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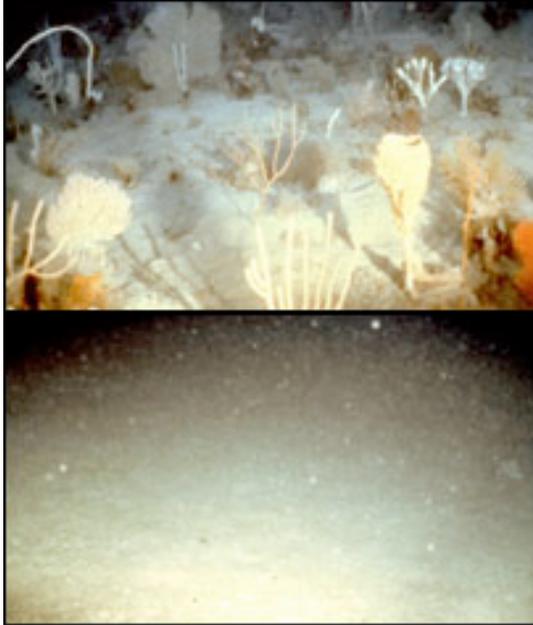


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'Critical danger' warning on fish



Seafloor before (top) and after (bottom) the trawlers have been

Deep sea fish species in the northern Atlantic are on the brink of extinction, new research suggests.

Canadian scientists studied five deep water species including hake and eel.

Writing in the journal *Nature*, they say that some populations have plummeted by 98% in a generation, meeting the definition of 'critically endangered'.

Scientists and conservation bodies are pressing for a global moratorium on deep-sea fishing which they regard as particularly destructive.

Some fleets have switched to deep-sea fisheries following the collapse in more commonly-caught species such as cod. Known as bottom-trawling, ships often use heavy trawls which are dragged across the ocean floor, destroying coral and other ecosystems.

[Click here to see how bottom trawling works](#)

Conservation groups have lobbied hard in recent years for a global moratorium.

The most recent attempt to get a moratorium adopted, at the UN General Assembly last November, failed.

Five on the brink

The new study, led by Jennifer Devine of Memorial University in Newfoundland, has produced further evidence that these fishing methods can have big ecological impacts.

The five species studied are all slow to grow and reproduce, attaining sexual maturity only in their teens.

"Deep sea fish are highly vulnerable to disturbance because of their late maturation, extreme longevity, low fecundity and slow growth," the researchers write.

“ Conservation measures are necessary and lack of knowledge must not delay appropriate initiatives ”

Jennifer Devine & colleagues

They examined records from Canadian Atlantic waters spanning the period 1978-1994 - roughly a single generation.

They found that populations of roundnose grenadier, onion-eye grenadier, blue hake, spiny eel and spinytail skate all declined spectacularly over the period.

Populations fell by between 87% and 98%; projections show that some would be completely eliminated within three generations.

These statistics would place the five fish within the category of "critically endangered", as defined by IUCN, the World Conservation Union, which publishes the Red List of threatened species.

"Conservation measures are necessary and lack of knowledge must not delay appropriate initiatives, including the establishment of deep sea protected areas," the researchers conclude.
