

# Greenland shark, world's longest-living vertebrate, gets long-awaited protection



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- *In September, the Northwest Atlantic Fisheries Organization (NAFO), an intergovernmental organization that manages fisheries, prohibited the retention of Greenland sharks in international waters.*
- *This ban would apply to the intentional catching of Greenland sharks as well as the retention of the species as bycatch.*

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Everything about the Greenland shark seems to be *slow*: these long-bodied animals swim slowly, grow slowly and reach maturity slowly. Their maturity rate is so sluggish, in fact, that scientists [believe](#) they don't start reproducing until they're about 150 years old — and that they can live anywhere from 270 to 500 years, making them the longest-living known vertebrate on the planet.

But the [longevity](#) of Greenland sharks (*Somniosus microcephalus*) has made the species particularly vulnerable to overfishing. It's [estimated](#) that about 3,500 individuals are accidentally caught as bycatch by demersal trawling (also called bottom trawling), longlines, and gill nets each year in the Northwest Atlantic, Arctic Ocean and Barents Sea, according to the IUCN, the global wildlife conservation authority. This, along with historical targeted fishing pressure, has contributed to a decline of about 60% in the past 420 years. In 2020, the Greenland shark's conservation status on the IUCN Red List worsened from near threatened to vulnerable.

sharks in international waters.

“It was a long time coming, but not a long time in the life of a Greenland shark,” Sonja Fordham, president of Washington, D.C.-based Shark Advocates International, who attended the recent NAFO meeting in Portugal, told Mongabay. “We were glad that it finally went through, and it’s the first for that kind of protection for NAFO.”

The new rule would prohibit intentional fishing or the keeping of Greenland sharks accidentally caught as bycatch. Exceptions would be possible if countries have a domestic ban on discarding fish, as is the case in Iceland, Norway, the Faroe Islands and Greenland. However, such exceptions would only apply to the accidental catching of the sharks — not to deliberate fishing.



Greenland are believed to live anywhere from 270 to 500 years. Image by Julius Nielsen.

In 2018, NAFO’s Scientific Council recommended a ban on retaining Greenland sharks. But at the time, only the U.S. and the EU adopted partial bans and implemented catch reporting requirements.

Brynn Devine, an Arctic fisheries adviser at Oceans North, a marine conservation NGO based in Halifax, Canada, said Greenland sharks tend to get caught as bycatch most often in bottom trawling gear, but that they’re also susceptible to other kinds of fishing, such as gillnetting.

It’s currently not known how many Greenland sharks die after getting caught as bycatch, but according to Devine, survival largely depends on the kind of gear that is used.

“There’s still so much we don’t know about them: how many they are, their abundance, their population structure, we have no idea where they go to mate, or where they go to have their pups. We don’t know how many pups they have or how often they reproduce,” Devine told Mongabay. “And that makes conservation planning particularly challenging because those are the things that you need to know to understand how at risk a species is to things like bycatch.”

Something that is known about Greenland sharks is that they don’t strictly spend their time at the bottom of the ocean, which was once the perception. Instead, [research](#) has shown that they move up and down in the water column — and that they also migrate over long distances. Earlier this year, a Greenland shark was [spotted](#) as far south as Belize.

“They do this sort of yo-yo diving behavior, and they spend a lot of time up in the water column and go up and down and up and down,” Devine said.

Fordham said an important part of implementing the new rule will be taking steps to ensure that Greenland sharks, if accidentally caught, can be safely returned to the water.

the net.”

Susanna Fuller, the vice president of operations and projects at Oceans North, who also attended the NAFO meeting, said the decision to protect Greenland sharks was a “huge breakthrough.” On the other hand, she said, NAFO has more work to do to align fishing quotas, such as for the quota for cod, with the prevailing science, and to further protect vulnerable ecosystems. But overall, she said, she's encouraged by the progress being made in the region.

“When one measure is taken,” Fuller told Mongabay, “usually it starts to build momentum for more.”

**Correction (10/07/2022):** This article was updated to specify that demersal trawling and bottom trawling are the same thing.

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#### Citations:

Nielsen, J., Hedeholm, R. B., Heinemeier, J., Bushnell, P. G., Christiansen, J. S., Olsen, J., ... Steffensen, J. F. (2016). Eye lens radiocarbon reveals centuries of longevity in the Greenland shark (*Somniosus microcephalus*). *Science*, 353(6300), 702-704. doi:[10.1126/science.aaf1703](https://doi.org/10.1126/science.aaf1703)

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