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Dalhousie Scientists Conclude Mediterranean Sharks in Steep Decline

Halifax, Nova Scotia – Sharks in the Mediterranean Sea have declined by more than 97 percent in number and “catch weight” over the last 200 years, according to a new study released in the journal *Conservation Biology* by marine scientists from Dalhousie University and the Environmental Protection Agency in Italy. The study, *Loss of large predatory sharks from the Mediterranean Sea*, which was funded in part by the Lenfest Ocean Program, found that sharks in the Mediterranean could risk extinction if current fishing pressure continues.

“We found that the last 200 years have seen a dramatic decline of large predatory sharks in the Mediterranean Sea. This loss of top predators could hold serious implications for the entire marine ecosystem, greatly affecting food webs throughout this region,” said lead author, Francesco Ferretti, a PhD student in the Department of Biology at Dalhousie University.

Sharks have characteristics that make them susceptible to overfishing, including delayed maturity, small numbers of young produced at birth, lengthy reproductive cycles and long life spans. The scientists believe that overfishing, habitat degradation and slow recovery rates are potential factors that lead to such dramatic declines – especially in areas such as the Mediterranean Sea where fishing has long been a way of life and continues to be intense.

The average size and weight of sharks caught by fishermen (also called “catch weight”) in the Mediterranean has decreased over time and is now among the lowest in the world. The data implies that there are fewer mature females to reproduce, which decreases the chances of recovery for this population.

“Not only have shark populations declined, but the makeup of individuals within the population has also changed,” said co-author Dr. Heike Lotze, Canada Research Chair in Marine Renewable Resources in the Department of Biology at Dalhousie University. “Because sharks are long-lived and slow to mature, they need fully-grown females to keep their populations reproductively healthy. The decline of catch weight over time suggests that there are far fewer adults out there.”

The authors gathered data from a wide variety of sources, including historic fishermen’s logbooks, official statistics, museums and visual sightings, over the last two centuries. Only five of the 20 large predatory sharks had enough data to assess for this study, which could imply that diversity of sharks in the Mediterranean Sea has already diminished.

“It’s important for scientists to analyze as much data as is available to get a complete picture of how sharks are faring in the Mediterranean Sea,” said Margaret Bowman, director of the Lenfest Ocean Program, which provided funding for the research. “Unfortunately for most of the sharks

in the region there is too little information to determine the health of the population. Given the depleted status of the populations where information is available, this raises a red flag.”

The late Dr. Ransom Myers of Dalhousie University also contributed to this study. A fourth author, Fabrizio Serena, is head of Marine Service at the Tuscany region of the Environmental Protection Agency in Italy.

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Editor's Note:

To read a summary of the study, visit: www.lenfestocean.org*

To read the full study from *Conservation Biology*, visit:
http://www.lenfestocean.org/publications/ferretti_med_sharks.html*

*Copies of the report and summary will not be available online until June 11 at 6 a.m. ADT. For an advance copy, please contact Jo Knight, 202.552.2070 (office), 202.664.4504 (mobile), jknight@pewtrusts.org (email).

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The **Lenfest Ocean Program** supports scientific research aimed at forging new solutions to the challenges facing the global marine environment. The program was established in 2004 by the Lenfest Foundation and is managed by the Pew Environment Group.