



Up to 73 Million Sharks Are Killed Annually for the Global Shark Fin Trade¹— At an Unknown Cost to the Ecosystem

Sharks have been an essential part of the marine environment for the last 400 million years. Like lions, tigers and wolves, sharks maintain healthy, balanced ecosystems by serving the function of top predator. With the oceans covering approximately 70 percent of the Earth's surface, sharks are arguably one of the most important predators on the planet.

Sharks and other top predators maintain a balance among species below them. Studies show that when these predators decline in numbers, populations of their prey increase, which in turn feed on species lower down the food chain.² Besides balancing the food web, predators also promote ecosystem diversity by eating competitively dominant prey, thereby enabling the existence of less competitive species as well.³

Wolves in Yellowstone National Park illustrate the importance of a top predator. When they were eradicated from the park in the early 1900s, elk populations burgeoned. Unchecked numbers of elk grazed on aspen trees, decimating an important species that provided habitat for songbirds and beaver and prevented erosion along streams and river banks. As aspens disappeared, the park's ecosystem deteriorated until wolves were reintroduced in the mid-1990s. Aspen stands recovered and with them the species they supported.

Currently, over one million sharks are killed each week, putting the health of our oceans at risk. Some shark species in U.S. waters have declined by as much as 80 percent since the 1970s,⁴ and scientists are concerned that in some areas species of large sharks may be functionally extinct, unable to perform their predatory role in the ecosystem.

Although the effects of removing sharks are complex and difficult to predict, scientists warn that the consequences are likely to be broad and cascading. For example, in one case study from the tropics, the depletion of tiger sharks resulted in a decline in tuna. Some might expect an increase in tuna with the removal of this predator, but in this case tuna populations had previously thrived because sharks were keeping other predators in check.⁵

Help preserve the essential role of sharks and the health of our marine ecosystems by supporting the Shark Conservation Act of 2009 (S. 850).

See the reverse side for citations and contact information.

¹ S. Clarke et al., "Global estimates of shark catches using trade records from commercial markets," *Ecology Letters*, Blackwell Publishing Ltd/CNRS, 2006, pg. 1119, <www.iccs.org.uk/papers/Clarke2006EcologyLetters.pdf>.

² R. Myers et al., "Cascading Effects of the Loss of Apex Predatory Sharks from a Coastal Ocean," *Science*, Vol. 315, 30 March 2007, American Association for the Advancement of Science, Washington, DC, 2007, pp.1846-1850, <www.sciencemag.org/cgi/content/abstract/315/5820/1846>.

³ J. Carrier, *Biology of sharks and their relatives*, New York: Taylor & Francis, Inc., 2004, pp. 493-512.

⁴ J. Baum et al., "Collapse and Conservation of Shark Populations in the Northwest Atlantic," *Science*, Vol. 299, 17 January 2003, American Association for the Advancement of Science, Washington, DC, 2003, pp.389-392, <www.sciencemag.org/cgi/content/full/299/5605/389>.

⁵ G. Cailliet et al., "Ecology and Life History Characteristics of Chondrichthyan Fish," *Sharks, rays and chimaeras: the status of the chondrichthyan fishes*, IUCN/SSC Shark Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK, 2005.



For more information, please contact:

Matt Rand | Project Director | Global Shark Conservation
mrاند@pewtrusts.org | 202-887-8800