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An SOS for Sharks

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SOS for Sharks-

...please don't eat the soup

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by Peg Van Patten

After Peter Benchley's book and the subsequent 1975 movie, *Jaws*, came into pop culture, many people developed the attitude that "the only good shark is a dead one." Surely, the Great White Shark is a mighty huge creature that, with its regenerating rows of sharp teeth (between 10,000 and 30,000 can form during a single shark's lifetime), might epitomize terror. And you must have seen someone chewed while surfboarding, on the news. A hungry or injured one, if you disturb it, might not be inclined to distinguish you from, say, a herring or a RingDing, but most will simply be curious.

But there's another side to sharks. Even the Great White is not out to get humans for lunch; it may be attracted by blood, bright colors, or sudden movements, and strike out with those fearsome pointy teeth. There are certainly less scary species–for example, dogfish, hammerhead, and sand tigershark are among those found in Long Island Sound. Despite the movie hype and occasional rare shark attack on a human, sharks should be afraid, *very afraid*, at the the sight of *us*! Humans are much more predatory to sharks than vice-versa. Many shark species are now threatened or endangered and are protected by conservation legislation. Some estimate that more than 100 million sharks are killed each year; some for sport, some for food, some for research, some for their impressive jaws, and some for no real reason at all.

Why should we care if sharks thrive and survive? Some people think that they are beautiful creatures and have as much right to exist, if there is such a thing, as any other organism. But the most important reason, perhaps, is that healthy sharks are a key element of ocean and bay ecosystems.

"As top predators, sharks provide an indispensable biological control to remove weaker and sick animals and thus are part of the very important evolutionary force, 'survival of the fittest'," says Joanna Borucinska, a researcher from the University of Hartford. She has studied many aspects of shark health and some of the research was supported by Connecticut Sea Grant.

"Sharks bioaccumulate and biomagnify many pollutants traveling up the food chain. As such, they are very valuable bioindicators of pollution levels in the oceans–both regionally, in non-migratory species, and in general. For example, blue sharks undergo a transAtlantic migration annually." Borucinska said. Her areas of research includes lesions from retained fish hooks, bioindicators of endocrine disruptors manifested in the thyroids and gonads, bioindicators of pollution found in the livers, spleens and kidneys, and incidental diseases such as neoplasia and various infections. Sharks grow slowly, mature sexually late in life, and produce few young, all of which makes them particularly vulnerable to overfishing. This is why shark fisheries require careful management if sharks are to continue.

A particularly insidious practice happening in our world is called "shark finning". Illegal in most nations, finning involves slicing the top fin from the shark and discarding the rest of the animal. If the shark is living when the fin is removed, it is sometimes cruelly cast

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NOAA Office of Law Enforcement agent counting agger shark fins aboard a vessel.

back into the sea alive, but helpless. "Finning results in loss of ability for the shark to steer and swim," said Borucinska. "In addition, the wounds from 'finning' attract predators. De-finned sharks are often killed because they are unable to escape. Even if they avoid predators, they are unable to hunt for themselves, and so they slowly starve to death."

The fins are dried and sold to make a gourmet Asian dish, Shark Fin Soup. This dish was traditional cultural fare in Japanese celebrations, such as weddings and banquets. A single bowl can still sell for a hundred dollars or a lot more, so is also a prestige symbol. The more exotic the species, the higher the price climbs.

Why toss the body? After all, isn't the rest of the shark edible? Yes. Sometimes it's done simply to make room on the vessel for more fins, because they sell at a higher price than the flesh. Some dishonest fishers think that inspectors will be unable to tell that they have fins from endangered species aboard a vessel, or too many fins, if there is also a legal shark catch aboard. The species of sharks with the most valuable fins are not always the same as the shark species with the most valuable meat.

Shark finning has been banned by the United States in both the federal waters of the Atlantic and Pacific Oceans, and the Gulf of Mexico. The ban also applies to foreign vessels landing in U.S. ports without corresponding shark carcasses. The U.S. ban is also consistent with international agreements to better manage shark populations

Shark fins comprise only between 1 percent and 5 percent of a shark's body weight, so finning results in a 95 to 99 percent waste (by weight). "Wasteful fishing practices can lead to devastation of vital living marine resources and economic hardship for the fishermen and communities that rely on the long-term, sustained use of these resources." said retired Navy Vice Admiral Conrad C. Lautenbacher, Jr., U.S. under secretary of commerce for oceans and atmosphere.

In 2000, Congress amended the Magnuson-Stevens Fishery Conservation and Management Act and enacted the Shark Finning Prohibition Act out of concern for shark populations. This conservation action, intended to curtail finning, will help reduce the waste of sharks and shark meat immediately.

The numbers are not trivial. To get an idea: in 1998, before the legislative measures, the percentage of sharks killed by U.S. longline fisheries in the Pacific Ocean for finning was approximately 60 percent. Between 1991 and 1998, the number of sharks retained by the Hawaii-based swordfish and tuna longline fishery had increased from 2,289 to 60,857 annually, and by 1998, an estimated 98 percent of those sharks were killed for their fins.

In July 2007, the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Fish and Wildlife Service (USFWS) joined forces to help with this problem. NOAA researchers developed a method to quickly identify shark species using DNA to distinguish the most common and commercially important 35 of the 73 species in U.S. waters. Without DNA testing, it can be difficult to identify a shark's species based on visual inspection of its fin, especially after it has been dried. Fishermen cannot legally discard finned carcasses at sea, but they are allowed to possess cut fins as long as the fins make up no more than five percent of the weight of the carcasses on board. Now, regulatory agents inspecting catch can determine whether removed fins "match up" with the catch aboard, or if they have been illegally removed from sharks whose carcasses were discarded.

The shark fin identification research will be performed by the NOAA Center for Coastal Environmental Health and Biomolecular Research in Charleston, South Carolina, which is one of the NOAA National Centers for Coastal Ocean Science, and by the USFWS National Fish and Wildlife Forensics Laboratory in Ashland, Oregon.

How can YOU help conserve sharks and prevent needless animal cruelty? Easy–when traveling, **don't order the soup** if you find it in a restaurant. Don't patronize restaurants that serve it, and consider supporting shark conservation. Help change human attitudes and behaviors towards sharks, armed with information. Now, wasn't that easy?