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At a glance

Virtually unchanged since before the days of the dinosaurs, the majestic leatherback turtle has been swimming the world's oceans for more than 90 million years. Despite the species' remarkable persistence on planet earth, many things about the leatherback remain a mystery. We don't know, for example, how these reptiles navigate to specific nesting, breeding, and feeding areas. What we do know is that today the turtle is considered endangered.

About the leatherback turtle

Powerful and elegant swimmers, leatherback turtles cover enormous distances of open ocean, up to 12,000 km each year. One turtle found in the waters off Cape Breton, Nova Scotia, arrived on a nesting beach in Trinidad in only four months. Leatherbacks use their front flippers to propel themselves through the water at speeds reaching approximately nine kilometers an hour.

Leatherback turtles also dive to incredible depths—up to 1.2 kilometres—and can stay underwater for almost 1.5 hrs before returning to the surface for air.

How to recognize a leatherback turtle

The leatherback is the world's largest reptile- its upper shell—or carapace—can grow to more than two metres in length. The leatherback is also the only sea turtle that does not have a hard shell. Instead, its carapace (which is a dark bluish-black color) is covered with leathery skin: hence the turtle's name. The skin covers a thick layer of fat, tissue and bony plates that fit together like a jigsaw. The bottom of the turtle's shell (plastron) is pinkish white.

The leatherback turtle has front and rear flippers, but unlike other sea turtles these flippers have no claws. The turtle's front flippers are often half as long as its carapace. The leatherback's body is teardrop-shaped, tapering at the rear.

Every leatherback turtle has a pink patch on the top of its head. While we know that each pink patch is as unique- like a human fingerprint, we don't know what purpose it serves. Some scientists believe the patch might help the turtle sense light or determine its location in the ocean.



Dr. Scott A. Eckert



Fiona Cuthbert



Fiona Cuthbert



Fiona Cuthbert

How does it stay warm?

Leatherbacks can maintain core body temperatures up to 18°C warmer than the surrounding water, enabling them to survive in water that is much too cold for other marine turtles. It's thought that a combination of adaptations enables the turtles to retain body heat. These include a thick layer of fat, a large volume-to-surface area ratio, and constant activity. Leatherbacks also have 'heat exchangers' in their flippers: vessels supplying warm blood from the heart are bundled with veins returning colder blood from the turtle's flippers, enabling a transfer of heat, and minimizing heat loss. Therefore, while fundamentally a reptile, the leatherback has some capacity to generate its own body heat, more like a mammal.

Where the leatherback turtle lives

Ranging further than any other reptile, the leatherback turtle can be found in the Atlantic, Pacific and Indian Oceans, and also in the Mediterranean Sea. In Canada, leatherbacks occur off the coasts of Nova Scotia, Newfoundland and Labrador, New Brunswick and Prince Edward Island. Research has revealed that leatherbacks are most abundant in Atlantic Canada from July through to the end of October, with the highest densities of turtles occurring on the Scotian Shelf and Slope, southern Gulf of St. Lawrence, and south coast of Newfoundland. The leatherback has also been seen—though far less frequently—off the coast of British Columbia.

Leatherbacks nest on the warm tropical beaches of the Atlantic, Pacific and Indian Oceans.

Mating occurs in waters adjacent nesting beaches. When egg development is complete, most adult female leatherbacks wait for nightfall before clambering up the beach, digging a shallow pit in the sand, and depositing their eggs. The female then buries the eggs with her hind flippers and compacts the sand with the weight of her body before crawling back to the sea. She will return to nest approximately 10 days later. Although females lay between 60 and 90 eggs at a time, and may nest up to 10 times a season, only a few hatchlings will survive to grow to adulthood and breed. Those turtles that survive will spend 24 to 29 years at sea before they nest for the first time, at the same beach where they hatched. Beyond these struggles the leatherbacks' average lifespan can be between 24 to 29 years.

While we know that life is perilous for tiny hatchling leatherback turtles and that few survive to adulthood, we don't know where hatchlings go between the time they first enter the ocean and the time they appear in temperate waters as large sub-adults. Sightings of juveniles are extremely rare.

Why it's at risk

Female leatherbacks are slow-moving on land, and, while they disguise the precise location of their nests by broadly scattering sand with their front flippers, they leave conspicuous tracks in the sand to and from the nesting site. Mammalian predators, such as coatis, and feral dogs can be efficient at locating and consuming entire nests. Egg collection by humans can also be a problem on nesting beaches, as leatherback eggs are considered a delicacy in many countries. As well, many once-undisturbed nesting beaches have now been developed into residential areas and tourist resorts; hatchlings that emerge from nests are often disoriented by the bright lights, and succumb to exhaustion, dehydration, or predation as they struggle to find their way to the sea.

In the ocean, leatherback turtles can become hooked, and/or entangled in fishing gear. While many fishers are careful to release trapped leatherbacks, some turtles drown or sustain lethal injuries before help arrives. The turtles can also become tangled in discarded fishing gear, collide with vessels, or mistake plastic debris for food (which can lead to obstruction of the digestive system, followed by starvation). Hatchlings have many natural predators. While en route from the nest to the ocean, they are tempting prey for crabs, seagulls, crows, vultures and hawks. Once they reach the ocean, hatchlings, and juveniles become potential food for octopi, sharks and other large fish. Fully grown leatherback turtles have few natural predators, although they are occasionally attacked by large sharks and killer whales.

What's being done

The leatherback turtle is protected in Canada under the federal *Species at Risk Act* (SARA). The turtle is also protected by provincial legislation in Nova Scotia and designated as endangered under *New Brunswick's Endangered Species Act*.

The [recovery strategy for leatherback turtles in Pacific Canadian waters](#) has been finalized and an action plan is being developed.

The [recovery strategy for the leatherback turtles in Atlantic Canadian waters](#) has also been finalized and an action plan is being developed.

What can you do?

Leatherback turtles will get the protection they need only if all Canadians work together to reduce threats. Find out more about leatherback turtles and be aware of man-made threats to their survival such as entanglement in fishing gear and marine pollution. Do your best to reduce these threats wherever possible to better protect the leatherback's critical habitat. Get involved with the [Habitat Stewardship Program for Species at Risk](#) (HSP) or another conservation

organization.

Check out the Canadian Sea Turtle Network (CSTN), a collaborative research and conservation initiative that includes fishermen, tour-boat operators, naturalists, coastal community members, and university-affiliated biologists in Atlantic Canada. The CSTN has produced a video that informs fishers about leatherbacks and how to release them from fishing gear, and also responds directly to reports of entangled turtles. The group has also conducted field research on leatherbacks since 1999, including equipping over 70 leatherback turtles with satellite-linked tags to track them on their ocean voyages in the hope of solving some of the mysteries surrounding the turtle and contributing to the recovery of the species.

[Find out more](#) >>.

In New Brunswick, the species is designated as endangered under the provincial *Endangered Species Act*. It is also protected by provincial legislation in Nova Scotia.

Federal fisheries officers in Nova Scotia and New Brunswick, and a marine animal disentanglement group in Newfoundland also respond to leatherbacks entangled in fishing gear.

For more information, visit the SARA Registry Website at www.SARAreistry.gc.ca

Background information provided by Environment Canada in March 2004.

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