

Unsustainable deep-sea fisheries

Deep-sea fisheries management in the Northeast Atlantic Ocean has become an issue of serious concern. During the past few decades, fishing activities have increased dramatically in deeper waters, with significant impacts on marine species and ecosystems. Most exploited deep-sea stocks are currently fished more heavily than is sustainable¹, which is particularly worrying because these species are known to be highly vulnerable to overfishing^{2,3} as a result of their biological characteristics such as slow growth, delayed maturity, low productivity, and long lifespans^{4,5,6}. In addition, deep-sea fisheries also have significant impacts on wider marine ecosystems. Deep-sea fishing gears such as bottom trawls and gillnets are associated with high levels of by-catch of non-target species, and also cause significant physical damage to vulnerable marine ecosystems such as fragile cold-water coral reefs and sponges⁷.

Regulation (EC) 2347/2002, which establishes the conditions for deep-sea fisheries in the Northeast Atlantic, has failed to address these problems and is currently being revised to improve the management of deep-sea stocks, reduce the environmental impact of these fisheries and improve the information base for scientific assessment. In addition, this regulation must also integrate the international commitments made by the EU and other nations through United Nations General Assembly Resolutions 61/105 and 64/72. These resolutions called upon flag states to:

- implement conservation and management measures to protect vulnerable marine ecosystems from fishing impacts; and
- ensure the long-term sustainability of deep-sea fish stocks.

Such measures are currently only reflected in Regulation (EC) 734/2008 *on the protection of vulnerable marine ecosystems in the high seas from the adverse impacts of bottom fishing gears*, but they do not yet apply to EU vessels within Union waters or the regulatory area of the North East Atlantic Fisheries Commission (NEAFC). The revision of (EC) 2347/2002 therefore provides an important opportunity for improving the sustainability of EU deep-sea fisheries, consistent with existing EU policy and international commitments.

Key areas for improving management

1. Only a limited number of deep-sea species that are fished in the Northeast Atlantic are subject to fisheries management. Many others are unmanaged, despite scientific evidence that most deep-sea species are highly vulnerable to overexploitation.

- The list of managed species should be expanded to include all species that are potentially captured, irrespective of quantities caught or the availability of landings data.
- The list of species considered most vulnerable should be updated according to the best available scientific information. Deep-sea sharks, which are particularly vulnerable, should be included in this category.
- Lists of managed and most vulnerable species should be regularly reviewed.



2. Fishing opportunities for deep-sea species have typically ignored scientific advice, or have been set arbitrarily when no scientific recommendations were available. Since the EU began to manage deep-sea stocks, scientifically proposed catch limits have not been respected in 60% of cases⁸.

- Fishing opportunities should be strictly consistent with scientific advice and, whenever possible, according to maximum sustainable yield (MSY). No fishing opportunities should be allocated if scientific advice is not available.
- Fishing opportunities should ideally be set through a combination of catch limits and effort restrictions. For aggregating species, effort controls should not be the only measure used for management, because this could lead to stock depletion even at low levels of effort.
- No fishing opportunities, whether for target fishing or by-catch, should be allocated for species classified as most vulnerable.

3. Deep-sea fishing practices carry an enormous risk of adverse impacts on vulnerable marine ecosystems (such as seamounts, coral reefs, and sponge beds) and non-target species (such as deep-sea sharks).

- The use of damaging non-selective bottom gears (i.e., bottom trawls and gillnets) should be phased out and a transition to less damaging, more selective gears, should be encouraged.
- Deep-sea fishing activities should only be permitted where impacts assessments show that there is no risk of damage to vulnerable marine ecosystems, whether in areas that are not currently fished, or where fishing activities already occur.
- Member States should implement measures to reduce catches of non-target species (particularly most vulnerable species) and minimise discards.
- Areas where vulnerable marine ecosystems occur or are likely to occur should be protected and closed to fishing with bottom gears.

4. Data on fishing effort and catches of target and non-target deep-sea species are limited and of poor quality, making these fisheries notoriously difficult to assess and manage.

- Authorisation of vessels for deep-sea fishing should be conditional on compliance with relevant management measures and cooperation with scientific data collection.
- Fishing authorisations should be revoked for Member States that fail to fulfil their data collection and reporting obligations.

References

1 ICES. 2007. Report of the ICES Advisory Committee. 2 Ramirez-Llodra *et al.* 2011. PLoS ONE 6(7): e22588. 3 Norse *et al.* 2012. Marine Policy 36:307-320. 4 Morato *et al.* 2006. Journal of Fish Biology 68:209–21. 5 Koslow *et al.* 2000. ICES Journal of Marine Science 57:548–57. 6 Morato and Clark. 2007. In: Pitcher *et al.*, eds. *Seamounts: ecology, fisheries, and conservation*. Oxford: Blackwell Publishing. 7 Auster *et al.* 2011. ICES Journal of Marine Science 68:254-264. 8 Villasante *et al.* 2012. Ocean & Coastal Management 70: 31-37.

