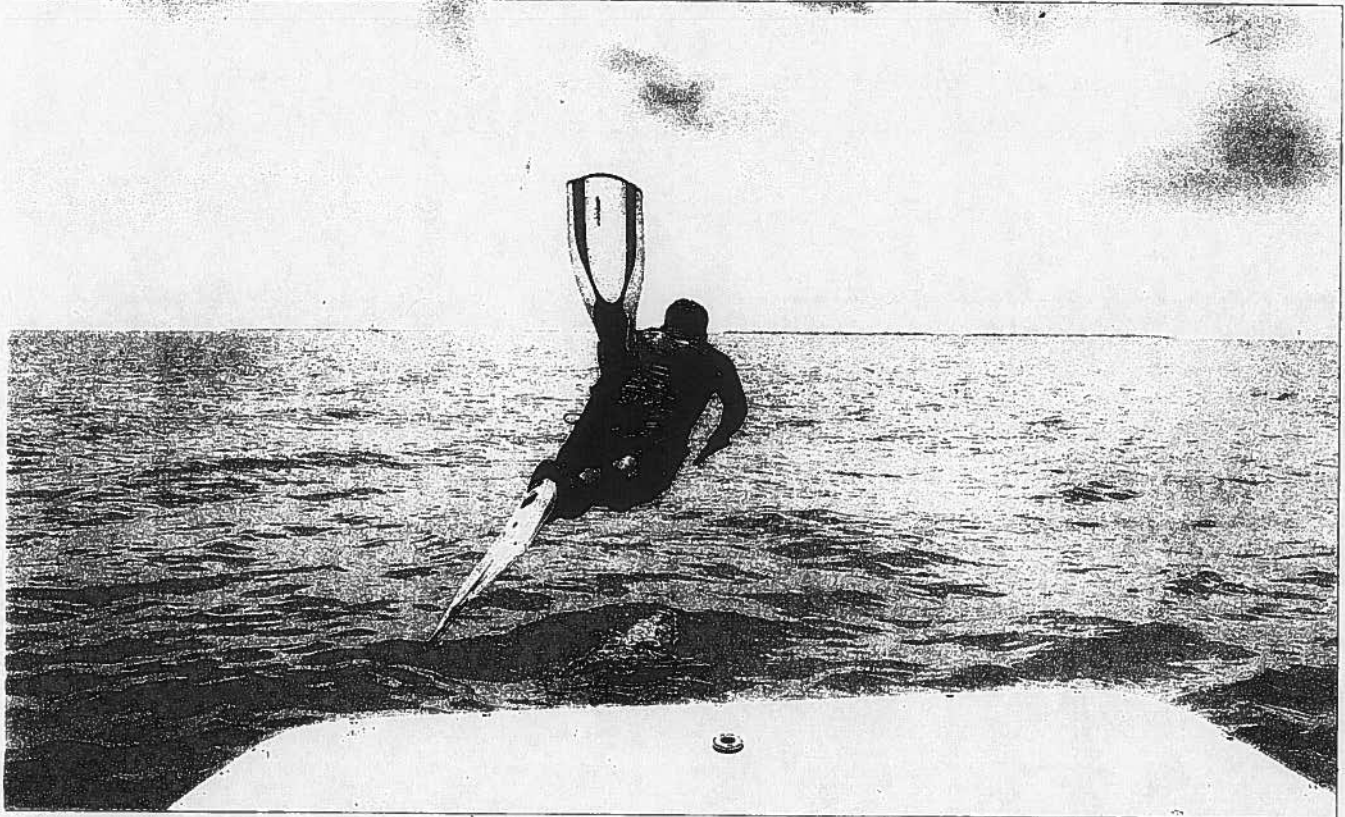


# Hot on turtles' trail

Scientists say green sea turtles use the Key West National Wildlife Refuge as foraging ground before returning to Treasure Coast beaches to nest



Photos by SAM WOLFE • sam.wolfe@scripps.com

Rick Herren, an environmental specialist for Indian River County and treasurer of the Inwater Research Group, dives off the front of a flat-bottomed boat onto a large green sea turtle as it comes to the surface to breathe near the Marquesas Keys, about 20 miles west of Key West, in the Key West National Wildlife Refuge.

BY SUZANNE WENTLEY  
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## OFF THE MARQUESAS KEYS — "Green turtle on your left!"

Chris Koepfel, a Brevard County environmental specialist, pointed from a tower atop the 24-foot Carolina skiff as he peered through polarized sunglasses into the clear waters west of Key West, where the endangered sea turtle swam.

"Left! Left!" Koepfel screamed to Michael Bresette, the president of Inwater Research Group and a Martin County biologist based at the St. Lucie Power Plant.

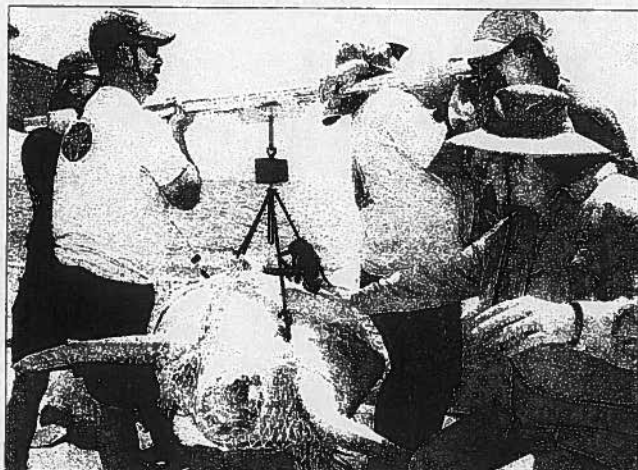
Bresette, who was driving, burst into high gear to force the turtle — which was scurrying away from the sandy bottom to hide in a patch of turtle grass — toward a second boat. There, Rick Herren, an Indian River County environmental specialist, was waiting on the bow in flippers and gloves.

Within minutes, Herren — with the help of Blair Witherington, a research scientist with the Florida Fish and Wildlife Conservation Commission — dove into the water, jumped on top of the turtle and wrestled it into the boat.

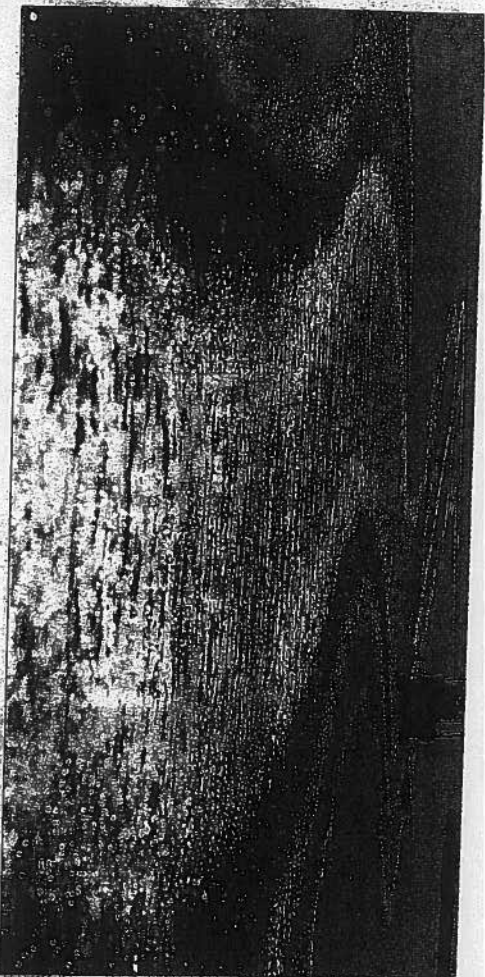
It was the first adult green sea turtle the team of Treasure Coast scientists — or any other turtle expert — had ever verified to be using the waters of the Key West National Wildlife Refuge.

See TURTLES, page A10

INSIDE: Some captured turtles need a little TLC. A10  
TCPALM.COM: Watch video of scientists capturing and releasing sea turtles for research and an audio slide



Dean Bagley, right, reads a scale as a large green sea turtle is weighed by, from left, Rick Herren, Mike Bresette, Chris Knennel and



Photos by SAM WOLFE • sam.wolfe@scripps.com  
 Top: A large green sea turtle — weighing 288 pounds — dives into the water after being processed on the boat. A larger female captured shortly before tipped the scales at 427 pounds. Above: Blaine Witherington, left, and Jlick Herron wrestle a large green sea turtle to the side of a boat after they captured it. Left: Karen Holloway-Adkins, an aquatic biologist for Dynamaq, stands on the fly bridge of a flat-bottom boat while searching an area around the Marquesas Keys for sea turtles.

# TURTLES

CONTINUED FROM A1

With their hands-on, "rodeo-style" research, the nonprofit group of biologists from Melbourne to Stuart believe they've discovered where green sea turtles go when they leave developmental grounds like the Indian River Lagoon and before they return to use the Treasure Coast and other nearby beaches as nesting adults.

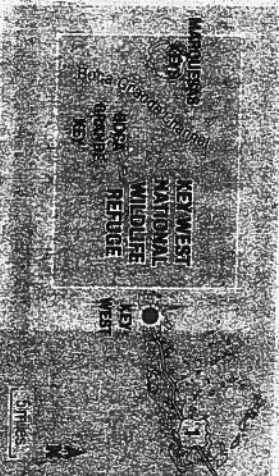
## TOTAL SHOCK

After four years of counting, identifying the loggerhead, green and hawksbill species and determining where the turtles search for food, the researchers have made a scientific breakthrough.

"No one has ever verified a foraging ground in the continental United States before," Bressette said. "But they were just everywhere. We've never seen anything like it, not even close. We're still in a total shock, trying to grasp what we've found."

Funded by a U.S. Fish and Wildlife Service grant, members of the Inwater Research Group — a multidisciplinary mix of volunteer scientists — have used individual research projects, such as attaching satellite tags on adolescent green turtles, to further the study in the Keys.

Dean Bagley, a Melbourne-based research associate



ONLINE: Learn more about the Inwater Research Group's studies at [www.inwater.org](http://www.inwater.org).

with the University of Central Florida, tracked a few green sea turtles from the Indian River Lagoon and the St. Lucie Power Plant intake canals to the waters of the Marquesas, an oasis of uninhabited, mangrove-covered islands with miles of sponges and sea grass. Unlike now, scientists weren't able to find where the turtles hung out — until they left Treasure Coast waters.

"The next size class, whatever they go? Guess what — they're here too," she said. "From there, they could go anywhere in Florida — or to the Yucatan, Costa

Rica or elsewhere in Central America."

But it takes practice and coordination to bring the turtles out of the water and onto the boat, where the scientists perform a step process to collect data that can be used to learn more about the endangered, elusive creatures.

## DOWN WHERE FOR YEARS

On a recent trip, there were many times when the biologists would dive into the water, only to come up empty-handed. Spotters like Koenig would have to shout direction to the boat's driver while the diver would climb back into the boat to jump again.

"We aren't thrill seekers," Witherington said. "We're simply trying to catch turtles in a safe and efficient way."

The water's surface was so smooth that contaminants made ripples with their wings, and the biologists focused on the rare hawksbills and green sea turtles — collecting data that will eventually be published in scientific journals so wildlife officials can help protect crucial habitat and nesting areas in the future.

Bressette said the new discovery of the foraging ground, where adults and adolescents co-existed by the hundreds, will keep the scientists searching for critical foraging areas busy for more than a decade.

"We're just hitting one area. There could be many more between the Marquesas and the Tortugas," he said. "We'll be down here for years."

## SEA TURTLE TRIP LOG

### DAY OF THE REPORT

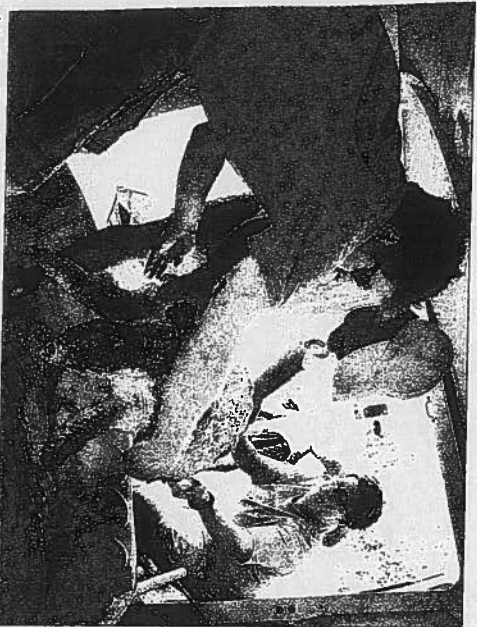
• We turtles caught, three green sea turtles — two adults, including a 427-pound female and a 265-pound male, and one juvenile, and two loggerhead turtles, one of which was taken to the hospital.

### CAPTURED OVER SIX DAYS

• Nine adult greens  
 • One juvenile sub-adult hawksbill  
 • Seven juvenile greens  
 • One juvenile hawksbill  
 • One juvenile loggerhead  
 • One sub-adult loggerhead (two were recaptures).

## ONCE A TURTLE IS CAPTURED, WHAT DO SCIENTISTS DO NEXT?

1. Take 4 milliliters of blood to determine gender.
2. Cut small bit of skin from back flipper for DNA analysis.
3. Measure shell, head, underbody and tail using forestry callipers and measuring tape.
4. Attach small metal tag to front flipper's for easy identification if captured again.
5. Inject a tag the size of a grain of rice under the skin for identification if metal tags fall off.
6. Weigh the turtle using a rope cargo net and portable scale.
7. Take a picture of the turtle next to a dry erase board with the tag numbers, date and location of capture.
8. Paint a large number on its shell with temporary white epoxy, to ensure they don't instantly recapture the animal.
9. Collect a sample of recently eaten food by rinsing its mouth with water.
10. Mark the location of capture on a Global Positioning Unit for computer analysis later.



A loggerhead turtle is loaded into the back of a van before being transported to the Turtle Hospital in Marathon.

# Some captured turtles need a little TLC

BY SUZANNE WENTLEY

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**OFF BARRACUDA KEY** — Sea turtles captured by the scientists with Inwater Research Group aren't always healthy.

After hours on the water, they saw a small loggerhead sea turtle, which at first seemed to be eating sea grass and unaware of the scientists positioning their boat close enough to capture it.

But once the turtle was out of the water, it was clear something wasn't right.

A fresh wound, possibly caused by a boat strike, sunk deep in the back of its neck. Barnacles and algae were growing on its shell — proof it wasn't moving around like healthy turtles — and the turtle was

extremely underweight.

Instead of gathering data on the creature, the research scientists called fellow biologists at the Turtle Hospital in Marathon.

"He's been through enough already," said Michael Bresette, the group's president. "We're all in agreement he's going to rehab."

Each trip the biologists make to count and identify species and habitat in the Key West National Wildlife Refuge, they also discover a handful of sick turtles who benefit from the training and care the turtle experts bring to the day of research.

With the loggerhead spending the day

under a wet towel in the shade of the boat's Bimini top, the scientists met hospital volunteers back at the dock.

Ryan Butts, an intern at the Turtle Hospital, helped carry the turtle into a baby pool stuffed in the back of a van.

The loggerhead, which was wheezing and lethargic, would have likely fallen victim to a shark or other predator if it remained in the sea, he said.

In Marathon, hospital staff will clean its shell of parasites and barnacles, as well as take X-rays and blood for a veterinarian examine, Butts said.

"We just try to relax them," he said. "I've seen a lot worse than that pull through."