

# PALM BEACH DOLPHIN PROJECT FACT SHEET



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## LEATHERBACK TURTLE

*Dermochelys coriacea*

CLASS: Reptilia  
ORDER: Testudines  
FAMILY: Dermochelyidae  
GENUS: Dermochelys  
SPECIES: coriacea



The leatherback is the largest turtle, and one of the largest living reptiles in the world. It is named for its unique shell which is composed of a layer of thin, tough, rubbery skin, strengthened by thousands of tiny bone plates that makes it look “leathery.” Leatherbacks have the widest global distribution of all reptile species.

**PHYSICAL DESCRIPTION:** The leatherback is the only sea turtle that doesn’t have a hard bony shell. A leatherback’s top shell (carapace) is about 1.5 inches (4 cm) thick and consists of leathery, oil-saturated connective tissue overlaying loosely interlocking dermal bones. Their carapace has seven longitudinal ridges and tapers to a blunt point, which help give the carapace a more hydrodynamic structure. Their front flippers don’t have claws or scales and are proportionally longer than in other sea turtles. Their back flippers are paddle-shaped. Both their ridged carapace and their large flippers make the leatherback uniquely equipped for long distance foraging migrations.

**COLOR:** Primarily black shell with pinkish-white coloring on their belly, and varying amounts of white spots all over their body.

**LENGTH AND WEIGHT:** Adults are typically 6.5 feet (2 m) in length, hatchling 2 to 3 inches (5 - 7.5 cm). Hatchling weigh about 1.5-2 ounces (40-50 g), adults may weigh up to 2,000 pounds (900 kg). The largest leatherback ever recorded was almost 10 feet (305 cm) from the tip of its beak to the tip of its tail and weighed in at 2,019 pounds (916 kg).

**DIET:** Leatherbacks don’t have the crushing chewing plates characteristic of other sea turtles that feed on hard-bodied prey. Instead, they have pointed tooth-like cusps and sharp-edged jaws that are perfectly adapted for a diet of soft-bodied pelagic (open ocean) prey, such as jellyfish and salps. A leatherback’s mouth and throat also have backward-pointing spines that help retain such gelatinous prey. Leatherbacks can dive to depths of 4,200 feet (1,280 meters)—deeper than any other turtle—and can stay down for up to 85 minutes.

**MATING AND NESTING:** Leatherbacks mate in the waters adjacent to nesting beaches and along migratory corridors. After nesting, female leatherbacks migrate from tropical waters to more temperate latitudes, which support high densities of jellyfish prey in the summer. Female leatherbacks remigrate to their respective nesting sites at 2-3 year intervals. Females nest several times during a nesting season, typically at 8-12 day intervals and lay clutches of approximately 100 eggs. Female leatherbacks usually lay their eggs at night. Nesting turtles may decide not to nest if there are too many lights onshore. Those that come ashore seek nesting sites free of debris (tree limbs). If the turtle does not find a suitable site for her nest, she may return to the ocean without laying. Leatherbacks carve out an egg chamber about 75 centimeters (inches) deep in the sand, where they deposit 65-115 eggs.

A leatherback can lay 7 to 11 individual nests per season, laying a new nest every 10 days. Between nesting seasons, females will spend 3-4 years feeding to build up enough energy to nest again. Older females typically lay more nests with more eggs than turtles that have recently reached maturity. The sex of turtle eggs is determined by the temperature of the nest. During the middle third of incubation (days 20-40) the temperature within the nest determines the ratio of males to females; warmer temperatures mean more females while cooler temperatures yield more males. After an incubation period of 60 days the eggs will begin to hatch. The hatchling turtles must emerge from the nest and make their way to the ocean. Ten percent of hatchlings will be eaten by seabirds, crabs, reptiles and mammals on the beach. Only 25 percent of hatchlings will make it through their first few days in the ocean. Just 6 percent of hatchlings will survive their first year. Unlike other species of sea turtles, leatherback females may change nesting beaches, though they tend to stay in the same region. Population estimate ranges between 34,000 and 36,000 nesting females.

**DISTRIBUTION AND HABITAT:** Most widely distributed of all sea turtles. Found world wide with the largest north and south range of all the sea turtle species. With its streamlined body shape and the powerful front flippers, a leatherback can swim thousands of miles over open ocean and against fast currents.

The global population of leatherbacks comprises seven biologically and geographically subpopulations, which are located in the Atlantic, Pacific, and Indian Ocean. The subpopulations with ranges overlapping U.S. territory are the West Pacific, East Pacific, and Northwest Atlantic leatherbacks. Leatherbacks are commonly known as pelagic (open ocean) animals, but they also forage in coastal waters. In fact, leatherbacks are the most migratory and wide ranging of sea turtle species. Thermoregulatory adaptations such as a counter-current heat exchange system, high oil content, and large body size allow them to maintain a core body temperature higher than that of the surrounding water, thereby allowing them to tolerate colder water temperatures.

**NATURAL HISTORY:** About 55-60 days after the female lays eggs, hatchling turtles emerge from their nests, head to the sea and follow ocean currents to pelagic nursery habitats, where they search for food and seek refuge from predators. Scientists refer to this time period as “the lost years”, since finding hatchlings and juveniles to study in the open ocean is difficult. Leatherbacks reach maturity at about 12-15 years of age. Mature female turtles return to their natal beaches for nesting, but adult male turtles live entirely at sea.

**THREATS:** Leatherback turtles face threats on both nesting beaches and in the marine environment. The greatest causes of decline and the continuing primary threats to leatherbacks worldwide are long-term harvest and incidental capture in fishing gear. Harvest of eggs and adults occurs on nesting beaches while juveniles and adults are harvested on feeding grounds. Incidental capture primarily occurs in gillnets, but also in trawls, traps and pots, longlines, and dredges. Additionally, leatherbacks are threatened by the existence of marine debris such as plastic bags and balloons, which they often consume after mistaking them for their preferred prey, jellyfish. Together these threats are serious ongoing sources of mortality that adversely affect the species’ recovery. It is estimated that only about one in a thousand leatherback hatchlings survive to adulthood. The hawksbill turtle was listed under the Endangered Species Act (ESA) as endangered in 1970.

**BIBLIOGRAPHY:** For further details about leatherback sea turtles you may want to consult the following literature:

- The IUCN Amphibia-Reptilia Red Data Book. 1982.
- Sea Turtles: A Complete Guide to Their Biology, Behavior and Conservation. James R. Spotila. 2004.

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