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## Bottom Trawling Implicated in Fish Population Collapse



Roundnose Grenadier. Photo by Alexei Orlov, FishBase.

BY MAREX 2018-04-14 23:20:37

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A new study using *Sea Around Us*' reconstructed catch data indicates that, in the past 60+ years, the practice of towing giant fishing nets along the sea floor has caused the extraction of 25 million tons of fish that live 400 meters or more below sea level, leading to the collapse of many of those fish populations.

The new estimates suggest that 42 percent more fish have been caught by countries than they reported to the Food and Agriculture Organization of the United Nations. "Our study shows that there is systematic under-reporting of the real catch. This means that fisheries managers are making decisions based on incorrect data, which has dramatic consequences for marine ecosystems," said Lissette Victorero, lead author of the paper and a Ph.D. student at the National Oceanography Centre in the U.K.

The study examines the state of 72 deep-sea fish species caught by bottom trawlers around the world, many of which were exploited to unsustainable levels. For example, catches of the Roundnose Grenadier were estimated to be greater than 60,000 tons in 2001 in the Northeastern Atlantic, but the stock was overfished so fast that a moratorium had to be imposed in 2006 in Norwegian waters.

"One of the reasons behind this collapse is the fact that trawls are not selective, that is, they catch everything and anything, which means that young Grenadiers that have not

yet reached full reproductive development are caught along with adult grenadiers, decreasing the ability of the population to recover,” said Deng Palomares, co-author of the study and the Sea Around Us Project Manager at the University of British Columbia.

Palomares says that most of the fisheries analyzed lasted for around a decade, because deep-sea fish generally have low fecundity, grow very slowly and live around the seamounts and ridges that can be razed to the ground by trawls.

Besides depleting the stocks, bottom trawling of deep fish does not generate much in the way of marketable fish. Immature individuals are thrown overboard because they generally don't meet minimum size requirements, while non-targeted species caught as bycatch are also returned dead to the sea.

The new estimates presented by Victorero, Palomares and their colleagues suggest that six million tons of fish were discarded over the study period while deep-sea fisheries only contributed 0.5 percent of total fisheries landings. “This means that globally their economic importance is trivial,” the paper states.

The desire to keep the business going drives fleets to continuously look for new species to fish, particularly once they have fished out a stock or are subjected to new regulations. “So what we are seeing is a cycle in which trawlers start targeting fish that they were already dragging up as bycatch. They create new markets for them until they also exhaust the stock with regulations lagging behind,” Victorero says.

The impact of trawling goes beyond the capture of fish populations. As they are dragged on the seabed, trawls remove sponges, corals, sea stars, sea cucumbers and anemones, all of which play important roles as food source or habitat for fish. They also destroy seamounts and other fish homes, turning former thriving habitats into large cleared areas.

Link: <https://www.maritime-executive.com/article/bottom-trawling-implicated-in-fish-population-collapse#gs.fqhAjKE>