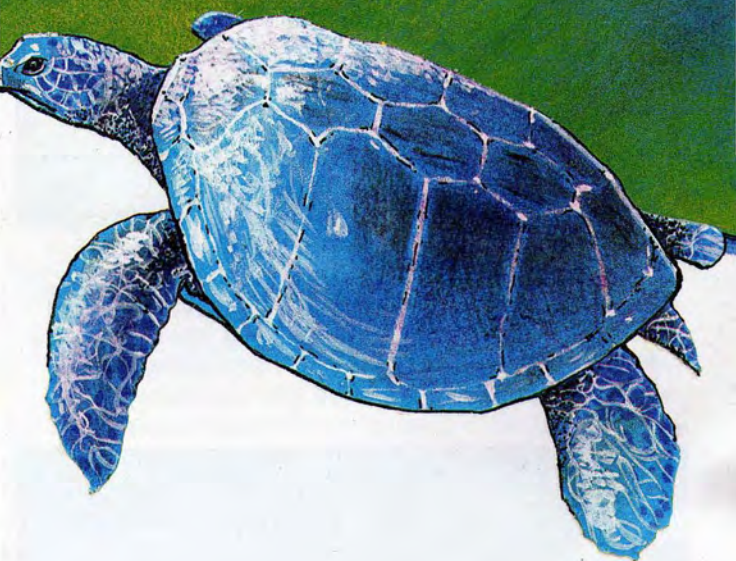


HAWAIIAN

Sea
Turtles



Introducing Hawaii's Sea Turtles



1. Of the three native Hawaiian sea turtles, the green turtle, or honu, is the most common.



3. Hawksbill turtle



5. Leatherback turtle

There are three species of sea turtles considered native to Hawaii: the green, hawksbill, and leatherback. These fascinating creatures have played important roles in the environment and culture of Hawaii.

Of the three native Hawaiian sea turtles, the GREEN turtle, or *honu*, is the most common. This turtle, which weighs up to 400 pounds, is primarily vegetarian. It eats algae or limu growing underwater on coral reefs and on rocks close to shore. Green turtles prefer to live near "pastures" of limu that are located in nearshore waters around the Hawaiian Islands. Like cows, green turtles depend upon bacteria in their guts for digestion of their food. Green turtles nest in the Northwestern Hawaiian Islands at French Frigate Shoals. The upper shell (carapace) of the adult is dark with olive or gold

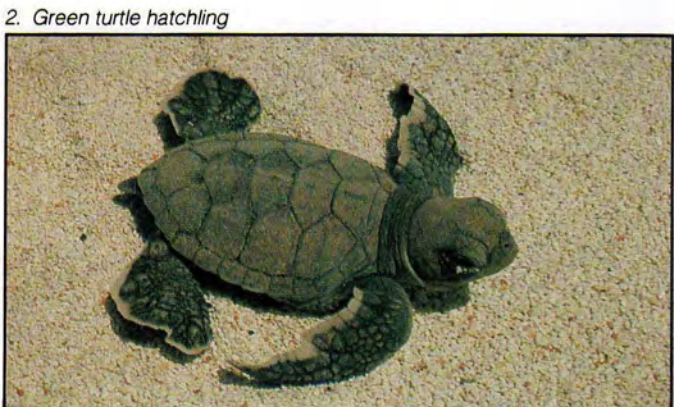
flecks. Green turtles received their name from the color of their body fat.

Small numbers of the rare HAWKSBILL, or 'ea, are found around the islands of Oahu, Molokai, Maui, and Hawaii, where a few females have nested in recent years. This small- to medium-sized sea turtle inhabits coral reefs and uses its long, narrow beak to probe for sponges and other bottom-dwelling invertebrates that comprise its diet.

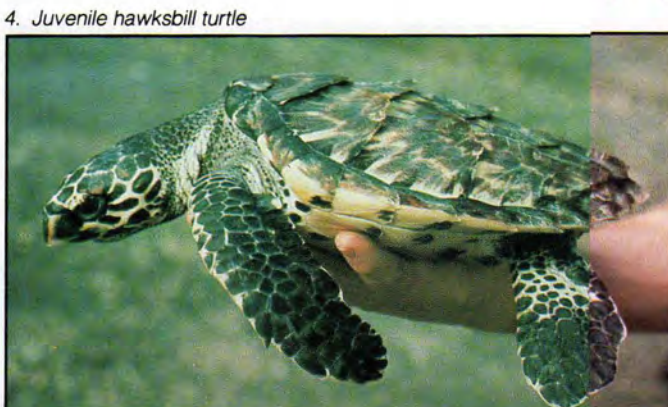
The LEATHERBACK does not nest on nor usually come close to Hawaii's shores. But it is seen regularly offshore over deep water where it feeds on jellyfish and other invertebrates. Weighing as much as two thousand pounds, leatherbacks are the giants of the world's sea turtles. This species is the only sea turtle without a hard shell.



6. & 7. The loggerhead (photo 6) and the olive ridley (photo 7) are rare visitors to Hawaiian waters



2. Green turtle hatching



4. Juvenile hawksbill turtle



7

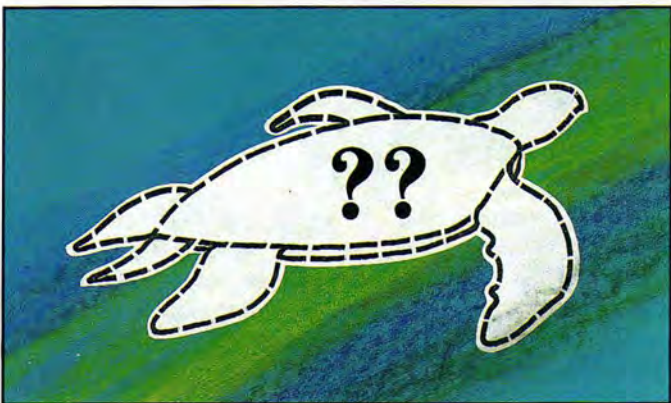


Subsistence Hunting: Some native Pacific islanders still exploit depleted sea turtle populations for food. Continued hunting will jeopardize the future availability of this resource of food and cultural heritage. No turtles will be left for future generations.

Incidental Catch: Many sea turtles are unintentionally captured in shrimp trawls, longlines, high-seas drift nets, and other fishing gear. Some are injured or drown. Adult and hatchling turtles also become entangled in discarded fishing gear.

Marine Debris: Sea turtles sometimes eat large amounts of floating plastic and other man-made debris. This material remains in their stomachs, releasing toxic substances and blocking digestion.

Habitat Destruction: Coastal development and pollution in some areas have degraded nesting beaches and feeding areas for sea turtles. Dogs, cats, and mongooses eat eggs and hatchling sea turtles.



PROTECTION

All sea turtles in Hawaii are fully protected under state law and under the U.S. Endangered Species Act. These laws prohibit harassing, disturbing, harming, killing, or keeping sea turtles in captivity. Special permits may be issued for research or educational purposes. Scuba and skin divers should be aware that handling, riding, or feeding turtles is illegal and puts these animals under stress.

When returning from abroad, U.S. citizens may not enter the United States with any sea turtle products. Intentional violators may receive severe penalties.



YOU CAN HELP SEA TURTLES TOO!

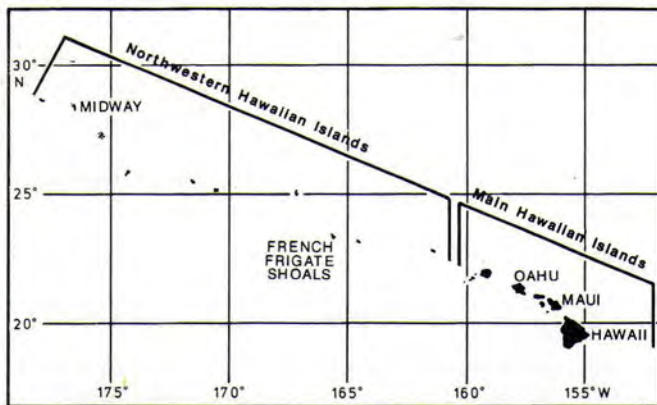
If you see turtles being captured, harmed, harassed or killed, please call the Enforcement Division of the National Marine Fisheries Service at **541-2727**, or your local State Conservation and Resources Enforcement office at:

| | | | |
|-------|----------|-------------------|----------|
| Kauai | 274-3521 | Oahu | 587-0077 |
| Maui | 984-8110 | Hawaii | 974-6208 |
| | | Molokai and Lanai | 567-6618 |

After business hours, State officers may be reached by dialing 0 and asking for "Enterprise 5469".

You can aid in sea turtle recovery by reporting nesting or basking activities, and dead, sick, injured or stranded turtles to the Honolulu Laboratory of the National Marine Fisheries Service at **943-1276** or **943-1221**.

For further information contact:
Pacific Area Office
National Marine Fisheries Service
2570 Dole Street
Honolulu, HI 96822-2396
(808) 973-2987



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BIOLOGY OF A SEA TURTLE

Sea turtles are graceful saltwater reptiles, well adapted to life in their marine world. With streamlined bodies and flipper-like limbs, they are able to swim long distances during their oceanic migrations.

When they are active, sea turtles must swim to the ocean surface to breathe every few minutes. When they are resting, they can remain underwater for as long as five hours. Green turtles often rest in caves or under ledges in coastal waters 5 to 125 feet deep.

Although sea turtles live most of their lives in the ocean, adult females must return to land in order to lay their eggs. Based on recent genetic studies, scientists believe that nesting female turtles return to the same beach on which they were born. Sea turtles must often travel long distances from their feeding grounds to their nesting beaches. Just how sea turtles find their nesting beaches and navigate to return to their foraging pastures is unknown.

Some Are Long-Distance Travelers

Hawaii's green turtles migrate up to 800 miles from their feeding areas near the coast of the main islands to nesting beaches at French Frigate Shoals. Males accompany females in this migration and mate with them offshore from the nesting beaches.

Females often come ashore to nest several times in a season, but wait two to three years before migrating to nest again. Green turtles nest only at night and can be frightened away by lights or movement. It's not easy for these turtles to find a suitable nesting site on land, where they no longer have the buoyancy of water to support their heavy bodies. While on land they shed large, sticky tears which contain excess salt from the body and prevent the eyes from being covered with sand.

When a female finds a suitable nesting site, she uses her flippers to dig a body pit. She then digs a flask-shaped egg cavity with her rear flippers. This arduous nesting effort generally lasts several hours. After depositing about 100 eggs, the female covers the nest with sand and returns to the sea, leaving the eggs to incubate during the next two months.

After hatching, the tiny, one-ounce turtles take several days to dig out from their nest. A single hatchling would not be able to emerge alone. Working as a team, hatchlings scrape sand from the roof of their nest cavity and pack this sand on the floor. In doing so, hatchlings raise their nest toward the surface. When they are about an inch from the surface, the topmost hatchlings cease their activities if the sand is hot. Cool sand indicates that it is night or an overcast day; the hatchlings then emerge from the nest, thereby avoiding the sun's heat, and perhaps predatory birds, as well as certain fishes more active during the daytime.



8. Sea turtles, like all reptiles, breathe air.

9. A male green turtle uses its flippers to grasp the female's shell during mating.

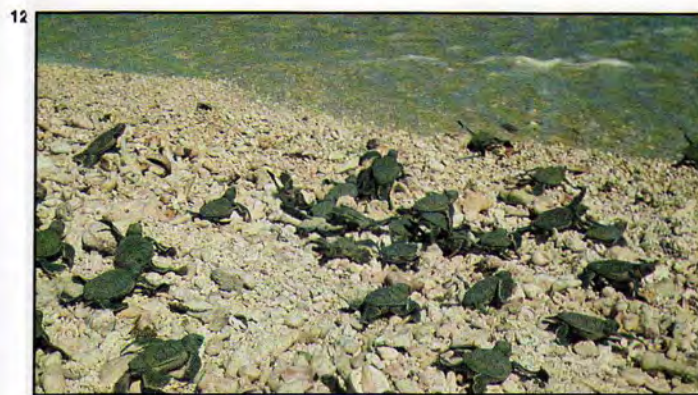


Once out of the nest, the hatchlings race to the water and swim constantly for the next day or two. They are then carried by currents to areas in the open ocean where they grow for several years until joining older turtles in coastal feeding grounds. While in the open ocean, young green turtles are carnivorous and feed on invertebrates such as jellyfish.

Only A Few Hatchlings Per Nest Will Survive To Adulthood

Some hatchlings never reach the ocean and are snatched up by hungry ghost crabs. Hatchlings may also be disoriented or impeded by obstacles and die from the sun's heat. Once in the ocean, sharks and other carnivorous fish eat an unknown number of the hatchlings.

Due to their large size, tough shell, and swiftness in the water, adult sea turtles have only two predators: large sharks and humans. Tiger sharks are known to feed on all sizes of green turtles.



10. A female green turtle digging a body pit.

11. The leathery eggs take about two months to hatch.

12. Green turtle hatchlings on the beach.

Hawaiian Green Turtles Grow Slowly

The life span of sea turtles is unknown. Hawaiian green turtles, like their cousins elsewhere worldwide, seem to grow very slowly in the wild and take 10 to 50 years (average 25 years) to reach sexual maturity.

Male and female green turtles look alike until they are mature. Then, the male develops a long, thick tail extending beyond the hind flippers. A female's tail extends only a short distance beyond the end of her shell.

Generally, only female sea turtles return to land after entering the ocean as hatchlings. But in the Northwestern Hawaiian Islands both male and female green turtles crawl ashore and sleep in the sunlight for hours. Turtles may bask in order to increase their body temperature, conserve energy, and avoid tiger sharks.



13. A female and a male green turtle

14. Basking Hawaiian green turtles



SEA TURTLES FACING EXTINCTION?

Six of the seven species of sea turtles worldwide are listed as endangered or threatened under the U.S. Endangered Species Act. An "Endangered Species" is considered to be in immediate danger of extinction; a "Threatened Species" is one that is likely to become Endangered in the near future.

Once there were tens of millions of green turtles around the world. Now there may be fewer than 200,000 mature females. In Hawaii, the green turtle is a Threatened Species. Only several hundred females nest each year, principally at French Frigate Shoals in the Northwestern Hawaiian Islands. Their numbers have been gradually increasing during recent years as the result of protective laws. However, the increase in a tumorous disease in immature turtles, known as fibropapillomatosis, gives cause for continuing concern. Only a few dozen hawksbills nest each year in Hawaii, principally at Kamehame Beach on the island of Hawaii.

To help restore Hawaii's sea turtles to their former abundance, the National Marine Fisheries Service, the U.S. Fish & Wildlife Service, and the State of Hawaii's Department of Land & Natural Resources formed a Recovery Team. This team identified important research, management, public education, and enforcement needs. The resulting Recovery Plan for Hawaiian sea turtles has now been integrated into a broader Pacific-wide effort to conserve sea turtle populations.

Why have sea turtle populations declined in Hawaii and around the world?

Direct Exploitation: Historically, sea turtles and their products have been used for food, jewelry, and other purposes in many cultures. The ancient Hawaiians used the meat of green turtles for food.

In modern times, the rate of hunting increased dramatically. Before protective laws were passed, turtles were killed in large numbers to feed fishing crews in the Northwestern Hawaiian Islands and to sell to restaurants. Hawaiian turtles declined greatly because the breeding population could not produce more turtles than the hunters were killing.

Sea turtle populations elsewhere in the world have also been seriously damaged by excessive hunting as well as international commercial trade. Turtle meat and eggs are still sold for consumption in certain countries. Hawksbills have been killed for their "tortoiseshell", which is made into jewelry. The skins of olive ridley and green turtles are still used for leather goods in some areas.

Poaching: Although many countries have protective laws, some people still kill sea turtles illegally. This disregard undercuts efforts to rebuild depleted populations.

