Watson, J.

PULLING TURTLES

OUT OF THE SOUP

Throughout the Southeast, volunteers, researchers—indeed, entire communities—are rallying to rescue threatened loggerheads

By Jim Watson
Photographs by Lynda Richardson

PAUSING FREQUENTLY to swat "no-see-ums," Stephanie Richardson kneels over a hole on the beach and scoops out handfuls of coarse white sand. It's a late-summer evening and the sand flies on Keewaydin Island are making her job unbearable. Suddenly, more trouble: About two feet down, the hole starts filling with seawater. Richardson groans. This does not bode well for her "babies."

One night more than two months earlier, a female loggerhead turtle pulled herself onto this beach, dug this nest, deposited 127 leathery, Ping-Pong-ball-sized eggs and covered the hole with sand before sinking back into the vast blackness of the Gulf of Mexico. Today, Richardson—a 23-year-old Virginian working as an intern for The Conservancy, a Southwest Florida environmental group—wants to know how many young turtles, if any, emerged to scramble toward the welcoming surf.

The answer hits her right in the nose. Richardson recoils with a gasp as the stench of death and saltwater rises from the hole. "I love my job, I love my job, I love my job," she chants, leaning back into the task. "I have to keep telling myself that at times like this." She slowly exhumes a pile of drowned, rotting hatchlings and waterlogged eggs, then tallies the carnage: no survivors.

Her luck improves at another nest. Shell fragments indicate that 61 of the 77 eggs laid in this hole hatched. If raccoons or crabs didn't snatch them as they crawled free, the 2-inch hatchlings might have reached the open sea, where they stand at least a remote chance of surviving.

The odds against a single loggerhead hatchling making it to adulthood are astronomical—10,000 to 1, say some biologists. Many eggs never hatch at all. And of the few lucky youngsters that find their way to the ocean, most are quickly gobbled up by seagoing predators.

If Nature makes survival difficult for sea turtles, mankind has made it all but impossible. Decades of abuse, ignorance and exploitation have decimated a group of reptiles that has plied the seas since the age of the dinosaurs. Now, more than ever, turtles need all the help they can get.

That's where people like Richardson come in. From Virginia to the Gulf Coast of Florida and beyond, armies of scientists and citizen volunteers are hitting the beach, armed with special state and federal permits. Their mission: to report dead turtles to wildlife officials, care for the injured, monitor nests and, if necessary, move eggs to safer locations.

"These people are our eyes and our ears," says Barbara Schroeder, sea turtle recovery coordinator for Florida's Department of Natural Resources. "Everybody is putting in effort and time to gather the data that will enable us, we hope, to improve the status of sea turtles."

Few imperiled creatures, if any, have ever inspired such an outpouring of public support. "It seems to be something that's growing by epidemic proportions," says Maura Kraus, sea turtle coordinator for southwest Florida's Collier County. "Turtles just *do* something to people."

Why such enthusiasm for a group of uncuddly, wrinkled reptiles—non-ninja

Survivors of a raccoon attack on their nest in Florida, loggerhead hatchlings navigate an aquarium while awaiting release in the sea. Help from volunteers increases the chances young turtles will make it to adulthood.

NATIONAL WILDLIFE

turtles, no less? "Maybe it's because they're a link to the dinosaurs," offers Marc Levasseur, who leads turtle walks from the Jupiter Beach Hilton.

Turtle hatchlings that are entering the sea today will not mature for 20 years or more, so it's difficult, if not impossible, to measure the immediate success of these volunteer efforts. Still, the growing wave of public awareness has already borne some encouraging changes.

In 1989, fueled by popular concern and the necessity to protect sea turtles under the Endangered Species Act, the federal government began requiring "turtle excluder devices" (TEDs) on shrimp nets in U.S. waters. (TEDs are basically trapdoor mechanisms that allow the air-breathing reptiles to escape.) And within the past few years, coastal counties and cities, particularly in Florida, have passed aggressive new laws aimed at minimizing hazards to turtles on the beach.

A shell-mounted transmitter (above) helps scientists in Virginia track a loggerhead turtle's migrations, which can cover thousands of miles. In Florida, a female comes to shore to lay 104 Ping-Pong-ball-sized eggs (inset). Later, she covers the nest (right) and disappears back into the Gulf of Mexico.

In general, the beneficiaries of this goodwill are loggerheads, the most abundant of the five types of sea turtles inhabiting U.S. waters (there are no comprehensive population estimates). The species is listed as threatened, while hawksbill, Kemp's ridley and leatherback turtles are considered endangered, or nearly extinct. Green turtles are endangered in Florida and threatened elsewhere.

Powerful swimmers capable of traveling more than 40 miles a day, loggerheads sport thick, reddish-brown shells and huge heads (hence, their name). From hatchlings no bigger than pocket watches grow adults weighing as much as 450 pounds.

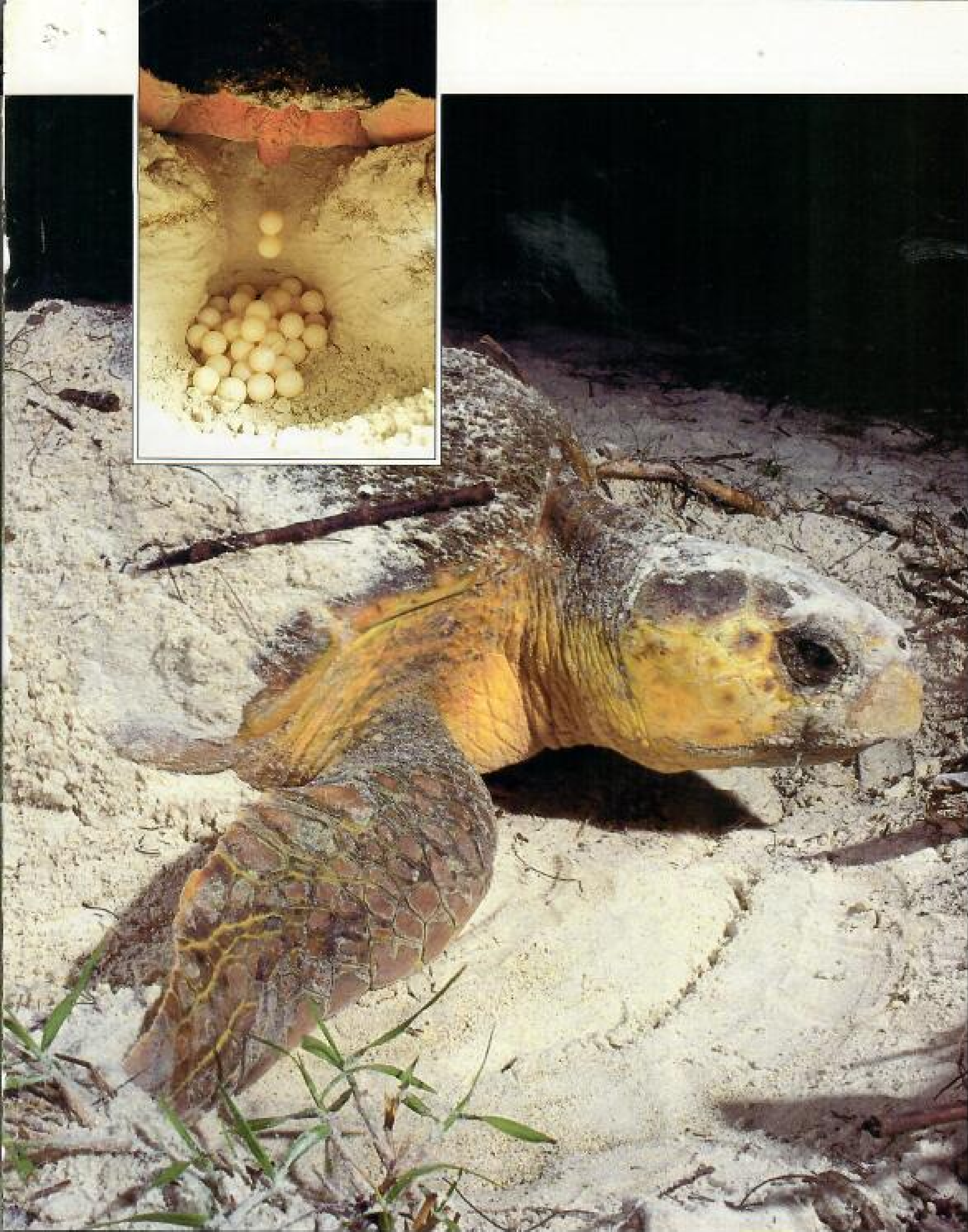
The creatures dwell in warm and temperate waters around the world, venturing farther from the tropics than other turtles to lay their eggs. In this hemisphere, most loggerheads breed along the southeastern U.S. coast, second-largest rookery for the species in the world. Every year, about 28,000 females emerge on U.S. shores from April to September.

"Turtles have been very successful, which is why they've been around for so long," says Schroeder. "But now people have arrived on the scene, and these animals just can't deal with the things we're doing out there."

At sea, as many as 55,000 loggerheads drown in shrimp nets every year, according to the National Research Council. Others choke on plastic trash and swim into boat propellers. On shore, where crucial nest sites are being lost to resorts and condominiums, nesting females can get entangled in beach furniture and crushed by vehicles. Hatchlings emerging from their nests frequently follow the glow of artificial lights into streets and parking lots, where they are crushed by cars or cooked by the sun.

Light, even at low levels, is a powerful beacon for hatchlings. Scientists believe the creatures are "programmed" to crawl toward the relative brightness of the ocean horizon. A light near the beach can skew this guidance mechanism, causing the hatchlings to veer off course. "It doesn't have to be a spotlight," says Schroeder. "It can even be a porch light."

People remain the greatest threat to turtles, but people are also the animals' only hope. Leading the charge in the fight to save sea turtles are scientists like Charles LeBuff, a biologist in Sanibel, Florida, who has studied loggerheads for 37 years. In 1968, he started Caretta Research (from the loggerhead's scientific name, *Caretta caretta caretta*), a nonprofit group that organized volunteers to look for turtle nests along the southwest Florida coast. LeBuff has since seen interest in turtles swell. He recalls a workshop he hosted in 1973. "Six people showed up," he says, "and one of them was myself." Recently, a similar conference drew some 500 people from all over the world.



How an Obscure Law is Saving Turtles

IT WAS an important victory for sea turtles—and endangered species worldwide. Under pressure from the Bush Administration and wildlife groups, Japan agreed last year to stop importing endangered hawksbill and olive ridley sea turtles by the end 1992. The decision has special significance. Japan was forced to end its trade in the threatened creatures thanks to an obscure provision in a U.S. law that holds promise for helping to protect other troubled species as well.

The provision, known as the Pelly Amendment, was added by Congress to the Fishermen's Protective Act 14 years ago. The amendment authorizes the President to slap trade sanctions on countries found to be trading in endangered species. Despite the tough language, no administration had ever seen fit to use it in that way—that is, until last year. Invoking the provision for the first time, the National Wildlife Federation, the Environmental Defense Fund, the Center for Marine Conservation and the National Audubon Society petitioned the U.S. government to find Japan guilty of engaging in the taking of imperiled sea turtles that "diminished the effectiveness" of the Convention on International Trade in Endangered Species (CITES).

Efforts to stop the killing of sea turtles, such as these dead hawksbill and green turtles in Bali, were boosted last year when the United States used an obscure law to threaten sanctions against Japan if that nation did not end its trade in the animals.

The Interior and Commerce departments investigated and agreed, "certifying" Japan for action. President Bush then threatened bans on most Japanese imports if the country didn't move to protect the turtles. An embarrassed Japan, which will host a biannual CITES meeting in Kyoto this March, backed down. And conservationists are now scouring the international market in endangered species for other ways to use the provision. "We struck gold with this one. And the potential is there in the future for other cases," says National Wildlife Federation attorney Robert Irvin.

The Pelly Amendment requires the Commerce and Interior departments to "periodically monitor the activities of foreign nationals" for violations of international conservation programs. It also mandates that the agencies "promptly investigate any activity" that may be cause for certification. However, wildlife experts caution that the provision will have to be used selectively. Few nations are as dependent on the United States for trade as Japan. What's more, Japan's importation of hawksbills was easily proven. Japanese officials kept records of yearly tonnage trying to preserve a centuries-old cottage industry near Nagasaki, where the shells of the sea turtles were carved into jewelry, combs and eyeglass frames.

"This was an easy one," says Andrea Gaski, a World Wildlife Fund biologist. "Trouble is, most endangered species trade is so underground you can't nab a country for it."

Still, environmental groups are heartened that the Bush Administration was willing to cite a major trading partner for trafficking in endangered species. And the decision apparently will have important side effects, too.

Now that the Commerce Department has taken action against Japan for endangering hawksbills, the agency will have a hard time loosening domestic requirements that shrimpers in the United States use special devices to keep sea turtles from becoming caught in nets. And wildlife specialists believe the action will have a beneficial effect at the Kyoto meeting, opening the way to new restrictions on the trade of elephant ivory among the 110 nations that have joined CITES.

—Doug Harbrecht

Virginia researcher Bill Jones examines loggerhead eggs inside a screened, predator-proof cage (right). Chain-link fencing in Florida was a poor deterrent against a raccoon (inset). For this shot, the photographer placed infertile eggs in a mock nest.

For the past 20 years, biologist Lew Ehrhart at the University of Central Florida has been studying long-term trends in sea-turtle migrations and behavior along a 28-mile strip of shoreline in Brevard County. This Atlantic Coast beach hosts the greatest density of loggerhead nests in the country—20,000 last year.

During nesting season, Ehrhart and his students arise before dawn to search the beach for turtle nests. In the afternoon, they capture immature turtles in coastal lagoons, part of an ongoing study to learn more about the creatures' early lives. By evening, they're back on the beach, clamping tags on adult females.

In the early 1980s, Ehrhart's group and others began sounding alarms about the effects of beach lighting on hatchlings. Newspapers and radio stations carried the message, which was heard by local officials. In 1985, Brevard County became the first to pass an ordinance prohibiting beach lights at night. Since then, 12 Florida counties and 23 cities have passed various lighting laws.

Because scientists can't cover every nesting beach or keep track of every turtle, they rely heavily on citizen volunteers to supply them with reports from the beachfront. "During nesting season," says Schroeder, "our permit-holders are out seven days a week."

Fortunately, these interspecies Samaritans need little encouragement. "Turtles don't have a PR problem," says biologist Dave Addison. He supervises the sea turtle program for The Conservancy, which has monitored nests near Naples for more than a decade. Although he warns applicants the working conditions are "atrocious," the weather brutal, the pay meager and the insects hungry, he still has to turn people away. Adds Bill Branan, the group's director of environmental protection, "There's a real awareness about sea turtles and their situation that didn't exist 20 years ago."

Volunteers from all over the country pay to spend a week tagging turtles and swatting mosquitoes on Georgia's Wassaw Island as part of a 20-year-old program at the Savannah Science Museum. "This is one of the few things people can do to get involved with endangered species," says

DO NOT
NEST

Catherine Blocker, director of education.

There's no limit to the lengths (or depths) to which some people will go to help turtles. Take Peter Bandré, a 34-year-old contractor and reptile breeder in Melbourne, Florida. Eight years ago, he founded the Sea Turtle Preservation Society, a group of naturalists that now has 400 members. A few summers ago his turtle love landed him in the sewer.

While investigating a report of disoriented hatchlings in nearby Indialantic, Bandré happened to glance through a sewer grate on the street. Sure enough, there were four or five tiny loggerheads in the muck. He yanked off the grate and jumped to the rescue. He then spied another group in a pipe under a Wendy's parking lot, but this time the grate was cemented shut. He made a call, and soon city workers arrived with crowbars.

Like moths to a flame, loggerhead hatchlings follow a flashlight's glow on a Florida beach (above). The pocket-watch-sized creatures (inset) naturally head toward light—often a fatal attraction near brightly lit highways. In Virginia, dawn lures young loggerheads into the Atlantic (right).

As he handed hatchlings up through the grate, Bandré squinted into a jumble of lights and microphones: Some reporters had gathered at the scene. "They interviewed me with my head sticking out of the sewer," he says. Later, the National Marine Fisheries Service presented him with an outstanding achievement award.

Few volunteers get as close to their subjects as Beth Libert, known affectionately as the "Turtle Lady" of Florida's Volusia County. Every day for the past nine summers, this 32-year-old former yacht broker from Ponce Inlet has driven her pickup truck along a 13-mile strip of beach near Daytona Beach looking for signs of turtle visits during the previous night. For the first six years she traveled alone, on the job by 6 A.M. Now she gets help from other volunteers in the Volusia County Turtle Patrol, a group she helped form.

"I'd do anything to save a turtle," says Libert. And she means it. Four years ago, she and a co-worker came upon an adult female loggerhead that had washed ashore. It was partially drowned, probably from an encounter with a shrimp net, and near death. Before an audience of about 60 people who had gathered to watch hatchlings emerge from a nest nearby, the rescuers flipped the beast on its back and began performing CPR. While one volunteer stomped on the turtle's chest, says Libert, "I did alternating breaths through its nose." The animal showed signs of recovery but later died.

What's it like to resuscitate a reptile? "They stink real bad," she says. "They eat horrible things, then spit them up. Their breath smells like rotten clams."

While no one questions the sincerity of these part-time do-gooders, serious scientists like Lew Ehrhart and Barbara Schroeder worry that misplaced emphasis on saving individual turtles obscures the bigger picture. "These people do no harm," says Ehrhart, "but it's important to understand there are larger issues," such as curbing rampant beach development.

For her part, Schroeder is concerned about the noise and confusion that accompany turtlemania. "We don't need any more encouragement for people to come out and comb the beaches looking for turtles," she says. "On Friday and Saturday nights, the beach is a zoo."

"Turtle Lady" Beth Libert would probably agree. People often drive hundreds of miles to watch hatchlings pop out of nests she has been monitoring. When the show runs late, tempers run high. "People have actually picked fights with me," she says. "One guy said, 'I demand that you dig those hatchlings out of the sand right now, or you're paying for my gas!' "

Adds Libert with a sigh, "The turtles I can handle. It's the people that get to me after a while." ■

Senior editor Jim Watson and Virginia photographer Lynda Richardson braved fire ants and no-see-ums for this article.