

Science for Environment Policy

Increased fishing depths put pressure on vulnerable deep-sea species

A new study reports that fishing depths in the EU have increased, with more deep-sea fish species being harvested. Deep-sea fish populations are often more vulnerable to effects of fishing, and the ecological impact of overfishing may therefore be greater than for shallow-water species.

Overexploitation of fish in shallow waters, coupled with technological advances in fishing techniques, mean that fishing fleets are turning to deeper waters to harvest fish, i.e. those living at depths of 400 metres and more.

In this study, the researchers used fish catch data from the UN Food and Agricultural Organization (FAO) to determine the average depth of fishing for EU fleets, for the period 1950-2006. The data covered 485 species and, from this, the researchers could estimate the average depth where the fish are most commonly found, in addition to the lifespan and habitat of the species.

Between 1950 and 2006, the study revealed a shift towards fishing at greater depths and catching deeper-dwelling species, such as grenadiers. The average depth of fishing for deep-sea species increased by 128 metres during this time, from 407 metres in 1950 to 535 metres in 2006.

Deeper-dwelling fish generally live longer, grow more slowly, mature later and have a lower fertility rate. Therefore they are often more vulnerable to fishing pressures than species living in shallower water. The data revealed that the EU fleet is catching more long-lived, deep-sea fish and therefore more vulnerable species of fish; the average age of fish caught was 13 years for shallow-water species, 25 years for medium-depth species and 60 years for deep-sea species.

In the EU, fisheries are regulated under the Common Fisheries Policy¹ (CFP), which has a number of measures in place to ensure EU fishing is sustainable and viable. Between 1950 and 1982, before implementation of the CFP, the average depth of catches of the EU fisheries increased by 60 metres. Under the CFP, between 1983 and 2006, this increased by a further 50 metres. This indicates that the CFP had not halted the shift towards deep-sea fishing by the EU fishing fleet.

In 2002, the EU introduced Total Allowable Catch² (TAC) limits of certain fish species, after the International Council for the Exploration of the Sea (ICES) found that many fish stocks, including deep-sea species, were being caught at unsustainable levels.

However, the study found that between 2002 and 2011, TACs for deep-sea species were 60% higher than limits proposed by scientists and reported catches were 50% higher than the recommended TACs. In some instances, deep-sea species catches were 3.5 times greater than the recommended TAC for 2002-2011. This suggests that neither scientific advice nor TACs were followed and many deep-sea species were being exploited beyond sustainable levels.

Proposals by the European Commission to reform the EU Common Fisheries Policy (CFP) and ensure the sustainability of fish stocks by 2015 are currently being discussed by the European Parliament.



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Contact:
sebastian.villasante@usc.es

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1. See: http://ec.europa.eu/fisheries/cfp/index_en.htm

2 See: http://ec.europa.eu/fisheries/cfp/fishing_rules/tacs/index_en.htm