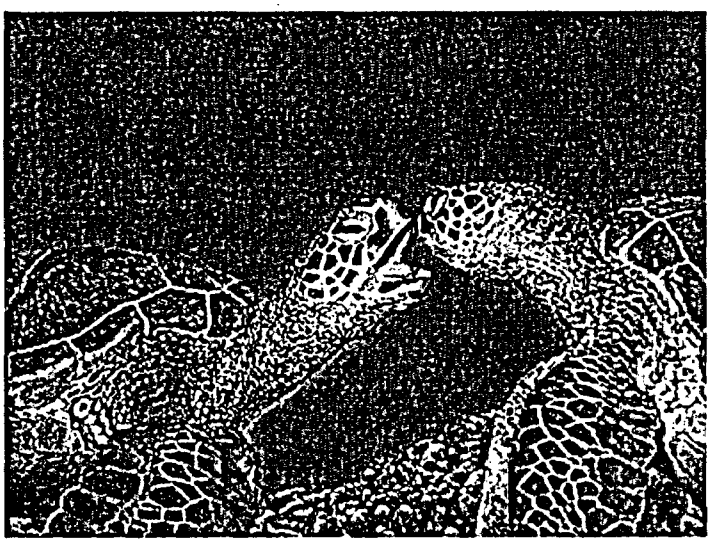
Green Sea Turtle (Chelonia mydas)

Threatened Species

(Endangered: Florida and Mexican Breeding Populations)



The green sea turtle was listed as endangered/threatened on July 28, 1978. The t populations off Florida and the Pacific coast of I are listed as endangered while all others are threatened.

Total population estimates for the green turtle a unavailable, and trends are particularly difficult assess because of wide year-to-year fluctuatior numbers of nesting females, difficulties of cond research on early life stages, and long generati Present estimates range from 200-1,100 femal nesting on U.S. beaches. The number of nests increased on Hutchinson Island, Florida, over th 1971 - 1989, although nesting levels have beer other nesting beaches. Population estimates gi for the number of nesting females in Florida. Populations in Surinam, and Tortuguero, Costa may be stable, but there is insufficient data for areas to confirm a trend. The recovery team for the green turtle concluded that the species status has not impr appreciably since listing.

The greatest cause of decline in green turtle populations is commercial harvest for eggs and food. Other turtle parts are used for leather and jewelry, and small turtles are sometimes stuffed for curios. Incidental catch during commercial shrimp trawling is a continuing source of mortality that adversely affects recovery.

Biology

Adult green turtles may reach a size of 1 m long and 180 kg mass. The carapace is smooth and is colored gray, green, brown and black. The plastron is yellowish white. Hatchlings weigh about 25 g, and are about 50 mm long. Hatchlings are black on top and white on the bottom. Age at sexual maturity is estimated at 20-50 years.

Distribution

In the southeastern United States, green turtles are found around the U.S.

Virgin Islands, Puerto Rico, and the continental U.S. from Texas to Massachusetts. Important feeding grounds Florida include Indian River Lagoon, the Florida Keys, Florida Bay, Homosassa, Crystal River and Cedar Key. primary nesting sites in U.S. Atlantic waters are along the east coast of Florida, with additional sites in the U.S Islands and Puerto Rico.

Green turtles are found throughout the North Pacific, ranging as far north as Eliza Harbor, Admiralty Island, Al and Ucluelet, British Columbia. In the eastern North Pacific, green turtles have been sighted from Baja Californ southern Alaska. In the central Pacific, green turtles can be found at most tropical islands. In U.S. Hawaiian w green turtles are found around most of the islands in the Hawaiian Archipelago. The primary nesting site is at F Frigate Shoals.

Human Impacts on Green Sea Turtles

I) Impacts to nesting activities:

1. In the United States, killing of nesting green turtles is infrequent. However, in a number of areas, egg pc is still a concern.
2. Erosion of nesting beaches can result in loss of nesting habitat.
3. Development of beachfronts results in fortification to protect property from erosion, resulting in loss of a nesting beach by preventing females from getting to nesting sites.
4. Beach nourishment during the nesting season buries nests and disturbs nesting turtles.
5. Artificial lighting can cause disorientation and misorientation of both adults and hatchlings. Turtle hatchli attracted to light, ignoring or coming out of the ocean to go towards a light source, increasing their chan death or injury. In addition, as nesting females avoid areas with intense lighting, highly developed areas cause problems for turtles trying to nest.
6. Repeated mechanical raking of nesting beaches by heavy machinery can result in compact sand and c tire ruts which may hinder or trap hatchlings. Rakes can penetrate the surface and disturb or uncover a Disposing of debris on the high beach can cover nests and may alter nest temperature.
7. The most serious threat of nighttime use of a beach is the disturbance of nesting females. Heavy utiliza nesting beaches by humans may also result in lowered hatchling success due to sand compaction.
8. The placement of physical obstacles on a beach can hamper or deter nesting attempts as well as interf the incubation of eggs and the emergence of hatchlings.
9. The use of off-road vehicles on beaches is a serious problem in many areas. It may result in decreased hatchling success due to sand compaction, or directly kill hatchlings. Tire ruts may also interfere with th of hatchlings to get to the ocean.
10. The invasion of a nesting site by non-native beach vegetation can lead to increased erosion and destru nesting habitat. Trees shading a beach can also change nest temperatures, altering the natural sex rati hatchlings.

II) Impacts in the marine environment

1. Dredging can result in habitat destruction by disrupting nesting or foraging grounds. Hopper dredges ca kill turtles caught in dragheads.
2. Green turtles eat a wide variety of marine debris such as plastic bags, plastic and styrofoam pieces, tar balloons and plastic pellets. Effects of consumption include interference in metabolism or gut function, e low levels of ingestion, as well as absorption of toxic byproducts. NMFS is currently analyzing stranding and available necropsy information to determine the magnitude of debris ingestion.
3. Commercial fishing
    - It is estimated that before the implementation of TED requirements, the offshore commercial shri captured about 925 green turtles a year, of which approximately 225 would die. Most turtles kille juveniles and sub-adults. Bluefish, croaker and flounder trawl fishing are also serious threats.
    - Turtles are be taken by purse seine fisheries in the Atlantic and Gulf of Mexico, but the magnitud is currently not known.
    - Several thousand vessels are involved in hook and line fishing for various coastal species. The c of turtles is not uncommon, but the number is not known.
    - Significant numbers of turtles may be killed by gill and trammel net fisheries off the eastern coast central Florida. An exact number is not known.
    - Pound net fisheries are primarily a problem in waters off of Virginia, where turtles get tangled in t

and drown. In North Carolina, live turtles are often released from pound nets.
- Over 330 sea turtles of various types (a few of which were green) were captured in the Atlantic a of Mexico EEZ in the Japanese tuna longline fishery from 1978-1981. Due to expansion of this ty fishing, it may have a significant impact on sea turtle recovery. The number of deaths is unknowr
- Green turtles become entangled in trap lines and drown. The impact on the population has not b determined.

4. In areas where recreational boating and ship traffic is intense, propeller and collision injuries are not un
5. Marine turtles are at risk when encountering an oil spill. Respiration, skin, blood chemistry and salt glan functions are affected.
6. Pesticides, heavy metals and PCB's have been detected in turtles and eggs, but their effect is unknown
7. Marina and dock development can cause foraging habitat to be destroyed or damaged. It can also lead increased boat traffic, increasing the risk of turtle/vessel collisions.
8. Turtles have been caught in saltwater intake systems of coastal power plants. The mortality rate of the t involved is estimated at 7%.
9. Underwater explosions (e.g. gas and oil structure removal and testing using explosives) can kill or injure and may destroy or damage habitat.
10. Turtles get caught in discarded fishing gear. The number affected is unknown, but is potentially significa
11. Illegal harvesting of green turtles is uncommon in the U.S. No estimates of take exist. Illegal take of gre in the Caribbean, particularly near Puerto Rico, is a significant problem.

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