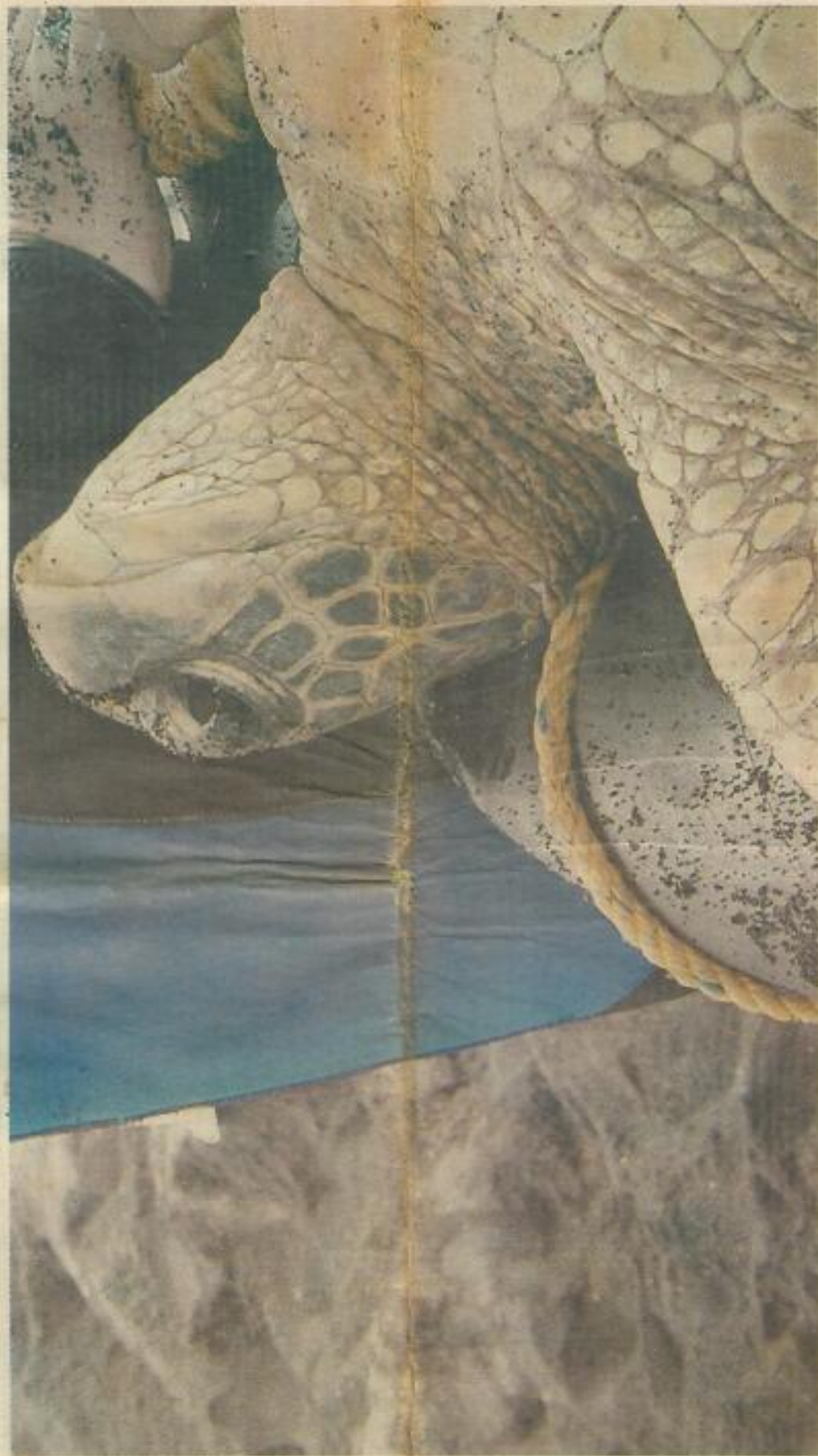


AFTER 25 YEARS OF PROTECTION, TURTLES TURN AROUND



DIANA LEONE / OLEONE@STARBUCKET.COM

The Hawaiian green sea turtle, or honu, has been recovering steadily during the 25 years it has been protected by the Endangered Species Act.

COMEBACK

The Hawaiian green sea turtle rebounds from precariously low population levels thanks in large part to a Hawaii researcher

By Diana Leone
dleone@starbulletin.com

The first year Hawaii's green sea turtle expert counted the animals in the Northwestern Hawaiian Islands, French Frigate Shoals.

Three decades later, on the same island, George Balazs' research team counted 467 nesting females in a season — a nearly 600 percent increase.

Using additional data from the main Hawaiian Islands and mathematical modeling, Balazs estimates that Hawaii now has as many as 35,000 mature green sea turtles and perhaps 250,000 juveniles age 6 or under.

What a difference 25 years under the protection of the Endangered Species Act can make.

"You ask anybody that's a water person, that lives around the water — there's a definite

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increase in turtles," says Robert Morris, the sole veterinarian contracted by the National Marine Fisheries Service to treat sick and injured turtles statewide.

The honu's recovery is significant enough that if the trend continues, the Fisheries Service and U.S. Fish and Wildlife Service might ultimately remove the Hawaiian green sea turtle (*Chelonia mydas*) from its threatened-species list.

That step, if taken, would involve public hearings, scientific reviews and time, says Balazs, leader of the Fisheries Service's Marine Turtle Research Project in Hawaii.

And during such deliberations, the turtles would have Balazs going to bat for their welfare — just as he has for 30 years.

Balazs was a self-described "junior scientist" in 1973 when he first questioned whether people in Hawaii were harvesting honu at a rate faster than the animals could replace themselves.

His first few years of data collected in the Northwestern Hawaiian Islands — where honu that later live in the main Hawaiian Islands go to mate and lay their eggs — confirmed his suspicion.

At the rate people were eating turtle steaks, the risk was growing that not enough of the animals would survive to perpetuate the species.

Balazs' original work helped get the honu listed in 1978 as a threatened species, which means the potential of up to a \$25,000 fine and a year in prison for anyone convicted of harming or killing one.

The man universally considered Hawaii's honu expert seems to be the only person surprised at the impact of his work.

Balazs says.

Within a few minutes, one of the turtle-catching teams is back with the first patient of the day riding in the inner tube, belly up to the sun. After that, every 15 minutes, a crew pops out of the ocean with another turtle.

"They're definitely stronger than you think," says Ashley Herd, a marine science and art student at UH-Hilo. The turtles captured this day measure up to 2 feet wide. "If they want to get away from you, they're gone."

Using a measuring tape and calipers, Balazs measures the dimensions of each animal. The information will be entered into the massive database that has provided Balazs and others raw material for hundreds of scientific papers over the years.

The turtles seem to bear the indignities of the exam with a quiet patience. Their least favorite part appears to be the mouth exam. Several turtles respond by spitting out seaweed.

Balazs wipes up the smelly mess with disposable diapers brought for that purpose and continues.

When the checkup is complete, the turtle gets a blotch of temporary white paint on its shell to keep it from being captured again that day.

The atmosphere on the beach is part science lab, part carnival. Tourists and locals line up behind the plastic caution tapes around the work area to take pictures.

When a field trip of kindergarten and first-grade students arrives, things really get lively. But it all contributes to Balazs' goal of getting more people to know honu. Because as far as he's concerned, to know them is to love them.

"He's a one-man show. He's driven and dedicated to honu. That's his life," says Morris. "His days off, what's George doing? He's out doing turtle work someplace. Not only the Hawaiian turtles, but in Japan and all over the world."

A Canadian couple that has been diving with sea turtles during summers on Maui since 1988 and promotes turtle conservation on their "Turtle Trax" Web site (www.turtles.org) has this to say about Balazs:

"Without George, there would likely be no honu. He's contributed enormously to knowledge of all marine turtles, not just the honu.

"There can only ever be one pioneer researcher — the first to unlock a door. Jane Goodall was the chimpanzee pioneer researcher," Ursula Keuper-Bennett and Peter Bennett said by e-mail from their winter home near Toronto. "And for honu? That's George."

Checkup roundup

It's mid-November, and Balazs is on his way to Punaluu Black Sands Beach Park for his semiannual "checkup" of the honu that live there.

As many turtles as possible will be caught, measured for growth and examined for health problems.

Arriving at 10 a.m., Balazs is greeted by professors, staff and 20 students in the University of Hawaii-Hilo's Marine Option Program.

They have a canopy set up on the beach, with a sturdy table in its shade, for Balazs to perform his exam of as many turtles as four-person teams of students can bring to him over the next four hours.

The Punaluu study site has been ongoing for more than 20 years. At 19 other locations around the main Hawaiian Islands, Balazs and his staff of 4½ workers team with a variety of volunteers.

"It's people that make programs like this work,"

Maybe someday you'll grow up and be a biologist, and you'll use the data we are collecting here today," Balazs tells the students from the Big Island's Pahala Elementary.

For adults, there are handouts with "frequently asked questions" about what the group is doing to the turtles.

While Balazs and a crew work on one turtle, there are always two "on deck" to be examined. The steady supply contrasts sharply with the 1970s to the '90s, Balazs says, when "we'd be tickled pink if we were able to catch even two, three or four turtles" in a day or night of work.

The missing years

After hatching, sea turtles swim away from land. They don't return to near-shore waters until they've grown from palm size to dinner plate size.

Balazs' research on turtle growth rates in the wild has shown him that a young turtle lives at sea for about six years.

"What they do during the years they are on the high seas is the last great mystery," Balazs says, and the area he'd recommend to anyone starting turtle research today.

He also found that it takes 20 or more years for a honu to reach sexual maturity in the wild. Though they probably don't live to be 100, they do live a long time. How long may only be known when currently tagged turtles are recaptured.

Advances in technology allow satellite tracking of turtles at sea that was impossible a decade ago. The battery-powered transmitters are attached to a turtle's shell using a surfboard repair kit and last several months.

Between 1996 and 2000, Balazs and Fisheries Service colleague Jeffrey Polovina have tracked 40 Hawaiian honu, more than 20 loggerheads and four olive ridley sea turtles.

A young captive-raised honu made history earlier this year, transmitting its location during a nine-month, 3,000-mile swim around the Hawaiian Islands.

turtle exam is part science lab, part carnival, with diapers to wipe up spit



Turtles: Word of the animals' congregation has spread

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handfuls of green seaweed and even building sand castles on their backs.

Curious beachgoers stream across Kamehameha Highway, risking accidents and slowing traffic to a stop on a daily basis. Illegally parked tour vans disgorge crowds. Residents complain about blocked access to their homes and commercialization of the beach.

"All of a sudden, it's like *the* tourist spot," said Toni Sickler, a North Shore resident who surfs often at Lanika. "Somehow, somebody's got to take control. I'm all for people seeing the turtles, but they don't keep their distance."

"People tug on the fins, because the parent wants to get the picture," she said. "And the turtles are getting aggressive because they're getting fed now all the time."

The situation is catching the attention of authorities. Reacting to numerous complaints of turtle harassment, the Marine Turtle Research Program, part of the National Oceanic and Atmospheric Administration, launched a "show turtles aloha" campaign last month.

Bold yellow banners on the beach tell visitors "Please do not crowd, handle, feed or tease" the turtles. A permanent sign tacked to a twisted ironwood tree notes that it is illegal to disturb the turtles on land or in the ocean and that violators are subject to fines.

"It's gone from dozens of people daily to hundreds daily, up to a thousand, visiting the beach," said George Balazs, leader of the Marine Turtle Research Program. "Many of them were feeding the turtles. It has changed the turtles' behavior."

As these gentle, vegetarian creatures started to associate people with food, they have recently nipped children as well as adults with their sharp beaks, he said.



CINDY ELLEN RUSSELL / CRUSSELL@STARBULLETIN.COM

Erin Seibert from the Marine Turtle Research Program observed a green sea turtle at Lanika Beach with visitors Ed and Penny Meyers. Seibert spends time at the beach monitoring the turtles and educates visitors about the threatened species.

Every day since July 7, either Balazs or a staff member has staked out the beach, monitoring people's behavior and urging them to enjoy the turtles from a distance. The program also has sent fliers to tour bus companies and tries to make personal contact with each van driver who comes to the beach.

But it's hard for one staff member a day to keep up with the constant flow of people to the beach. And the problems extend beyond the beach.

"I think it's great that George Balazs is personally monitoring the situation, but I think we need 10 Georges," said Denise Antolini, a professor of environmental law who lives in nearby Pupukea. She and other residents would like to see a task force address the ecological, traffic, safety and health issues, such as the lack of toilets.

"We need to bring together the large number of concerned residents and agencies with responsibility and come up with a long-term solution that's beneficial to the turtles and the North Shore," she said.

A few turtles began hauling out at Lanika in early 2000,

and wildlife officials were peppered with calls from people who thought the animals were in distress, Balazs said. But basking and resting on the beach is normal behavior for the species. Their numbers have grown, and 60 to 80 turtles now swim in the water at Lanika on a good day, he said.

Green sea turtles are found throughout Hawaiian waters, and pop up regularly even in tourist hot spots like Waikiki and Hanauma Bay. But word of the turtle congregation at Lanika has spread recently through guidebooks and other media, tour companies and even city bus drivers. The slowdown in traffic is enough to pique the interest of passersby.

"We were pretty much curious," said Miriam Whalay, who lives in Nuuanu and stopped by the beach with her husband, Chris, last week. "The traffic just stopped right here. We were thinking there was some kind of festival in Haleiwa. I had no idea the turtles were here."

She was part of a group admiring a basking turtle known to scientists as "L-4." Balazs, on duty that day in a broad-brimmed cloth hat, said the



CINDY ELLIOTT/JSSBELL / CRUISELLESTARBUULLETIN.COM

Tour bus visitors gathered to view and photograph a green sea turtle sunning itself at Laniakea Beach. The Marine Turtle Research Program advises people not to feed or tease the turtles with food and not to touch them. Incidents of nipping and biting by the turtles have been reported.

to guidebooks and tour companies

TURTLE TIPS

Hawaiian green sea turtles are a threatened species protected by state and federal law. It is illegal to disturb them and violators are subject to fines.

- >> Never feed or try to feed them.
- >> Do not crowd, handle or tease them.
- >> Observe turtles from a distance.
- >> Always allow them a clear route to deeper water.
- >> Do not touch them.

female turtle had been clocked diving as deep as 330 feet in the ocean and makes a 1,000-mile round-trip to French Frigate Shoals to nest.

Balazs, a gregarious, 62-year-old biologist, knows the species better than any other human being, having devoted his life to their welfare. Balazs first became interested in Hawaiian sea turtles in 1969 when he and his wife, Linda, saw them being hoisted live from boats at Lahaina Harbor into waiting pickup trucks in a virtual assembly line, back in the days when turtles were hunted for their meat.

Concerned that the species might get wiped out, he began camping out in a pup tent at French Frigate Shoals in 1973 to document their numbers. Bolstered by that data, he later helped win a statewide ban on commercial harvesting in 1975. And in 1978, Hawaiian green sea turtles were named a threatened species under the federal Endangered Species Act.

The turtles have made a dramatic rebound since Balazs first started studying them. In 1973, the junior scientist found only 70 Hawaiian green sea turtles nesting on East Island in French

Frigate Shoals. In the summer of 2004, his program counted 540 females there. The numbers fluctuate because every turtle doesn't nest every year, but Balazs called 2004 "our greatest year on record."

"It's an amazing story that we have 'problems' to deal with like this, in terms of a proliferation of sea turtles, a species that many, many people in Hawaii love," he said. "To be dealing with the issue of crowding is certainly a lot more comfortable than it was in 1972 and 1973, when the same tourists that are now on the beach were ordering turtle steak for \$13.95."

Still, residents are hoping some solutions will come quickly both for the turtles' sake and their own.

"Traffic used to back up when surf was giant, but now it backs up almost every day," said Gil Riviere, chairman of the North Shore Neighborhood Board's Traffic and Transportation Committee. "The bottleneck is right at Laniakea. People are feeling held hostage to their houses."

Balazs said his program will continue its presence on the beach at least until the winter swells begin, when he predicts that problems will ease up.

"As soon as school starts and the first north swell comes, the issues at Laniakea will decline considerably," he said. "People won't be coming in those high numbers. And when the waves get real big, much of the sand sucks away and there is less habitat to bask on. The turtles change their behavior."

"I've had people say we need to close off this beach, but that's not Hawaii," he added. "That's not why we protected this species. We have a growing, recovering population of green turtles. They're willing to share their habitat with the community, but we need to live up to our responsibility and treat them with respect."



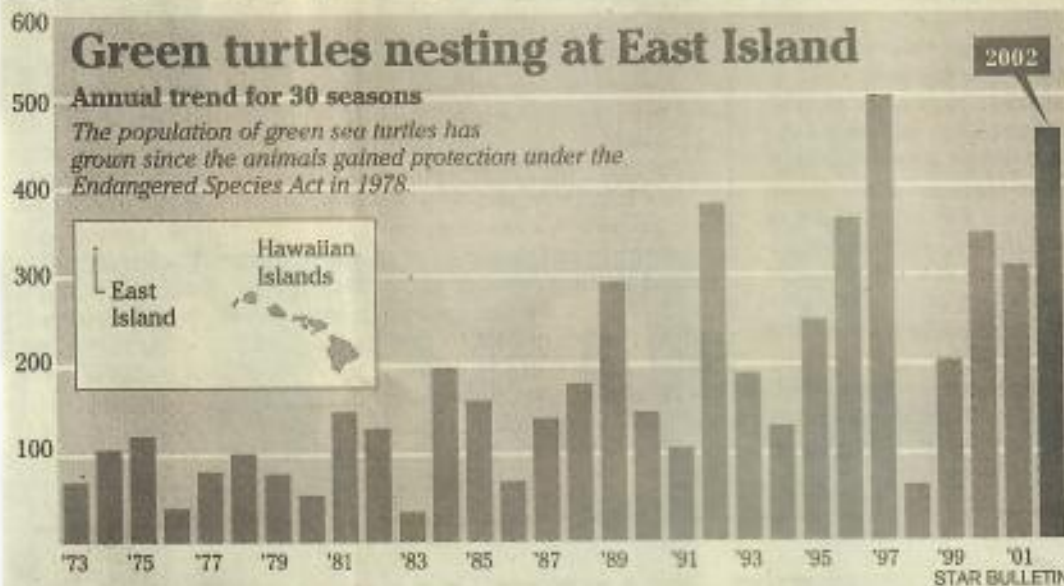
Jonathan Robinson, above right, a student in the University of Hawaii-Hilo's Marine Option Program, helps researcher George Balazs check the health and growth rate of a green sea turtle at Punaluu Black Sands Beach on the Big Island. At left, tourists at Punaluu Black Sands Beach snap photos of a turtle being returned to the ocean after its examination.

How to help a turtle

If you spot what appears to be a sick, injured or dead sea turtle stranded on land, call:

- >> **On Oahu:** 983-5730.
- >> **On Maui:** 984-8110.
- >> **On the Hilo Coast:** 974-6208.
- >> **On the Kona Coast:** 881-4200 or 327-4961.
- >> **On Kauai:** 274-3521.

Or, if a turtle has been killed or harmed, you can call the National Marine Fisheries Service at 541-2727 in Honolulu or toll-free at 800-853-1964.



Such information could eventually lead to guidelines for longline fishing boats that would help them avoid ocean areas where juvenile turtles congregate, Balazs says.

Balazs is tracking 27 loggerhead turtles off Japan, three

loggerheads off Taiwan, three green turtles off Hawaii and eight loggerheads off California.

At East Island — the starting point of his turtle research career — Balazs mounted a "Turtle Cam" last year that scans

the 12-acre island from atop a 65-foot pole, providing him with photos and video of turtle behavior dawn to dusk.

Balazs and company also head a network that responds to sea turtle strandings (alive or dead) on all the main islands

and study the fibropapilloma tumor disease that has become the turtles' worst enemy now that hunting has been banned.

Despite all his professional time spent focused on turtles, Balazs would be excused for trying to get away from them during downtime. But honu occupy his leisure time, too. His destination on a recent vacation was a tour of temples honoring turtles on a small fishing island between mainland China and Taiwan. One of his hobbies is photographing, with permission, people's honu tattoos.

One day, he noticed a woman posing a baby on a blanket near a basking sea turtle at Laniakea on Oahu's North Shore, then taking a photograph. The woman told Balazs that she'd been taking monthly portraits of her child with a honu as background.

Balazs was charmed.

"I love to watch how people interact with them."