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Improved Understanding of Interactions between Sharks and Longline Fisheries Benefits Both Fishing Industry and Sharks

Honolulu, 4 September 2007 – Interactions between sharks and pelagic longline fisheries are causing ecological, economic and social problems.

Studies, announced today by the Western Pacific Regional Fishery Management Council, indicate that

- (i) Action is needed to develop methods to deter sharks from taking hooked fish from longline gear to benefit sharks and the fishing industry; and
- (ii) Expanding exploitation of sharks, for their fins as well as meat, largely in the absence of management frameworks and the lack of reliable fishery-dependent data and fundamental understanding of the biology of most shark species, warrants concern for the health of shark populations as well as ecosystem-level effects from population declines.

Kitty Simonds, Executive Director of the Western Pacific Regional Fishery Management Council, explained, “Sharks provide an important protein source, as well as a luxury item (shark fin soup), and are among the world’s most valuable fishery resource.”

“Management authorities and the fishing industry have an opportunity to learn from the study results to take steps now to ensure that the exploitation of sharks is sustainable as well as to mitigate the economic losses from shark interactions in non-shark longline fisheries to benefit sharks and fishermen,” she added.

The new report, *“Shark Depredation and Unwanted Bycatch in Pelagic Longline Fisheries: Industry Practices and Attitudes, and Shark Avoidance Strategies”*, has been produced by the Western Pacific Regional Fishery Management Council in Honolulu, Regional Seas Programme of the United Nations Environment Programme in Nairobi, the Blue Ocean Institute in New York, and eight additional agencies and organizations worldwide.

The study, which has assessed fishing industry practices and attitudes towards shark interactions in 12 fisheries from eight countries (Australia, Chile, Fiji, Italy, Japan, Peru, South Africa, and U.S.A.), finds that overall, most national fishery management authorities demonstrate a low priority for monitoring and managing shark fishes. Sustainable pelagic fishery ecosystem-based management, including the management of shark populations, is hampered by this general lack of fishery-dependent data and management measures for sharks in most fisheries worldwide.

A recent trend of expanding demand for shark meat at several ports worldwide, documented in this study, is creating a shift in utilization of shark meat in some fisheries. This study shows that fishers possess the knowledge to modify their fishing gear and methods to maximize shark catch. Of the 12 fisheries included in this study, only two are subject to shark retention trip limits, while five have no measures to manage shark interactions. Only one regional fishery management organization is using fishery-dependent data to conduct shark stock assessments. Thus, to prepare for a possible increase in demand for shark meat, fishery management authorities are encouraged to begin effective data collection, monitoring and precautionary shark management measures to ensure that shark fishing mortality levels are sustainable.

“Approaches to sustainably manage sharks and other cartilaginous fishes may have to differ from traditional fishery management methods for bony fish due to cartilaginous fishes' relatively low

reproductive potential,” explained report lead author Eric Gilman of IUCN (The World Conservation Union).

Sharks and their relatives are much more vulnerable to overfishing and population collapse than bony fishes. The life-history traits of sharks, including slow growth, late maturity and low rates of population increase, have enabled these species to flourish during their 400 million years of evolution. Unfortunately, these same traits make them extremely vulnerable to increasing human exploitation.

Eric Gilman continued: “In many pelagic longline fisheries, shark interactions result in substantial costs to economic and commercial viability. Information gained from this study on fisher knowledge and new strategies for shark avoidance may benefit sharks and fishers wanting to reduce shark interactions.”

Results show that incentives to avoid sharks vary along a continuum, based on whether sharks represent an economic disadvantage or advantage. On one extreme, there are pelagic longline fisheries with a regulatory framework limiting shark catches or placing restrictions on shark handling, or lack of markets for shark products, resulting in negligible retention of sharks. In these fisheries, the costs from shark interactions exceed benefits from revenue from sharks. For instance, lost revenue from shark damage to hooked target species can amount to several thousand U.S. dollars in a single set in some fisheries. In some of these fisheries, there is large interest in minimizing shark interactions. On the other extreme, there are pelagic longline fisheries where revenue from sharks exceeds costs from shark interactions, and a large proportion of caught sharks are retained.

Shark avoidance practices are limited, including avoiding certain areas, moving when shark interaction rates are high, using fish instead of squid for bait and deeper setting. Some conventionally employed fishing gear and methods used to target non-shark species contribute to shark avoidance, such as the location of fishing grounds and timing of fishing operations. Beyond these strategies, the state of knowledge to reduce unwanted bycatch and depredation by sharks in pelagic longline fisheries is poor. A prioritized next step is to test promising, new strategies to reduce unwanted shark bycatch, depredation and gear damage in pelagic longline fisheries. Shark repellents, including chemical, magnetic, electropositive rare earth metals, and electrical deterrents, hold promise; more research and development is needed.

Furthermore, development of specifically designed equipment to discard sharks could improve shark post release survival prospects, reduce gear loss and improve crew safety. A large proportion of pelagic shark species are alive when gear is retrieved. Study results show that most sharks that are alive when hauled to the vessel and will be discarded are released alive. In fisheries where shark finning occurs, to avoid injury and increase efficiency, crew first kill the fish before removing fins, and do not remove fins from live sharks.

To Obtain a Copy of the Report

Available online at www.wpcouncil.org, www.unep.org/regionalseas/Publications/Shark_Depredation.pdf, and www.blueocean.org.

To request a free hard copy, while supplies last, contact lead author Eric Gilman, IUCN Global Marine Programme, at eric.gilman@iucn.org

Notes to Editors

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