

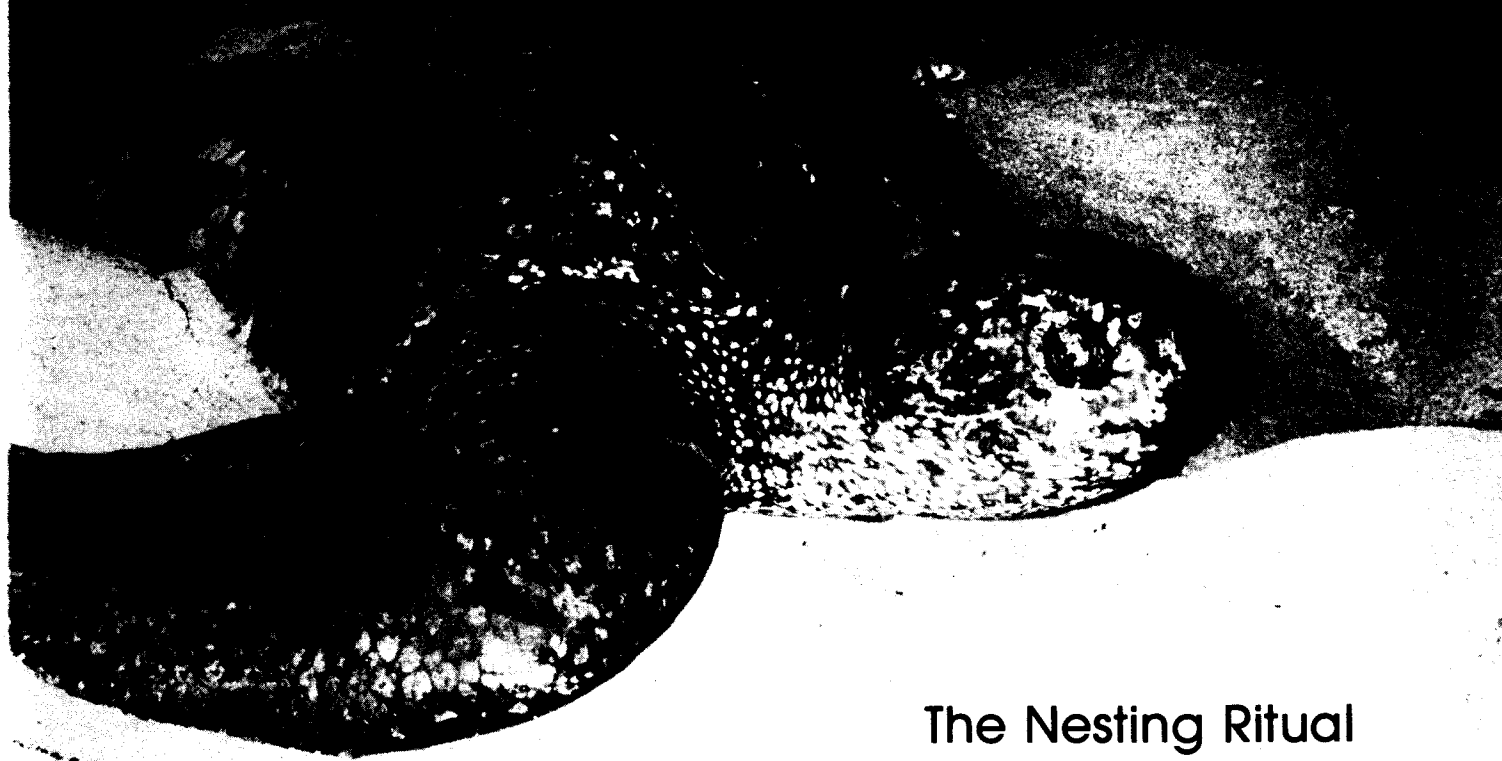


COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF THE VIRGIN ISLANDS

Natural Resources
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ENDANGERED SPECIES
August, 1988

Leatherback Turtles

Season of Survival:



The Nesting Ritual

LEATHERBACK TURTLES

by

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The leatherback turtle (*Dermochelys coriacea*), with its ridged back and leathery covering, lacks the hard shell or carapace of the other sea turtles. It is the largest of the sea turtles—female leatherbacks may grow to six feet in length and weigh over 1,000 pounds; males grow even bigger.

Adult leatherbacks usually live in northern waters where they feed mostly on jellyfish. Every two or three years, female leatherbacks head for tropical waters where they nest on warm sandy beaches like Sandy Point, St. Croix, U.S.V.I. Nesting usually takes place from March to July.

It is quite a struggle for this huge sea-going animal to move onto land to lay her eggs. She may wheeze and groan at the effort as she slowly hauls herself up the beach looking for a suitable nesting place. She reaches out with her strong flippers and drags herself forward in the soft sand, much as the ancestors of sea turtles have done for the last 150 million years or so. It is thought that turtles normally return to nest on the very beaches on which they hatched, but no one knows how, out of the whole vast ocean, they are able to find that one beach.

The mother turtle tends to be nervous in this part of the nesting ritual, which is called the approach. This is the time when loud noises, lots of activity, movement, and especially light like camp fires, flood lights, beach lamps or even flash lights may upset her and send her back out to sea.



Photo 1

Bob Brandner

The turtle now begins serious digging (photo 2). Using her back flippers—first scooping sand out with one, then the other—the turtle digs until she cannot reach any deeper. This is usually about two to three feet down into moist sand, and may take a half an hour or so. If the turtle is satisfied with her pear-shaped hole of a nest, she begins to lay her eggs (photo 3). If something is wrong with the nest—sometimes the sand caves in or water or roots may be in the nest—she may move up the beach to dig elsewhere or return to the sea and try again another night.



Photo 2

Scott Eckert

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Each female leatherback lays between 60 and 100 eggs in each nest. They are bigger than chickens' eggs and are perfectly white and round. The shells are a flexible leathery material like the eggs of many reptiles so the drop into the nest will not hurt them. Near the end of her egg laying, the turtle lays about 20 to 30 smaller eggs. These eggs, which have no yolks, will not develop into turtles; scientists are puzzled about their purpose.



Photo 4

Scott Eckert

After all the eggs are in the nest, the turtle once again uses her back flippers as sand movers. She completely covers the eggs and then begins to fling the surface sand around the nest area. This is called camouflaging and helps hide the nest. Camouflaging is the last phase of this ancient nesting ritual. When the mother turtle is satisfied that her nest is well-hidden, she heads back to the sea (photo 4). After about 10 days at sea, the mother turtle will return again. She will probably repeat this nesting pattern from three to eight times in a season.

After two months in the sandy depths of their nest, the turtle eggs will hatch. When all of the eggs have hatched, the young turtles or hatchlings work their way up as a group toward the surface sands. They wait just under the surface until the sand cools. When the time is right, usually around dusk, the group of hatchlings emerges from the sand. These tiny turtles (photo 5), which are no bigger than a child's hand, then begin their journey to the sea. This trek across the beach is one of the most dangerous times of their lives. The hatchlings may be eaten by night herons or crabs. They can fall in a rut or footprint or become tangled in seaweed or beach trash; if they are trapped until day, mongooses or sea birds may eat them.



Photo 3

Scott Eckert



Photo 5

Scott Eckert

Once the hatchlings finally reach the sea, fish and sea birds prey on them. No one knows where these young turtles go to grow or how long it takes before they return to nest, but we do know life is not easy for a baby turtle!

How to Help Turtles Survive

- **Respect nesting beaches.**

At night, keep them quiet and dark. Lights can disorient hatchlings and lead them away from the sea. Keep vehicles and horses off at all times.

Limit activities that might damage developing eggs and hatchlings. Fires and holes are potential hazards for young turtles.

Use only chair umbrellas on nesting beaches — jamming umbrella poles into the sand can destroy developing eggs.

- **Keep the ocean and beaches clean.**

Fishing line and plastics are especially hazardous. Plastic bags are a particular threat to leatherbacks because they mistake them for jellyfish, their main food.

- **Leave turtles and their nests alone.**

Although sea turtles and their eggs once provided food for a small number of people, it is now illegal to harm turtles or to take their eggs. This is called poaching and is punishable by fine, imprisonment or both.

- **If you see a sea turtle being captured, harmed or killed or eggs being taken, please call National Marine Fisheries Service Law Enforcement Division at 774-5226 or Bureau of Environmental Enforcement at 774-3320 (St. Thomas) or 773-5774 (St. Croix).**

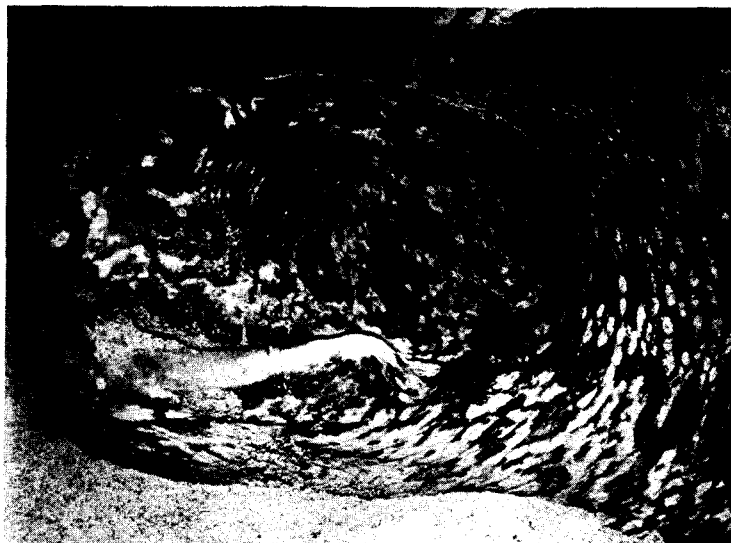


Photo 7

Scott Eckert

The Law and You

The U.S. Endangered Species Act of 1973 protects Leatherbacks and all other sea turtles. Under the law, it is illegal to:

1. Harm sea turtles or their eggs in any way.
2. Eat turtle meat or eggs.
3. Transport turtles, eggs or any part thereof.
4. Buy or sell turtles, eggs or any part thereof.
5. Receive turtles, eggs or any part thereof.

Each individual act is punishable by fines of up to \$20,000 and/or 1 year in jail.



Photo 6

Bob Brandner

Leatherback Turtle Recovery Project

The Leatherback Turtle Recovery Project, run by the Virgin Islands Division of Fish and Wildlife, Department of Planning and Natural Resources, is based at Sandy Point in St. Croix. Its aim is to aid the leatherbacks in their nesting, to prevent poaching and to gather valuable information on these magnificent animals. The ultimate goal is to help them increase their numbers and, thus, to prevent their extinction. Similar projects are underway in Culebra, Puerto Rico and elsewhere in the Caribbean.

During the nesting season the beach at Sandy Point is patrolled every night by Earthwatch volunteers and researchers. Each leatherback that comes ashore to lay her eggs is identified and carefully watched to ensure that she successfully completes the egg-laying process. Two months later, when the eggs hatch, care is taken to ensure every hatchling reaches the sea, thus providing it the best possible chance of survival at its most vulnerable time.

Sandy Point is no longer an open beach. It is a National Wildlife Refuge, a part of a group of protected lands governed by federal law. All wildlife refuges are closed from sunset to sunrise. Restricting the human activity on this special piece of land helps maintain the turtles' habitat and their chances of survival.

LEATHERBACK TURTLES

Did You Know?



Leatherback turtles lived on the earth even before the dinosaurs existed.



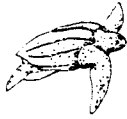
Leatherbacks are endangered animals and may become extinct. People are the biggest threat to their survival. Other predators are sharks and killer whales.



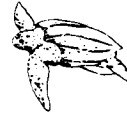
Out of each one thousand leatherback eggs that are laid, only one turtle is thought to reach adulthood.



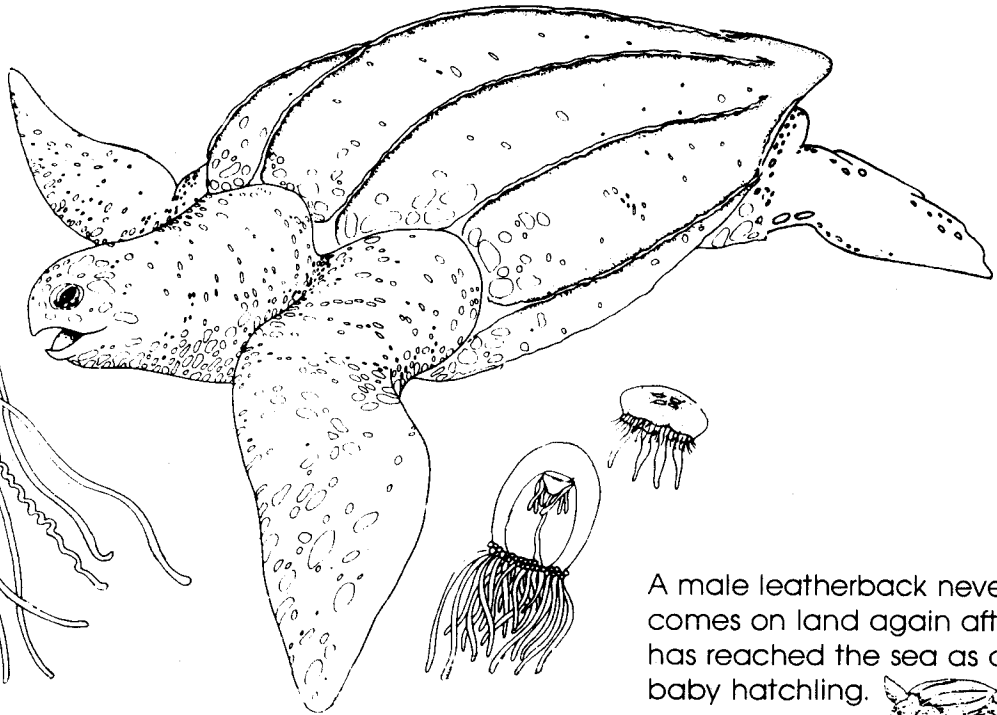
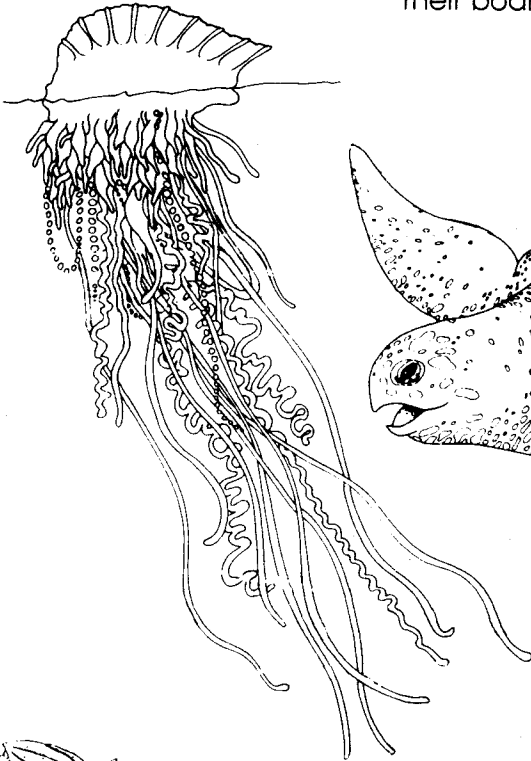
No one knows how long leatherbacks live.



Leatherbacks shed "tears" from special ducts near their eyes that help to remove excess salt from their bodies.



Leatherbacks are one of the deepest diving air-breathing animals in the world.



A male leatherback never comes on land again after it has reached the sea as a baby hatchling.



A leatherback hatchling increases its weight roughly 6,000 times before it becomes an adult turtle (people increase their weight only about 18 times from birth to maturity).



Leatherbacks need air to breathe; they will drown if they get trapped under water.



Hatchlings know where the sea is by the lighter sky of the horizon. If there is a bright light shining on the land they can become confused and go towards that instead.

Time to Wonder: Questions for the Classroom



Little is known about where baby leatherback hatchlings go once they reach the sea. Adult leatherbacks have been seen in northern seas (Nova Scotia, Newfoundland, etc.), but young turtles are almost never seen. Where do you think they go while they grow up?



Leatherbacks are one of the deepest diving air-breathing animals. They may reach depths of 4,000 feet or so. Why do you think they dive so deep? How do you think their body stands the enormous pressure?



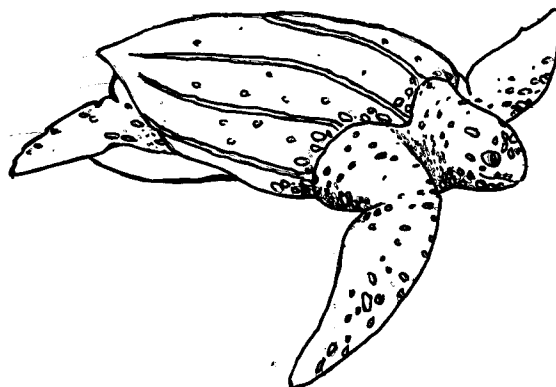
Scientists would like to be able to put tags on the baby hatchlings so they could get information on where the hatchlings go and how long it takes them to grow into adults. So far no tag has been found that is big enough to stay on an adult but that does not hinder the tiny hatchling. How do you think hatchlings could be tagged?



Leatherback turtles have lived on the earth for over 150 million years. This means they were alive before the dinosaurs existed and are one of the most successful animals to have ever lived. In the last 200 years, their numbers have dwindled and now they are in danger of becoming extinct. Can you think why?



When leatherback eggs are laid in the sand, the sex of the undeveloped hatchling has not been determined. It is the temperature surrounding the eggs as the hatchlings develop that determines which hatchling will be male or female. If a nest is laid deep in the sand it will experience the cooler temperatures which nurture male hatchlings. A shallower nest will be warmer and is likely to produce more females. This makes it possible for all the hatchlings from one nest to be of one sex. How do leatherbacks benefit from this process? Do you think that there are equal numbers of male and female leatherback turtles?



For more information on these amazing creatures, call: The Division of Fish and Wildlife at 775-6762 (St. Thomas) or 772-1955 (St. Croix); or the University of the Virgin Islands, Cooperative Extension Service at 778-0246 (St. Croix) or 774-0210 (St. Thomas).