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Discovery by State Marine Biologists Explains Sharks' Seasonal Disappearance

Satellite tracking shows basking sharks migrate from Cape Cod to South America

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BOSTON - The Commonwealth added to the body of scientific knowledge about basking sharks, the world's second largest fish, with today's publication of research led by a state marine fisheries expert that identifies the shark's previously unknown winter habitat - a discovery that has implications for the species' conservation.

Once thought of as a strictly cool-water species, basking sharks migrate to tropical waters each winter, according to research published in the peer-reviewed journal *Current Biology.* Gregory Skomal, a biologist with the Massachusetts Division of Marine Fisheries (DMF), is lead author of the study, which reveals that western Atlantic basking sharks, which were previously believed to inhabit only the waters of the United States and Canada, use marine habitat that stretches the length of the Atlantic Ocean.

Using satellite-based technology, Skomal and other researchers found that basking sharks travel from the coast of southern New England to the Bahamas, the Caribbean Sea and to the coast of South America, swimming at depths of 600 to 3,000 feet or 200 to 1,000 meters for several weeks or months. The research is significant because the species has undergone population declines in recent years, and scientists will now have a better understanding of its habitat.

"With this new information we know now that any efforts to conserve this species would need to be coordinated on an oceanic scale and maybe on a global scale," said Skomal, a Martha's Vineyard resident.

"The Commonwealth is proud to employ high-caliber staff, such as biologist Greg Skomal, who work on behalf of Massachusetts citizens helping us to understand and act as good stewards of the environment," Energy and Environmental Affairs Secretary Ian Bowles said.

"Science-based fisheries management is critical to the success of our conservation and management efforts for basking sharks and all fish and wildlife that inhabit Massachusetts' coastal waters," added Department of Fish and Game (DFG) Commissioner Mary Griffin. "We are grateful to Greg Skomal, the DMF and the other researchers and institutions who worked on this important study."

The discovery was the result of marking 25 basking sharks off the coast of Cape Cod with satellite tags and studying their movements. The migratory paths of the sharks were then estimated by coupling tag data with a novel geo-positioning technology technique. The majority of DMF's research costs were funded through various grants, including funds from the Massachusetts Environmental Trust, the National Science Foundation, and NASA.

Over the years, scientists have encountered difficulty tracking basking sharks because they disappear for many months at a time, and feed in cool waters with limited underwater visibility. The sharks, which feed on plankton, grow to more than 10 meters in length and can weigh as much as 7 tons.

The findings - published by Skomal and six other researchers, including DMF biologist John Chishom - were reported today in the June 2009 issue of *Current Biology*. Simon Thorrold, Harvey Walsh, and Kelton McMahon of the Woods Hole Oceanographic Institution in Falmouth, also co-authored the report. Other co-authors include Steve Zeeman at the University of New England in Maine and Erin Summers at the Maine Department of Marine Resources.