COUNCIL OF THE EUROPEAN UNION

Brussels, 20 July 2012

12801/12
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PECHE 288
CODEC 1959

COVER NOTE

from:	Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director
date of receipt:	19 July 2012
to:	Mr Uwe CORSEPIUS, Secretary-General of the Council of the European Union
No Cion doc.:	SWD(2012) 202 final
Subject:	Commission Staff Working Document Impact Assessment Accompanying the document Proposal for a Regulation of the European Parliament and of the Council establishing specific conditions for deep-sea stocks in the North-East Atlantic and provisions for fishing in international waters of the North-East Atlantic and repealing Regulation (EC) No 2347/2002

Delegations will find attached Commission document SWD(2012) 202 final.

Encl.: SWD(2012) 202 final

EUROPEAN COMMISSION

Brussels, 19.7.2012
SWD(2012) 202 final

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Proposal for a
REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

establishing specific conditions to fishing for deep-sea stocks in the North-East Atlantic and provisions for fishing in international waters of the North-East Atlantic and repealing Regulation (EC) No 2347/2002

{COM(2012) 371 final}
{SWD(2012) 203 final}

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1. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

Lead DG: DG Maritime Affairs and Fisheries (MARE)

Other services involved (underlined: primary involvement): SG, BUDG, ENV, EMPL, ENTR, ECFIN, REGIO

Agenda Planning reference: 2008/MARE/025

1.1. Organisation and timing

This impact assessment concerns policy options for managing deep-sea fisheries in the North-East Atlantic, developed during revising the 2002 Council Regulation establishing specific access requirements for deep-sea fisheries (Regulation 2347/2002[1], in the following called the "access regime"). The spatial scope is visualised in

Annex I.

The Commission is obliged to report to the European Parliament and the Council on the access regime and to propose necessary amendments (Article 10 of the access regime). This revision is foreseen in DG MARE's Agenda Planning (2008/25) and in the 2010 Annual Management Plan of the Directorate-General of Maritime Affairs and Fisheries, as one of the main policy outputs under the activity "Conservation, management and exploitation of living aquatic Resources", with the specific objective: "To develop a consistent policy for the conservation and management of fish resources and the protection of biodiversity."

The Commission's internal review process started with a 2007 Communication on the management of deep-sea fish stocks[2]. The European Parliament provided its opinion in 2008.[3]

DG MARE consulted Member States from spring 2009 to spring 2010. It then organised meetings with the inter-service steering group in May and October 2010. DGs ENV and REGIO participated in the meetings.

1.2. Consultation and expertise

The main part of the assessment work started in 2009 with a technical questionnaire that DG MARE sent to the Member States which report under the access regime, receiving contributions up to October 2009.

From December 2009 DG MARE consulted Member States concerned and the four Regional Advisory Councils (RACs) on the future of the access regime[4]. The consultation was targeted to these recipients in view of, on the one hand, the wide coverage of stakeholders and interest groups in the RACs and, on the other hand, the technical and routine character of the review process. By the time of closing the consultation on April 9,

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[1] Council Regulation (EC) No 2347/2002 of December 2002 establishing specific access requirements and associated conditions applicable to fishing for deep-sea stocks, OJ L 351 dated 28.12.2002.

2 COM(2007)30 final.

3 P6_TA(2008)0196.

[4] On the function of RACs, see Council decision of 19 July 2004 establishing Regional Advisory Councils under the Common Fisheries Policy; OJ L 256 of 3.8.2004. Concerned are the RACs concerning North-Western waters, South-Western waters, North Sea and long distance fleet. Not concerned are the RACs for the Baltic Sea and the Mediterranean Sea.

2010, the Commission had received detailed feedback. In the wake of this, the service held individual meetings with stakeholders who had asked for this.

The feedback showed general agreement on a modernisation of the access regime, and in particular on a move towards fishery-specific management. There was wide agreement that the reshuffle should be designed open enough so that it can take account of evolving scientific advice, e.g. coming from the ongoing major EU-funded project "Deepfishman". This project should deliver by 2012 i.a. innovative harvest control rules for deep-sea stocks in prevailing data-poor conditions. So far, these rules are not available from the project, and the future access regime should therefore be open to testing them once available.

A number of NGOs signed an additional contribution in which they advocated the transposition towards deep-sea fisheries in EU waters of deep-sea management standards adopted for the High Sea; in this contribution, they also highlighted the discard-problem of these fisheries. The contributions, which have been entirely taken into account during the impact assessment, are summarised in

Annex II.

Also in 2009, the Commission asked its Scientific, Technical and Economic Committee for Fisheries (STECF) to provide scientific advice on certain aspects of the access regime. The report, and also the stock assessment of deep-sea species, passed the Plenary of STECF in July 2010.[5] STECF updated the list of deep-sea species which is attached to the access regime and advised that some deep-sea species live in different depth ranges depending on the geographical location, and that some are separated in depth from shallower fisheries on the continental slope, while others are overlapping with them. Discussing the exploitation of deep-sea species in general, STECF advised that the fisheries could be developed towards sustainable fisheries, but only at very low levels of exploitation which would be closely monitored. It also highlighted the considerable problem of discards in the trawl fishery. This assessment can be found in

Annex III.

In January 2010 the Commission launched a data call to Member States dedicated to catch and fishing effort data of the deep-sea metiers in the North-East Atlantic. The data was processed by the Joint Research Centre in its capacity as secretariat and scientific support to the STECF, and linked to economic data that concerns the fleet segments in which those metiers operate. The resulting information allows describing the sector most affected by the access regime and assessing the economic importance of deep-sea fisheries for the fleets therein engaged. Spain and the UK did not provide data, so that information on their fleets could not be taken into account. The deep-sea fisheries of Spain are important in relative terms.

Finally, in November 2011 the Commission reported on the review of Regulation (EC) No 734/2008.[6] This regulation transposed the 2006 UN standards on protecting vulnerable marine ecosystems on the bottom of the High Sea. The report states that so far no Member

[5] Website: https://stecf.jrc.ec.europa.eu/. Go to Final Reports/ Evaluation of Effort Regimes and then chose "09-09_SG-MOS 09-05 - Deep Sea & Western waters".

[6] Report from the Commission to the European Parliament and the Council on the implementation of Council Regulation (EC) No734/2008 on the protection of vulnerable marine ecosystems in the high seas from the adverse impacts of bottom fishing gears. COM(2010)651.

State submitted an environmental impact assessment, that some standards needed to be technically more precise, and that the UN standards were enlarged in 2009, which is not yet reflected in the Regulation. While this review is outside the scope of this impact assessment, there are repercussions because one of the policy options suggests transcribing the UN standards into EU waters.

1.3. Changes to the working document following the IA Board's opinion

This version of the impact assessment report takes into account the opinion given by the Commission's Impact Assessment Board on 25 February 2011. Main changes are:

- The scope of the assessment has been more precisely defined;
- The description of the current regulatory framework has been reorganised in order to better show the interrelation among the various governance levels and topics;
- The problem definition has been restructured in order to distinguish between basic problems of the deep-sea fisheries and problems related to the design and implementation of the current access regime;
- The options have been enlarged by envisaging a more ambitious measure, namely the complete ban of deep-sea fishing; in addition, the options were revised to clarify the intervention logic and more critically assessed concerning their utility in achieving the objectives;
- The baseline case is now further detailed in view of the evolving concept of the new CFP (adoption of the reform proposals due in summer 2011).

Following the second opinion of the Impact Assessment Board dated 6 May 2011,

- the policy options presented in this report are explained in more detail,
- the analysis of the coherence of policy options with the envisaged CFP reform is outlined more in detail, in particular concerning individually transferable quotas, simplification and regionalisation; in addition, the link to the reform of the Data Collection Framework was explained,
- the link between objectives and expected outcomes is improved by refining the qualitative assessment of options,
- The view of different stakeholder groups is incorporated into the main text, and the executive summary contains an overview on expected impacts of policy options.

2. PROBLEM DEFINITION

2.1. Context: the specific management framework

The current management framework for deep-sea fisheries has developed as stand-alone EU measures, measures agreed in the competent regional fisheries management organisation (NEAFC[7]) to which the EU is a Contracting Party[8], and multinational political agreements (UN) on measures for the unregulated High Sea. The link of EU measures to international measures is two-fold: the specific problems of deep-sea fisheries are the same

[7] North East Atlantic Fisheries Commission.
[8] The others are Denmark (in respect of the Faroe Islands and Greenland), Iceland, Norway and the Russian Federation.

wherever these fisheries occur; and some deep-sea species are widely distributed, thus being exploited in EU waters by EU vessels and in international waters by EU and foreign vessels.

While the EU was innovative when starting its measures in 2002, the policy development since 2006 is more and more driven by the multinational scene:

	EU measures	UN resolutions and FAO standards	NEAFC measures
timeline	Since 2002	UN since 2006; FAO standards 2008	Since 2004, increased activity since 2009
scope	EU vessels in all or parts of the waters of the North-East Atlantic; foreign vessels in EU waters	Management for deep-sea fisheries in the High Sea	Vessels of contracting parties in the international waters of the North-East Atlantic
Influence on the other measures	Improved negotiation case for general precautionary measures in the regional and multinational forum	NEAFC has started developing the management of its deep-sea fisheries according to UN/FAO standards	Need to be transposed into EU law for EU vessels fishing in NEAFC area

In terms of **EU measures**, there is mainly the access regime which since its inception is accompanied by total allowable catches (TACs) for catching target deep-sea species, and additional technical measures against the environmental damage of bottom gears (protecting bottom habitats and sharks), namely:

- Council Regulation (EC) No 1568/2005 bans the use of trawls and gillnets in waters deeper than 200 m around the Azores, Madeira and Canary Island.
- Council Regulation (EC) No 41/2007 banned the use of gillnets by Community vessels at depths greater than 600 m in ICES Divisions VIa,b, VII b,c,j,k and Subarea XII. This ban was later extended to all western waters, and continues by virtue of Regulation (EC) No 1288/2009 until mid 2011.
- Council Regulation (EC) No 2270/2004 established protection areas where the fishing for orange roughy is restricted. Since 2010, fishing for orange roughy is no longer allowed. In addition, protection zones for blue ling where established in the West of Scotland.
- The first measure to protect corals and other spots of high biodiversity (vulnerable marine ecosystems, VMEs) was the prohibition of fishing activity that can get into contact with the bottom in the Darwin Mounds to the North of Scotland (Regulation (EC) No 602/2004), accompanying the designation of a Special Area of Protection under the Marine Habitats Directive (Council Directive 92/43/EEC). Additional area closures followed in the West of Scotland and later to the North of Spain (El Cachochu).

The access regime itself concerns deep-sea fisheries in the North-East Atlantic including EU waters of the outermost regions of Azores, Madeira and Canary Islands[9]; it basically consists of:

– A centralised reporting on the activities of fishing vessels specifically engaged in deep-sea fisheries,

– an obligatory sampling of those vessels activity for monitoring by independent observers;

– freezing the size of the fleet that can fish directed on deep-sea species, accompanied with a system of special fishing permits;

– an improved surveillance of those vessels' activity by rules on the non-functioning of the satellite tracking device (VMS) and on obligatory landings in designated ports.

The access regime does not contain and does not provide a mechanism for adopting technical measures, for instance closed areas or gear restrictions, neither in EU waters nor in follow-up of resolutions in NEAFC. All technical measures so far adopted have been *ad hoc* measures decided by the Council. They were renewed until mid of 2011 in the Regulation on transitory technical measures (Regulation (EC) No 1288/2009); a further renewal is currently being discussed by the co-legislators. New measures would have to be adopted in co-decision procedure by the European Parliament and the Council, unless the legislators empower the Commission to introduce them by way of delegated acts or implementing rules.

In the Regulatory Area of NEAFC, which consists of the international waters of the North-East Atlantic, the main **measures adopted within NEAFC** are the following:

- Fishing effort directed towards deep-sea species is capped until 2012 at 65% of the effort deployed in 2003.
- All gillnets are banned from waters deeper than 200 m.
- Ten areas where VMEs are present have been closed for bottom gears.
- In 2009, five very large areas of the Mid-Atlantic were closes for bottom gears as a precautionary measure. Since 2009, NEAFC develops maps on existing and new fishing areas in order to develop proportionate prerequisites for undertaking fishing trips with bottom gears.
- A seasonal closure for spawning aggregations of blue ling was introduced close to the Exclusive Economic Zone of Iceland.

The multinational political agreements, namely UN GA Resolutions 61/10510 of 2006 and 64/72 of 2009, are not directly applicable but set out how to manage deep-sea fisheries on the unregulated High-Sea. A direct consequence of these agreements was Regulation (EC) 734/2008 which aims at protecting VMEs on the bottom of the High Sea from interference

[9] It applies first to ICS areas. These areas coincide with the NEAFC Convention area, i.e. the North-East Atlantic. In concerns then EU waters of CECAF areas. These areas defined in the Committee for the Eastern Central Atlantic Fisheries concern waters around the Azores, Madeira and the Canary Islands.

[10] A/RES/61/105 - Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments. Adopted in December 2006.

by EU vessels. However, these standards should were appropriate also be applied in the RFMO or the national context. The 2006 agreements were technically more completely described by the FAO guidelines of 2008.[11] The main elements are:

- Conduct impact assessments (to ensure that bottom fishing does not have an impact on VMEs) and ensure that vessels do not engage in bottom fishing until assessments have been carried out (UN GA 64/72 para 119 a).
- Identify where VMEs occur or are likely to occur (UN GA 64/72 para 119 b).
- Establish protocols of VME encounters (UN GA 64/72 para 119 c).
- Adopt measures to ensure long-term sustainability of deep-sea stocks including non-target species, on the basis of the best available scientific assessments and information and including monitoring and control measures and ensuring fishing effort, capacity and catch limits are commensurate with the stocks (UN GA 64/72 para 119 d).
- Strengthen data collection (UN GA 64/72 para 119 d).

2.2. Context: related areas of the fisheries policy

The Basic Regulation in the Common Fisheries Policy[12] circumscribes the legal framework for the conservation, management and exploitation of 'living aquatic resources'. It obliges adopting conservation measures in a precautionary approach and to minimise the impact of fishing on the marine eco-system. These basic obligations are highly relevant for managing deep-sea fisheries.
It also imposes an obligation to adopt management plans as far as necessary to maintain stocks within safe biological limits or to restore such limits. This obligation cannot be directly used for developing a specific management for deep-sea stocks because biological reference points are not known for these stocks.

Neither does the obligation to manage stocks in a way that allows extracting the maximum sustainable yield (MSY) directly affect deep-sea stocks, because the scientific knowledge is too scarce to apply this concept. A large scientific projects ("deepfishman") is ongoing that will try to identify management approaches for data-poor situations based on secondary indicators, given that the primary indicator (fishing mortality (F) exercised on the stock) is not known.

Concerning the level of detail, the Basic Regulation does not contain any provision on managing specific fisheries or stocks.

The Habitats Directive[13] obliges Member States to create a network of sites to protect biodiversity, called the network of NATURA 2000. To the extent that a protection measure intervenes with fisheries, the EU regulates the fisheries part of the protection measure based on the CFP. Marine offshore sites of NATURA 2000 are still in development, and only a few have been created already. Reefs are explicitly mentioned as possible objects of

[11] FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas.
[12] Council Regulation (EC) No 2371/2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy.
[13] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

NATURA 2000 protection measures. The reform of the Basic Regulation of the CFP foresees introducing a specific procedure for channelling Member State requests on the CFP part of designations under NATURA 2000.

The Data Collection Framework (DCF) is based on Council Regulation (EC) No 199/2008.14 It establishes the principles and standards for programs of data collection for the CFP. The deep-sea fisheries can represent a metier on which data needs to be collected according to the DCF. However, the current disaggregation level of the metiers in this framework is too broad as to allow distinguishing all deep-sea fisheries in the recurrent data assemblage. Therefore, the access regime obliges Member States to collect specific data from vessels that are engaged in deep-sea fisheries.

The Western Waters Regulation15 establishes annual fishing effort ceilings for demersal fisheries in large areas of the North-East Atlantic and around the adjacent outermost regions. Until 2003, it also covered deep-sea fisheries, but those were excluded after the adoption of the access regulation.

2.3. Problems

The four fundamental problems of deep-sea fishing, which are also apparent in the North-East Atlantic, are:

a) the high vulnerability of these stocks to fishing; many of them will only sustain fishing pressure over a longer period that is economically not viable;

b) fishing with bottom trawls destroys or risks destroying irreplaceable benthic habitats (vulnerable marine ecosystems) which represent main sources of biodiversity in the deep sea. The extent of destruction that already occurred is unknown;

c) fishing with bottom trawls for deep-sea species produces medium to high levels of undesired catch of deep-sea species;

d) determining the sustainable level of fishing pressure via scientific advice is particularly difficult.

In addition to these fundamental problems, there are problems of efficiency, coherence and effectiveness of the current access regime which to some extent aimed at overcoming the four basic problems; namely:

e) The scope of fleets concerned is too large and too inflexible (lack of effectiveness as the regime is not targeted enough)

f) The regime does not allow the transposition of NEAFC measures (lack of efficiency)

[14] Regulation concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy; OJ L 60, 5.3.2008, p. 1

[15] Regulation (EC) No 1954/2003.

g) After the adoption of the new control regulation[16], the regime is partly redundant and the link to the control standards is unclear (lack of coherence);

h) The separate data collection is of very limited use to scientific advisory bodies, although constituting an administrative burden[17] (lack of effectiveness and lack of coherence with the Data Collection Framework).

Among these technical shortcomings, the Commission's review of 2007 already identified the following: scope of the fleet concerned is too large (e); lack of guidance on control in designated ports (g) and on sampling programs (h); lack of reporting follow-up by Member States (h). In 2010, STECF confirmed[18] that the data collection on fishing effort and catches was inappropriate for scientific analysis, both concerning method and quality (h).

Following this review report, the Commission did not take immediate steps for improving the access regime. Concerning the control aspect, DG MARE maintained deep-sea fisheries on its inspection programmes in Member States, in order to emphasize the importance of effective control of these fisheries and to help Member States in improving their control system. The control problems have not been markedly serious and certainly not as serious as in some fisheries of commercially high importance (cod, mackerel, bluefin tuna, hake).

2.4. Main problems: unsustainable fishing, risk to VMEs, undesired catch, poor scientific advice

Deep-sea stocks are fish stocks caught in waters beyond the main fishing grounds of continental shelves. They are distributed on the continental slopes or associated with seamounts. These species are slow-growing and long-lived, which makes them particularly vulnerable to fishing activity. Some species like blue ling and black scabbardfish grow faster and live shorter than others (e.g. orange roughy, deep-sea sharks and roundnose grenadier), and are thus relatively less vulnerable. The vulnerability to fishing also depends on whether the species can be targeted in local aggregations, which is the case for orange roughy, blue ling and alfonsinos.

The **biological state of deep-sea stocks is unknown**. Based on the information available, some of the stocks are considered depleted (orange roughy, two species of sharks, red seabream in the Bay of Biscay). Other stocks are considered overfished in view of rapid declines in catches per deployed fishing effort, such as roundnose grenadier. For the remainder, the fisheries are considered **unsustainable**. Some of them have stabilised in recent years at low harvest levels, which can be attributed to reduced fishing activity following the reduction in fishing opportunities.

Scientists in general recommend reducing the catch levels until signs of population increase come from the stocks. In case were exploitation levels over a series of years do not seem to have had a detrimental effect on the stocks, scientists advise that the fishery could be kept

[16] Regulation (EC) No 1224/2009.
[17] The associated costs are not significant in absolute terms (EUR 5k to 10k per MS estimated using the standard cost model), but still relevant in view of the limited economic value of the fisheries.
[18] 2009 report on the evaluation of effort regimes, SG-MOS 09-05 - Deep Sea & Western waters, p. 19; cited before.

stable. In other cases, scientists advise that the fishery should not expand or catches should be brought back to levels before the expansion of fishing activity.[19]

For the few stocks for which scientists have advised a concrete precautionary catch level, the corresponding TACs have been reduced in order to approach these levels. The situation in 2012 will be as follows[20]:

Species/area	*Advised max. catch level (tonnes)*	*TAC 2012 (tonnes)*
Deep-sea sharks	Reduce to lowest level	0
Black scabbard fish North-Western waters	2.000	2.179
Black scabbard fish Iberian waters and Azores	2.800	3.348
Roundnose grenadier North-Western waters	Less than 6.000	6.525
Orange roughy	Reduce to lowest level	0
Red seabream Southern Spain	500	780
Red seabream Azores	1.050	1.136

Fishing by bottom trawls probably represents the greatest **threat to VMEs based on coral and sponge grounds**.[21] Any long-lived sessile organisms that stand proud of the seabed will be highly vulnerable to destruction by towed demersal fishing gear. The vast majority of bottom trawling is currently shallower than 1500 m, while corals are known to occur as deep as 3800 m. However, the diversity and abundance of corals and sponges peaks between depths of 800–1500 m meaning that in fact the majority of those VMEs may be at risk of impact. The most obvious impact of trawling on reef corals is mechanical damage caused by the gear itself. The impact of trawled gear will kill the coral polyps and break up the reef structure. The breakdown of this structure will alter the hydrodynamic and sedimentary processes as well as cause a loss of shelter around the reef. Organisms dependent on these features will have a much less suitable habitat and reef recovery may not be possible or could be seriously impaired. The scale of effects will depend on the scale and frequency of any trawling operations. Damage will range from a decrease in the size of the reef, and a consequent decrease in abundance and diversity of associated fauna, to a complete disintegration of the reef and its replacement with a low-diversity disturbed community.

It is likely that the majority of trawling impact to VMEs happened between 1970 and 1990. After 2000, fishing effort has largely declined in offshore and deep-water areas. Furthermore, efforts to protect cold-water coral habitats in the past decade (Hatton bank, Rockall, Porcupine slope and Darwin mounds) have likely further reduced the relative

[19] See STECF, Review of scientific advice for 2011, Consolidated Advice on Stocks of Interest to the European Community, 2010, page 236 et seqq.

[20] See Council Regulation No 1225(2010), and STECF Consolidated advice cited before. The TAC areas are not always identical to the areas of scientific advice.

[21] The following is summarised from ICES, Report of the ICES/NAFO Joint Working Group on Deep-water Ecology (WGDEC), Copenhagen 2010. ICES CM 2010/ACOM:26, ICES, WGDEEP report 2010, CM 2010/ACOM:17, p. 71 seq., and from STECF, Report of the subgroup Fisheries and Environment, Deep-sea Fisheries, SEC(2002)133.

proportion of coral habitats being affected by human activity. Sponge grounds in the North-East Atlantic have received no specific protection measures and it is likely that there is still a heavy impact of fishing on sponges in certain areas. There is also less incentive for fishers to avoid areas where non-reefal corals occur because there are no gear damaging consequences. While there are many observations of corals and sponges being trawled by commercial fishing operations, there are very few records with precise information on quantity. While research vessel surveys do usually record accurately the quantities of VME by-catch, there are very few occasions when more than a few kg have been caught in the last decade. Bottom trawls are only likely to retain a small fraction of corals and sponges due to their fragile nature.

The estimated **rates of undesired catch** in observed trawl fisheries are on average between 20 and 30% in weight[22], but can go beyond 50% (main species: afterwards discarded is baird's smoothhead).[23] Rates of undesired catch (primarily of the deep-sea species rabbitfish) in gillnet fisheries targeting anglerfish went easily beyond 50% of the catch; in hake gillnet fisheries, discard rates used to be highly volatile, between 2 and 80%, on average 30%.[24] In view of this, and in view of the destructive impact of lost and abandoned nets continuing ghost fishing in the deep sea[25] the Community has banned gillnets from depths below 600m since 2006 and restricted it below 200m (transitional measure). Consequently, today there are no gillnet fisheries targeting deep-sea species. They are a by-catch in anglerfish and hake fisheries above 600m. Rates of undesired catch in longline fisheries are much lower.

Discarded fish does not survive. These fisheries with high discards tend to deplete the whole fish community biomass. Depletion of dominant species can induce major changes to fish communities through removing key predatory or forage fish. [26]

As a general obstacle to proper management, the **poor information on deep-sea stocks** does **not allow scientists to assess the stocks' status**, neither in terms of absolute population size nor fishing mortality. There are several reasons for this: Data series from commercial catches are short, they often lack discard information and information particularly valuable for assessment like fishing depth. The longevity and low growth makes it impossible to structure the stock into age classes and to assess the effect of fishing on the stock by changes in the length or age structure of catches. Scientific surveys do not cover their whole distribution and are very expensive.

2.5. The affected sector: metiers, catches, economic importance

Mostly affected is the **primary production sector** engaged in wild fisheries. Deep-sea fisheries as defined by the access regime are currently practiced by fleets from (in the order of effort deployed in 2008 according to MS notifications): France, Spain, Portugal, United Kingdom, Netherlands, Ireland, Germany, Lithuania and Denmark. Of these Member

[22] ICES advice 2010 Book 9, chapter 9.4.15.2 Advice on roundnose grenadier.
[23] ICES, Report of the Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP), 2010, CM 2010/ACOM:17.
[24] STECF, Deep-sea gillnet fisheries, November 2006.
[25] See Hareide (et al), A preliminary Investigation on Shelf Edge and Deep water Fixed Net Fisheries to the West and North of Great Britain, Ireland, around Rockall and Hatton Bank, 2005; Brown (et al), Ghost fishing by lost fishing gear, 2005 (study contract DG FISH/2004/20).
[26] See for example ICES, WGDEEP report 2010, CM 2010/ACOM:17, p. 71.

States, France accounts for 79% of the fishing effort, and the three most active countries (France, Spain and Portugal) together for 93%.

Deep-sea species are harvested by very different types of fleet: on the one hand, capital-intensive large trawlers that are also present in other fisheries and that have a wide range of operation (France, Spain, Netherlands, Germany, Denmark). On the other hand, coastal fleets of smaller vessels that use handlines and longlines in deep-waters of coastal areas that have a very short shelf area (Portugal). While these vessels might be less dynamic in their exploitation pattern, they are more difficult to be brought under management and control measures (lack of space for observers on board, lack of VMS-monitoring or electronic logbook, multitude of landing places etc). A short description of the main fisheries is given in

Annex IV: overview on deep-sea fisheries in the North-East Atlantic

The overall importance of deep-sea catches is small: The 34.434 tonnes of deep-sea species landed from the North-East Atlantic in 2008 represent only about 1% of the overall landings (3.563.711 tonnes) from the North-East Atlantic.[27] In the regional context, the picture might be very different. For instance, in the Azores deep-sea species are responsible for 24% of the landings and 51% of the value (first sale), and in Madeira for about one third. The landings of deep-sea species have in general decreased. Looking at the species subject to quota-management, this decrease is only visible in the figures since 2005 (decrease of 35% from 2005 to 2009), as some important stocks were not under quota before.

Annex V: list of deep-sea species and landings per Member State
Annex VI: Evolution of the landings of quota-species

The value of landings of deep-sea species by EU fleets is estimated for 2008 at 78,9 million EUR.[28] The main species marketed in France attained an average price on first sale of 2,40 EUR, which is below the price of most sought-after whitefish (cod: 2,85 EUR, hake: 3,04 EUR).[29] The highly-priced orange roughy can currently not be landed by EU vessels as the fishing opportunities are fixed at zero.

Annex VII: List of species by landings in weight and value

With regard to the relevant fleets, there are 145 fleet segments that report catches of deep-sea species. However, only 24 metiers target deep-sea species (2008).[30]

Annex VIII: Relation between deep-sea metier and fleet segment;
Annex IX: Landings made by deep-sea metiers

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27 Data on deep-sea catches from Joint Research Centre, Data Call on the Collection of Transversal Variables for Analysis of the Access-Regime to Deep-Sea Fisheries, report April 2010. Catches made by Spain are taken from 2007 (10.302t). Data on EU27 landings from the North-East Atlantic are taken from EUROSTAT.

28 Source: JRC report on data call, as before.

29 Source: Le Grenelle de la Mer, Avenir des Pêches Profondes, groupe n° 1, rapport final septembre 2010 (pas encore publié).

30 To be noted that this data is incomplete as Spain and United Kingdom did not provide data at the metier-level. Also, this being the first statistical exercise of its kind, the results obtained have to be treated with caution

For the 14 fleet segments which have been identified as housing deep-sea metiers, the landings and revenues attributable to deep-sea species can be compared to the overall landings and revenues. The deep-sea related landings per fleet segment are responsible for between 1 and 60 % of the overall landings, and for between 0,3 and 66% of the overall revenues. This shows that some segments heavily depend on the sale of deep-sea fish. This is particularly true for the fleet segments identified in Portugal. It is to be noted that at the level of business, the dependence could be high also within other segments, as the fleet segments are based on vessel characteristics, not undertakings. The 14 fleet segments identified are hardly profitable, and their profitability is slightly lower than the average of all fleet segments.[31]

Annex X: Deep-sea related fleet segments with their economic performance

It is not possible to identify the number of employment posts in the primary sector, the auction places, transport, processing and markets that depend on landings of deep-sea species. However, the Member State most active in the fishery, France, estimates that the two companies most involved in deep-sea fishing and landing the large majority of the species count 300 fishermen; parts of the respective vessels are engaged in other fisheries. Also, there are 200 fish mongers specialised in deep-sea fish.[32] The biggest processing business employs more than 300 persons, and one of their processing plants in Lorient sources to a considerable extent from deep-sea fishing activity.[33] The four ports most related to deep-sea landings are Boulogne sur Mer, Lorient, Concarneau and Le Guilvinec. The ports of Lorient and Boulogne account 26% and 6%, respectively, of deep-sea species in their overall landings.[34]

2.6. Problem evolution and underlying driving forces

Before 2002, deep-sea fisheries had developed without accompanying management measures of the Community. While some fisheries, in particular Portuguese ones, are long established and relatively stable, the trawl fisheries in the North-Western waters developed rapidly from the end of the eighties, partly in response to a starting decline in demersal fisheries on the continental shelf. As this decline is not yet reversed, alternative opportunities are not readily available. In addition, some of the large trawlers also depend on access to deep-sea resources of Faroese Islands, and the corresponding annual agreements with the EU have become more and more difficult to reach.

Like is the case for all wild fish stocks, leaving deep-sea fisheries unrestricted leads to a race by fishing undertakings to take possession of a free resource, without having sufficient regard to the sustainability of the exploitation level or knock-on effects on the environment. For example, the valuable orange roughy species in north-western waters is considered depleted after only some years of exploitation, as well as the valuable red seabream in the Bay of Biscay. In the case of deep-sea species, restricting the fishing activity is of particular

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[31] Source: JRC report on data call, as before. Annual return on investment per related fleet segment between -0,05 and 0,39%, on average -0,03%. Average of all fleet segments: 0,27%, ranging from -0,63 to 6,57%

32 Source: Le Grenelle de la Mer, Avenir des Pêches Profondes, groupe n° 1, rapport final septembre 2010 (pas encore publié).

[33] .Source: Monographie des pêches maritimes et des cultures marines du Morbihan, Direction Départementale des Territoires et de la Mer, Lorient 2008.

34 Source: Le Grenelle de la Mer, Avenir des Pêches Profondes, groupe n° 1, rapport final septembre 2010 (pas encore publié).

importance due to the fact that the recovery from depletion of slow-growing stocks might take a very long time or might fail.

After 2002, the fishing pressure on deep-sea species has fallen considerably, as have the number of vessels engaged in these fisheries, in particular among trawlers. This is due to stock depletion, reduced fishing opportunities and technical restrictions for bottom gears, in particular trawls and gillnets.

Trawling in deep waters wide off-shore is energy- and thus cost-intensive. Some trawlers were able to reduce their current costs by landing into foreign harbours that are closer to the fishing grounds, but the economic viability of the activity has often been questioned, particularly in view of subsidies. There is an economic incentive to switch to passive gear (in particular longlines), as this gear is less fuel-intensive. Reluctance for gear-change normally is due to the expected change in catch composition, technical problems, need for investment, and lack of expertise and experience.

The obligation of the Member States to show a good environmental status of marine waters by 2020[35] fosters a critical assessment of deep-sea fisheries including environmental and biodiversity aspects. This political driver will be further strengthened by the Commission's Post-2010 Biodiversity Strategy.

Wide-spread concerns in the public about biodiversity and unsustainable fishing practices create demand for products that stem from a production process not harmful to the environment and preserve the resource base.

2.7. Grounds for EU action and scope

2.7.1. Necessity and subsidiarity

The proposal concerns a field of exclusive Union competence (Articles 3(1d), 38 to 44 TFEU), therefore subsidiarity does not apply.

Member States are able to develop measures for their own fleets that lead to a more sustainable management of deep-sea resources. However, most deep-sea fisheries are shared between Member States (and sometimes the fleet of one Member State are mostly present in the waters of another Member State), and this makes Member States reluctant to submit their own fleets to constraining measures unless the same or equivalent rules will apply to neighbouring fleets. In addition, the scientific knowledge on deep-sea stocks can only improve when common standards for data sourcing are followed, otherwise scientists would not be able to compare data stemming from various Member States.

2.7.2. Scope

This report develops policy options for managing deep-sea fisheries in the North-East Atlantic which respond to the problems listed in this section. Concerning the insufficient scientific knowledge-base (main problem (d)), this problem concerns data sourced from activity of commercial vessels, and data sourced from scientific surveys and other scientific probes. Only the former aspect (data sourcing from commercial vessels) is addressed here. On the latter aspect, the Commission has asked the International Council for the Exploration of the Sea (ICES) for advice on improving scientific deep-sea surveys. The

[35] See Marine Strategy Framework Directive, Directive 2008/56/EC, OJ L 164, 25.6.2008, p. 19.

advice was issued in April 2011 and will feed into the review of the Data Collection Regulation scheduled for 2012.

3. OBJECTIVES

3.1. General objective

General objective of the proposal is to ensure sustainable exploitation of deep-sea stocks according to the concept of Maximum Sustainable Yield, thereby limiting the environmental impact as much as possible. As long as data and method have not achieved the requisite quality level allowing a management towards MSY, the fisheries have to be managed according to the precautionary approach.

These objectives are in line with the EU 2020 Strategy announced by the Barroso Commission in 2010, because they would pave the way towards sustainable fishing of deep-sea species and contribute to employment stability in coastal areas. With regard to growth, the current level of fishing activity is considered unsustainably high, and therefore growth could not come from quantity, but only from quality of fish.

3.2. Specific objectives

Specific objectives are (linked to the specific problems listed in the problem definition):

Main objectives:

a) To comply with scientific advice on precautionary catch levels; to facilitate the future development of MSY-management for these data-poor stocks;

b) To reduce the impact of bottom gears on the seafloor in order to reduce the risk of damage to VMEs;

c) To reduce the level of undesired deep-sea species in the catch;

d) To ensure the collection of all data needed for improving scientific advice.

Technical objectives:

e) To focus the rules on the metiers that are targeting deep-sea species and make the metier-definition adaptable to evolving scientific advice and fleet behaviour;

f) To provide for the transposition of NEAFC conservation measures;

g) To make the access regime coherent with the control regulation;

h) To harmonise the special data collection with the general standards and ensure follow-up.

4. POLICY OPTIONS

4.1. Separate regulation

i) Maintaining a **distinct regulation for deep-sea fisheries** is justified by the fact that deep-sea fisheries have distinct biological characteristics (slow growth, longevity, late maturity, low natural mortality) and can be distinguished from other fisheries through the concept of metier, although there are overlaps with demersal fisheries on the shelf that take deep-sea species as a by-catch (fisheries on anglerfish, tusk, ling, hake, blue whiting). The Union has strongly advocated international standards on the management of deep-sea fisheries36, and within the international fora it is accepted that management of deep-sea fisheries needs tailored measures. Maintaining a distinct regulation will also allow the Union to pursue the sustainable management of deep-sea fisheries with Northern countries (Norway, Russia, Iceland, Faroese) which are less committed to this policy. During the consultation with stakeholders, no Member State has questioned the usefulness of a specific regulation, and NGOs have insisted on the need to continue a stand-alone regulation.

j) The future **basic regulation for the CFP** evolving under the reform process is not a suitable place for regulating specifically the access to deep-sea fisheries, because the basic regulation will not relate to specific fisheries.

An integration of the access regime into the **Western Waters Regulation** is not preferred for the following reasons: Due to the political nature of its core elements37, the Western Waters Regulation is closely related to the reform process, unlike the access regime; its future depends on the political decisions to be taken with the reform. Furthermore, the Western Waters Regulation only concerns one element of management, namely effort regulation, and is designed as a general access limitation, not as an instrument to manage specific fisheries; it does not deal with scientific data collection.

4.2. Option 1 – no change/indispensable update

The first policy option is to continue the access regime as it is currently running. As an indispensable update, the access regime would be aligned with new control regulation. No stakeholder has requested to continue the access regime as it is.
This baseline case would be influenced by the CFP reform. The following new topics38 are relevant for the future of deep-sea fisheries:

Highly relevant:
Discard ban: The reform proposal might contain a discard ban directly applicable to the main deep-sea species for which catch limits are established. This policy would be phased in stepwise, addressing technically problematic fisheries like deep-sea fisheries at a later stage, and foresee Commission implementation measures.
Procedure for adopting fisheries measures in the pursuit of designating areas of NATURA 2000: Member States are currently increasing efforts on identifying marine sites suitable

[36] 1995 UN Fish stocks agreement and 2008 International Guidelines for the Management of Deep-sea Fisheries in the High Seas of the Food and Agriculture Organisation of the United Nations; the principles and management descriptions laid down therein were confirmed recently by the UN General Assembly (Resolution 64/72 of December 2009).
[37] See the Commission's review report of November 2011, adopted as document COM(2010)661.
[38] The topics reflect current status of discussion and do not pre-empt the Commission's deliberations.

for protection under the Habitats Directive, which could consist of deep-sea coral reefs. The new procedure would allow introducing the fisheries management part (e.g. closed areas).
Mandatory system of individually transferable quotas: This mechanism will induce capacity reduction as the quotas will over time accumulate with the more efficient part of the fleet. The extent of impact will depend on the safeguard against monopolisation and for small-scale fleets.
Indirectly or later relevant:
Obligatory management according to MSY: not yet applicable to deep-sea fisheries for lack of stock assessment.
Results-based fisheries management with regionally coordinated design of implementation measures: the results to be achieved need to be formulated in management plans and other instruments, and are not established by the reform-proposal itself.

4.3. Option 2– ban deep-sea fisheries

A second option would consist of closing fisheries that are targeting deep-sea species. In the context of the consultation on the access regime, no stakeholder has requested to ban deep-see fishing; however, in the context of fixing TACs in 2010, NGOs had requested the phasing out of deep-sea fisheries as they have not proved to be sustainable.

4.4. Option 3– ban gears that are most harmful to the deep-sea ecosystem

A third option would ban gears that are most harmful to the deep-sea ecosystem. Those are trawls, for their high levels of undesired catch of deep-sea species and the risk of damaging bottom habitats, and gillnets for their negative impact on the ecosystem when they were used unsustainably in the deep sea before transitional restrictions came into force. The technical solution would consist in either banning those gears from the fleets that are allowed to target deep-sea species (**sup-option 1: fishing authorisation**) or by banning those gears from operating deeper than at a certain depths (**sub-option 2**: **spatial**). This option would respond to the main problems on damage to VMEs and undesired catch. In accordance with applicable rules of the European Fisheries Fund, financial assistance could be made available for the change of gear during a transitional phase, to be funded by the existing envelope. For other bottom gears, their range of operation could be limited to existing fishing patterns, and only allowed to expand after assessment of their risk to VMEs.

The other problems would be tackled by adaptations to the existing rules:

The problem of unsustainable fishing could be reduced by a rule that does not allow setting annual fishing opportunities at a higher level than precautionary levels advised by scientific bodies. Such a rule would not prejudice the development of MSY-conform harvest rules in the future, as it would only relate to management according to the precautionary principle. In accordance with scientific recommendation, fishing opportunities could be fixed by way of regional fishing effort maxima, provided that measures against the capture of most vulnerable deep-sea species are in place and the vessels have to land all of their catches.

The problem of disintegrated data collection and its dissemination shortcomings could be tackled by defining the data collection standards for deep-sea fisheries as part of the existing Data Collection Framework and allow the Commission to close the fishery if data is not collected.

The problem of inefficient effort reporting would be tackled by discontinuing this reporting tool. The analysis of effort levels for management purposes could be done by data calls on scientific data according to the data collection regulation, under which the link according to the previous paragraph ensures data collection specifically on deep-sea metiers.

The problem of the current access regulation affecting too many vessels could be tackled by distinguishing fishing authorisations for by-catch from those for targeted fisheries, whereby the thrust of measures would only concern target fisheries. For fine-tuning, the Commission should be empowered to amend of the list constituting deep-sea species and the elements that help distinguishing a target fishery from a by-catch fishery.

The lack of efficiency caused by the absence of a mechanism to transpose NEAFC technical measures could be solved by a provision that describes the NEAFC measures in force and empowers the Commission to amend those measures or add similar measures following adoption in NEAFC. Alternatively to incorporating such a mechanism into the reviewed access regime, this objective could be fulfilled by providing such a mechanism via the technical measures regulation that is going to replace the transitional measures, which are valid only until end of 2012.

Finally, the redundant control provisions could be abolished, and a provision added which specifies the enhanced control standards which apply according to the control regulation (equivalent to the control of the implementation of multi-annual plans).

NGOs have since years advocated the banning of harmful gears (trawls and gillnets), or as a minimum approach individual prior environmental impact assessments. The stakeholders using trawls in the deep-sea fisheries consider such a measure disproportionate mainly for five reasons: that a gear change might be too expensive or targeting the same species with other gear might fail; that there is no proof of destruction of coral reefs, and that if this could happen, destruction would have occurred in the past, in particular in the orange roughly fishery; that the fishery does not longer expand; that the enterprises are willing to cooperate in discard reduction measures; and that this could result in a general political stigma against trawling which cannot be accepted, as the fishing pattern and impact varies from fishery to fishery.

4.5. Option 4 – access conditional on international management standards for the High Sea

A fourth option would incorporate management standards developed by UN/FAO. The main new elements would be:

- Conduct impact assessments before allowing bottom fishing;
- Identify where VMEs occur or are likely to occur; establish protocols of VME encounters;
- Close areas where encounters with VMEs above a certain weight of indicator biomass has occurred..

These measures would aim at solving the main problem of risks to VMEs. For the reduction of undesired catch, which is a topic not addressed by those standards, option 4 would either oblige vessels to drastically reduce discards (**sub-option 1**: **discard reduction targets**), or move towards a mandatory regime of regional effort management where all

catches have to be retained on board (**sub-option 2**: **regional effort limits**). The other problems would be tackled as described in option 3.

NGOs and the South-Western RAC were in favour of submitting EU deep-sea fisheries to international standards developed for the High Sea. Most Member States were in favour of simplifying the access regime, which is not compatible with this option.

4.6. Option 5 – instrument for the implementation of NEAFC decisions, extending those decisions to EU waters where possible

Option 5 would consist in reducing the regulatory content of the access regime to the minimum required to fulfil the obligations resulting from the NEAFC resolutions, and extending those measures to EU waters where possible. This would in essence mean to limit and monitor overall fishing effort expended in the NEAFC Regulatory Area (international waters) and EU waters (current limit is 65% of the 2003 fishing effort), to transpose technical measures (e.g. ban on gillnets, area closures, VME encounter protocols), and to undertake a documentation of the fishing "footprint" in EU waters, within the aim of limiting the need for environmental impact assessment to areas which are not already heavily fished.

No stakeholder was generally in favour of this option. However, France was in favour of freezing the "footprint" of bottom activity, and Member States often requested not to advance with burdensome unilateral measures as long as a level playing filed at the international stage is not ensured.

NGOs criticise the performance of NEAFC protection measures in the area of deep-sea fisheries, which they consider insufficient. However, given that most recently NEAFC has put more emphasis on developing a deep-sea policy in accordance with UN standards, this opinion might evolve as well.

5. ANALYSIS OF IMPACTS

The access regime is a framework regulation for which impacts are difficult to estimate in quantitative terms. However, where concrete elements for a quantitative estimation are available, those are presented.

5.1. Overall assessment of impacts

5.1.1. Economic impact and impact on fisheries management

Option	impact
1 – no change	The capacity and effort limits constrain the fishery, and stability of these limits is foreseeable until 2012 (NEAFC horizon for reviewing the effort limits). In medium term perspective, the discard ban envisaged by the CFP reform will put economic pressure on fleets which will have to sort, store and land unwanted/ un-marketable fish. The introduction of ITQs will rationalise the capacity base of production and thus reduce costs. The MSY-approach will only be useable after substantial improvement in scientific knowledge on the stocks. A change in income from changing fishing opportunities cannot be predicted, because the maximum sustainable yield provided by these species is not known. In case that TACs continue to be reduced towards precautionary catch

	levels, the turnover will be impacted by less available quota.
2 – banning DS fisheries	Azores fishing sector would lose half of its income (and therefore employment by up to this amount), Madeira fishing sector would lose one third of income. French port Lorient would lose a quarter of its turnover. Three French fleets of 15 high-performing vessels would lose about 30% of their income and thus would have to rationalise or find alternative harvest opportunities; loss of specialised processing industry in France.
3 – banning harmful gears	Loss of turnover in France and Spain generated with species that can only be targeted with trawls (e.g. roundnose grenadier). Possibility to target other main species (black scabbard, blue ling) with longlines like practiced in Portugal and Northern countries. Investment in gear, vessel modification and know-how necessary. EFF could be used for financial assistance, depending on the national operational program. A by-catch allowance for those gears when targeting other species would cushion the negative economic effect and ensure that unavoidable by-catch in deep-sea species does not need to be discarded. No significant impact on gillnet fisheries because those are currently not targeting deep-sea. TACs would better regulate the fishing mortality, because the remaining gears would have much less discards. A change in income from varying fishing opportunities cannot be predicted, because the maximum sustainable yield provided by these species is not known.
4 – High Sea standards	High inception costs for conducting and documenting environmental impact assessments. Costs are unknown as this is a new concept only applied in the High Sea where so far no Member State has finalised an impact assessment. Costs will depend on the available knowledge on the seabed, the type and operation range of the vessel, and additional research needed. Costs might strangle small businesses in outermost regions which do not have access to finance, have low income and whose bottom gear (longlines) is less harmful; therefore an exemption might be necessary.
5 – NEAFC alignment	The effort limits agreed in NEAFC are partly restricting, and their further development after 2012 is subject to negotiation. EU-TACs will have to continue for controlling the catch of high-value species that are particularly vulnerable, but there would be no obligatory guidance on the TAC levels.

5.1.2. Social impact

Option	impact
1 – no change	No impact.
2 – banning DS fisheries	Loss of employment in outermost regions (see 5.1.1) where alternative jobs are scarce. Employment figures on the fisheries sector in Madeira and Azores are unreliable, but several hundred could be affected.
3 – banning	The loss of parts of the turnover in the French and Spanish trawl fleets might force scaling down of workforce, depending on alternative fishing

harmful gears	opportunities that make good for it.
4 – High Sea standards	If discard reduction is pursued by regional fishing effort management, fleets that are active in a fishery will benefit from a regional "ring-fencing" of activity, deterring the development of new fisheries on deep-sea species exercised by other, e.g. more modern type of fleet.
5 – NEAFC alignment	No impact.

5.1.3. Impact on the environment

Option	impact
1 – no change	Reduction in by-catches depends on the development of technical measures which so far have only rudimentary been tested in DS trawl fisheries. With the discard ban coming with the CFP reform, unwanted fish will have to be landed, which gives fishermen an incentive to use more selective techniques. Reduction of the risk of VME damage depends on the designation of marine protected areas, which is an ongoing process requiring a lot of expensive research. The CFP reform plans to foresee a special procedure for adopting fisheries closures in the context of creating marine sites of NATURA 2000
2 – banning DS fisheries	The environmental problems of VME-destruction, high discards and high vulnerability of stocks would be effectively solved in all waters of the NE Atlantic, excluding those caused by foreign vessels.
3 – banning harmful gears	Remaining gears would have much less discards; the main risk to VME damage would be eliminated. Damage risk due to bottom longlines remains, but is considered much less severe.
4 – High Sea standards	If implemented properly, VMEs would be protected from the risk of damage. Reduction in by-catches depends on the development of technical measures which so far have not been tested in DS trawl fisheries. Otherwise, following the discard ban, unwanted fish will have to be landed, which does not have a direct effect on the environment.
5 – NEAFC alignment	If implemented properly, VMEs would, after several years of footprint documentation/arbitration, be protected against damage from bottom gears. The added value is nevertheless questionable because Member State documentation of NATURA 2000 offshore areas of protection is already ongoing. Discard policy in NEAFC does so far not cover deep-sea species.

5.1.4. Burden and costs for public administration

Option	impact
1 – no change	No additional costs. The recurrent expenses on monitoring the fishing effort are not effectively spent, as the information is considered being of low use by scientists. Inefficient existence of two separate systems for

	effort monitoring (separate reporting under access regime (Article 9) and data calls under data collection regulation).
2 – banning DS fisheries	In France and Spain, administrative control capacity that was dedicates to deep-sea fisheries would be freed for other fisheries of more economic importance. In Portuguese outermost regions, administration would supposedly have to be scaled down in view of the eroding economic activity. No more costs from separate effort and logbook follow-up (estimated being several thousand Euros per Member State).
3 – banning harmful gears	No more costs from separate effort reporting. Financial assistance to support gear change is already programmed or could be reprogrammed within the existing financial envelope (European Fisheries Fund).
4 – High Sea standards	No more costs from separate effort reporting. The costs associated with impact assessments are expected to be passed onto the businesses (see 5.1.1). The large amount of parallel management measures requested will increase the control needs and therefore the administrative costs (no estimation possible)
5 – NEAFC alignment	One-off costs of documenting and approving the footprint of bottom activity in EU waters, estimated at least one expert man-year per Member State[39].

5.1.5. Transposition and compliance aspects

1 – no change	The current access regime has suffered implementation shortcomings, but those are not considered material. However, the reporting tool used for assessing compliance with global effort limits agreed in NEAFC is considered unreliable and has not been designed for this purpose, but for gathering more detailed scientific information (Article 9).
2 – banning DS fisheries	Monitoring that certain species are not caught poses recurrent control problems. For key species, the control could be facilitated by imposing zero landing/marketing obligations.
3 – banning harmful gears	The transposition and compliance depends much on the technique selected for implementing the ban. If the ban refers to the depth in which the gear is deployed, a new control mechanism (on fishing depth) would have to be employed which is not at hand today and is no part of the major control reform that still needs to be implemented in practice. If the ban refers to the catch composition, it would use the same reference as employed for defining the deep-sea fisheries today, and the obligatory reporting of catches in electronic logbooks as required from 2011 could be used as a control mechanism.
4 – High Sea standards	The transposition and compliance might be hampered by the fact that a multitude of management measures apply in parallel, while the vessels engaged in these fisheries are particularly difficult to control by the nature of their operation (see evaluation of effectiveness below)
5 – NEAFC	The control regime in NEAFC area is relatively strict which helps

[39] Based on the experience within NEAFC area for which this process is ongoing since 2009.

alignment	ensure compliance. The documentation of the bottom fishing footprint will be very difficult for small vessels and inactive vessels, and poses the problem of distinguishing between bottom gear vessels and pelagic ones (which is not visible from VMS data). The transposition of the footprint concept to EU waters would be extremely difficult for the control side if it reveals a patchwork of areas which in future could be fished or only under certain conditions. Vessels that fish in the water column (not on the bottom) would have to have access to all areas, making control even more difficult.

5.1.6. Third country impacts

1 – no change	The access regime does not apply to third country vessels. The regime and associated TAC decisions have in the past been used to advocate stricter management for deep-sea species within NEAFC. However, NEAFC has started implementing the UN standards, so the access regime has less value as an argument today.
2 – banning DS fisheries	Some stocks that are classified by ICES and NEAFC as "deep" are being fished by Norwegian vessels in EU waters, namely tusk and ling. However, those would not be classified as "deep" under the ban because they have life characteristics more similar to shallower species. No direct impact on foreign vessels in NEAFC waters, which could be achieved only via negotiation
3 – banning harmful gears	No direct impact. The ban could be used to advocate a similar measure for foreign trawlers operating in NEAFC and targeting deep-sea species (level playing field). Gillnets are already banned from deep-sea fishing in NEAFC.
4 – High Sea standards	Gradual implementation of High Sea standards already ongoing in NEAFC area.
5 – NEAFC alignment	By limiting its policy to implementing measures agreed in NEAFC, the EU would lose the negotiation power coming from unilateral measures.

5.2. Summary of impacts

Option	Advantages	Drawbacks
1 – no change	+ No need to change administrative practice, no adaptation costs + Continuation of established framework provides stability + Re-establish policy consistency among CFP regulations (control).	– Does not address the problems identified with the current system (cf. Commission communication of 2007) – Member States and stakeholders are in favour of a more ambitious overhaul
2 – banning DS fisheries	+ Strong reaction to the lack of proof for a sustainable fishery. + The environmental	– Azorean fishermen would lose halve of their income, Madeira fishermen one third, probably loss of several hundreds of employment with limited alternatives. Lorient in France would lose 25% of its turnover, loss of jobs in the French processing industry.

	(VME) and biological problem (high vulnerability of target species) would be addressed. Effective protection of benthic habitats and the ecosystem at large	– Could be considered disproportionate because some deep-sea fisheries exist since long ago, and some key species seem to have life characteristics which allow sustainable exploitation. – Loss of data collection from commercial fisheries, on which the scientific advice relies; lack of willingness of MS to continue scientific surveys in fisheries which they do not exploit, therefore no improvement in advice – Northern states are not directly affected in international water, the level playing field will depend on the could "take over" the negotiation pressure that will be appropriate for this aspect of negotiations
3 – banning harmful gears	+ Improved protection of benthic habitats and the ecosystem at large + Strong answer to the problem of undesired catch in the deep-sea fisheries + The ban could be combined with a more lean (simpler) update of the access regulation. + The vessels concerned could be assisted in changing towards less destructive gears in order to continue fishing for some key deep-sea species.	– VMEs like cold water corals also appear in shallower water, where trawling for other species would continue. However, this aspect is outside the scope of this impact assessment. – gears would also be banned from areas of the deep sea where there are no VMEs or where they are unlikely;
4 – High Sea standards	+ All technical shortcomings of the existing regime would be addressed + Response to the international standards on deep-sea fishing	– Policy reliant on multiple individual measures that are difficult to define precisely and then to implement with sufficient assurance that they will be effective. Trawling would be banned by overregulation rather than by a straightforward measure. – Option would rely on measures that would have to be taken and implemented by Member States against vested interests. – The administrative burden to manage DS fisheries would increase
5 – NEAFC alignment	+ From a conceptual point of view, effective protection of VMEs	– Costly and long preparation phase with unclear quality of the resulting footprint documentation – Difficult to implement with regard to small vessels and inactive vessels – Difficult to monitor in case of patchy area limits – Questionable added value in view of ongoing documentation of NATURA 2000 offshore areas of protection – EU would lose negotiation power coming from unilateral action towards more sustainable deep-sea fishing.

In view of the strong drawbacks, options 2 and 5 are discarded. Option 1 is discarded as well because it does not respond to shortcomings identified, nor to stakeholder expectations.

6. COMPARING THE OPTIONS

6.1. Qualitative assessment by option

The qualitative assessment of outcomes is based on DG MARE's experience with the impact of the current access regime and with the implementation of measures similar to those proposed in the options, in particular the prohibition of certain gears in certain fisheries and the introduction of UN standards of managing deep-sea fisheries in the High Sea in 2008[40] and in NEAFC in 2009.

6.1.1. Comparison with regard to effectiveness

Effectiveness: The extent to which options achieve the objectives of the proposal

Recall: General objective: General objective of the proposal is to ensure sustainable exploitation of deep-sea stocks according to the concept of Maximum Sustainable Yield, thereby limiting the environmental impact as much as possible. As long as data and method have not achieved the requisite quality level allowing a management towards MSY, the fisheries have to be managed according to the precautionary approach.

Recall: Specific objectives:

a) To comply with scientific advice on precautionary catch levels; to facilitate the future development of MSY-management for these data-poor stocks;

b) To reduce the impact of bottom gears on the seafloor in order to reduce the risk of damage to VMEs;

c) To reduce the level of undesired catch;

d) To ensure the collection of all data needed for improving scientific advice.

e) To focus the rules on the metiers that are targeting deep-sea species and make the metier-definition adaptable to evolving scientific advice and fleet behaviour;

f) To provide for the transposition of NEAFC conservation measures;

g) To make the access regime coherent with the control regulation;

h) To harmonise the special data collection with the general standards and ensure follow-up.

Recall: **Sub-options of option 3** concern the implementation of the ban. **Sub-option 1** would ban bottom trawls and gillnets by not allowing to provide them with fishing authorisations to target deep-sea species. **Sub-option 2** would not allow them to fish below a certain depth which would have to be established according to scientific advice.

The sub-options of option 4 deal with the problem of undesired catch which is not directly addressed by the international standards but needs action nevertheless. **Sub-option 1 of option 4** would reduce undesired catch by imposing reduction targets in % of catch, and ensure scientific estimation of discards for the metiers concerned. **Sub-option 2** of option 4 would move the management towards obligatory regional fishing effort limits in which all species would have to be landed.

6.1.1.1. Summary table

O = neutral impact, + = positive impact, ++= very positive impact (relative to other options), - = negative impact, -- = very negative impact (relative to other options), n.a. = not applicable as the option does not cover this aspect

[40] [40] See Communication COM(2010) 651.

Objective option	General objective	Specific objective **a)**	Specific objective **b)**	Specific objective **c)**	Specific objective **d) and h)**	Specific objective **e)**	Specific objective **f)**	Specific objective **g)**
3 - Banning harmful gears	++	+	++	++	+	+	+	+
Sub-option 1: fishing authorisation	+	n.a.	++	++	n.a.	++	n.a.	n.a.
Sub-option 2: spatial	+	n.a.	+	+	n.a.	+/°	n.a.	n.a.
4 – High-Sea standards	+	+	+	+	+	+	+	+
Sub-option 1: discard-reduction targets	+	n.a.	n.a.	+	**n.a.**	**n.a.**	**n.a.**	n.a.
Sub-option 2: regional effort limits	+	n.a.	n.a.	++	**n.a.**	**n.a.**	**n.a.**	n.a.

6.1.1.2. Discussion

For the specific objectives a), d), e), f), g) and h), the options provide the same solution (see chapter 4.4 and 4.5) and are therefore considered equivalent. The expected outcomes with regard to objectives can be summarised as follows:

a) (- To comply with scientific advice on precautionary catch levels; to facilitate the future development of MSY-management for these data-poor stocks -): By regulating in co-decision that recurrent decisions on the allocation of fishing opportunities cannot go beyond what is scientifically advised as a precautionary level of catches or fishing effort, it will be ensured that the scientific advice on precautionary management is adhered to. As the rule only applies to the precautionary framework, it leaves open the possibility to develop harvest rules scientifically based on MSY in the future, and following those harvest rules in recurrent decisions on the allocation of fishing opportunities.

d) + h) (- To ensure the collection of all data needed for improving scientific advice; to harmonise the special data collection with the general standards and ensure follow-up -): By enlarging the general data collection requirements towards fishing depth, VMS position and logbook entries haul by haul, the additional data considered necessary by scientists would be collected in the deep-sea metier. By linking this data collection to recurrent notification exercises (VMS position, electronic logbook reports), the administrative burden for the fishing undertakings can be kept to a minimum. By incorporating the data collection on the deep-sea metier into the standards of the general data collection, it will be ensured that the data collected responds to the recurrent statistical validity requirements, can be compares across Member States and will be channelled though the established data processing and reporting flows, rather than being stored "on the side". The obligation to sample deep-sea metiers according to a specific metier definition is needed because otherwise the biological data from the commercial fishery would sometimes be submerged in larger, more disaggregated metiers. This obligation could be transferred into a reviewed

data collection regulation (2012) in case it will be decided to incorporate metier-specific requirements. Finally, the need to enlarge scientific surveys in deep-sea areas, as expressed by ICES in its advice to the Commission of April 2011, will also be analysed in the context of the DCF review 2012, when the list of international surveys eligible for financial contributions will be scrutinised.

e) (- to focus the rules on the metiers that are targeting deep-sea species and make the metier-definition adaptable to evolving scientific advice and fleet behaviour -): By defining a metier of deep-sea fishing (10% of deep sea catches per fishing day), the special fishing authorisations can be split into two categories, one for vessels targeting deep sea species, one for vessels the catches of which are limited to y-catches only. All vessels would be subject to the limit on vessel capacity in the fishery and on landing in designated ports, but the other obligations and rules of the access regime (eligible gears, limitation in range, effort limitations, data collection) would only apply to vessels targeting deep-sea species, thus repairing one of the shortcomings of the existing regime. The Commission would be empowered to modify or detail the list of deep-sea species and the metier-definition according to scientific advice and regional fishing pattern, thus allowing for an evolution of the regime according to the reality of the fisheries and the improving scientific knowledge.

f) (- To provide for the transposition of NEAFC conservation measures -): The implementation of technical conservation measures agreed in NEAFC for the international waters of the North-East Atlantic is a technical exercise which could be ensured by referring to the currently applicable measures in the co-decision act and empowering the Commission to amend or supplement those measures according to evolving decisions within NEAFC, by way of delegated acts. Alternatively to incorporating such a mechanism into the reviewed access regime, this objective could be fulfilled by providing such a mechanism via the technical measures regulation that is going to replace the transitional measures, which are valid only until end of 2012.

g) (- To make the access regime coherent with the control regulation -): The new control regulation contains a number of provisions similar to the existing access regime. Alignment can be achieved by discontinuing those provisions. For the remainder of measures, the access regime cold ensure control standards applied to multi-annual stock management plans by stipulating that the precautionary measures contained in the access regime shall have the same bearing as multi-annual stock management measures, and by limiting landing possibilities to designated ports, with prior notice. In addition, the access regime could strengthen the control regulation's instrument of closing a fishery when essential provisions of the conservation measure are not complied with, by stipulating that the data collection obligations are to be considered also as essential conservation measures in the particular case of deep-sea species.

Concerning VME protection (objective b), the banning of bottom trawls from targeted fishing is considered more effective than implementing the High-Sea standards related to VME-protection (prior impact assessment, encounter protocols, search for VME sites). Bottom trawls would no longer be present on the deep-sea grounds, irrespective of the results of a risk assessment. Risk assessment according to the international standards is influenced by the notion of "intensity of prior presence", and this would give rise to qualification problems[41], in particular where vessels have old and patchy track records but have since limited their area of operation. Concerning the reduction of undesired catch

[41] See Communication COM(2010) 651, p. 6.

(objective c), option 3 is also considered more effective, because rather than trying to impose on vessels discard targets which are not known to be reachable beforehand, the gears with the highest undesired catch would no longer be employed. Such a strong policy is considered proportionate in this special case because of the high vulnerability of these species, and the impact of trawls reducing the biodiversity in those depths. Within option 4, the move towards regional effort levels is preferred over discard reduction targets, in view of affirmative scientific advice on the utility of effort management[42].

Within the more effective option, the sub-option which introduces the ban via restricted fishing authorisations is considered more effective than the sub-option which would ban the gears from a certain depth. There are three reasons for this: First, a spatial approach would require control of depth levels at which gears are employed, and such a control instrument is currently not implemented. Second, the depth limits would have to be established according to scientific advice on local occurrence of deep-sea species, because those inhabit varying depth ranges.[43] Third, the distribution area of deep-sea species overlap with the distribution area of other species on the lower part of the continental shelf[44]; therefore a depth-criterion would constrain also fisheries which are not considered for this measure. By contrast, the sub-option 'fishing authorisation' would refer to the catch composition during the trip, and information on the catch composition becomes in future more reliable through the obligation to send electronic logbook information.[45] This aspect also influences the comparison of effectiveness with regard to the objective of focussing the access regime towards the target metier (e): If other metiers will be affected by the new restrictions as well, the focus would still be too large.

6.1.2. Comparison with regard to efficiency and coherence

Efficiency: The extent to which objectives can be achieved for a given level of resources/ at least cost

Coherence: The extent to which options are coherent with the overarching objectives of EU policy, in particular the reformed CFP and the revision of the Data Collection Framework foreseen in 2012.

For ease of simplicity, the comparison is given as a global appreciation with regard to the policy objectives.

6.1.2.1. Summary table

Assessment criterion / option	Efficiency	Coherence
3 - Banning harmful gears	++	+
Sub-option 1: fishing authorisation	+	+
Sub-option 2: spatial	+/°	+
4 – High-Sea standards	+/°	Partly +, partly -
Sub-option 1: discard-reduction targets	+	+

[42] See Annex III and already STECF, Report of the subgroup Fisheries and Environment, Deep-sea Fisheries, SEC(2002)133.p. 8, 71 et seqq.
[43] See chapter 1.2 with reference to the SGMOS 0905 report on the evaluation of effort regimes in the Deep Sea & Western waters, 2010.
[44] See SGMOS report before.
[45] See Article 15 of Regulation (EC) No 1224/2008.

Sub-option 2: regional effort limits	+	Partly +, partly -

6.1.2.2. Discussion

Regarding **efficiency**, option 3 gets a higher rating than option 4. This is because option 3 bans harmful gear from these fisheries directly, whereas option 4 poses ever increasing conditions on the use of bottom gears. Thus, option 4 makes it very burdensome to use bottom gears, which in economic terms makes it less attractive, while option 3 forces the operators to use less harmful gear. A further relative disadvantage of option 4 is that it relies on implementation and control of several additional measures in parallel, while the fisheries administrations are facing cost-cutting exercises imposed by the need for fiscal discipline and need thus to concentrate their control effort on economically important fisheries. Within option 4, the sub-options concerning discard reduction are considered equally efficient. Introducing regional effort limits would mean upfront costs for the establishment of baseline fishing effort levels[46], and then normal administrative supervision, while the sub-option on discard-targets would mean increasing costs when implementation and monitoring of discard performance starts. For the businesses, the situation is similar.

Within option 3, the sub-option on spatial limitation is considered less efficient because it needs an additional control effort related to fishing depth, while national administrations are in the process of implementing the new control regulation which in itself puts extreme strain on them.

Concerning **coherence**, **option 3** is more appreciated than option 4. On the one side, the banning of harmful gear is a policy already developed.[47] The **discard ban** forthcoming under the **CFP reform**[48] is being anticipated by following a particularly restrictive policy on this subject in fisheries where the species caught are particularly vulnerable to fishing. The ecosystem approach to fisheries management, a concept already valid under the current CFP, is put into practice for fisheries that operate in the most fragile ecosystems. The intentional limitation in regulatory detail and deliberate restriction in imposing additional administrative requirements on the pursuit of certain fishing operations is in line with the reform's **simplification approach**. The CFP reform's move towards **regional management** could be translated by giving an option for a voluntary move towards regional effort management for those gears that are allowed to remain in the fishery. The architecture of such an approach is a follows: The access regulation defines the possible scope, prerequisites and scientific assessment of regional fishing effort management plans. Once finalised, the Commission would base its proposals for allocating maximum fishing effort levels in the concerned fishery on the regional plan, and the Council would fix the fishing effort limits at annual intervals accordingly. Safeguards would ensure that the management can be rescheduled according to catch limits if the conditions for operating the effort plans do not remain fulfilled. Finally, the option is coherent with the development **of individually transferable quotas**. Those quota shares would be established based on the catch records of the vessels concerned. The banning of a certain gear in the deep-sea fishery would not preclude the respective vessels from having access to the species according to

[46] For comparison, the establishment of reliable baseline effort levels under the Atlantic cod plan has taken three years of administrative and scientific assessment. For deep-sea fisheries, the period would be shorter as the fisheries are much smaller and more concentrated.
[47] See chapter 2.1.
[48] Which is expected to apply during the first years to key quota species, not to all species caught.

their catch records, but rather force them to use a different technique or, if this is not feasible, to sell/lease the quota share to another stakeholder who wants to use a gear that is still allowed.

On the other side, **option 4** on introducing High Sea standards is coherent with an existing policy protecting the same type of species, although in a different economical/fleet context.[49] The negative note here comes from two considerations: 1) In EU waters, VMEs receive protection also through the development of sites of NATURA 2000 under the Habitats Directive. The **CFP reform** will introduce a procedure for putting into practice the **fisheries part of** these **environmental measures**. This approach is based on the idea of creating a positive list of unique communities of biodiversity which will be directly protected, while the international concept is based on the idea of risk mitigation and avoidance strategies. Both are not incompatible but could lead to duplication of work. 2) The addition of new administrative requirements to the fishery, without assurance on the result, is not coherent with the **simplification-approach** intended by the CFP reform.

Within the option 4, the sub-option on discard-reduction targets is coherent with the CFP reform focussing on **result-based management** and **technical implementation by Member States on a regional basis**. The sub-option on imposing regional effort limits is likewise coherent with the CFP reform, as fishing effort management combined with a landing obligation is a tool for eliminating **discards**. However, the partly negative evaluation comes from the fact that fishing effort levels – which are gear-specific - would conserve fishing with bottom trawls, although this gear has a harmful impact on VMEs; the Commission has a higher interest in encouraging switching gears than in reducing discards using a gear that is harmful to the environment. Finally, option 4 is also coherent with the introduction of **individually transferable quotas**, as it does not touch on the fishing opportunities as such.

Within option 3, banning gears by way of putting conditions to the pursuit of certain species (sub-option 1) is coherent with regulatory practice.[50] Likewise there are prohibitions to use a certain gear below a certain depth (sub-option 2).[51]

Both options are coherent with the forthcoming review of the **Data Collection Framework**. That review concerns the harmonised method of data collection, the sampling intensity and the nature of information to be collected, as well as the processing and dissemination of data and the financing of scientific surveys. Options 3 and 4 provide the same rules related to data collection, namely to ensure that deep-sea metiers are sampled even if under general rules this metier would be submerged in a larger one, and that additional information is collected from the commercial fisheries which is sceintifically important for the analysis of deep-sea fisheries. If so decided during the review of the data collection framework, these metier-specific rules could be absorbed into the data collection framework. Finally, the access regime would allow the Commission closing a fishery if the data collection has not been carried out, an instrument that would be a precautionary conservation measure in addition to the possibility under the data collection rules to reduce the financial contribution.

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[49] Only large capital-intensive vessels are able to undertake long journeys on the High Sea, while in costal waters of the deep like in Portugal, a large amount of artisanal vessels prosecutes the fishery.

[50] E.g. in the annual fishing opportunities regulations, or in Regulation (EC) No 1228/2009 on transitional technical measures, or in Council Regulation (EC) No 1967/2006 concerning the Mediterranean Sea.

[51] See chapter 2.1; also Regulation (EC) No 1228/2009 on transitional technical measures, and Regulation (EC) No 1967/2006 concerning the Mediterranean Sea.

6.2. Ranking of options

Option 3 (banning harmful gears) is overall the policy option that receives the best evaluation. It addresses shortcomings of the existing regime by measures that are developed for both options, 3 and 4. But the two main problems, namely protection of VMEs and reduction of undesired catch, is addressed in a more direct way. Option 4 has merits in that it is coherent with the current policy approach towards the management of deep-sea fisheries in the High Sea. However, its effectiveness is doubtful. The option relies on multiple individual measures that are difficult to define precisely and then to implement with sufficient assurance that they will be effective. Bottom trawling would be banned by overregulation rather than by a straightforward measure. The option would rely on measures that would have to be taken and implemented by Member States against vested interests, while increasing the burden of administrative follow-up within a context of administrative structures being scaled down.

Within the preferred option, banning gears by limiting fishing authorisation for targeting deep-sea species to less harmful gears is preferred over establishing a regulatory depth line which cannot be trespassed by these gears. Main reason is the need for depth control under the alternative measures and the problem that overlapping bottom trawls and gillnet fisheries on the lower part of the continental shelf would also be affected.

7. MONITORING AND EVALUATION

For the progress of the policy the following indicators are proposed provisionally and will be further developed:

Policy area	Possible progress indicator	Data gathering / evaluation arrangement
Sustainable fixing of fishing opportunities	Number of stocks which are managed according to the precautionary advice received from ICES/STECF; Number of stocks for which exploratory MSY-rules are being tested	Commission service
Discard reduction	Trends in discards of deep-sea metiers	Technical reports from STECF based on data collection under the access regime and DCF.
Protection of VMEs	Accomplish phase-out of bottom trawls in deep-sea fisheries by the end of the transition period. Spatial profile of bottom trawlers concerned moves towards shallower waters	Monitoring of fishing authorisations of Member States, Member States to assess VMS-traces and catch composition protocols of vessels concerned
Data gathering and channelling is adapted to scientific needs and aligned with the general data collection policy.	Reduction in fish stocks for which ICES working group on deep sea species reports unavailability of commercial fisheries' data	ICES advice

APPENDIX - GLOSSARY

B

Bathymetry – is the study of underwater depth.

Biological reference points – values of fish stock population parameters (such as biomass or fishing mortality rate) used in fisheries management, for example with respect to an acceptable level of biological risk or a desired level of harvest yield.

By-catch – the catch of non-target species and undersized individuals of the target species. By-catches of commercial species may be kept or discarded along with the non-commercial by-catch.

C

Capacity – The fishing capacity of a vessel depends on various factors. The basic factors which are easily measurable are the vessel's power in kilowatt and its volume in gross tonnage.

CFP – the Common Fisheries Policy of the European Union. It provides the framework for management of the EU fishery sector, including all marine fisheries within 200 miles of Member States' baselines. The latest basic regulation on the CFP is Regulation (EC) No 2371/2002 which should be replaced by a new one in 2012.

D

DCF – (=Data Collection Framework) is based on Council Regulation (EC) No 199/2008.[52] It establishes the principles and standards for programs of data collection for the CFP. The deep-sea fisheries can represent a metier on which data needs to be collected according to the DCF.

Demersal – meaning the area close to the sea bed. Demersal fish lives close to the seabed (benthopelagic fish or groundfish) or rests on the seabed (benthic fish).

Discards – any fish, or other living matter caught when fishing, that is not kept but is returned to the sea – alive or dead.

E

Effort – the total quantity of fishing gear in use over a specific period of time. Effort can be expressed in many ways: days away from port, hours trawling, length of driftnet, number of hooks used and so on. The basic concept followed by the CFP is a combination of time at sea and fishing capacity expressed in kilowatts or volume (gross tonnage)

F

Fishing effort – see Effort.

[52] Regulation concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy; OJ L 60, 5.3.2008, p. 1

Forage fish - Small fish, often in shoals, prolific and serving as food for predatory fish higher up in the food chain.

H

Habitats Directive - The Habitats Directive[53] obliges Member States to create a network of sites to protect Biodiversity called the network of NATURA 2000. To the extent that the protection concept intervenes with fisheries, the EU has regulated the fisheries part of the protection measures based on the CFP. Marine offshore sites of NATURA 2000 are still in development, and only a few have been created already. Reefs are explicitly mentioned as possible objects of NATRA 2000 protection measures (code 1170).

Harvest control rule – stipulates how harvest is to be controlled by management in relation to some indicator of stock status. For example, a harvest control rule can describe the various fishing mortality values which will be aimed at for various stock abundance values. It formalises and summarises a management strategy. In the absence of fishing mortality and stock size values, such rules could for example set maximum harvest levels according to trends observed in abundance indices.

I

ICES – the International Council for the Exploration of the Sea founded in 1902. It facilitates and coordinates collaboration, including fish stock assessments, between Member States. It works via numerous working groups under the remit of one or more standing committees.

ITQ – individually transferable quotas. A concept partly applied in European fisheries management, but not at EU level so far, which allows undertakings to trade in their fishing opportunities subject to certain conditions and safeguards. The main purpose of ITQ is to rationalise the capacity base of resource exploitation by using market-mechanism. The CFP reform process favours the mandatory introduction of such a system in EU fisheries.

J

Juvenile – an immature fish, i.e. one that has not reached sexual maturity.

M

Metier – a combination of vessel characteristics and fishing pattern, normally described as the fishing operations of vessels using a certain gear in a certain area (and season) targeting (a) certain species.

Monitoring – regular and systematic collection of environmental and biological data by agreed methods and to agreed standards. Monitoring provides information on current status, trends and compliance with declared standards and objectives.

Fishing Mortality (F) – the death of organisms due to fishing. It is usually expressed as an instantaneous rate: the natural logarithm of the ratio between the number of animals surviving to the end of the year and the number at the start of the year.

MSY – maximum sustainable yield: the largest average catch that can be taken continuously from a stock under existing environmental conditions. (For species with

[53] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

fluctuating recruitment, the maximum might be obtained by taking fewer fish in some years than in others.) Also known as 'maximum equilibrium catch'. The MSY-concept is originally based on international law (Johannesburg summit on Sustainable Development 2002) and now also enshrined in Community rules: According to Commission Decision 2010/477/EU of 1 September 2010 on criteria and methodological standards on good environmental status of marine waters[54], the fishing pressure has to be held at levels equal or below Fmsy in order to indicate a good environmental status with regard to healthy stocks that are commercially exploited. In case where an F value cannot be estimated, secondary indicators have to be used. The Commission plans to enshrine the concept in the 2012 CFP reform as obligatory management basis.

O

Overfishing – an exploitation rate is greater than is required to meet or match a specific management objective, e.g. maximum sustainable yield (MSY).

P

Passive gear – (equivalent: static gear) gear that catches fish by attracting it or by hampering its further move and enmeshing. Opposite: towed gear.

Pelagic – meaning the water column excluding the space close to the seabed. Pelagic fish lives and feeds in the open water, not on or from the bottom.

Precautionary approach – a decision to take avoiding action based on the possibility of significant environmental damage, even before there is conclusive evidence that damage will occur. This approach requires fishery managers to pay due regard to the uncertainties of stock assessment and management.

S

Safe biological limits – to keep stocks within safe biological limits, there should be a high probability that spawning stocks are above the threshold where recruitment is impaired and fishing mortality is below the level which will drive the spawning stocks to the threshold.

Sampling – selection of factual information to acquire some knowledge of a statistical population. Sampling standards for collecting data on sea fisheries are contained in the Commission Program[55] adopted under the Data Collection Framework[56].

Spawning aggregations – fish often groups closer together to spawn. Spawning aggregations provide an easier target for fishing operations, because more fish can be caught with the same effort. But the risk of depleting the stock is also higher, and fish caught before spawning was not able to contribute to reproduction during that season.

STECF – the Scientific, Technical and Economic Committee on Fisheries of the EC. Unlike ICES working groups, which consider stock assessments and management from a scientific perspective only, the STECF is expected to consider the socio- economic implications of modifying or varying scientific, including ICES advice.

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[54] OJ L 232, 2.9.2010, p. 14.

[55] Commission Decision 2010/93/EU of 18 December 2009 adopting a multiannual Community programme for the collection, management and use of data in the fisheries sector for the period 2011-2013 (notified under document C(2009) 10121), OJ L 41, 16.2.2010, p. 8

[56] Regulation (EC) No 199/2008.

Stock - means a marine biological resource with distinctive characteristics that occurs in a given management area.

Stock assessment - provides a science-based quantitative evaluation of fish populations, in order to help define management objectives and guide their implementation. It produces biological reference points and indicators on the status of the stock compared to those reference points. For deep-sea species, no stock assessments are available, because of paucity or insufficient quality of data.

Sustainable fisheries – fisheries with an annual catch, including discards, that does not exceed the surplus production of the stocks (i.e. annual growth plus recruitment less the annual natural mortality).

T

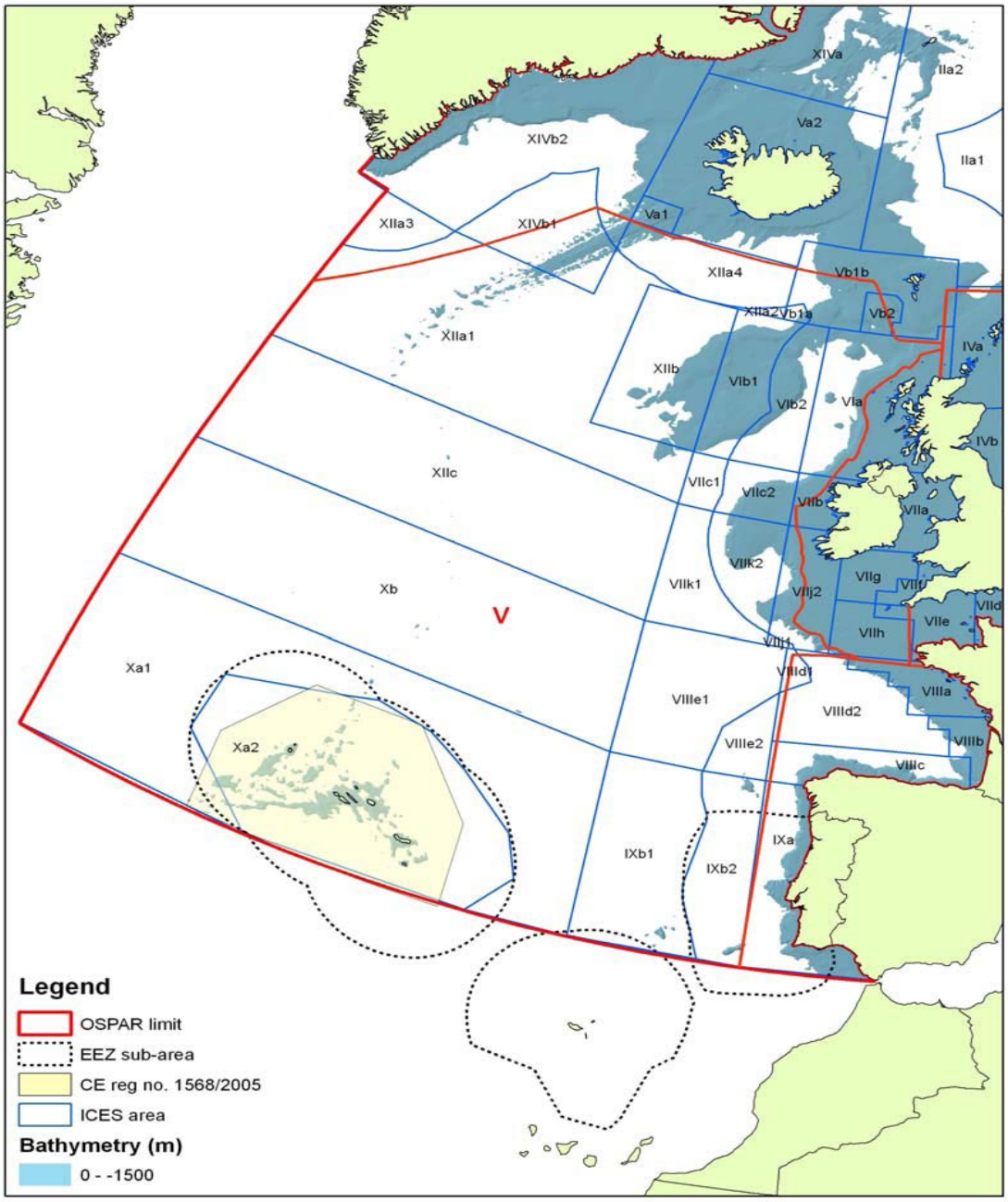
TAC – total allowable catch: the quantity of fish that can be taken from each stock each year. The figure is agreed by the Fisheries Council of Ministers in annual meetings, for deep-sea species biannual meetings. EU Member States are allocated a set share of the TAC as their national quota.

V

VME, vulnerable marine ecosystems - Features of the deep seabed such as seamounts, coral reefs and hydrothermal vents are known to act as biodiversity hot spots and also to attract large numbers of fish. These ecosystems are extremely vulnerable for a number of reasons including the low growth rates associated with great depths as well as the fragility of the organisms, such as corals and sponges, which provide structural support to the habitats. Although scientific research on these organisms and ecosystems has increased in recent years, including through projects supported by the EU such as the Hermes, Hermione and Coralfish projects, more information is still required on their biology, location as well as the associated fisheries. These vulnerable ecosystems are threatened by natural causes such as climate change and ocean acidification, as well as by a variety of anthropogenic activities, which include deep-sea bottom fishing, deep-sea mining, bio-prospection and deep-sea tourism. While these activities generate economic benefits, they contribute to the destruction of these habitats which results in a continuing loss of marine biodiversity.

ANNEXES

Annex I: Deep-sea grounds in the North-East Atlantic



Depth contours at 1500 m of the North-East Atlantic potentially impacted by deep-water fisheries, with the delimitations of several regulatory areas. (By Ricardo Medeiros, Department of Oceanography and Fisheries of the University of the Azores).
Source: REPORT OF THE ICES-NAFO JOINT WORKING GROUP ON DEEP WATER ECOLOGY (WGDEC) 2008, p. 16. ICES CM 2008/ACOM:45

Annex II: Contributions following the consultation

Entity	Scope of review	Specific interest/ ideas	Special permits	Effort limitations and TACs	Improve knowledge	Control
France (an exhaustive background document was finalised in September 2010: "Le Grenelle de la Mer", Avenir des Pêches Profondes, groupe n° 1, rapport final)	Put whole regime under review, but no abrupt changes needed	Acknowledge positive development in some important stocks; acknowledge that DS[57] regime is only part of a number of management improvements; develop VME[58]-closed areas, spatial-seasonal closures, prohibition to new fisheries unless accompanied by scientific advice; regulation on ghost-fishing is already sufficient	The 100 kg-threshold should be increased for non-SPP[59] vessels which should be allowed to land up to 400kg per trip, if avoidance measures are put in place to prevent any discards above this level	By-catch TACs[60] need to be aligned with the reality of the fisheries	Encourage science-industry partner-ships	adapt the regime to the new control regulation; request prior notification of landings of DS species until introduction of electronic logbook; foresee increased frequency of VMS[61]-transmissions in case of transfer through VME areas; problem with the identity of designated ports in the gillnet fisheries
Spain		Concentrate the special regime on targeted fisheries and let by-catch fisheries be regulated by the western waters regime alone	The threshold of 100 kg per trip or 10t per year are inapprop riate in view of the variety of vessel sizes and mixed fisheries	Effort calculation does not show a clear picture, as the effort depends on the variety of species caught and rectangles of operation; no effective follow-up of commitments in the Northeast Atlantic Fisheries Commission (NEAFC) possible; TACs are more limiting now, and effort regime is not independent measure as it also depends on real landings		

[57] Deep Sea.
[58] Vulnerable Marine Ecosystem.
[59] Special Fishing Permit.
[60] Total Allowable Catches.
[61] Vessel Monitoring System.

Entity	Scope of review	Specific interest/ ideas	Special permits	Effort limitations and TACs	Improve knowledge	Control
Portugal	Review of the 100 miles zone around Azores needed (linked to the CFP[62] reform and western waters regime)	Ring-fencing fishing effort around Azores and Madeira	SPP system not effective as too many vessels are concerned (other MS) or too few (small vessels in Portugal); an Annex II species is primary fishing target in Azores (red seabream)	Effort ceilings should be developed by (target) fishery and take account of the stability of the artisanal fisheries; By-catch TACs (DS sharks) need to be aligned with the reality of the fisheries; difficulty to obtain caches per rectangle in Azores (76% vessels under 10m)	data-coverage should be possible within the DCF[63]; on board observers no solution for small vessels	adapt to control regulation; delete article 6 (reporting of position in case of VMS failure)
United Kingdom	Put whole regime under review, but no abrupt changes until outcome of the Deepfish-man project is known	Revise the regime in a way that future develops can be influenced by the results of the Deepfishman project; stress the precautionary approach, as many DS stocks might be incapable of discovery within a decent time horizon; develop closed areas for aggregations of orange roughy and blue ling		Zero TAC for sharks is consistent with UK policy; continue current approach and develop in addition an MSY-approach for selected fisheries for which knowledge on fishing mortality will improve	gathering of knowledge for a complete stock assessment might be too expensive in view of the value of the fisheries	
Germany	Put whole regime under review in order to wok towards sustainable exploitation	Differentiate between by-catch and targeted fisheries	Do not cover by-catch fisheries (except with TAC rules), for reason of proportiona-lity	ditto	Improved scientific coverage should be incorporated into the data collection framework	align with control regulation

[62] Common Fisheries Policy.
[63] Data Collection Framework.

Entity	Scope of review	Specific interest/ ideas	Special permits	Effort limitations and TACs	Improve knowledge	Control
Netherlands				System of effort calculation totally inappropriate for NL, where the fleet that on some days has some DS by-catch are large pelagic trawlers that are away for 4 weeks sometimes		
RAC[64] North-Western waters	Put whole regime under review, but act very carefully in order not to punish vessels that have made efforts already	Define the fisheries more clearly; delete species from the list that are caught in more shallow waters; open to inclusion of other species that share the common criteria; advocate spatial-seasonal closures	Bring reward/-punishment mechanism into the issuance of permits (award, renewal, withdrawal)	Effort ceilings should be developed by (target) fishery, and adjustments should be possible in view of improved stock status	COM to put more money to science-industry partnerships	
RAC South-Western waters	Put whole regime under review	Acknowledge the variety of biological characteristics; acknowledge that the measures adopted since 2002 have brought positive development; improve transparency in data provision to NEAFC; New fisheries should be prohibited unless accompanied by impact assessment; further develop closed areas for protection of VMEs	Limits need to be developed by group of species/fisheries. If the annual criterion of 10t should stay, at least the trip-based threshold of 100kg should be defined by fishery	ditto; By-catch TACs need to be aligned with the reality of the fisheries	Reference data should be the haul and not the landings per trip; training needed in order that fishermen can distinguish species	
NGO Alliance[65]	Put whole regime under review	Apply UNGA standards for deep-sea fishing on the High Sea also to EU waters, in particular prior impact assessment on bottom habitat. Count all catches against the quota		Precautionary principle calls for lower TACs. Move towards effort management presupposes better effort data	Full observer coverage; standardise monitoring protocols; revoke permit in case of data shortcomings	

[64] Regional Advisory Council, established through Council Decision of 19 July 2004 establishing Regional Advisory Councils under the Common Fisheries Policy (2004/585/EC).

[65] PEW, Greenpeace, Seas at Risk, deepsea conservation coalition

Annex III: Scientific advice from the Scientific, Technical and Economic Committee for Fisheries (STECF)

A) 2010 report of the SGMOS-09-05 Working Group "Fishing Effort Regime"
Part 3: Deep Sea and Western Waters page 117: Discussion on the vulnerability and exploitation of deep sea species

There are no extant scientific reasons for not exploiting deep-water fish and shellfish species in the NE Atlantic. Even fisheries for the most vulnerable species, such as orange roughy, are likely to be sustainable if catches [exploitation rate] are maintained at sufficiently low levels. For example, stock reduction analyses of orange roughy in VI indicate that MSY may be around 150-250 t whereas in the early years of this fishery annual catches amounted to several thousand tonnes.

The key issue as to whether deep-water species can be exploited sustainably is the extent, efficacy and compliance of management and monitoring. It is evident that management frameworks and approaches in place in recent years have not been effective in achieving sustainability. Management by TACs and quotas is unlikely to be an effective management tool because the relationship between F and catches is unknown in most fisheries. Furthermore, many fisheries are of a mixed species nature and management by TACs and quotas, particularly where these are restrictive for some species, is likely to lead to high-grading and higher levels of discarding. In contrast, effort management, particularly at the fisheries rather than at the stock level, is more likely to be effective as there is an underlying relationship between F and effort.

Difficulty of bycatch
Effective monitoring is essential and this should include multinational coordinated fisheries independent surveys to generate reliable abundance indices for use in assessments. Without such data the scientific justification for exploiting these stocks would be seriously compromised. Effective observer schemes are also essential and it may be necessary to have 100% coverage in international waters (as in the NAFO Regulatory Area) and particularly in some fisheries e.g. orange roughy.

A general concern is the high level of discarding on deep-water trawl fisheries. Most of these fish die and as a consequence long-term exploitation could have a significant impact on the general deep-water fish assemblage and ecosystem as a whole. This needs to be monitored on an ongoing basis and provides another justification for the development of extensive fisheries-independent surveys.

Most deep-water fisheries in the NE Atlantic are currently being ratcheted down to a low level in line with ICES advice, and these should only be allowed to expand when information becomes available as to the level of fishing that is sustainable, and for some stocks, where there is reliable evidence of stock recovery. While current deep-water fisheries may be of minor economic significance, they have in the past generated substantial landings and have been of high socio-economic importance to many countries. If the stocks are exploited sustainably economic returns are likely to be lower but nevertheless important to some regional communities.

B) Review of scientific advice for 2011, Consolidated Advice on Stocks of Interest to the European Community, Edited by John Casey, Willy Vanhee & Hendrik Doerner, 2010, page 236:

STECF notes that appropriate sustainable exploitation rates for most deepwater species have not been determined and the risks associated with current fishing effort are not quantified. Given the biology of many of these species, very low exploitation rates or zero fishing are likely to be advised in most cases. STECF once again reiterates its comment that management measures based on effort/fleet regulation are a more appropriate long-term approach for management of these fisheries and consequently fisheries based advice, in addition to that currently given, has value.

(…)

STECF further notes that several of these deep-water fisheries take place in international waters outside national or EU jurisdiction. Hitherto this has rendered it difficult to enforce management measures for these fisheries.

Annex IV: Overview deep-sea fisheries in the North-East Atlantic

Source: STECF stock assessment part 2, July 2010[66]

In ICES Division IVa there is a by-catch of Greater silver smelt (*Argentina silus*) in the industrial trawl fishery. A longline fishery targets tusk (*Brosme brosme*) and ling with forkbeard (*Phycis blennoides*) and grenadier as a by-catch. Some deepwater species are landed as a by-catch in the trawl fisheries targeting anglerfish and Greenland halibut.

In ICES Division IIIa there is a targeted trawl fishery for roundnose grenadier (*Coryphaenoides rupestris*) and greater silver smelt. Several deep-water species are also taken as a by-catch in, for instance, the trawl fisheries for northern shrimp.

In ICES Sub-area V there are trawl fisheries targeting blue ling, redfish species, argentine and orange roughy (*Hoplostethus atlanticus*), which have as by-catch a great number of other deep-water species. There are also traditional longline fisheries for ling and tusk, and trawl and gill net fisheries for Greenland halibut and anglerfish.

In ICES Sub-areas VI and VII there are directed fisheries for blue ling, roundnose grenadier, orange roughy, black scabbardfish and deep-water sharks.

In Sub-area VIII there is a longline fishery, which mainly targets greater forkbeard, and trawl fisheries for hake, megrim, anglerfish and *Nephrops* which have a by-catch of deep-water species.

In ICES Sub-area IX some deep-water species are a by-catch of the trawl fisheries for crustaceans. Typical species are bluemouth (*Helicolenus dactylopterus*), greater forkbeard, conger eel (*Conger conger*), blackmouth dogfish (*Galeus melastomus*), kitefin shark (*Dalatias licha*), gulper shark (*Centrophorus granulosus*) and leafscale gulper shark (*Centrophorus squamosus*). There is a directed longline fishery for black scabbard fish (*Aphanopus carbo*) with a by-catch of the Portuguese dogfish (*Centroscymnus coelolepis)* and leafscale gulper shark (*Centrophorus squamosus)*. There is also a longline (Voracera) fishery for *Pagellus bogaraveo*.

In ICES Sub-area X the main fisheries are by handline and longline near the Azores, and the main species landed are red (blackspot) seabream (*Pagellus bogaraveo*), wreckfish (*Polyprion americanus*), conger eel, bluemouth, golden eye perch (*Beryx splendens*) and alfonsino (*Beryx decadactylus*). At present the catches of kitefin shark are made by the longline and handline deepwater vessels and can be considered as accidental. There are no vessels at present catching this species using gillnets.

Outside the Azorean EEZ there are trawl fisheries for golden eye perch, orange roughy, cardinal fish (*Epigonus telescopus*), black scabbard fish, and wreckfish.

In ICES Sub-area XII there are trawl fisheries on the mid-Atlantic Ridge for orange roughy, roundnose grenadier, and black scabbard fish. There is a multispecies trawl and longline

[66] To be found on the website: https://stecf.jrc.ec.europa.eu/. The fisheries are partly no longer active.

fishery on Hatton Bank, and some of this occurs in this sub-area, some in Sub-area VI. There is considerable fishing on the slopes of the Hatton Bank, and effort may be increasing. Smoothheads (*Alepocephalus* species) were previously usually discarded but now feature to a greater extent in the landings statistics.

In ICES Sub-area XIV there are trawl and longline fisheries for Greenland halibut (*Rheinhardtius hippoglossoides*) and redfish that have by-catches of roundnose grenadier, roughhead grenadier (*Macrourus berglax*) and tusk.

Technical Annex V: list of deep-sea species; landings per MS in 2008

The access regime contains two lists of deep-sea species. Landings in species of the Annex I-list trigger the allocation of the vessel's trip to deep-sea activity, while on both Annex I and II-species, special data collection has to apply.

List of deep-sea species (Annex I to the access regime)

Scientific name	FAO code	Common name
Aphanopus carbo	BSF	Black scabbardfish
Apristurus spp.	CSA, CSF, CSG, CSJ, CSN, CSU, CSV, CSW, CSX, CSZ	Iceland catshark
Argentina silus	ARU	Greater silver smelt
Beryx spp.	BXD, BYS	Alfonsinos
Centrophorus granulosus	GUP	Gulper shark
Centrophorus squamosus	GUQ	Leafscale gulper shark
Centroscyllium fabricii	CFB	Black dogfish
Centroscymnus coelolepis	CYO	Portuguese dogfish
Coryphaenoides rupestris	RNG	Roundnose grenadier
Dalatias licha	SCK	Kitefin shark
Deania calcea	DCA	Birdbeak dogfish
Etmopterus princeps	ETR	Greater lanternshark
Etmopterus spinax	ETX	Velvet belly
Galeus melastomus	SHO	Blackmouth dogfish
Galeus murinus	GAM	Mouse catshark
Hoplostethus atlanticus	ORY	Orange roughy
Molva dypterygia	BLI	Blue ling
Phycis blennoides	GFB	Forkbeards
Centroscymnus crepidater	CYP	Longnose velvet dogfish
Scymnodon ringens	SYR	Knifetooth dogfish
Hexanchus griseus	SBL	Six-gilled shark
Chlamydoselachus anguineus	HXC	Frilled shark
Oxynotus paradoxus	OXN	Sailfin roughshark (Sharpback shark)
Somniosus microcephalus	GSK	Greenland shark

Additional list of deep-sea species (Annex II to the access regime)

Scientific name	FAO code	Common name
Pagellus bogaraveo	SBR	Red (blackspot) seabream
Chimaera monstrosa	CMO	Rabbit fish (Rattail)
Macrourus berglax	RHG	Roughhead grenadier (Rough rattail)
Mora moro	RIB	Common mora
Antimora rostrata	ANT	Blue antimora (Blue hake)
Epigonus telescopus	EPI	Black (Deep-water) cardinal fish
Helicolenus dactylopterus	BRF	Bluemouth (Blue mouth redfish)
Conger conger	COE	Conger eel

Lepidopus caudatus	SFS	Silver scabbard fish (Cutlass fish)
Alepocephalus bairdii	ALC	Baird's smoothhead
Lycodes esmarkii	ELZ	Eelpout
Raja hyperborea	RJG	Arctic skate
Sebastes viviparus	SFV	Small redfish (Norway haddock)
Hoplostethus mediterraneus	HPR	Silver roughy (Pink)
Trachyscorpia cristulata	TJX	Spiny (Deep-sea) scorpionfish
Raja nidarosiensIs	JAD	Norwegian skate
Chaecon (Geryon) affinis	KEF	Deep-water red crab
Raja fyllae	RJY	Round skate
Hydrolagus mirabilis	CYH	Large-eyed rabbit fish (Ratfish)
Rhinochimaera atlantica	RCT	Straightnose rabbitfish
Alepocephalus rostratus	PHO	Risso's smoothhead
Polyprion americanus	WRF	Wreckfish

Member State landings of Annex I+II deep-sea species in 2008 as reported in the economic data call 2010:

Member state	Weight (Ton)
France	12.988
Spain	10.302*
Portugal	8.910
Germany	281
Lithuania	148
Estonia	132
Ireland	115
Belgium	64
Netherlands	37
Sweden	0,02
Total	34.432

* Data from 2007

Annex VI: Evolution of the landings of quota-species (t)

Name	FAO code	2003	2004	2005	2006	2007	2008	2009
Black scabbardfish*	BSF*	5.527,8	5.982,1	9.563,2	7.892,3	9.263,2	9.715,8	8.645,5
Greater silver smelt	ARU	2.513,7	5.790,9	3.428,4	1.286,6	4.042,7	3.026,4	1.826,7
Roundnose grenadier**	RNG**	4.604	4.445,1	9.049,1	10.262,7	7.811,6	5.336,7	4.543
Orange roughy	ORY	590,8	529,2	387,3	585,4	372,1	104,3	37,0
Blue ling	BLI	3.431	3.585,7	3.093,6	2.877,5	2.396	1.865,8	2.182,9
Deep Sea Sharks***	DWS***			3.457,5	2.863,4	1.745,3	1.341,6	792,6
Alfonsinos nei***	ALF***			302,4	323,7	321,8	305,8	298,2
Blackspot(=red) seabream	SBR	1.427,0	1.506,5	1.772,4	1.376,1	1.618,5	1.553,4	1.411,9
Greater forkbeard***	GFB***			1.854,8	1.776,9	1.874,8	1.882,3	1.607
Total		18.094,3	15.857,4	32.908,7	29.244,6	29.446	25.132,1	21.344,8

* Catches for Madeira are only accounted for since 2005.
** Catches in ICES areas VIII, IX, X, XII and XIV are only accounted for since 2005.
***TACs only exist since 2005.

Source: Member states' catches according to FIDS system.

Annex VII: List of species by landings

a) List of regulated deep-sea species (Annex I and II to Regulation 2347/2002) by landing's weight realised in 2008. Landings concerning Spain are taken from 2007.

Name	FAO code	Weight (Ton)	Annex
Black scabbardfish	BSF	7.686	1
Conger eel	COE	7.453	2
Baird's smoothhead	ALC	5.888	2
Black (Deep-water) cardinal fish	EPI	4.151	2
Blue ling	BLI	2.143	1
Roundnose grenadier	RNG	1.911	1
Forkbeards	GFB	969	1
Roughhead grenadier (Rough rattail)	RHG	514	2
Portuguese dogfish	CYO	494	1
Leafscale gulper shark	GUQ	492	2
Wreckfish	WRF	460	2
Bluemouth (Blue mouth redfish)	BRF	429	2
Red (blackspot) seabream	SBR	398	2
Deep-water red crab	KEF	379	2
Kitefin shark	SCK	271	1
Common mora	RIB	139	2
Orange roughy	ORY	131	1
Knifetooth dogfish	SYR	116	1
Gulper shark	GUP	95	1
Black dogfish	CFB	76	1
Other species		240	1&2
Total weight (Ton)		34.706	1&2

Source: Member states' notifications to the deep sea and economic data call 2010. Due to the autonomous methods applied in responding to (economic) data calls, landings figures from this source are not necessarily identical to landings notified to the Commission's system for following up the fishing quota consumption.

b) List of regulated deep-sea species by landings during 2008 in order of value. Spain is not included. (Spain is responsible for roughly 30% of the landings in weight.)

Name	FAO code	Value (EUR)	Annex
Black scabbardfish	BSF	24.689.079	2
Conger eel	COE	11.567.070	1
Wreckfish	WRF	6.699.253	1
Blue ling	BLI	5.130.028	2
Roundnose grenadier	RNG	3.511.307	2
Red (blackspot) seabream	SBR	3.242.361	1
Forkbeards	GFB	1.460.557	2
Bluemouth (Blue mouth redfish)	BRF	1.369.542	1
Deep-water red crab	KEF	1.354.676	1
Orange roughy	ORY	830.987	2
Portuguese dogfish	CYO	827.808	2
Leafscale gulper shark	GUQ	799.281	2
Other species		2.250.112	1&2
Total value (EUR)		**63.732.061**	

Member states' notifications to the deep sea and economic data call 2010.

Annex VIII: Relation between deep-sea metier and fleet segment

Fleet correspondence between the métier-level data (Deep-Sea Data Call) and the fleet segment level data

Metier-level (Deep-Sea Data Call)			Fleet segment level (AER Data Call)			Fishing Days
Country	Gear	V. Length	Country	Gear	V. Length	
DEU	OTB	VL40XX	DEU	DTS	VL40XX	673
EST	OTB	VL40XX	EST	DTS	VL40XX	1.352
FRA	GEN	Unknown				61
FRA	GEN	VL2440				90
FRA	GNS	VL2440	FRA	DFN	VL2440	496
FRA	GNS	Unknown				207
FRA	GNS	VL40XX	FRA	DFN	VL40XX	70
FRA	LLD	Unknown				3
FRA	LLS	Unknown				303
FRA	LLS	VL2440	FRA	HOK	VL2440	163
FRA	OTB	VL1824				2.938
FRA	OTT	VL1824	FRA	DTS	VL1824	18
FRA	OTB	VL2440				1.129
FRA	OTT	VL2440	FRA	DTS	VL2440	1.019
FRA	OTB	VL40XX	FRA	DTS	VL40XX	3.073
FRA	OTT	Unknown				1.100
FRA	OTB	Unknown				331
IRL	OTB	VL40XX	IRL	DTS	VL40XX	13
LITH	OTB	VL40XX	LTU	DTS	VL40XX	239
POL	OTB	VL40XX	POL	DTS	VL40XX	51
POR	LLS	VL1012	PRT	HOK	VL0012	44
POR	LLS	VL1218				863
POR	LLS	VL1824	PRT	HOK	VL1224	2.025
POR	LLS	VL2440	PRT	HOK	VL24XX	526
					Total:	**16.786**

The métier with the length reported as "Unknown" for France are vessels without Deep water species licenses that nevertheless landed some deep water species in 2008. Terms used: AER= Annual Economic Report; VL= vessel length, 2440 = from 24 to 40 metres, DEU = DE, EST = EE, FRA = FR, IRL = IE, LITH = LT, POL = PL, POR = PT, OTB = bottom otter trawl, GEN = gillnets and entangling nets, GNS = set gillnets, LLD = drifting longlines, LLS = set longlines, OTT = multi-rig otter trawl.

Source: JRC synthesis report on the Data Call on the Collection of Transversal Variables for Analysis of the Access-Regime to Deep-Sea Fisheries, April 2010; Member states' notifications to the deep sea and economic data call 2010.

Technical Annex IX: Landings made by deep-sea metiers

Landings of species made by metiers targeting deep-sea species in the year 2008 in order of value. Spanish metiers are not included.

Name	FAO code	Value (EUR)
Northern prawn	PRA	24.187.163
Greenland halibut	GHL	17.072.811
Black scabbardfish	BSF	16.391.765
Blue ling	BLI	5.451.524
Atlantic cod	COD	4.766.113
Roundnose grenadier	RNG	3.828.724
Atlantic redfishes nei	RED	1.557.121
Greater forkbeard	GFB	1.057.484
Orange roughy	ORY	832.579
Portuguese dogfish	CYO	706.869
Leafscale gulper shark	GUQ	369.963
Raja rays nei	SKA	293.987
Lowfin gulper shark	CPL	241.122
Long rough dab	PLA	217.071
Black dogfish	CFB	184.835
Knifetooth dogfish	SYR	122.637
Wreckfish	WRF	117.562
Red (blackspot) seabream	SBR	107.054
Roughhead grenadier (Rough rattail)	RHG	102.749

Source: Member states' notifications to the deep-sea and economic data call 2010.

Technical Annex X: Deep-sea related fleet segments with their economic performance

a) Landings of regulated species by fleet segment which could be identified as being relevant for deep-sea metiers

	Fleet segment			Annex I species				Annex II species				Total Annex I & II species			
				Weight Landings kg		Value Landings Euros		Weight Landings kg		Value Landings Euros		Weight Landings kg		Value Landings Euros	
country	gear	length	year	North Atlantic	All	North Atlantic	All	North Atlantic	All	North Atlantic	All	North Atlantic	All	North Atlantic	All
DEU	**DTS**	**VL40XX**	2008	*)											
EST	**DTS**	**VL40XX**	2008	131.880	131.880	59.602	59.602					131.880	131.880	59.602	59.602
FRA	**DFN**	**VL2440**	2008	24.682	24.682	60.700	60.700	80.378	80.378	143.262	143.262	105.060	105.060	203.962	203.962
FRA	**DFN**	**VL40XX**	2008					5.864	5.864	11.132	11.132	5.864	5.864	11.132	11.132
FRA	**DTS**	**VL1824**	2008	693.546	703.555	968.536	985.417	266.588	266.591	863.037	863.056	960.134	970.146	1.831.574	1.848.474
FRA	**DTS**	**VL2440**	2008	462.340	465.662	602.366	607.458	1.447.028	1.447.049	3.365.525	3.365.610	1.909.368	1.912.711	3.967.891	3.973.067
FRA	**DTS**	**VL40XX**	2008	88.593	88.593	93.312	93.312	5.093.858	5.093.858	13.276.721	13.276.721	5.182.451	5.182.451	13.370.033	13.370.033
FRA	**HOK**	**VL2440**	2008	306.974	306.974	590.977	590.977	4.974	4.974	8.772	8.772	311.948	311.948	599.748	599.748
IRL	**DTS**	**VL40XX**	2008	7.623	7.623	6.674	6.674	6.023	6.023	7.040	7.040	13.645	13.645	13.714	13.714
LTU	**DTS**	**VL40XX**	2008	114.820	114.820	37.520	37.520	33.080	33.080	9.695	9.695	147.900	147.900	47.215	47.215
POL	**DTS**	**VL40XX**	2008												
PRT	**HOK**	**VL0012**	2008	125.046	125.046	542.846	542.846	59.379	59.379	158.511	158.511	184.425	184.425	701.357	701.357
PRT	**HOK**	**VL1224**	2008	289.264	433.114	2.423.614	3.444.422	2.875.342	3.422.430	9.030.786	10.257.810	3.164.605	3.855.544	11.454.400	13.702.233
PRT	**HOK**	**VL24XX**	2008	380.618	397.315	3.689.268	3.851.241	286.454	358.855	1.265.445	1.387.656	667.072	756.170	4.954.713	5.238.898
Grand Total				**2.625.385**	**2.799.264**	**9.075.416**	**10.280.170**	**10.158.966**	**10.778.481**	**28.139.925**	**29.489.265**	**12.784.352**	**13.577.744**	**37.215.342**	**39.769.436**

*) data not contained for business secrecy reason, number of vessels too small

DTS=demersal trawls and seines; DFN=Source drift and fixed nets; HOK: gears using hooks

Source: Member states' notifications to the deep-sea and economic data call 2010.

b) Deep-sea landings by relevant fleet segment in comparison with overall landings

	Fleet segment			total Weight Landings, kg			Deep sea landings as % of total landings	total Value Landings, EUR			Deep sea value as % of total value
country	gear	length	year	North Sea & Eastern Artic	North Atlantic	all		North Sea & Eastern Artic	North Atlantic	all	
DEU	**DTS**	**VL40XX**	2008	*)							
EST	**DTS**	**VL40XX**	2008	0	13.313.977	13.313.977	1,0	0	23.735.345	23.735.345	0,3
FRA	**DFN**	**VL2440**	2008	0	6.034.382	6.034.382	1,7	0	25.871.040	25.871.040	0,8
FRA	**DFN**	**VL40XX**	2008	0	441.861	441.861	1,3	0	2.287.079	2.287.079	0,5
FRA	**DTS**	**VL1824**	2008	0	48.577.719	48.967.602	2,0	0	144.755.822	146.027.941	1,3
FRA	**DTS**	**VL2440**	2008	0	35.618.733	37.705.265	5,1	0	82.202.684	86.631.588	4,6
FRA	**DTS**	**VL40XX**	2008	0	31.195.634	31.195.634	16,6	0	51.065.671	51.065.671	26,2
FRA	**HOK**	**VL2440**	2008	0	2.920.655	2.920.655	10,7	0	11.139.769	11.139.769	5,4
IRL	**DTS**	**VL40XX**	2008	0	342.638	342.638	4,0	0	654.766	654.766	2,1
LTU	**DTS**	**VL40XX**	2008	764.566	1.044.766	1.809.332	8,2	384.461	1.094.596	1.853.379	2,5
POL	**DTS**	**VL40XX**	2008	5.424.840	0	5.424.840	0,0	0	0	0	
PRT	**HOK**	**VL0012**	2008	0	1.131.226	1.131.226	16,3	0	4.120.852	4.120.852	17,0
PRT	**HOK**	**VL1224**	2008	1.078.494	4.387.326	6.423.579	60,0	0	14.948.769	20.611.737	66,5
PRT	**HOK**	**VL24XX**	2008	2.080.802	1.944.212	11.593.048	6,5	0	5.734.230	28.123.115	18,6
Grand Total				**9.348.702**	**146.953.128**	**167.304.038**	8,1	**384.461**	**367.610.624**	**402.122.283**	9,9

*) data not contained for business secrecy reason, number of vessels too small

Source: Member states' notifications to the deep-sea and economic data call 2010.