Green Sea Turtle

Green turtles were listed under the Endangered Species Act on July 28, 1978. All populations are listed as threatened except for the Florida and Pacific coast of Mexico breeding populations, which are listed as endangered. Green turtles are observed in waters extending from Texas to Massachusetts. In the United States, the eastern coast of Florida is considered the primary nesting area, particularly from Volusia and Broward counties June through early October (Meylan et al. 1995). Green turtle nests have also been recorded on both South and North Carolina beaches (Epperly et al. 1995, Hopkins-Murphy et al. 1999).

Green turtle mate in the waters off their nesting beaches. Each female deposits 1-7 clutches (usually 2-3) during the breeding season at 12-14 day intervals. Mean clutch size is highly variable among populations, but averages 110-115 eggs/nest. Females usually have 2-4 or more years between breeding seasons, while males may mate every year (Balazs 1983). Age at sexual maturity is estimated to be between 20-50 years (Balazs 1982; Frazer and Ehrhart 1985). Adults of both sexes are presumed to migrate between nesting and foraging habitats along corridors adjacent to coastlines and reefs.

Hatchlings inhabit the pelagic environment where they are believed to associate with communities of *Sargassum,* and drift lines of algae or debris. After several years, green turtles head to coastal habitats where they forage on sea grasses and other macroalgae in shallow bays, lagoons and reefs (Hirth 1997; NMFS and USFWS 1991). Green turtles are primarily herbivorous but occasionally consume jellyfish and sponges. Important feeding habitats have been identified off both the southwest and southeast coastlines of Florida and the Florida Keys.

The total population size for green turtles is unknown and determining population trends is difficult due to wide year-to-year fluctuations in the number of nesting females. Nesting information from 1989-2002, suggests that green turtle nesting in Florida has been increasing (Florida Marine Research Institute Statewide Nesting 2002, Database). Total nest counts and trends at index beach sites during the past decade suggest that green turtles nesting within the southeastern United States are, overall, on the increase. There are no reliable estimates of the number of immature green turtles that inhabit the coastal areas off the southeastern United States

(where they come to forage) but it is believed that they also have increased in number though the magnitude of this increase is unknown.

Green turtles are susceptible to both natural and human impacts. Sources of natural mortality include cold stunning, biotoxin exposure and hurricanes. Hurricanes are particularly destructive to sea turtle nests. Sand accretion and rainfall that result from these storms as well as wave action can appreciably reduce hatchling success. There is also the increasing threat from occurrences of green turtle fibropapillomatosis disease. Presently, this disease is cosmopolitan and has been found to affect large numbers of animals in some areas, including Hawaii and Florida (Herbst 1994; Jacobson 1990; Jacobson et al. 1991).

The greatest cause of this species' decline, however, is attributed to commercial harvest for food and for products such as jewelry. Although intentional take of green turtles and their eggs is not extensive within the southeastern United States; green turtles that nest and forage in this region may spend large portions of their life in areas where such exploitation is still a threat. In the southeastern United States, human-caused factors that impact hatchlings and adult female turtles on land include: beach erosion, beach armoring and nourishment; artificial lighting; beach cleaning; increased human presence; recreational beach equipment; beach driving; coastal construction and fishing piers; exotic dune and beach vegetation; and poaching. An increased human presence at some nesting beaches or close to nesting beaches has led to secondary threats such as the introduction of exotic fire ants, feral hogs, dogs and an increased presence of native species (e.g., raccoons, armadillos and opossums) which raid and feed on turtle eggs.

Threats in the marine environment include: oil and gas exploration; coastal development, and transportation; marine pollution; underwater explosions; hopper dredging; offshore artificial lighting; power plant entrainment and/or impingement; entanglement in debris; ingestion of marine debris; marina and dock construction and operation; boat collisions; poaching, and fishery interactions.

A recovery plan was published for the green turtle in 1991 (NMFS and USFWS 1991).

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