

Status of Sharks in the United States

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Troubled Waters

Worldwide, shark populations are in grave peril. The International Union for Conservation of Nature (IUCN) regularly updates a listing of species of concern. In 2009, the IUCN Shark Specialist group classified 32% of the 64 species of open ocean (pelagic) sharks as being in danger of extinction, primarily as a result of over-fishing. Over one fifth of the more than 500 species of sharks and rays evaluated by the IUCN were considered threatened with extinction. In the Atlantic, only 3 of the 11 most frequently caught species, were considered at a lower risk of extinction. White tip sharks are considered critically endangered. Porbeagle sharks are endangered and the once common skate, which was listed as endangered in 2000 by the IUCN was downgraded to critically endangered only 6 years later in 2006.

Shark populations in the U.S. face significant threats, generally from overexploitation by commercial fisheries. They are uniquely vulnerable among fish because their life histories more closely resemble whales than fish. Sharks are long lived. Like whales, they are slow to reproduce and have very few young. Most are highly migratory. Sharks caught on one side of the ocean are often from the same population as those being exploited on the other side of the ocean basin. This can create conservation crises. Porbeagle sharks are the target of commercial shark fisheries in other countries and are also caught incidentally by U.S. fishermen. Even though the U.S. government has acknowledged that they have lost up to 90% of their breeding population, and has added them to a "Species of Concern" list, it gives them no special protection.

Sharks are targeted by commercial longline, driftnet and purse seine fisheries. Shark meat is eaten in restaurants worldwide and, in the Far East; shark fins are popular for soup and other dishes. There is also an incidental bycatch of sharks by fisheries targeting other fish species. Most of these sharks are discarded as waste. Sharks in U.S. waters are also caught by recreational fishermen and in a growing number of shark tournaments. The National Marine Fisheries Service (NMFS), which manages most shark species, has stated that in the eastern Gulf of Mexico alone, shark tournament fishing has grown from half a dozen tournaments in 1973 to as many as 70 today. The greatest conservation concerns face species for which there is a large commercial market. This includes large pelagic sharks such as mako sharks and small sharks such as skates and dogfish.

The Status of Sharks

Many shark species are distributed worldwide, but their status and conservation measures may differ in different locales. Although the United States has not granted protected status to most shark species, international bodies have expressed concern for a number of species found in U.S. waters. A 2003 study by Dalhousie University, published in the journal *Science*, estimated that all recorded shark species in the Northwest Atlantic, with the exception of makos, declined by more than 50% in the past eight to 15 years. Some species, such as hammerheads and thresher sharks had declined by as much as 80%. The Pew Charitable Trust's Global Shark Assessment predicts collapse and extinction of several species of sharks if current levels of fishing mortality remain the same. Study after study indicates that we should be very

concerned about the fate of sharks, which play an important role in coastal food webs. Despite concern by prestigious international bodies, there are active commercial and recreational shark fisheries in the U.S., and there is resistance to more restrictive management.

East Coast Sharks

At least seventy three species of sharks inhabit the waters of the U.S. east coast, including the waters of the Gulf of Mexico and the U.S. territories of Puerto Rico and the Virgin Islands. The NMFS places sharks in one of five categories for purposes of managing fisheries that may interact with them. Large coastal sharks, which are the frequent targets of fisheries, are generally considered overfished by NMFS. This category has eleven species including sandbar, blacktip, bull, nurse, tiger and hammerhead sharks. Recent reports by the NMFS show quotas for this group being exceeded in many years. A second category, pelagic sharks, included species such as thresher, mako, porbeagle, and blue sharks. All sharks in this category are considered “fully fished” and some have been deemed subject to overfishing. The category of small coastal sharks is also considered “fully fished,” with little ability to withstand additional fishing effort. This category contains four species, including bonnethead, blacknose and sharpnose sharks. This category too, often exceeds quotas in the Gulf of Mexico. A fourth category is called “prohibited species.” All nineteen sharks in this category are considered so imperiled that it is illegal for fishermen to possess them. They include whale sharks, basking sharks, sand tiger sharks, dusky sharks and others. The last major category of sharks on the East coast is deepwater and other sharks. This category includes 33 poorly understood species such as lantern sharks and gulper sharks.

West Coast Sharks

Less is known about these sharks than those on the U.S. east coast. However, there are conservation concerns for most of the sharks targeted by commercial fisheries. According to the NMFS, the shark species most commonly targeted by commercial fisheries are various thresher sharks, shortfin mako sharks and blue sharks. In the north Pacific, spiny dogfish are the most commonly targeted species. In the western Pacific, around the Hawaiian Islands and the territories of Guam, Midway and other atolls; tiger, sandbar and Galapagos sharks, which are coastal in nature, may be caught by fisheries that primarily target other fish species such as tuna and billfish. Many of the shark species targeted by fisheries are considered overfished and may be declining.

Summary

A 2004 meeting of IUCN specialists, focused on the status of sharks in North and Central American waters, concluded that fishery restrictions had helped improve the status some species of sharks in U.S. waters such as black-tipped sharks. Others, such as sand tiger sharks, which may produce only two young every two years, continue to decline despite protection. The report highlighted the continued vulnerability of sharks to overfishing. Expert panels convened by Pew Trust also recommended stronger conservation for Atlantic sharks. In 2009, the IUCN Shark Specialist Group found that the status of many sharks continues to deteriorate. They recommended increasing protection of commonly caught sharks such as thresher and mako sharks, which they consider vulnerable to extinction. Although commercial fisheries are the primary threat to sharks, pressure from recreational and tournament fishing adds unnecessarily to the peril facing a number of these large sharks.

Annotated Bibliography of References Used in “Status of Sharks in the U.S.”

AFS 2005. American Fisheries Society Policy Statement #31b. Management of Sharks and Their Relatives (*Elasmobranchii*). Available at: http://www.fisheries.org/html/policy_statements/ps_31b.html
This statement recommends stricter management, additional scientific data collection for shark conservation and the live release of caught sharks and rays.

Baum, J.K. and R. Meyers. 2004. Shifting baselines and the decline of pelagic sharks in the Gulf of Mexico. *Ecology Letters*. 2004:7. 135-145. *This is a peer-reviewed publication that finds that oceanic whitetip and silky sharks in the Gulf have declined by over 90% and states that, overall, sharks in the Gulf have declined considerably, which has adversely impacted the pelagic ecosystem.*

Campana, S., L. Marks, W. Joyce and N. Kohler. 2006. Effects of recreational and commercial fishing on blue sharks (*Prionace glauca*) in Atlantic Canada, with inferences on the North Atlantic Population. *Canadian Journal of Fisheries and Aquatic Sciences*. 63. 670-682. *This peer-reviewed article documents an ocean-wide distribution and ocean-wide effects. It documents increased landings in recreational fisheries at a time the stock was documented to be declining and states that derby fishing and commercial fishing are taking from the same population, with derby fishing providing less reliable biological data because fishermen are targeting only the largest animals.*

IUCN 2004. More sharks on the Red List. Press Release. Available at: <http://www.iucn.org/themes/ssc/news/sharks.htm>. *This is an announcement of an update of shark status that documents continued declines in sharks and undertakes uplisting of several species.*

IUCN 2007. More Oceanic Sharks Added to the IUCN Redlist. Available at: <http://www.iucn.pk/more-oceanic-sharks-added-to-the-iucn-red-list.htm>. *An announcement of the recent finding that mako sharks and all thresher sharks are threatened with extinction.*

IUCN 2009. Third of open ocean sharks threatened with extinction. Press Release 25 June 2009. Available at: <http://www.iucn.org/?3362/Third-of-open-ocean-sharks-threatened-with-extinction>. *This documents continued declines and recommendations for additional protection.*

NMFS 2002. Stock Assessment and Fishery Evaluation for Highly Migratory Species. *This is a status evaluation in which the NMFS states that it has not determined the status of most sharks in the U.S. Though it promises shark status updates for all species by the end of 2002, evaluation are still incomplete. At least two additional amendments to shark management plans have happened since, each of which has reinforced a deteriorating status for many species. For example, makos are now considered subject to overfishing and likely to be overfished, though they were not so judged in 2002 and porbeagles are now considered a “species of concern.”*

NMFS 2006. Porbeagle Sharks Listed as Species of Concern. Federal Register October 17, 2006. 71 FR 61022.

NMFS 2008 and 2009. Annual Shark Landings Reports. Available at:
http://www.nmfs.noaa.gov/sfa/hms/hmsdocument_files/sharks.htm#Landings. *This documents fisheries exceeding annual quotas for a number of shark species/complexes.*

Pew Global Shark Assessment. Pew Institute for Ocean Science. Available at:
http://www.pewoceanscience.org/projects/Pew_Global_Shar/intro.php?IC+56. *This is a short summary of their project headed by scientists from Dalhousie University, that documents declining populations, particularly in the Gulf of Mexico.*

Pew Charitable Trust 2008. The Risk of Over-Exploitation for Data-Poor Pelagic Atlantic Sharks. Available at:
http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/ICCAT_sharks_catch_limits09_08.pdf *This report by an international expert panel, including scientists from the NMFS, recommends a number of conservation measures including making oceanic whitetip, porbeagle, silky, mako and some threshers “no take” species and recommends updated assessments for blue sharks and shortfin mako sharks.*

Pew Charitable Trust 2010. Shark Conservation. Available at:
http://www.pewtrusts.org/our_work_detail.aspx?id=140. *This summarizes the conservation crises facing sharks in various parts of the world, including in the Atlantic, and provides links to a number of Lenfest publications on sharks and shark conservation.*