

Shark's unique trek could help save the species

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Her name is Jiffy Lube2, a relatively small shortfin mako shark that, like others of her kind, swims long distances every day in search of prey and comfortable water temperatures.

But Jiffy Lube2's travels are making waves among scientists who study [sharks](#).

The 140-pound mako swam 11,000 miles in the past year using a route that researchers at Nova Southeastern University had never seen before: looping the Atlantic twice, going as far north as Nova Scotia and as far south as the Bahamas.

Jiffy Lube 2 is the only shark among the 130 tracked by the researchers to make a double southerly migration, said Mahmood Shivji, director NSU's Guy Harvey Research Institute in Davie, Fla. The project has tracked sharks since 2008, using satellite tags.

Along the way, Jiffy Lube2 spent a few days lazing along the surface of the Atlantic near Cape Cod, basking in the sun and gorging on passing fish. In the past month, she has spent most of her time between Washington, D.C. and New York City, where water temperatures range from about 65 to 75 degrees, comfortable for the fastest species of shark.

Researchers don't fully understand why sharks go so far north, but theorize they may be following prey. Though not picky eaters, they

commonly gorge on bluefish, tuna, herring, swordfish and loggerhead turtles.

Tracking the sharks might be key to their survival. If researchers can better understand migration patterns, they can lobby for tighter fishing restrictions in the areas the predators seem to favor.

Sharks are critical to the overall balance of the ocean's ecosystem, keeping the marine population in check, said research scientist Derek Burkholder. Yet worldwide, about 100 million sharks - of all varieties - are killed annually.

Shortfin makos, whose fins are used in a soup that some cultures consider a delicacy, are a step away from being endangered, largely because of overfishing.

Researchers found that makos tend to return to the Caribbean in the winter and the North Atlantic in summer - the same pattern as [tiger sharks](#) and great whites.

Currently, the center is monitoring 19 makos in the Atlantic and 17 more in the Caribbean and Gulf of Mexico. It's also monitoring dozens of tiger sharks, oceanic whitetip sharks, [sand tiger sharks](#), blue marlin and sailfish. (To see all of the tagged sharks under the current study, go to: ghritracking.org.)

One of the tiger sharks, named Harry Lindo, traveled more than 27,000 miles, the longest track distance documented for a tiger shark and possibly the longest ever published for a shark, according to Guy Harvey, the renowned artist and conservationist.

"It is truly remarkable," he said of the shark's travels.

Jiffy Lube2, who is just under 6 feet long, got her name during a fund-raising sponsorship campaign and was initially tagged in May 2014 off Ocean City, Md. From her extensive travels, researchers were able to determine she's partial to warm water, which isn't that unusual since that's where she'll find plentiful food.

Although makos can dive as deep as 800 feet, Jiffy Lube2 prefers to remain close to the sun-warmed surface. To catch prey, she can swim up to 60 mph in short bursts.

"Based on Jiffy Lube2's size, she would be eating almost 5 pounds of fish per day," said Brad Wetherbee, assistant director of the Guy Harvey Research Institute. "People have the impression that sharks are eating machines, but compared to many bony fishes, they don't have a very high rate of consumption."

Makos have among the highest metabolic rates for sharks because parts of their bodies are heated, and that requires "burning a lot of food," said Wetherbee, who teaches biological science at the University of Rhode Island.

It's unlikely that Jiffy Lube2 has traveled great distances in search of a male because she's probably two years away from being old enough to mate, Shivji said.

Researchers are able to keep close tabs on Jiffy Lube2 because her tag sends a signal to a satellite, which in turn notifies NSU's Oceanographic Center. The tags, which cost \$3,000 apiece, are programmed to send a signal every other day to conserve its battery power, Shivji said.

To tag sharks, researchers first catch them using bait and a hook. Then they attach the tag while the shark still is in the water, or they pull the large fish into a boat and insert a saltwater hose in its mouth to keep it

alive.

Four holes are bored into the cartilage of the fin to bolt the tag into place, the hook is removed from the mouth and the shark continues on its way, Burkholder said.

"It's done nice and easily in about four to seven minutes," he said.

So far, nine sharks being tracked by NSU have been caught in fishermen's nets and died.

"It's a real shame because you follow it around and see where it is every day," Burkholder said. "It's not your pet, but you become fond of it."

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