
Courtesy Stuart Robbens

Marine Reptiles

Hawksbill sea turtle

Eretmochelys imbricata

SPECIES STATUS:
Federally Listed as Endangered
State Listed as Endangered
IUCN Red list – Critically Endangered

SPECIES INFORMATION: Little information exists on the feeding behavior of post-hatchlings and juveniles in pelagic habitats, but most likely they are exclusively carnivorous (e.g., invertebrates and fish eggs) and feed near the surface. They switch to feeding in benthic reef areas and dive to deeper depths as they grow. They appear to focus on sponges, which are not digestible by many other animals. At Honokowa, Maui, they also feed on algae *Hypnea*. Hawksbill turtles have slow growth rates, with an estimated average annual growth rate of 2 to 5 centimeters per year for juveniles, slowing to negligible growth in adults. Hawksbill turtles in Hawai'i reach sexual maturity at around 17 to 22 years of age. Females generally breed once every three to four years. Turtles mate at sea. Nesting occurs from late May through November. Females may lay up to six clutches per season, often returning to the same site for each clutch every 14 to 20 days or so. Each clutch contains about 140 eggs. Sex determination is temperature dependent. Incubation lasts about 60 days. Some individuals have been recaptured over 1,600 kilometers (1,000 miles) from where they were tagged, so long-distance movement is possible, and genetic studies show that foraging areas host individuals from different genetic stocks.

DISTRIBUTION: Occurs in waters around the Main Hawaiian Islands (MHI) and is regularly seen off west Maui, and occasionally around the Northwestern Hawaiian Islands (NWHI). Nesting occurs on the MHI, especially along the east coast of Hawai'i. Worldwide, the species nests on inland and mainland sandy beaches throughout the tropics and subtropics and occurs in coastal waters of more than 108 countries.

ABUNDANCE: The Hawaiian population is estimated at less than 20 breeding females annually. Population trends are unknown but may be stable on the island of Hawai'i. Worldwide, the breeding population is estimated at 22,000 to 29,000 breeding females.

LOCATION AND CONDITION OF KEY HABITAT: Hawksbill sea turtles are most often seen in shallow waters around reefs, bays, and inlets. Key foraging habitat is located around most of the MHI, especially the north coasts. The turtles occur in small numbers around the NWHI. Nesting habitats are extremely critical to the survival of the species. Nesting occurs within 5 meters (15 feet) of the high water line on beaches, with a preference for areas with woody cover, and sand is not necessary but often used. A black-sand beach in the Halawa River Valley of east Moloka'i, and Kamehame Beach, Hawai'i, are also used consistently. A few beaches on Maui are used occasionally. Two nesting beaches (Halape and Apua Point) are located within Hawai'i Volcanoes National Park and receive enhanced protection.

THREATS:

- Habitat degradation. Nesting beaches in Hawai'i are degraded by coastal development, vehicles on beaches at Punaluu and Kawa, erosion, artificial lighting, nest predation, and exotic vegetation.
- Fisheries bycatch. Mortality of adult and juvenile turtles results from fisheries bycatch. Due to federally mandated take reduction measures implemented by Hawaiian longline fisheries, bycatch rates have been reduced by approximately 90 percent since 2004. Bycatch remains a threat in other regions.
- Predation. Eggs and hatchlings are preyed on by introduced species (e.g., mongoose, rats, dogs, feral pigs, and cats) on the MHI. Predation on hatchlings by seabirds, fish, and sharks in the open ocean is a threat, although the extent of predation is unknown.
- Marine debris. Entanglement by, or ingestion of, marine debris are sources of mortality.
- Climate change. Effects of climate change, such as increased temperatures, sea level rise, ocean acidification, changes to circulation patterns, and increased cyclonic activity, could have a variety of effects, such as changes in reproductive behavior, hatchling dispersal, adult migration, and prey availability, and loss or degradation of nesting habitat.

CONSERVATION ACTIONS: Actions specific to hawksbill sea turtles should include the following:

- Protect, restore, and manage nesting habitat, especially on MHI beaches.
- Reduce marine debris in in the marine environment and on beaches.
- Continue partnerships with local conservation groups to monitor and conserve turtles, respond to stranding, and conduct research and outreach programs.
- Conduct education and outreach efforts, particularly to address threats such as fishing interactions, marine recreation interactions, and marine debris.

MONITORING:

- Continue to monitor nesting sites.
- Continue to monitor abundance and distribution.
- Continue to monitor turtles harmed or killed by marine debris and from fisheries bycatch.

RESEARCH PRIORITIES: Determine distribution, abundance, and status of post-hatchlings, juveniles, and adults in the marine environment.

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