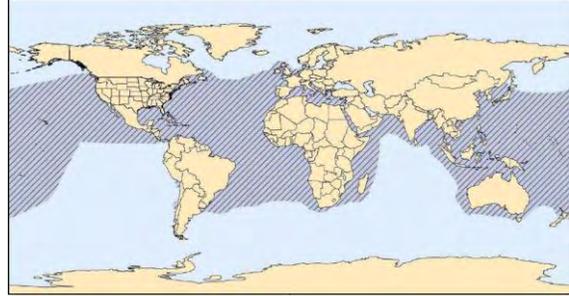


Figure 3. Range of loggerhead sea turtles (NMFS, Office of Protected Resources).

**Population trends.** Loggerheads are the most abundant species of sea turtle in U.S. coastal waters.

The most recent reviews show that only two loggerhead nesting beaches have greater than 10,000 females nesting per year: South Florida (U.S.) and Masirah Island (Oman). Total estimated nesting in the U.S. is 68,000 to 90,000 nests per year. Recent analyses of long-term nesting data from the southeastern U.S. show a decline in abundance. Populations in Honduras, Mexico, Colombia, Israel, Turkey, Bahamas, Cuba, Greece, Japan, and Panama have also been declining. Declines are primarily attributed to incidental capture in fishing gear, directed harvest, coastal development, increased human use of nesting beaches, and pollution (NMFS and USFWS 1998b). The greatest cause of decline and the continuing primary threat to loggerhead turtle populations worldwide is incidental capture in fishing gear, primarily in longlines and gillnets, but also in trawls, traps and pots, and dredges. Harvest of loggerheads still occurs in many places (e.g., the Bahamas, Cuba, and Mexico) and is a serious and continuing threat to recovery.

**Conservation.** In 2009, NMFS and USFWS published an updated status review (Conant et al. 2009). In September 2011, NMFS and USFWS listed nine distinct population segments of loggerhead sea turtles under the Endangered Species Act (NMFS and USFWS 2011). Protecting loggerheads on U.S. nesting beaches and in U.S. waters alone is not sufficient to ensure the continued existence of the species. The highly migratory behavior of the species makes international cooperation in conservation efforts essential.

**Partners and cooperators:** NOAA-National Marine Fisheries Service, U.S. Fish and Wildlife Service.

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