

Ocean myth busted: 'Toddler' sea turtles are very active swimmers

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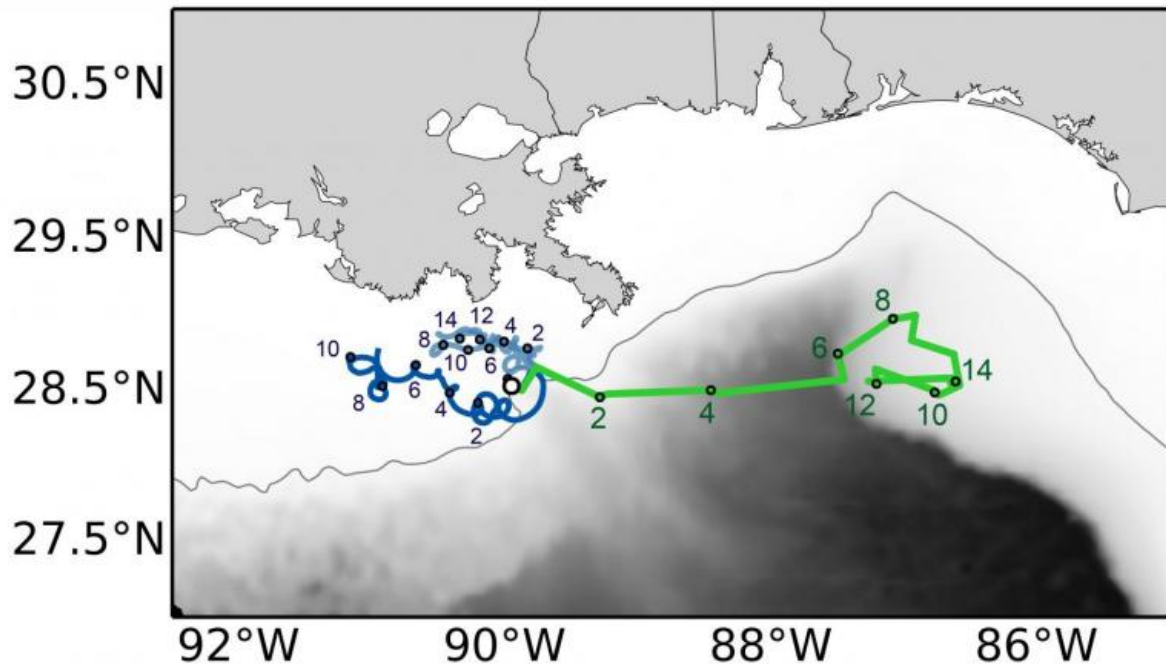
One of the 44 sea turtles tagged in this study was this green turtle yearling.
Credit: University of Central Florida

It turns out sea turtles, even at a tender 6-18 months of age, are very active swimmers. They don't just passively drift in ocean currents as researchers once thought. NOAA and University of Central Florida researchers say it's an important new clue in the sea turtle "lost years" mystery. Where exactly turtles travel in their first years of life, before returning to coastal areas as adults to forage and reproduce, has puzzled scientists for decades.

"All species of [sea turtles](#) are endangered or threatened under the Endangered Species Act; knowing their distribution is an essential part of protecting them. With a better understanding of swimming behavior in these yearlings we can make better predictions about where they go and what risks they might encounter," said Dr. Nathan Putman, lead author of this new study and sea turtle biologist with NOAA's Southeast Fisheries Science Center in Miami.

Upon hatching, young sea turtles swim offshore and disperse with the help of ocean currents. The turtles are rarely observed during the next two to ten years or so, but prior studies suggest that at least some reside among mats of seaweed, such as Sargassum, that provide shelter and habitat in the open sea. Not much is known about these juveniles' movements during this time (researchers dub it the "lost years"), but it has been widely assumed that turtles simply drift with [ocean currents](#).

Putman worked with Dr. Kate Mansfield, director of the University of Central Florida's Marine Turtle Research Group, to challenge this long-existing hypothesis. Mansfield placed specially designed solar-powered tags on 24 green & 20 Kemp's ridley wild-caught sea turtle toddlers in the Gulf of Mexico. The tags were tracked by satellite for a short period of time before shedding cleanly from the turtle shells (max. 2-3 months). Next to the turtles, Mansfield deployed small, carefully-weighted/passively-drifting surface buoys that were also tracked by satellite.

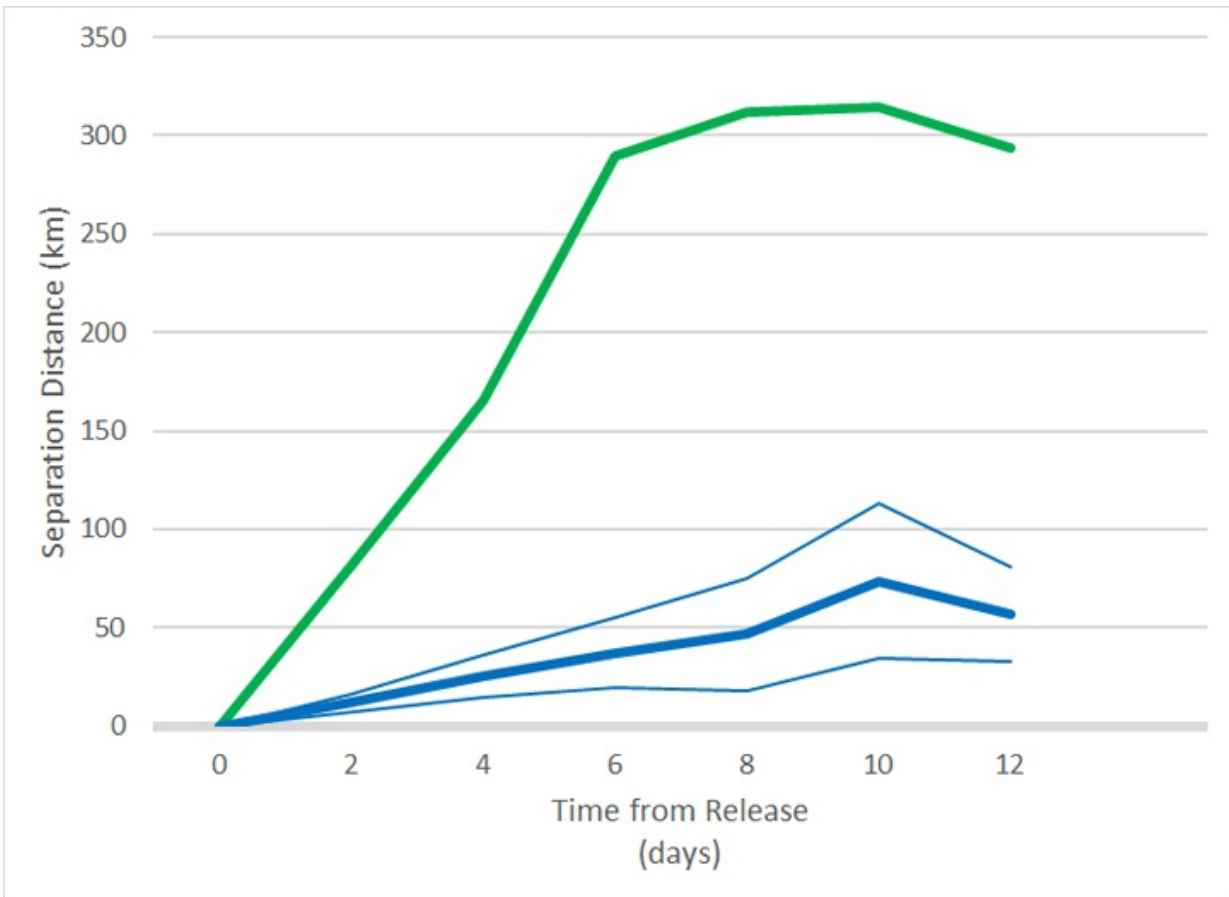


When placed in the water next to two drifting buoys (blue lines), the turtle in shown in the previous photo (green line) was shown to have swam far to the East. Credit: NOAA Fisheries

When the drifter tracks were compared to the sea turtles' movements, the researchers found that the turtles' paths differed significantly from the passive drifters. Using observed and modeled ocean current conditions, they found a difference of distance between the turtles and drifters to be as much as 125 miles in the first few days. In nearly every instance, the toddlers' swimming behavior appears to help them reach or remain in favorable ocean habitats.

"The results of our study have huge implications for better understanding early sea turtle survival and behavior, which may ultimately lead to new

and innovative ways to further protect these imperiled animals," said Mansfield.



In just a matter of days, the turtle from the previous photo and the drifter were 125 miles apart. Scientists find that this distance can be explained by these young turtles' ability to actively swim, vs. passively drift, in ocean currents. Credit: NOAA

She added, "What is exciting is that this is the first study to release drifters with small, wild-caught yearling or neonate sea turtles in order to directly test the 'passive drifter' hypothesis in these young turtles. Our

data show that one hypothesis doesn't, and shouldn't, fit all, and that even a small degree of swimming or active orientation can make a huge difference in the dispersal of these young animals."

More information: Direct Evidence of Swimming Demonstrates Active Dispersal in the Sea Turtle 'Lost Years', [www.cell.com/current-biology/a ... 0960-9822\(15\)00328-0](http://www.cell.com/current-biology/a...0960-9822(15)00328-0)

Provided by NOAA Headquarters

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