One-third of world's sharks, skates and rays face extinction

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They call it the "Jaws" effect. Inspired by the 1975 movie about a great white shark that terrorized a tourist town, legions of fishermen piled into boats and killed thousands of the ocean predators in shark fishing tournaments.

Although most of the tournaments have shut down or gone to catch-and-release, a commercial shark fishing industry arose in their place to serve the Chinese demand for shark-fin soup, a luxury dish comparable to caviar.

Today, about that 345 of 1,044 species of the world's sharks, skates and rays are threatened with extinction, according to an article published in the most recent issue of the journal Science. It also raises the possibility that in a few generations the oceans will lose layers of predators that keep marine ecosystems in balance.

"They're an important part of the web of life," said Jack Musick, emeritus professor at the Virginia Institute of Marine Science, who supervised the study. "The larger animals that are apex predators are the force of natural selection. And we owe it to our kids and our grandchildren to leave them the same level of biodiversity that we enjoyed."

Jeff Torode, who operates South Florida Diving Headquarters, said he's noticed a sharp decline in the 20 years or so he's led underwater expeditions.

"You used to be able to see Caribbean reef sharks, you'd see bull sharks, you'd see a hammerhead occasionally, we'd see blacktips in the shallows," he said. "Right now you're lucky if you see a shark in 10 or 20 dives. You see a bull shark once in a while on the deeper wrecks. The only species you will see with any regularity is the nurse shark."

What makes sharks particularly vulnerable, despite their fearsome reputation, is their low reproductive rate and late age of sexual maturity. Consider the dusky shark, a species that - with an adult length of up to 14 feet - is generally capable of taking care of itself. But it became a favorite quarry in the "Jaws"-era tournaments, said John Carlson, a marine biologist with the National Marine Fisheries Service. Now the federal government has banned the killing of duskies. The predicted recovery time: 400 years.

A save-the-shark spirit has taken hold among many people in the sportfishing business, with many going toward catch-and-release fishing. Gray Taxidermy Inc., a Pompano Beach, Fla., company that claims to be the world's largest marine taxidermist, announced it would refuse to accept sharks, telling fishing captains it would make their clients fiberglass replicas from measurements of the live shark before its release.

Tom Zsak, a charter captain whose boat Happy Day Today runs out of the Bahia Mar marina in Fort Lauderdale, takes tourists out to catch golden hammerheads, tiger sharks, makos and other species. But since last year, he doesn't let them kill the sharks, explaining to them their importance to ocean ecosystems. If a client wants a mount, he measures the shark quickly for the taxidermist and lets it go, having allowed his client to experience an exciting fight with a powerful predator.

"When you get one on a rod and reel, it's unbelievable," he said. "But it's getting to the point where I understand about letting things survive, even

sharks."

Among the most threatened species today are the various species of sawfish - raylike fish that use a toothed rostrum to break up schools of fish to eat, said Sonja Fordham, president of Shark Advocates International, a conservation group based in Washington, D.C., and Brussels. Their long "saw" gets caught up in fishing nets, they inhabit shallow coastal areas that are being developed and they take many years to reach sexual maturity.

The best protected population of sawfish in the world is the smalltooth sawfish population of South Florida, which has been safeguarded under the Endangered Species Act. Once inhabiting coastal areas from North Carolina to Texas, the sawfish has been reduced to an arc of coast running from southwest Florida to Everglades National Park, with a few ranging up to Fort Lauderdale and the Indian River Lagoon, Carlson said. Now federal and state wildlife officials are engaged in several sawfish studies to help the species recover.

The shortfin mako, the world's fastest shark, which is found in South Florida, faces several threats. They are good to eat, Musick said, and they get caught in the nets and longlines of the commercial swordfish and tuna fisheries. "When they are taken on longline gear, they start thrashing around very actively and they can't swim actively enough to irrigate their gills, so they die on the line," he said. "That whole scenario is true for a whole suite of sharks."

Hammerheads, once common in Florida waters, have become rarer as well.

"The hammerheads also have a number of strikes against them," Fordham said. "They have particularly high-value fins for shark-fin soup. Scalloped hammerheads tend to form big schools and if you're

taking just the fins you can kill a lot of them on one trip. They have very high mortality on fishing gear."

At the most recent Convention on the International Trade in Endangered Species of Wild Fauna and Flora, the forum through which governments establish rules to protect wildlife, the United States proposed restrictions in the trade of three species of hammerheads, the great, scalloped and smooth hammerheads. All have particularly high-value fins prized for soup. But the proposal failed, with China and Japan leading the opposition, said Carlson, who attended the meeting.

"While we think there's more to do, the United States has been a leader in shark conservation," Fordham said.

The next opportunity to restrict international shark fishing takes place Nov. 17-27 in Paris, where representatives of 48 countries will gather for a meeting of the International Commission for the Conservation of Atlantic Tunas, which manages sharks in the Atlantic Ocean.

Jill Hepp, manager in the Global Shark Conservation Campaign for the Pew Environmental Group, said her organization will be at the meeting advocating limits on the catch of mako and oceanic whitetip sharks. They also support international restrictions on finning, a practice banned in the United States, in which the valuable fins are cut off the shark and the dead or dying animal is thrown back into the ocean.