

Putting Names to Fishers' Unidentified Sharks

Most sharks and rays caught in the Mediterranean are not identified to a species level, which hampers conservation efforts.

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The Mediterranean has [historically had a high diversity and abundance of elasmobranchs](#) (sharks and rays), but inadequate record-keeping and ambiguous identification is putting many species in peril and some at risk of extinction. Aware that protected species and those with low commercial value, including sharks and rays, are poorly reported, Madeline Cashion and colleagues at the University of British Columbia's

Sea Around Us project [investigated the catch data](#) recorded with the Food and Agriculture Organization of the United Nations (FAO) and found it lacking.

What was missing in the catches from 1950 to 2014 was identity. A whopping 97 percent of landed catches in the Mediterranean and Black Seas were not identified to species and many were categorized simply as sharks or rays.

“I was shocked to find only 27 species since 1950 were recorded, when we know far more identified species have in fact been caught,” Cashion says.

And it’s not just a problem around the Mediterranean. Only about one-third of the global shark and ray catch is identified at the species level, says Nick Dulvy, cochair of the shark specialist group of the International Union for Conservation of Nature. The rest are lumped into categories of varying resolution, such as skates, which might include tens of species. “We have known for at least two decades that aggregated catches mask overfishing and local extinctions,” he says.

To add to the underreporting, the FAO data only records data that is reported, landed, and from industrial catches, which misses a large sector of fishing activity.

“Eighty-five percent of fishing vessels in the Mediterranean are small-scale fishers who mostly catch fish to eat. They might not have the time, crew, or expertise to identify every fish by species, and that means scientific names won’t get into FAO data,” Cashion explains.

To correct for the bias, Cashion and her colleagues used a Sea Around Us data set that considered catches from small-scale fisheries and unreported information, such as by-catch.

Countering the poorly and underreported catches of the Mediterranean and Black Sea elasmobranchs does not have a simple solution. Both areas are semi-enclosed seas surrounded by numerous countries that do not always follow the same fisheries regulations and may lack law enforcement, says Chrysoula Gubili, shark and ray specialist with the Fisheries Research Institute in Kavala, Greece.

“[Fish] stocks in these waters are overexploited,” says Gubili, adding that the political and economic instability in so much of the region does not always allow management

measures to be effective. The issues escalate in non-commercial species such as elasmobranchs.

In one effort to gather more species-specific catch and trade data in the Mediterranean, the Swiss-based Save Our Seas Foundation is funding the Fisheries Research Institute in a new project focusing on rays.

Gubili says they plan to create a ray species identification guide to educate fisheries observers and fishermen so that species misidentification is minimized. They will also study how different fishing practices—such as the use of different gear, or success at varying depths—might affect vulnerable species and will strive to gather more data on illegal, unreported, and unregulated fishing.

The work of Cashion, Gubili, and their colleagues is critical because low-quality data typically cannot be used for conservation, management, and research. It gives the illusion of having no information when in fact we have a lot of information that can't be used, Cashion says.


“I see this as an important distinction because it is much easier to improve catch statistics than to find the unreported catches. We don't need to find the catch, we just need to ID it,” she adds.

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