

Myths and facts about deep-sea fisheries in the North-East Atlantic Ocean

Following the exchange of views in the Fisheries Committee on September 18th, in which many inaccuracies were stated about deep-sea fish and fisheries, we would like to provide you with the best available information regarding the status and biological characteristics of deep-sea stocks, by-catch and discard rates of deep-sea fisheries, and EU and international precedents of restricting deep-sea bottom trawls and gillnets.

Myth 1: Deep-sea stocks in the North-East Atlantic are in good condition.

Reality: Of the 54 deep-sea species included in the Commission's proposal, according to ICES:

- 21 species are considered to be depleted or at risk of depletion
- 5 species have one or more stocks that are in stable or slightly negative condition
- 4 species have one or more stocks that are of unknown status, due to a lack of data
- 3 species have one or more stocks that are considered to be in good condition

The status of a further 26 species is completely unknown, because they have never been assessed (*see Table 1*).

Myth 2: Only a few deep-sea species have biological characteristics that make them especially vulnerable to overfishing.

Reality: In general, most deep-sea species have long lifespans, grow slowly, reach sexual maturity at a late age, and have low reproductive potential. For the 30 species for which maximum age has been estimated, the average is 36 years (*see Table 1*). For the 20 species for which age at maturity has been estimated, the average is 12 years (*see Table 1*).

For comparison, anchovy (*Engraulis encrasicolus*) matures at 1 year, and lives up to 4 years of age; hake (*Merluccius merluccius*) matures at 3-8 years and lives up to 20 years of age; and cod (*Gadus morhua*), which is a relatively long-lived species, matures at 2-4 years, and lives up to 25 years of age.

Myth 3: Deep-sea fisheries do not catch a high number of non-target species, and do not produce high levels of discards.

Reality: Scientific publications and technical reports from scientific advisory bodies indicate that the number of non-target species often greatly exceeds the number of target species, and that a high percentage of the total catch is frequently discarded. Rates vary among fleets (depending on depth, gear specificities, and fishing practices), but Table 2 shows that EU deep-sea trawls in the North-East Atlantic catch between 40 to 100 non-target species, and that average discard rates reach 50% of a haul, with up to 80% of some hauls discarded.

Myth 4: Prohibiting the use of deep-sea bottom trawls and gillnets is an unprecedented measure.

Reality: Both of these types of fishing gear have already been prohibited in other RFMOs and in some parts of the EU, because of concerns about their impacts on deep-sea habitats, and high levels of bycatch. Below are listed examples of existing bans:

Prohibitions on deep-sea bottom trawling:

- Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) – [Conservation Measure 22-05](#)
- General Fisheries Commission for the Mediterranean (GFCM) – [Recommendation GFCM/2005/1](#) (prohibited below 1000 m)
- European Union – [Regulation \(EC\) No 1568/2005](#) (prohibited in Azores, Madeira, and Canary Islands)

Prohibitions on deep-sea gillnets:

- Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) – [Conservation Measure 22-04](#)
- North East Atlantic Fisheries Commission (NEAFC) – [Recommendation 3](#) (prohibited below 200 m)
- South East Atlantic Fisheries Organisation (SEAFO) – [Recommendation 1/2010](#)
- South Pacific Regional Fisheries Management Organisation (SPRFMO) – [Conservation and Management Measure 1.03](#)
- European Union – [Regulation \(EU\) No 227/2013](#) (prohibited below 600 m)
- European Union – [Regulation \(EC\) No 1568/2005](#) (prohibited below 200m in Azores, Madeira, and Canary Islands)

Table 1. Stock status and biological characteristics of species included in the European Commission’s proposal for a new deep-sea access regime in the North-East Atlantic Ocean¹.

Stock status is indicated by the following symbols:

- ✓ good condition
- ✗ depleted or concerns about depletion
- stable condition or slightly negative
- ? status unknown

Common and scientific names	Biology	Area	Stock status
Gulper shark <i>Centrophorus granulosus</i>	Maximum age: 25-39 years Age at maturity: 8-17 years	NEAFC area	✗ (ICES 2012)
Leafscale gulper shark <i>Centrophorus squamosus</i>	Maximum age: 54-70 years Age at maturity: 27-40 years	Northeast Atlantic	✗ (ICES 2012)
Black dogfish <i>Centroscyllium fabricii</i>	Age at maturity: 5 years	NEAFC area	✗ (ICES 2012)
Portuguese dogfish <i>Centroscymnus coelolepis</i>		Northeast Atlantic	✗ (ICES 2012)
Longnose velvet dogfish <i>Centroscymnus crepidater</i>	Maximum age: 54 years Age at maturity: 20 years	NEAFC area	✗ (ICES 2012)
Kitefin shark <i>Dalatias licha</i>		Northeast Atlantic	✗ (ICES 2012)
Greater lanternshark <i>Etmopterus princeps</i>		NEAFC area	✗ (ICES 2012)
Iceland catshark <i>Apristurus spp</i>		NEAFC area	✗ (ICES 2012)
Frilled shark <i>Chlamydoselachus anguineus</i>		NEAFC area	✗ (ICES 2012)
Birdbeak dogfish <i>Deania calcea</i>	Maximum age: 32-35 years Age at maturity: 16-25 years	NEAFC area	✗ (ICES 2012)
Blackmouth dogfish <i>Galeus melastomus</i>	Maximum age: 5 years Age at maturity: 2 years	NEAFC area	✗ (ICES 2012)
Mouse catshark <i>Galeus murinus</i>	Maximum age: 8 years Age at maturity: 4 years	NEAFC area	✗ (ICES 2012)
Bluntnose six-gilled shark <i>Hexanchus griseus</i>		NEAFC area	✗ (ICES 2012)

¹ COM(2012) 371 final

Common and scientific names	Biology	Area	Stock status
Velvet belly <i>Etmopterus spinax</i>	Maximum age: 7-10 years Age at maturity: 4-5 years	NEAFC area	✗ (ICES 2012)
Sailfin roughshark <i>Oxynotus paradoxus</i>		NEAFC area	✗ (ICES 2012)
Knifetooth dogfish <i>Scymnodon ringens</i>		NEAFC area	✗ (ICES 2012)
Greenland shark <i>Somniosus microcephalus</i>		NEAFC area	✗ (ICES 2012)
Smoothheads (Slickheads) <i>Alepocephalidae</i>			?
Baird's smoothhead <i>Alepocephalus bairdii</i>	Maximum age: 38 years Age at maturity: 13 years		?
Risso's smoothhead <i>Alepocephalus rostratus</i>	Maximum age: 23 years		?
Black scabbardfish <i>Aphanopus carbo</i>	Maximum age: 15 years Age at maturity: 8 years	Subareas I, II, IV, X, XIV and Divisions IIIa, Va	? (ICES 2012)
		Subareas VI, VII and Divisions Vb, XIIb	✓ (ICES 2012)
		Subareas VIII, IX	✓ (ICES 2012)
Greater silver smelt <i>Argentina silus</i>	Maximum age: 35 years Age at maturity: 8-15 years	Subareas I, II, IV, VII, VIII, IX, X, XII, XIV Divisions IIIa, Vb	? (ICES 2012)
		Division Va	— (ICES 2012)
Alfonsinos <i>Beryx spp.</i>		North East Atlantic	✗ (ICES 2012)
Deep-water red crab <i>Chaceon (Geryon) affinis</i>			?
Rabbit fish <i>Chimaera monstrosa</i>	Maximum age: 29 years Age at maturity: 11 years		?
Large-eyed rabbitfish <i>Hydrolagus mirabilis</i>			?
Straightnose rabbitfish <i>Rhinochimaera atlantica</i>			?
Roundnose grenadier <i>Coryphaenoides rupestris</i>	Maximum age: 54 years Age at maturity: 10 years	Subareas I, II, IV, VIII, IX, Divisions XIVa, Subdivisions Va2, XIVba	? (ICES 2012)
		Division IIIa	? (ICES 2012)
		Division Xb, XIIc, Subdivision Va1, XIIa1, XIVb1	? (ICES 2012)

Common and scientific names	Biology	Area	Stock status
		Subareas VI, VII, Divisions Vb, XIIb	✓ (ICES 2012)
Black cardinalfish <i>Epigonus telescopus</i>	Maximum age: 104 years		?
Bluemouth <i>Helicolenus dactilopterus</i>	Maximum age: 43 years Age at maturity: 13-16 years		?
Orange roughy <i>Hoplostethus atlanticus</i>	Maximum age: 149 years Age at maturity: 21-40 years	Northeast Atlantic	✗ (ICES 2012)
Roughhead grenadier <i>Macrourus berglax</i>	Maximum age: 25 years		?
Blue ling <i>Molva dypterygia</i>	Maximum age: 20 years Age at maturity: 6 years	Divisions IIIa, IVa, Subareas I, II, VIII, IX, XII	✗ (ICES 2012)
		Division Vb, Subareas VI, VII	✗ (ICES 2012)
Common mora <i>Mora moro</i>	Maximum age: 39 years		?
Blue antimora <i>Antimora rostrata</i>	Maximum age: 25 years		?
Red (blackspot) seabream <i>Pagellus bogaraveo</i>	Maximum age: 15 years	Subarea IX	✗ (ICES 2012)
		Subareas VI, VII, VIII	✗ (ICES 2012)
		Subarea X	✗ (ICES 2012)
Greater forkbeard <i>Phycis blennoides</i>	Maximum age: 20 years Age at maturity: 4 years	Northeast Atlantic	— (ICES 2012)
Wreckfish <i>Polyprion americanus</i>	Maximum age: 81 years		?
Greenland halibut <i>Reinhardtius hippoglossoides</i>	Maximum age: 30 years	Subareas V, VI, XII, XIV	— (ICES 2012)
		Subareas I, II	— (ICES 2012)
<i>Cataetyx laticeps</i>			?
Silver roughy <i>Hoplostethus mediterraneus</i>	Maximum age: 11 years		?
Grenadiers (rattails) other than roundnose grenadier and roughhead grenadier			?
Black gemfish <i>Nesiarchus nasutus</i>			?
Snubnosed spiny eel <i>Notocanthus chemnitzii</i>			?
Round skate <i>Raja fyllae</i>			?

Common and scientific names	Biology	Area	Stock status
Arctic skate <i>Raja hyperborea</i>			?
Norwegian skate <i>Raja nidarosiensis</i>			?
Spiny (deep-sea) scorpionfish <i>Trachyscorpia cristulata</i>			?
Tusk <i>Brosme brosme</i>	Maximum age: 20 years Age at maturity: 8-10 years	Subareas I, II	? (ICES 2012)
		Subarea VIb	— (ICES 2012)
		Subarea XII (excluding XIIb)	? (ICES 2012)
		Divisions IIIa, Vb, VIa, XIIb, Subareas IV, VII, VIII, IX	✓ (ICES 2012)
Conger eel <i>Conger conger</i>	Maximum age: 20 years	Northeast Atlantic	?
Silver scabbard fish <i>Lepidopus caudatus</i>		Northeast Atlantic	?
Greater eelpout <i>Lycodes esmarkii</i>	Maximum age: 12 years	Northeast Atlantic	?
Ling <i>Molva molva</i>	Maximum age: 30 years Age at maturity: 5-7 years	Divisions IIIa, IVa, Subareas VI, VII, VIII, IX, XII, XIV	— (ICES 2012)
Small redfish <i>Sebastes viviparus</i>	Maximum age: 40 years Age at maturity: 10-15 years	Northeast Atlantic	?

Table 2: Species caught and discard rates for EU deep-sea trawlers in the North-East Atlantic.

Area and period	Number of species caught	Average discard rates (with range)	Reference
French trawlers, off west coast of British Isles, 1995-1997	Total species caught: 52 (43 species were discarded, 8 were landed, and 1 was both landed and discarded).	49 % (2–82%)	Allain et al. 2003
Irish trawler, Rockall, 1999	Total species caught: 61	50 % (?- 80%)	Clarke et al. 1999
French trawlers, West Scotland, 2010		29 % (3-82%)	Guérineau et al. 2010
French trawlers, West Scotland, 2010	Total species caught: 144 Non-target species: 80-100	21 % (0.2-53%)	Fauconnet et al. 2011
French trawlers, West Scotland, 2011	Total species caught: 100	21 % (1 - 45%)	Dubé et al. 2012