Council of the European Union

Brussels, 20 April 2018
(OR. en)

Interinstitutional File:
2018/0074 (COD)

7245/1/18
REV 1 ADD 1

PECHE 88
CODEC 405
IA 70

COVER NOTE

From:	Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director
date of receipt:	19 April 2018
To:	Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of the European Union
No. Cion doc.:	SWD(2018) 112 final
Subject:	COMMISSION STAFF WORKING DOCUMENT IMPACT ASSESSMENT Accompanying the document Proposal for REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a multiannual plan for fish stocks in the Western Waters and adjacent waters, and for fisheries exploiting those stocks, amending Regulation (EU) 2016/1139 establishing a multiannual plan for the Baltic Sea, and repealing Regulations (EC) No 811/2004, (EC) No 2166/2005, (EC) No 388/2006, (EC) 509/2007 and (EC) 1300/2008

Delegations will find attached document SWD(2018) 112 final.

Encl.: SWD(2018) 112 final

EUROPEAN
COMMISSION

Brussels, 18.4.2018
SWD(2018) 112 final

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Proposal for

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a multiannual plan for fish stocks in the Western Waters and adjacent waters, and for fisheries exploiting those stocks, amending Regulation (EU) 2016/1139 establishing a multiannual plan for the Baltic Sea, and repealing Regulations (EC) No 811/2004, (EC) No 2166/2005, (EC) No 388/2006, (EC) 509/2007 and (EC) 1300/2008

{COM(2018) 149 final/2} - {SWD(2018) 113 final}

Contents

1. INTRODUCTION: POLITICAL AND LEGAL CONTEXT

This impact assessment (IA) concerns a proposal for a multiannual plan to manage fisheries for demersal stocks (fish that live on or near the sea bottom) in the western waters of the north-east Atlantic, in the context of the reformed Common Fisheries Policy (CFP)[1] which entered into force in on 1 January 2014[2].

1.1. Rationale of the reformed CFP and its main elements

Fisheries management means regulating the activities of fishermen. This involves deciding what can and cannot be fished (e.g. prohibited species), how much can be fished (e.g. maximum amount of fish that can be caught), when fishing is allowed or forbidden (e.g. during the season when fish reproduce) and where fishing is allowed or forbidden (e.g. in marine protected areas).

Fisheries management is an exclusive policy of the European Union under the reformed CFP. The rationale of the CFP is that fishing activities should be environmentally sustainable and managed in a way to achieve social, employment and economic benefits (see Annex 2).

Fishing is a small segment of the EU economy, as the income generated represents less than 0.5% of the EU GDP. It is, however, important in relative terms in many coastal regions. Firstly, fishing provides jobs and income to coastal regions with few alternative options. Secondly, in a number of regions, fisheries go beyond pure economics and are part of the social fabric of communities.

Fisheries management through the CFP also contributes to the EU's growth and jobs agenda through an emphasis on sustainability and economic competitiveness, supported by EU funding through the European Maritime and Fisheries Fund (EMFF)[3].

While improved fisheries management is unlikely to directly contribute to increases in jobs, it has proven to increase the number of sustainable fisheries in Europe. For example in 2009 we had only 5 sustainable fisheries in EU waters, while in 2017 this number has increased to 44 sustainable fisheries. Sustainable fishing in turn can curtail the decline of jobs in the fishing industry and having more fish available from sustainable sources will stabilize profits and provide better salaries and better working conditions for fishermen. The economic figures underpin this, as over the 2008 to 2014 period, the net profit margin generated by the EU fleet has steadily increased to 11%, registering record-high profits in 2014 of 770 mio €.

The CFP has the following management tools as a toolbox to achieve its objectives:

---

1 Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 639/2004 and Council Decision 2004/585/EC; OJ L354 of 28.12.2013, p.22.

2 Article 4.2 of the Basic Regulation defines these waters as follows:
- 'North western waters' means ICES zones V (excluding Va and only Union waters of Vb), VI and VII;
- 'South western waters' means ICES zones VIII, IX and X (waters around Azores), and CECAF zones (2) 34.1.1, 34.1.2 and 34.2.0 (waters around Madeira and the Canary Islands).

3 Regulation (EU) No 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund (OJ L 149, 20.05.2014, p. 1).

Total Allowable Catch (TAC) is the maximum amount of fish that can be fished from the sea each year (i.e. output controls). These amounts are set per fish stock (e.g. "cod in the Irish Sea, Northern hake, southern megrim etc."). The amounts are then allocated as fish quotas among Member States. The Member States in turn allocate their national quotas to their fishermen;

Discard plans lay out how the landing obligation (i.e. that all fish caught have to be landed), a key element of the reformed CFP, is implemented. This includes well-defined exemptions for returning minimal amounts of unwanted fish to the sea. **Fishing effort limitations** regulate how many hours or days a vessel can spend at sea (input controls). This instrument is used less and less in the management of fisheries.

What, how, where and when to fish? **Technical measures** govern the way of fishing (for example gear type or closed areas), which aim to protect fish stocks (often juveniles) and ecosystems, and to avoid unwanted catches, and thus reduce discards.

The CFP foresees the adoption of **multiannual plans (MAPs)** containing some or all of these tools, with the aim to provide a transparent, predictable and stable framework to manage fish stocks in an integrated manner by sea-basin. Such plans can cover one or more fish species in specific areas. The plans on the one hand contain management measures to help safeguard the stocks, for example by limiting the catches (e.g. when the amount of fish in the sea falls below a minimum level). On the other hand the plans set long term management measures to foster fisheries, which are both environmentally and economically sustainable.

Multiannual plans have been foreseen by the CFP since 2002 as an option[4]. However following the 2013 reform they became a priority: article 9 of the Basic Regulation states that "*Multiannual plans shall be adopted as a priority, based on scientific, technical and economic advice, and shall contain conservation measures to restore and maintain fish stocks above levels capable of producing maximum sustainable yield*". The precise shape of future multiannual plans was the subject of work by an Inter-Institutional Task Force involving the European Parliament, the Council and the Commission,. This Task Force provided guidance on the structure and content of these multiannual plans and solved issues on the sharing of competences among those EU Institutions[5]. Its conclusions were published in April 2014.

Since the reformed CFP and its new Basic Regulation entered into force in 2014, only one EU multiannual plan has been adopted, covering the Baltic Sea[6]. Other multiannual plans have been prepared[7] or are in preparation by the Commission and the coherence

---

4 Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy

5 Council Document No 8529-14 PECHE 117 CODEC 1004, also published by the European Parliament: http://www.europarl.europa.eu/meetdocs/2009_2014/documents/pech/dv/taskfor/taskforce.pdf

6 Regulation (EU) No 2016/1139 of the EP and the Council of 6 July 2016 establishing a multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks, amending Council Regulation (EC) 2187/2005 and repealing Council Regulation (EC) No 1098/2007, OJ L 191,15.7.2016, p.1-15

7 COM(2016)0493 final proposal for a regulation of the EP and the Council on establishing a multiannual plan for demersal stocks in the North Sea and the fisheries exploiting those stocks and repealing Council Regulation (EC) 676/2007 and Council Regulation (EC) 1342/2008

COM(2017)0043 Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a multiannual plan for small pelagic stocks in the Adriatic Sea and the fisheries exploiting those stocks

between these initiatives is presented in Annex 7[8]. The new generation of multiannual plans under the reformed CFP should be better geared to the reality of EU fisheries and therefore the Basic Regulation sets out that they should cover mixed fisheries, where relevant, taking into account the interactions between fish stocks, fisheries and marine ecosystems (see Annex 2, point 4). The idea is to move from annual management decisions for fisheries towards multiannual management plans for all EU sea basins, which are adapted to the specific fisheries in these sea basins.

The new CFP also brought greater flexibility and simplification by introducing **regionalisation**. Regionalisation means involving Member States and stakeholders (e.g. industry, environmental NGOs) at a regional basis (e.g. Baltic Sea, North Sea, western waters) in the design of how to manage fisheries sustainably, with a view to increasing their ownership of the management measures and thereby the effectiveness of these measures. Concretely, Member States sharing a fishing area (this can be both an entire seabasin or a smaller area in a seabasin) can make joint recommendations on management measures, and the Commission can adopt these measures as delegated acts, if empowered to do so. Such an empowerment would typically be granted in a multiannual plan – hence the necessity of such multiannual plans.

1.2. Scope of the initiative

The geographical scope of this initiative is the north- and south-western part of Union waters of the north-east Atlantic (see map below). These waters range from UK and Ireland in the North to Madeira in the South and out to Azores in the West. The fisheries concerned by this initiative are those targeting demersal fish. These fisheries comprise almost 50 % of total demersal fisheries regulated by TACs in the EU.

The TACs for the main demersal target species in western EU waters (hereinafter referred to as "western waters") amounted to some 368 thousand tonnes in 2017 with a first sale value of around € 1,4 billion. Demersal fish live on or near the bottom of the sea (in contrast to pelagic fish which live in the middle range of the sea). The main demersal fish caught in western waters and covered by this initiative are alfonsinos, anglerfish, black scabbardfish, blue ling, cod, haddock, hake, megrim, Norway lobster, plaice, pollack, red seabream, roundnose grenadier, saithe, seabass, sole and whiting. Many other fish (including several deep sea fish) are caught as by-catches. The main gears used are bottom trawls and seines, gillnets, pole and lines and bottom longlines.

“Targeting” means fishermen want to catch particular fish species and adapt their fishing strategy to catch them. Fishermen will always also have “by-catch” fish in their nets. “By-catch” is that part of the catch which the fisherman was not aiming for, but nevertheless ends up in the net. Parts of this by-catch may be welcome, other parts not so (e.g. fish of little commercial value, or fish below the minimum size). For example, a fisherman targeting valuable sole will also have by-catch of less valuable plaice. While he will be happy to sell some plaice, he would prefer not to keep too much plaice on board since it reduces the storage space available for the more valuable sole. Fishermen fishing for cod and haddock in north western waters will also catch whiting, while in the south when fishing for anglerfish, fishermen may also catch megrim and hake.

[8] Inception impact assessment for a multiannual plan for demersal species in the Western Mediterranean

Some fish stocks such as hake or sea bass live in a wider area from the Atlantic to the North Sea, but the vast majority of the fisheries take place in western waters. For such fish stocks the scope of this initiative hence also includes the Union waters of the North Sea, to allow for measures to be taken for the entire stock[9]. This initiative thereby links in with the proposal for a multiannual plan for North Sea demersal fisheries as it complements this plan in managing similar fisheries in waters adjacent to the North Sea. Both the proposed North Sea plan and the future Western Waters plan link very well with each other as they would manage demersal fisheries in the same way with MSY ranges for target fisheries and precautionary management for by-catch species. Both plans also have other similar mechanisms such as safeguards mechanisms for when the amount of fish in the sea would decrease below a minimum level. Furthermore both plans would foresee mechanisms for regionalisation. The Western Waters plan is therefore the mirror initiative to the North Sea multiannual plan.

This initiative intends to set the basis for management of mixed, demersal fisheries in the western waters of the Union, including the management of stocks predominantly present in western waters, but also present, however to a lesser extent, in adjacent waters. The main objective of the initiative is to ensure that the fisheries are sustainable and thereby ensuring that the fishing sector can draw economic benefits from these fish resources in the long-term.

This impact assessment will focus on assessing the impacts of introducing a multiannual management plan for demersal species in western waters compared with other policy options.

Procedural information about this impact assessment is given in Annex 1. The procedure included two consultations: a public one addressed to the general public and a more technical one, addressed to specific stakeholders and decision makers. The results of those consultations are summarised in Annex 3.

[9] These are defined by geographical areas IIa and IV of ICES.

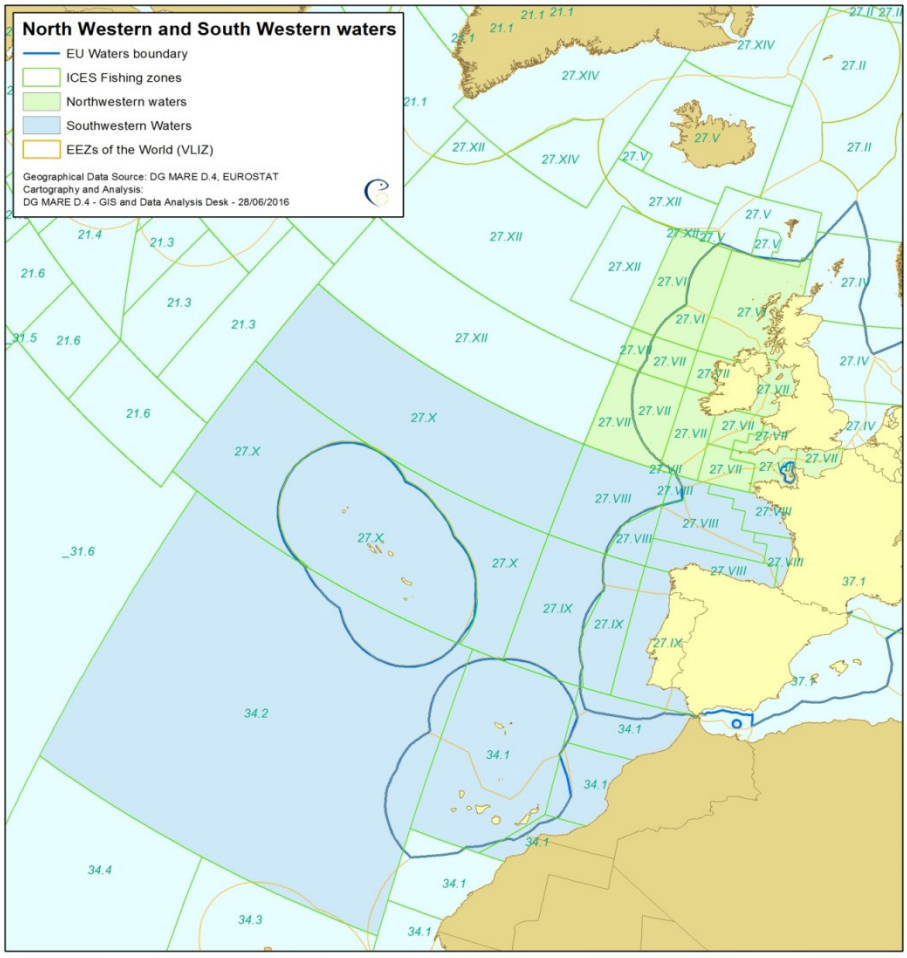


Figure 1: Map of the areas concerned by this initiative

1.3. Legal context

This section describes the legal framework for fisheries management in western waters in order to show the context for this initiative. This legal framework is exclusively EU-legislation, with certain national measures to supplement the EU legislation in the coastal waters of Member States.

The framework includes the annual fishing opportunities regulation, where the EU establishes the amount of fish that fishermen are allowed to land from each fish stock. This amount is referred to as the total allowable catch (TAC) and the Commission bases its proposals for TACs on scientific advice given by ICES.

Furthermore the framework includes the Basic Regulation[10], (more details on the relevant provisions of the Basic Regulation of the CFP can be found in Annex 2), the technical measures regulation[11], the western waters effort regime[12] and the Deep Sea

[10] Regulation (EU) No 1380/2013 of the European Parliament and of the Council on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC

[11] Council Regulation (EC) No 850/98 for the conservation of fishery resources through technical measures for the protection of juveniles of marine organisms

Access Regulation[13]. The technical measures regulation sets out when and where what kind of fishing gears can be used. The western waters effort regime sets out limitations to how much fishing can be undertaken (i.e. how many vessels can fish for how many days) in a certain, limited area of western waters, in order to protect a sensitive biological area in the south-west of Ireland.

Furthermore a number of MAPs were introduced under the former CFP and five of these MAPs for demersal fish are currently in force in western waters:

a) The cod recovery plan (Regulation (EU) No 1342/2008), covering cod fisheries in the Kattegat, the North Sea (including Skagerrak and the Eastern Channel), the West of Scotland and the Irish Sea;
b) The multiannual plan for sole in the western Channel (Regulation (EC) 509/2007);
c) The multiannual plan for sole in the Bay of Biscay (Regulation (EC) No 388/2006);
d) The recovery plan for the northern stock of hake (Regulation (EC) No 811/2004);
e) The recovery plan for hake and *Norway lobster* in the Iberian Peninsula (Regulation (EC) No 2166/2005);

The five recovery or multiannual plans, listed under a) to e), do not take into account the requirements of the reformed CFP and are therefore outdated: they neither have an MSY objective, nor do they take into account the landing obligation and regionalisation, nor are they compatible with the guidelines of the Inter-Institutional Task Force (see section 1.1). Most of them also focus on single fish species, and do not take into account the mixed character of the demersal fisheries (see Annex 2).

At EU level, following the entry into force of the new CFP Basic Regulation and the gradual implementation of the landing obligation in demersal fisheries from 2016-2019, discard plans for demersal fisheries where adopted for the years 2016 to 2018[14]. These allow for very small quantities of demersal fish to be discarded (thrown back to the sea) as a de minimis exemption from the landing obligation. In accordance with the CFP, the provisions of these discard plans should be integrated into multiannual plans for the fisheries concerned. Adopting multiannual plan is therefore important as it enables to keep the flanking measures currently contained in the discard plans and which are necessary for the implementation of the landing obligation.

2. WHAT IS THE PROBLEM AND WHY IS IT A PROBLEM?

There are two main problems concerning demersal fish in western waters: a number of fish stocks are overfished, such as cod in the Celtic Sea, hake in southern Iberian waters,

---

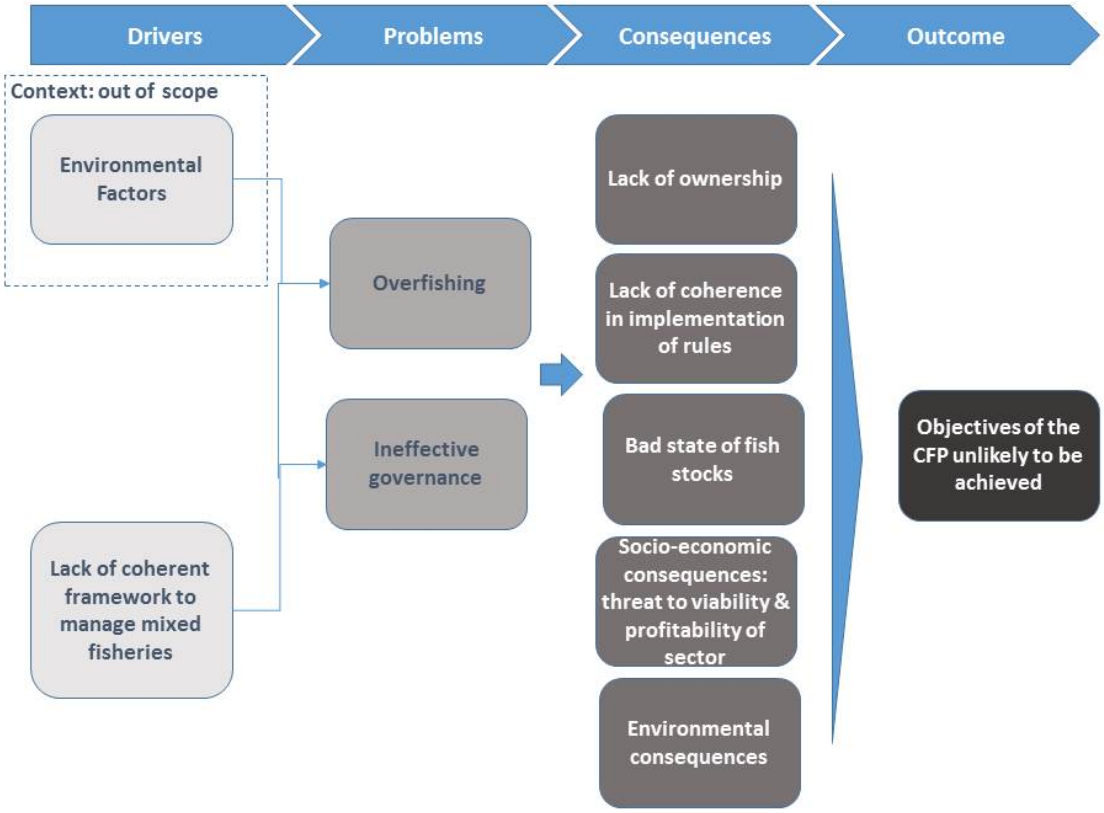
Council Regulation (EC) No 1954/2003 on the management of the fishing effort relating to certain Community fishing areas and resources and modifying Regulation (EC) No 2847/93 and repealing Regulations (EC) No 685/95 and (EC) No 2027/95

[13] Regulation (EU) 2016/2336 of the European Parliament and of the Council establishing specific conditions for fishing for deep-sea stocks in the north-east Atlantic and provisions for fishing in international waters of the north-east Atlantic and repealing Council Regulation (EC) No 2347/2002

[14] Commission delegated regulation (EU) 2016/2374 establishing a discard plan for certain demersal fisheries in South-Western waters
Commission delegated regulation (EU) 2016/2375 establishing a discard plan for certain demersal fisheries in North-Western waters

sole in the Bristol channel and sole in the Irish Sea, and the governance framework is ineffective (see figure 2).

Figure 2 Drivers, problems and consequences



2.1. The Problem: Overfishing

Overfishing is linked to the objectives of the CFP, which is to have stocks at maximum sustainable yield (MSY)[15]. We therefore consider that overfishing takes place when the mortality caused by fishing is greater than the mortality compatible to MSY, as this means that stocks will be fished above the level that ensures sustainable stocks, also in the long term. According to the most recent data, around 43 % of western waters fish stocks assessed are overexploited whilst for a number of other stocks, the status still remains unknown. In the stakeholder consultation carried out in 2015, with a deadline 15 September 2015, in the context of the current impact assessment, stakeholders agreed that too many fish stocks are overfished.

[15] The CFP Basic Regulation defines Maximum Sustainable Yield as follows: 'maximum sustainable yield' means the highest theoretical equilibrium yield that can be continuously taken on average from a stock under existing average environmental conditions without significantly affecting the reproduction process;

Most biologically and economically important stocks in EU waters are assessed by the International Council for the Exploration of the Seas (ICES), which is the independent scientific body advising the Commission on the state of the stocks.

For cod in the Celtic Sea, hake, common sole and Norway lobster in southern Iberian waters, sole in the Bristol Channel and whiting in the Irish Sea, the most recent scientific advice from ICES indicates that these fish stocks are still being overexploited beyond their reproduction capacities and that the situation is not improving sufficiently for these stocks to achieve MSY as soon as possible and by 2020 at the latest.

ICES recommended in 2016 that to reach sustainable levels of fishing, catches need to be decreased for these species. Especially for cod in the Celtic Sea ICES advised that even setting the fishing opportunities for 2017 at zero would not prevent the stock from staying below the precautionary biomass level. This situation has precisely come about due to cod being caught in a mixed fishery with haddock and whiting. Therefore even when the fishing opportunities for cod have been low, they have still been caught in this mixed fishery, and subsequently discarded, when fishermen went fishing for haddock and whiting. This shows that overfishing is also linked to the mixed character of fisheries in western waters. The fisheries management however has so far not been adapted to the fisheries, as the management approach has been to consider each stock separately. Sole in the Eastern English Channel is also below the precautionary biomass level, and fishing mortality is very high. This is furthermore one of the only highly priced sole stocks where discarding happens. The state of the sole stock is driven by it being caught in a mixed fishery with plaice, and plaice in a healthy state, where the advised fishing opportunities for plaice are 3 times higher than the advised fishing opportunities for sole. Southern hake is currently being fished above MSY. It is caught together with megrim and anglerfish, whereby an advised increase in the fishing opportunities for one stock has been used as an argument for postponing reductions for the others, due to the single species management approach so far.

2.1.1. Underlying drivers of overfishing

i) Lack of a coherent framework to manage mixed fisheries

The first underlying driver is the lack of a coherent management framework to deal with the reality that most fisheries for demersal stocks in western waters are mixed fisheries. This often leads to situations where management decisions taken for one species are incompatible with those required for other species. For example, sole and plaice are often caught together. If scientific advice recommends catching less sole and at the same time more plaice, then the tools currently in place do not ensure a sustainable exploitation of both stocks. This is due to the fact that discarding (i.e. throwing fish back to the sea) has so far been allowed (for amount of discards see table 1). The new Basic Regulation phases in the obligation to land all catches until 2019. In a situation with a higher plaice quota than sole quota, the landing obligation will mean that fishermen will continue fishing sole until their quota is used up. Once their quota for sole is used up, they will have to stop fishing and can hence no longer use their quota for plaice. The landing obligation therefore implies that fishermen have to stop fishing when they run out of quota for one of the stocks that they catch as discarding is no longer allowed. Thereby sole has the potential to be a 'choke species' for plaice. Sole is here just an example of the

complexity of managing mixed fisheries under a landing obligation. An analyses of this 'choke species' issue for western waters fisheries was undertaken by STECF[16], which showed that for many Member States and for a number of stocks catches were well in excess of the available quota which indicates that these stocks would become choke species as of 2019 when the landing obligation will come into force for all fisheries if we simply continue with the existing fisheries management, including the current single species multiannual plans. In order to have measures that match conservation requirements in mixed fisheries we need multiannual plans that are tailored specifically for such mixed fisheries.

Table 1. Discards are very frequent in western waters. This discard problem is presented in the following tables (for demersal fisheries of western waters). These figures (from report 15-17 of STECF[17]) show that for the stocks covered between 2% and 55% of the catches were thrown back to sea.

Species	**area**	**ICES stock**	**DR %**
Haddock	VIa	Haddock in IIIa, IV & VIa	10%
Nephrops	VIa	*Nephrops* in FU11, N. Minch	12%
		Nephrops in FU12, S. Minch	10%
		Nephrops in FU13, Clyde	21%
Hake	VI & VII	Northern Hake	14%
Nephrops	VIIa	*Nephrops* in FU14, Irish Sea E	13%
		Nephrops in FU15, Irish Sea W	25%
		Nephrops in FU17, Aran grounds	14%
		Nephrops in FU19	49%
		Nephrops in FUs 20-21	45%
		Nephrops in FU22	21%
Haddock	VIIa	Haddock in VIIa	55%
Sole	VIId	Sole in VIId (Eastern Channel)	11%
Whiting	VIId	Whiting in IV & VIId	29%
Sole	VIIf-g	Sole in VIIf-g (Bristol Channel)	2%
Whiting	VIIb-k	Whiting VIIb-k	20%
Hake	VIIIa-e	Northern Hake	14%
Hake	VIIIc & IXa	Southern Hake	16%
Nephrops	VIIIab	*Nephrops* in FUs 23-24	44%

ii) Environmental factors, external to fishing

[16] https://stecf.jrc.ec.europa.eu/documents/43805/830996/2014-11_STECF+14-19+-+Landing+Obligations+-+part+4_JRC93045.pdf

[17] STECF (Scientific, Technical and Economic Committee for Fisheries) is a scientific body of the Commission, composed of scientific experts in the fields of marine biology, marine ecology, fisheries science, nature conservation, population dynamics, statistics, fishing gear technology, aquaculture, and the economics of fisheries and aquaculture. STECF is consulted at regular intervals on matters pertaining to the conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations. The report quoted in the text is found at the following link: https://stecf.jrc.ec.europa.eu/documents/43805/1281129/2015-11_STECF+15-17+-+Quota+top+ups_JRC98384.pdf

Secondly, environmental factors influence the state of fish stocks and can compound overexploitation. Environmental conditions (e.g. water temperature, nutrient changes) can influence the reproduction of fish stocks, and further contribute to the negative status of stocks caused by overfishing. On the other hand, healthier fish stocks are more resilient to environmental fluctuations and can thus sustain exploitation better in the long-term.

In the long term, the various environmental factors, together with high fishing pressure, are likely to increase the vulnerability of the ecosystem and worsen the state of the fish stocks. This driver however falls outside the scope of this initiative.

This initiative aims to address:

Overfishing because several fish stocks are not exploited sustainably in line with the MSY target – TACs and/or catches are too high compared to the long-term objective, which endangers the stocks. In addition, some of these fish stocks are outside safe biological limits, or depleted.

A recent report of the Scientific, Technical and Economic Committee of Fisheries (STECF) No 16-05 of May 2016[18] shows the following evolution of fish stocks in western waters:

Table 2. State of fish stocks in western waters. This table contains only those fish stocks covered by this initiative for which MSY assessments were available at the time.

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
No. of stocks assessed	25	24	25	26	26	26	27	26	27	28	29	27
No. fished in excess of MSY	14	15	15	14	20	17	16	13	12	17	13	12
No. fished in accordance with MSY	11	9	10	12	6	9	11	13	15	11	16	15
No. of stocks outside safe biological limits[19]	13	14	14	12	16	14	15	12	13	16	14	14

This table shows that too many fish stocks are still fished in excess of MSY, many of these are also outside safe biological limits. This leads to an increased risk of stock collapse, which means a stock is at such low levels that it may never recover to levels which allow for economically optimal exploitation.

[18] https://stecf.jrc.ec.europa.eu/documents/43805/55543/2016-03_STECF+16-05+Monitoring+performance+CFP+CORRIGENDUM_JRCxxx.pdf

[19] Outside safe biological limits means that a stock has fallen below the precautionary reference point for the spawning stock biomass (Bpa), and is fished above the precautionary reference point for mortality (Fpa).

2.2. The problem: Ineffective governance

The second problem is ineffective governance, which is defined as a governance set up (in particular management measures) not achieving the desired objectives. The Basic Regulation lays out the principles of good governance which should be followed under the CFP (Article 3). This includes: *taking into account of regional specificities, through a regionalised approach, the establishment of measures in accordance with the best available scientific advice, a long-term perspective, administrative cost efficiency, appropriate involvement of stakeholders, in particular Advisory Councils, at all stages, consistency with other Union policies, the use of impact assessments.*

Despite the numerous management tools currently in place, which includes the 5 existing, but outdated multiannual plans, they have not proven sufficient to ensure sustainable fishing of demersal stocks in mixed fisheries. The former CFP provided only limited ability to deal with specific regional issues of a highly technical nature. The decision-making process has furthermore been too rigid to allow timely adaptation to new technical solutions and regional specificities. There is a need to target and improve the management framework to ensure it effectively manages the EU demersal fish stocks.

The reformed CFP has taken an important step to address these shortcomings by introducing regionalisation. However some of the management tools in the Basic Regulation are not directly applicable; instead they have to be 'activated' through other legislative instruments, either discard plans or multiannual plans. Member States are using regionalisation for the so-called discard plans to phase in the landing obligation for demersal species between 2016 and 2019. Under regionalisation since 2015 Member States have sent joint recommendations to the Commission bringing more and more demersal fisheries under the landing obligation. These joint recommendations also contain accompanying measures to facilitate the implementation of the landing obligation, namely 1) the so called de minimis exemptions allowing vessels to continue discarding a small percentage of up to 7% of fish, on the basis of defined criteria, e.g. where further improvements in selectivity are difficult to attain, and 2) high survivability exemptions for those fish that will survive discarding. These joint recommendations have been put into EU law via delegated acts. These delegated acts however have a limited life span and will expire on 31.12.2018. Continuing these measures as of 1.1.2019 requires a legislative instrument empowering the Commission to adopt delegated acts. The western waters MAP is the legislative instrument for implementing the landing obligation.

The specific drivers of this problem are detailed below.

2.2.1. Underlying drivers of ineffective governance

Management measures agreed in top down manner

The underlying driver is that current management plans and other management measures have been agreed in a top-down manner via proposals from the Commission which are then agreed by the co-legislators. Input from stakeholders has been either lacking or is at best fragmented. Stakeholders have become more organised since the 2002 CFP via the Advisory Councils (ACs), but there is no structural framework in place for management

measures designed by stakeholders to be taken on board (e.g. a new closed area or a new kind of fishing gear) by the Member States or the Union.

Furthermore, management cannot respond quickly to innovations by the fishing industry. This works as a disincentive for developing more selective gears. For example, if fishermen design more selective gears, then they can currently only use them once co-legislators have agreed these as a management measure. This leads to time lags of years before they are in place. By the time they are in place many are often already overtaken by new gear innovations and the measures risk being outdated. This limits much needed innovation in gears that are more selective or that have less impact on the marine environment. To implement the landing obligation discard plans have been adopted by the Commission as delegated acts, on the basis of joint recommendations from the regional groups of Member States[20]. These plans contain locally tailor made measures for the implementation of the landing obligation and for any exemptions, e.g. based on high survivability of a species. However these plans will expire by January 2019. If no multiannual management plan is in place before 2019 there will be a legal void, where the tools to implement the landing obligation will no longer be available to the legislators and stakeholders. Such a void risks jeopardize the implementation of the landing obligation.

Furthermore both the fact that management cannot respond quickly to innovations and the top-down management approach contribute to overfishing, because stakeholders do not participate in designing measures to manage the fisheries, despite their specific regional knowledge and capacity to innovate. Stakeholders therefore often feel a lack of ownership to the measures.

2.3. Complexity of the current rules

There is currently no comprehensive framework to manage demersal fisheries in western waters. Instead certain stocks are subject to single species management plans, and the scope of these differs from plan to plan. The effect of this situation is that stakeholders are faced with a complex system of several single species plans that are not adapted to the reality of mixed fisheries.

Finally, the current management plans are not fit for monitoring whether the 2020 MSY objectives would be met, as no MSY objectives have been defined in the MAPs. This is a contradiction to the current policy as the MSY objective is an instrinsic part of the Basic Regulation. As the management tools do not fit together, this adds complexity to the governance.

2.4. Consequences of the problems of overfishing and ineffective governance

Overfishing and ineffective governance have five concrete consequences.

[20] In western waters there is an established Member State group covering Member States that fish in north western and south western waters respectively. This is mirrored by Advisory Council, comprising stakeholders, for the north western and south western waters respectively.

1) Lack of ownership: the current system of MAPs does not allow timely updates for e.g. including bottom-up innovations like more selective gears to cater for changing needs. The current system is inflexible and slow. The results in a lack of buy-in from the industry and avoidance of the rules. This undermines stable and long-term management.

2) Lack of coherence in the implementation of rules: for most of the demersal stocks in western waters the Council does not take its annual decisions on fishing opportunities within the framework of a management plan. TACs are therefore set from a short-term perspective. This poses a real risk that the MSY target will not be reached in 2020. TAC decisions, while being among the most important decisions for the fishing industry, are thereby made largely isolated from other policy discussions, such as discard plans, or technical measures.

3) Progress has been made towards sustainable fishing[21], but still too many fish stocks are not yet fished sustainably. Table 2 shows that further progress is required and only limited time is left until 2020 to achieve the sustainability goal of MSY.

4) Socio-economic consequences: threat to viability and profitability of the sector: the EU fishing fleet in western waters is currently losing potential economic rents, because too many fish stocks are fished at levels that cannot deliver sustainable yields. When fish stocks are smaller (due to fishing above sustainable levels), it takes more working hours and more fuel to fish your quota in the same area. Moreover, fishing at too high levels risks stock collapse, and subsequently poses a real risk that the sector dependent on the stock will also collapse. Ensuring that fish stocks remain at safe levels is crucial for the social and economic well-being and for the fabric of the coastal communities.

5) Environmental consequences: excessive levels of fishing pressure often go hand in hand with increased impacts to fish habitats, causing loss of biodiversity, changes in the structure of fish populations (e.g. fewer large individuals), food web modifications (e.g. decline of top predators with cascading effects). For example, intensive fishing of *Norway lobster* in the Celtic Sea caused significant changes to the bottom habitat, combined with discards of whitefish of around 55%, because of the mixed character of these fisheries.

Overfishing and ineffective governance hampers sustainable management: short term perspectives trump the long-term advantages of achieving MSY as soon as possible; year-to-year fluctuations on TACs negatively impact market supply, prices and planning of fishing activities; the absence of mixed-fisheries management leads to choke effects and inefficient quota consumption and the lack of transparency and participation in the decision process prevents industry buy-in.

2.5. Implications of "Brexit"

Given the decision of the United Kingdom to leave the European Union, the majority of fish stocks in the North East Atlantic will be shared between the EU and the UK and will have to be managed jointly. The economic, social and environmental consequences of

[21] In 2014 for 59 fish stocks scientists could give the MSY information on how to set quotas so that these fisheries are sustainable. Of these 59 fish stocks, 31 were at sustainable levels (of these, 11 are demersal stocks in western waters).

Brexit and the modalities of the joint management cannot be envisaged at this early stage of negotiations. However, it is clear that the objectives of this initiative, notably to avoid overfishing and to make governance more efficient, would still be relevant after Brexit.

2.6. Who is affected by the current situation and how?

2.6.1. Fishing sector

The problems affect fishermen fishing for demersal species from the north and west of Scotland over the Gulf of Cadiz down to Madeira in the South. These are fishermen from Belgium, Germany, France, Ireland, Spain, Portugal and the UK.

According to the Annual Economic Report (AER) of 2016[22] more than 48 000 fishermen, and 18 000 vessels are active in western waters. This includes both the demersal and the pelagic sector and can be broken down by Member State as follows:

Table 3 Fishermen and vessels active in Western waters

Member State	Estimated no of vessels	Estimated employed	Estimated FTE	Live weight of landings (t)	% of total landed weight	Value of landings (1000 €)	% of total value
Belgium	39	120	76	5.497	21	20.628	25
Germany	8	102	87	8.623	12	18.623	14
Spain	7.898	17.371	13.990	305.087	33	569.774	27
France	2.739	6.015	4.555	297.890	57	687.981	62
UK	2.464	6.336	4.240	336.710	45	511.903	48
Ireland	1.343	3.154	2.319	226.954	100	244.522	100
Portugal	3.803	15.041	7.316	129.401	79	259.754	74
Total	**18.294**	**48.139**	**32.583**	**1.310.162**	**50**	**2.313.185**	**50**

In 2014 over 1.48 million tonnes were landed by the western waters fishing fleets, to a value of € 2.4 billion, representing 30% of the total revenue of the EU fleet.

Between 2001 and 2016 TACs for demersal species have increased in north-western waters by 40 %, and in south-western waters by 31 %, mainly due to the increase in the hake stocks. In north-western waters anglerfish has also increased by over 40 %, while the TAC for sole has decreased slightly. In south-western waters the TAC for sole and *Nephrops* has been stable, while the TAC for anglerfish has been increasing slightly. This will affect individual Member States depending on their quota availability. E.g. the Irish fleet is very dependent on *Nephrops*, while the Belgian fleet is very dependent on sole.

[22] Every year an Annual Economic Report (AER) is produced by the STECF and the Joint Research Center (JRC). The 2016 AER can be found at https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/2016-annual-economic-report-eu-fishing-fleet-stecf-16-11

In terms of volume hake was in 2014 the 3rd most important stock (82.500 tonnes) and the only demersal stock in the top 4 stocks in western waters. In terms of value however hake was 2nd with a landings value in 2014 of € 230 million, anglerfish was 3rd with a landings value of € 173 million, while *Norway lobster* was 4th with a landings value of € 161 million.

The impact of the overall fleet segments in western waters can be broken down as follows:

Table 4 Fishermen and vessels broken down in small scale and large scale fleet

Fleet segment	Total number of vessels	% of total	Total employed	FTE	Live weight of landings (t)	% of landed weight	Value of landings (1000 €)	% of landed value
Small-scale fleet	9.511	52%	19.874	9.367	137.220	9%	344.003	14%
Large scale fleet	8.793	48%	28.382	23.357	1.332.795	91%	2.041.739	86%
TOTAL	**18.304**	**100%**	**48.256**	**32.724**	**1.470.015**	**100%**	**2.385.742**	**100%**

Demersal species are often targeted by the small-scale fleet, however a number large scale vessels also target demersal species. Consequently the difference between the share of the landed weight and landed value shows the higher value of demersal species. Furthermore the difference between the number of people employed in the small-scale fleet and the full-time equivalents shows the predominant part-time nature of this fishing fleet activity.

Overall the western waters fleets are not as profitable as e.g. the North Sea fleets. In 2014 the gross profit per day was three times higher in the North Sea (€ 828) compared to western waters (€ 264). Broken down to fleet segments this difference is widened, as the gross profit margin of the western waters demersal fleet was 4.5 times lower than the North Sea demersal fleet in 2014.

This notwithstanding all fleets operating in western waters, apart from the Belgian fleet, made a profit in 2014. The Belgian fleet's deficit was linked to a drop in the price of sole.

The economic performance of the demersal fleets in western EU waters has recently improved. However it is clear that overfishing harms the social and economic development of the fleets and the fishermen, also taking into account that roughly half of the total revenues of fishermen go into salaries and profits for the fishing communities. With the gradual implementation of the landing obligation in the demersal fisheries, there is however a need for new tools and approaches to ensure that the process of achieving MSY, is sustained and strengthened, in a way that does not disproportionally strain the fishing communities socio-economically, while also ensuring effective governance. Maximizing yields, through MSY, will have a further positive effect on the upstream and downstream related industries: suppliers, service providers, maintenance, processors, retailers, etc. by increasing the availability of raw material and offering additional and more stable income and job opportunities and, ultimately, more locally sourced fish to consumers.

The current situation is instead still characterized by the persistence of overfishing, despite progress and a management framework that is not well adapted to the reality of mixed fisheries, which reduces the fleet's potential economic performance.

The large majority of fishing businesses are micro-enterprises and small or medium-sized enterprises (SME) who would be the first to benefit from maximized yields (see Table 5 below).

Table 5: No of fishing firms Structure and economic performance by fleets operating in the western waters, including demersal and pelagic vessels (source: AER 2011)[23]

MS	No vessels	Total income (EUR mio)	Income per vessel (EUR mio)	Total FTE	FTE per vessel	Total firms	Firms with 1 vessel	Firms with 2-5 vessels	Firms with 6+ vessels
BE	80	85,39	1,07	293	3,66	77	75	2	0
DE	1508	134,6	0,09	1253	0,83	1016	718	289	9
ES	9921	2035,18	0,21	28629	2,89	9195	8588	599	8
FR	7069	1171,71	0,17	7545	1,07	6059	5321	723	15
IE	2095	320,55	0,15	2395	1,14	1843	1672	170	1
NL	735	384,69	0,52	1680	2,29	576	481	93	2
PT	8256	364,88	0,04	8515	1,03	3657	3474	180	3
UK	6552	1117,98	0,17	7909	1,21	5606	5032	564	10
Totals	**36216**	**5614,98**	**0,30**	**58219**	**1,76**	**28029**	**25361**	**2620**	**48**
						%	90,48%	9,35%	0,17%

About 95% of fishing firms in western waters own 5 vessels or less and employ around 10 crew members or less and around 90% of the fleets own just one vessel and employ around two crew members (micro-enterprises).SMEs are not the only firms affected by these problems, but they are impacted disproportionally. These figures refer to the entire fleet of the relevant Member States.

2.6.2. Processing sector

The problem also affects the processing sector. Most of the catches of demersal species in western waters are sold fresh, however in terms of secondary sectors that are dependent on fisheries, the processing sector is the most important one. Overall in the EU the processing value of whitefish in 2014 reached 11.6 billion €, a 3 % increase from 2013. This amounts to almost 60 % of total revenues (19.85 billion) from the processing sector in 2014. The processing sector is heavily dependent on imports of whitefish, while the EU almost fully covers its need for flatfish in the processing sector. The main whitefish species supplied by the EU fishing fleets (cod, hake, saithe, haddock) meet only a small percentage of the market needs, providing between 10% for cod and 30% for haddock. Cod is the most important source of whitefish for the EU processing

[23] This table includes vessels in waters outside western waters and vessels fishing for pelagic fish, not concerned by this initiative.

industry, and is widely used in the UK, France and Spain. Hake is the third most important whitefish species for the processing industry. The processing of hake, on the basis of both fresh hake caught in the EU and imports, mainly takes place in France and Spain. Only France has increased its whitefish processing since 2010[24].
As far as the processing industry is concerned, firms tend to be larger. The proportion of SMEs and micro-enterprises is slightly above 50%:

Table 6: Number of processing firms in the EU and employment data (elaborated from data extracted from AER 2013)

No of jobs	2008	2009	2010	2011
<10 employees	1758	1779	1798	1850
11-49 employees	1088	1139	1091	1016
50-249 employees	476	416	408	400
>250 employees	81	81	79	78
Total	3402	3415	3376	3344
Proportion of SMEs	51.68	52.09	53.26	55.32

2.6.3. Markets

Markets are also affected by the problem. Demersal fish are sold mostly on the fresh fish market and some are frozen[25]. Fishery products in western waters are sold by wholesale fish traders and only a minor part is sold directly by fishermen. EU consumers overall in 2015 spent €54 billion on fisheries and aquaculture products - the highest amount ever recorded. The seafood supply in the EU grew by almost 650.000 tonnes between 2013 and 2014 (+4.5%). The main driver was internal production, which rose by 570.000 tonnes, mostly originating from fishing activities. The EU's self-sufficiency also improved, moving from 44.5% to 47.5%[26].

In 2015, Spain, Italy, the UK and France covered 85.7% of the total EU fresh fish consumption by volume and 85.2% by value. Of these, Spain ranks first with 38% of total fish consumed (€4.95 billion, 686,000 t) with the most important species being hake, salmon, cod and flounder. By value the most important demersal species in the wider region are hake (€230 million), anglerfish/monkfish (€173 million) Norway lobster (€161 million)[27].

Cod is one of the EU's most consumed fish species, with 2.4 kg consumed per person per year and household purchase of €1.4 billion. However most of this is supported by imports from third countries, with an EU self-sufficiency rate of only 12% in 2014. Similarly, hake (1kg per capita per year) and anglerfish/monkfish have only a 37% and 56% self-sufficiency rates, respectively.

All downstream related industries (see above) are also affected by the problems described and therefore rely on imports to alleviate these effects. Data on other downstream industries (market distribution, retailers) were not available at the time of

[24] EUMOFA: The EU fish market, 2016
[25] DG-MARE-EUMOFA (2016)
[26] EUMOFA: The EU fish market, 2016
[27] The 2016 Annual Economic Report on the EU Fishing Fleet (STECF 16-11)

carrying out this exercise. It may be taken that in this field firms tend to be larger, especially in the field of retailers (supermarkets).

2.7. Perception of the problems by consulted stakeholders

A summary of the stakeholder consultations is shown in Annex 3.

During the **public** consultation stakeholders were asked about their views on the main problem: (1). the fact that a number of stocks are not yet at MSY and hence the industry cannot fully enjoy the economic benefits of sustainable fishing; and (2) the fact that the current MAPs are inadequate to use the management measures of the new CFP. 18 respondents out of 23 agreed fully (5) or mostly (13), while 5 stakeholders agreed only partially. Comments received pointed to the fact that the problem was not due to obsolete or inadequate MAPs, but to wrong TAC decisions and a too rigid management system.

On the severity of the problem, 22 out of 23 replies qualified it as very severe (17) or severe (5); only 1 stakeholder considered the problem as moderate. Most of the comments received agreed that it is an important social and economic issue.

Parallel to this Public Consultation, a targeted survey was done with more precise and technical questions. It was addressed to the Advisory Councils, to Member States authorities, to the PECH Committee of the European Parliament and to the NAT Committee of the European Economic and Social Committee. In response to this **targeted** consultation, one Member State mostly agreed with the identification of the problem and considered it as a severe one. The other Member State which replied agreed only partially and considered it a moderate problem.

In the relevant sections below, further reference is made to the specific responses received.

3. WHY SHOULD THE EU ACT?

The principle of proportionality requires that the involvement of the institutions must be limited to what is necessary to achieve the objectives of the Treaties.

According to Article 3.1.d) of the Treaty on the Functioning of the European Union (TFEU)[28] the EU has exclusive competence for the conservation of the marine biological resources under the CFP, managed directly through EU regulations. Furthermore, both fish stocks and fishing vessels concerned move freely across national boundaries so action at Member State level alone is unlikely to be effective in achieving the objectives. For measures to be effective, these should be taken in a coordinated manner and made applicable to the whole area of distribution of the stock and to all fleets concerned.

This initiative respects the principle of subsidiarity and fulfils its requirements.

In addition, most contributors to the public consultation agreed that EU intervention is necessary, in the form of either one or two EU management plans (see Annex 3).

The EU should act, because otherwise we risk that:

[28] Consolidated version of the Treaty on the Functioning of the European Union .

→ Sustainable fishing, defined as maintaining fish stocks over the long term at levels corresponding to MSY, will not be achieved for all fisheries by 2020. This will jeopardize the objectives of the Basic Regulation, as this will have socio-economic implications with the fishing industry and coastal regions in the EU losing potential economic rents. There would also be a negative impact on the environmental sustainability as certain stocks in a mixed fishery will either be overfished or fisheries will need to be closed early, because of a mismatch in available quotas. Furthermore stocks fished above MSY will fail to deliver on the objective of contributing to the availability of food supplies.

→ implementation measures for the landing obligation via discard plans cannot be continued after 2019 as there is no MAP in place which caters for measures such as *de minimis* and survivability exemptions and;

→ this in turn will mean no regionalisation for fisheries management measures. A lack of regionalisation will lead to a further loss of industry buy-in, as stakeholders will become increasingly disappointed that there is no structural framework that allows them to design together with the Member States management measures and to ensure that measures can be taken quickly so that they are always up to date. Regionalisation thus constitutes an important shift from instrument-based to results-based management.

→From a legal point of view, the CFP has as an objective to achieve MSY by 2020, and MAPs are prescribed as a measure to achieve this objective. Without MAPs in place, essential measures, such as the landing obligation, cannot be implemented in the long term and this will make it more difficult to achieve the CFP objectives.

→Finally, considering the fact that the EU is one of the most adamant promoters of sustainable fishing at global level, not being able to ensure a proper management of fish stocks in the EU also risks putting at stake the EU's credibility globally.

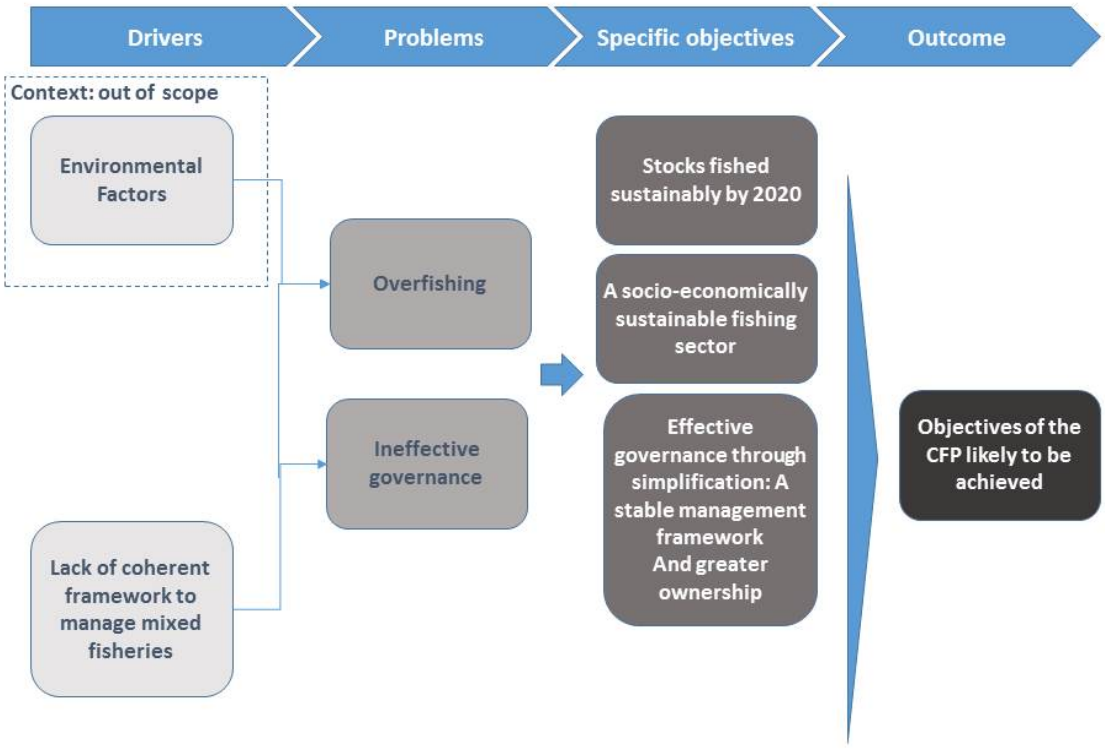
3.1. Perceptions of pertinence of EU action by consulted stakeholders

All the contributions to the online public consultation have agreed to act at EU level (out of 23 replies, 20 fully agreed with the need for the EU to act, 1 mostly agreed and 2 partially agreed). It was noted that beyond the need to act, there is a legal obligation under the Treaty to manage fisheries by MAPs, and some requested a better involvement of stakeholders. 18 stakeholders fully agreed, 2 mostly agreed and 3 partially agreed that action should be multiannual and proactive rather than annual and reactive. It was noted that there should also be a capability to react swiftly to changing circumstances. Technical Measures introduced on the basis of the management plan should be agreed on at a regional level. See further details in Annex 3.

4. WHAT SHOULD BE ACHIEVED?

The general objective and specific objectives and their relation to the problems being addressed by this initiative are presented in Figure 3 and detailed below under point 4.

Figure 3: Specific and general objectives and their relationship to the problems



4.1. Objectives of the initiative

The main objective is to contribute to the objectives of the common fisheries policy (CFP) listed in Article 2 of Regulation (EU) No 1380/2013, namely:

> *"The CFP shall ensure that fishing (...) activities are environmentally sustainable in the long-term and are managed in a way that is consistent with the objectives of achieving economic, social and employment benefits, and of contributing to the availability of food supplies;*
>
> *The CFP shall apply the precautionary approach to fisheries management, and shall aim to ensure that exploitation of living marine biological resources restores and maintains populations of harvested species above levels which can produce the maximum sustainable yield (...) by 2015 where possible and, on a progressive, incremental basis at the latest by 2020 for all stocks;*
>
> *The CFP shall provide conditions for economically viable and competitive fishing capture and processing industry".*

These objectives fit very well with the priorities of the Commission and will help deliver on the key objective of jobs and growth in Europe.

To achieve the main objective, it is necessary to address the identified problems of overfishing and ineffective governance with specific objectives as follows:

Overfishing is addressed by the following specific objectives of the initiative:

To provide a transparent framework to achieve that stocks are fished sustainably by 2020 at the latest for western waters fisheries, to ensure environmental sustainability and to achieve a socio-economically sustainable fisheries sector for demersal fisheries in western waters.

Ineffective governance is addressed by the following specific objective of the initiative:
To provide an effective governance framework for demersal fisheries in western waters, which is simpler and provides stakeholders with greater ownership;

To facilitate the achievement of these objectives the initiative will also facilitate the implementation of the landing obligation established under the Basic Regulation, by providing a basis for derogations for selected demersal fisheries in western waters in certain circumscribed situations.

The initiative shall be coherent with the Union environmental legislation, in particular with the objective of achieving a good environmental status by 2020 as set out in Article 1(1) of the Marine Strategy Framework Directive (MSFD)[29].

4.2. Perceptions by consulted stakeholders on these objectives

Out of 23 stakeholders, 16 agreed fully (3) or mostly (13) and 7 agreed just partially. Generally speaking, the fishing sector found that the current MAPs did not address the real problem (for them the problem lies with too rigid and obsolete rules) and NGOs believed that the objectives should mirror those of the CFP and include MSFD-related objectives. For details on the respondents see Annex 3.

5. WHAT ARE THE VARIOUS OPTIONS TO ACHIEVE THE OBJECTIVES?

5.1. Discarded policy options

i) No action at EU level

Because fisheries policy is an exclusive competence of the Union, the first policy option that can be discarded is that of no action at the European level.

ii) Amendment of the existing management plans

The 5 existing management plans do not meet the requirements of the CFP nor those of the Inter-Institutional Task Force and would thus be unable to achieve the objectives of the CFP. Reviews of current MAPs by the Scientific, Technical and Economic

[29] Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive).

Committee of Fisheries (STECF) and the International Council for the Exploration of the Sea (ICES)[30], concluded as follows:

a) On the cod plan (Regulation (EU) No 1342/2008), STECF concluded in 2011 "*the plan is not delivering reduced F* [fishing mortality rate] *and additionally in many areas does not have stakeholder support.*"[31];

b) On the plan for western Channel sole (Regulation (EC) 509/2007), STECF concluded in 2014 that, '*The TAC restriction is the only effective element of the plan'*.. Furthermore STECF concluded that: '*Given the multispecies nature of all the fisheries in the area, STECF considers that efficient management of the fisheries would best be achieved through the development and implementation of a regional multiannual fishery management plan'*, as this would: *'make management more efficient and avoid problems of TAC unbalance'*[32]

c) The Bay of Biscay sole plan (Regulation (EC) No 388/2006) has the objective to rebuild the stock but no target has been set under the plan for reaching MSY; In 2011 STECF commented that, the plan '*requires that new biological targets be fixed once the stock has recovered to its precautionary biomass level*[33]*'*. Even if the stock reached this level in 2010, no revision has taken place.

d) In the Northern hake plan (Regulation (EC) No 811/2004), the objective is considered to be achieved when the size of the spawning stock is kept above safe biological limits for two consecutive years. It is therefore not specifically designed to achieve MSY. Besides, ICES has reported that "*the current recovery plan (EC Reg. No. 811/2004) is based on precautionary reference points that are no longer appropriate*";[34]

e) Similar comments apply to the Southern hake and *Nephrops* plan (Regulation (EC) No 2166/2005): it is not designed to achieve MSY and, according to ICES, it uses "precautionary reference points that are no longer appropriate". In 2010, STECF assessed that "*the F reduction from 2006 expected from the plan has not been achieved*" and that "F_{msy} *will probably not be reached by the intended date of 2015. In consequence the plan is not succeeding in achieving its stated objectives*[35]";

These plans were introduced to rebuild and recover fish stocks above defined levels that at the time were considered safe in terms of sustainability. However these definitions are today outdated and moreover these older plans do not contain any MSY objectives.

---

30 STECF reports assessing the performance of the existing multiannual plans can be found in https://stecf.jrc.ec.europa.eu/reports/management-plans .

31 STECF: Evaluation of multiannual plans for cod in Irish Sea, Kattegat, North Sea, and West of Scotland (STECF-11-07), p. 12

32 STECF: Evaluation/scoping of Management plans - Evaluation of the multiannual plan for the management of Western Channel sole (Regulation EC 509/2007) (STECF-14-04), p. 7 and 10

33 STECF: Impact Assessment of Bay of Biscay sole (STECF-11-01), p. 12

34 http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/2016/hke-nrtn.pdf

35 STECF: Report of the Sub Group on Management Objectives and Strategies (SGMOS 10-06). Part d) Evaluation of Multiannual Plan for hake and Nephrops in areas VIIIc and IXa, p. 6

This option would entail amending the 5 existing management plans, and subsequently need the introduction of a series of many more new single-species plans for other stocks and fisheries not covered by the current plans. Existing plans would be amended to meet the challenges of the new CFP, and in light of their evaluations - introduce amendments on the current scope (in terms of stocks, fisheries, area), introducing MSY targets, objectives and safeguards for conservation and technical measures. Delegation of powers to the Commission should also be introduced in order to implement regionalisation. Over time, new additional, plans could be introduced for stocks not currently under a management plan. This would entail the development of a range of plans for the main/driving demersal fish stocks for which ICES currently provides scientific advice on maximum sustainable yield (45 stocks are considered target stocks in western waters), and potentially further plans for other commercially important bycatch stocks (34 stocks are considered as bycatch stocks in western waters).

Each multiannual plan would address a "cluster" of fisheries sharing certain characteristics. Examples of clusters could be the fisheries for roundfish[36] with important by-catch of megrim and anglerfish, *Nephrops* fisheries (with by-catch of roundfish and also megrim and anglerfish), and fisheries targeting flatfish[15] (sole and plaice mainly), also with considerable by-catches. Clusters would need to be chosen following consultation and on the basis of scientific advice. Ultimately from a management perspective such clusters would be much less optimal than one or two new mixed-fisheries plans, which address species caught together.

Amending the existing plans would, however, make it more difficult to achieve the objectives of implementing regionalisation and facilitating the introduction of the landing obligation. This is because integrated approaches to the implementation of the landing obligation (introduced per fishery) or of technical measures to be introduced at a regional level would be much more difficult because the same technical measures applying to fishing different stocks would have to be introduced in separate delegated acts based on different (multiple) single-stock plans – and would therefore create a proliferation of delegated acts. In a mixed fishery it would be unclear which of the species/stock-based plans would have to include details on the fisheries-based phasing in of the landing obligation. Additionally, future exemptions from the landing obligation for western waters would need to be distributed over many different plans instead of being contained within one document as is the case for the current 2 discard plans covering western waters, with one discard plan covering south-western and north-western waters respectively.

The foreseen outcome would create a complex legal framework, with complicated management challenges and an increased administrative burden in developing each plan and implementing and updating them to ensure coherence between them. The risk of unforeseen loopholes would also increase. The objective of simplifying legislation would clearly not be met (see North Sea IA section 5.1.2)[37].

---

[36] These are fish such as cod, haddock, whiting, saithe, hake, etc. Opposite to this there is flatfish sole, plaice, megrim, etc.)

[37] Commission staff working document impact assessment accompanying the proposal for a regulation establishing a mixed fishery multiannual plan for demersal stocks and their fisheries in the North Sea, SWD (2016) 272

The Public Consultation showed that, among stakeholders, there has been strong criticism of the complexity of the existing legislation, so any further complications arising from a multiplicity of even more plans will be further criticised. Additionally, stakeholders fully or mostly agreed that a multiannual plan for western waters should manage the fisheries coherently, by taking into account the interactions between fish stocks (that these are mixed fisheries). There is thus general support by stakeholders that the existing plans should be replaced by a new holistic plan (see Annex 3).

5.2. Retained policy options

For the purposes of this impact assessment, three options have initially been considered:

5.2.1. Option 1 Baseline scenario:

Use the existing relevant rules of the CFP. This should be considered as a background against which the other options can be assessed.

The main tools currently used to manage stocks are:

- Total Allowable Catch (TAC) and quota setting

Each year, the TACs for western waters are decided by Council based on a Commission proposal. For some fish stocks the TAC setting is governed by one of the existing multiannual management plans, which have outdated objectives that are no longer in line with the new CFP. Decisions are made on a stock-by stock basis and do not take into account fisheries which are mixed.

- Discard plans to implement the landing obligation

Member States propose specific measures to help implement the landing obligation under discard plans. Such measures are particularly useful to manage mixed fisheries, but the discard plans will run out after 3 years (i.e. 31 December 2021 for demersal fisheries) and cannot be renewed.

- Technical measures

The recent Commission proposal for a new Regulation on technical measures[38] simplifies existing rules, with a number of provisions common to all sea basins (the baseline) and further to this, provisions on regionalisation, with a view to set further specific measures in regionalisation. The following measures can, according to the proposal be adopted in regionalisation: species and size selectivity of fishing gears, closed or restricted areas to protect juveniles and spawning aggregations, minimum conservation reference sizes, real-time closures and moving-on provisions, innovative fishing gears and nature conservation measures. This proposal is likely to enter the trilogue process in autumn 2017.

[38] Proposal for a regulation on the conservation of fishery resources and the protection of marine ecosystems through technical measures, COM (2016) 134

These regionally adopted technical measures should contribute to achieving the objectives of the MAPs for the different regions and ensure alignment of technical measures with other conservation measures within each region. To allow for this synergy, regionally based MAPs need to be adopted.

- Existing single-species management plans

The status quo or no policy change at EU level means to continue applying the existing outdated management plans in combination with all other existing rules of the new CFP. Under this option the objectives of the CFP would not be reached for all fisheries as the outdated plans have biomass safeguards only for sole in the Bay of Biscay (ICES has not evaluated this plan), while a biomass target is set for the recovery of Northern hake and southern hake. For southern *Nephrops* and Bay of Biscay sole no biomass target is set in the plan. For cod stocks under the cod plan the 2016-amendment deleted the biomass safeguards. Thereby no biomass safeguards are foreseen in legislation for most target fisheries in western waters. Furthermore they lack the objective to achieve maximum sustainable yields. Moreover this option does not enable Regionalisation in the western waters. This means it would not be possible to replace the discard plans after they have lapsed and the landing obligation would then have to be applied in cases where this is disproportionate.

Option 1 reflects the status quo which does not effectively address the problems of overfishing and ineffective governance (see sections 1.4 and 3). The problems of the status quo are instead precisely what the initiative intends to address. Due to the contradictory provisions that would hence remain in force, this option clearly does not reach the specific objectives shown in figure 3.

Additionally stakeholders are against this option. The public consultation for the western waters multiannual plans showed that, among stakeholders, there has been strong criticism of the complexity of the existing legislation, so any further complications arising from a multiplicity of plans are unlikely to be welcomed. Additionally, stakeholders fully or mostly agreed that a multiannual plan for western waters should manage the fisheries coherently, by taking into account the interactions between fish stocks (that these are mixed fisheries). There is thus general support by stakeholders that the existing plans should be replaced by a new holistic plan (see Annex 3). Additionally the current plans have been criticised for not being flexible enough to address the issues that have evolved during their implementation. The Member States directly concerned have requested to replace these plans as soon as possible. There are high expectations by all stakeholders that these plans will be replaced. In addition there are expectations from the European Parliament to bring more fisheries under multiannual plans in the future. In 2012 the European Parliament adopted a resolution which "calls on the Commission to provide for the establishment of long term management plans for all EU fisheries". [39]

Options 2 and 3: Replace existing plans with one (option 2) or two mixed-fisheries multiannual plans (option 3)
The content of plans and their structure would be very similar and the following considerations are relevant for the structure of both options:

[39] European Parliament Resolution of 12 September 2012 on the reform of the Common Fisheries Policy – Overarching Communication (2011/2290(INI))

i) Which species should be included?

The demersal species in western waters that are defined as targeted fisheries are alfonsinos, anglerfish, black scabbardfish, blue ling, cod, haddock, hake, megrim, Norway lobster, plaice, pollack, red seabream, roundnose grenadier, saithe, seabass, sole and whiting. These account for 89 % of volume of catches of demersal species in western waters and have been assessed by scientists (and therefore conservation reference points are available for most). Furthermore, they are caught in mixed fisheries, with by-catch of other species and to date high levels of discarding. Industry stakeholders during the public consultation considered that the measures of a possible multiannual plan should be focused on species currently driving the main fisheries, such as cod, hake, megrim and anglerfish. They did not suggest including data poor species in multiannual plans, but there should be a move to coherence between catch composition and quota.Taking into account that the landing obligation for demersal species will only come fully into force for all stocks in 2019 the current discard plans for demersal fisheries in western waters covering 2016-2017 cover, for north-western waters fisheries catching above a certain threshold of the following species: cod, haddock, hake, Norway lobster, pollack, saithe, sole, whiting. For south-western waters the discard plan covers certain gears catching: anglerfish, black scabbardfish, hake, Norway lobster, place, red seabream and sole – furthermore for several of these demersal species specific derogations were considered necessary to facilitate the implementation of the landing obligation.

ii) Management of target stocks

- The species driving the fisheries in western waters, by being the main targeted species. are alfonsinos, anglerfish, black scabbardfish, blue ling, cod, haddock, hake, megrim, Norway lobster, plaice, pollack, red seabream, roundnose grenadier, saithe, seabass, sole and whiting.

- The fisheries for these species in western waters are mixed fisheries which means that the same fishers and vessels will inevitably catch a mix of species in one fishing operation, also including by-catch species such as plaice, ling or tusk. It therefore makes sense to manage these species together rather than under separate multiannual plans. This also follows STECF's recommendation, that having larger MAPs may "promote" more coherent regulations in terms of objectives and safeguards for each stock and avoid over-regulating the sector[40]. Furthermore these MAPs need to specifically address the mixed character of demersal fisheries. The measures contained in these plans would mean that management of each species would take into account the state of the other species caught together.

iii) The geographical scope

Several demersal species in western waters occur in different parts as distinct stocks (i.e. populations). There are e.g. 8 distinct sole stocks considered as drivers in each their fisheries in western waters. Few stocks in western waters are however only present in one seabasin. Here the Irish Sea is an exception with several stocks (cod, haddock, plaice, sole and whiting) restricted to this seabasin. Many other stocks in both the north and the south of western waters cut across seabasins, and are present in larger areas.

[40] https://stecf.jrc.ec.europa.eu/documents/43805/1023356/2015-07_STECF+15-08+-+MAPs+SWW+and+NWW_JRCxxx.pdf

Furthermore, the fisheries on these stocks often happen in larger areas, and consequently the TACs are most often set for a larger area in order to cover all catches of a certain stock. As an example the cod stocks in western waters are the most localised stocks often only being considered belonging to one seabasin, while there are only two hake stocks spread over rather large areas, namely the whole Iberian Atlantic area for southern hake and the area stretching from the Atlantic to the North Sea for northern hake.

The EU multiannual plan would cover all EU vessels fishing in EU waters, and beyond EU waters, where stocks extend into international waters, hence the full coverage would be ensured in terms of the EU fishing sector

iv) Deadline for achieving sustainable fishing levels

Article 2(2) of the Basic Regulation provides for a binding obligation to reach sustainable fishing levels but leaves some flexibility regarding the timeframe for reaching this target (*by 2015 where possible and […] at the latest by 2020*). The multiannual plans should specify this deadline of 2020 for the western waters fisheries.

v) Conservation reference points including the range of sustainable fishing mortality

On the basis of Article 10 of the Basic Regulation, the multiannual plan would contain the following reference points for the target fisheries:

- A range of target fishing mortality which is considered compatible with sustainable fishing ($\mathbf{F_{MSY}}$ range).
- Safeguard values in terms of fish biomass which serve as triggers for management action: when the stocks concerned fall below these pre-defined sizes, safeguard measures should be adopted.
- the by-catch species would be managed following the precautionary approach;

As the multiannual plan should be based on the best available science, the conservation reference points would be based on the latest scientific advice. At the time of drafting this impact assessment the latest scientific advice from ICES with MSYranges, the independant scientific advisory body for fisheries, was of July 2016[41] and these values were used to model the impacts under Option 2 (Annex 2).

vi) Management measures to ensure the targets are reached

As demonstrated by the scientific advice (Annex 5), current fishing mortality and hence catch levels will need to be adapted to reach sustainable levels by 2020 at the latest. EU fish stocks are managed using catch-limits, whereby a total allowable catch (TAC - for the whole stock) and national quotas (per Member State) are fixed annually or biennially (see Annex 5). The use of TACs and quota in the Baltic Sea, the North Sea and the Atlantic is thought to have contributed to the overall improvement in stock status, with an increasing number of stocks being fished sustainably in recent years[42].

[41] http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/Special_Requests/EU_FMSY_ranges_for_selected_Western_Waters_Stocks.pdf

[42] Between 2009 and 2017, the number of TACs fished sustainably (in line with MSY) increased from 5 to 44.
COM (2015) 239 final - Communication from the Commission to the European parliament and the Council. Consultation on the fishing opportunities for 2016 under the Common Fisheries Policy, p. 4

For these reasons, the multiannual plan would include MSYranges to determine TACs and quotas as the management approach in order to further increase the number of stocks fished sustainably. In practice, the plan would, where available, set the range of fishing mortality for alfonsinos, anglerfish, black scabbardfish, blue ling, cod, haddock, hake, megrim, Norway lobster, plaice, pollack, red seabream, roundnose grenadier, saithe, seabass, sole and whiting (at stock-level) that needs to be respected to ensure sustainable fishing levels are reached by 2020. Each year the Commission would adopt a proposal for TAC and quotas compatible with these target fishing mortality ranges, based on the most recent scientific advice. The Council should then adopt annual TAC and quotas in line with these fishing mortality ranges. For deep sea species the Council would adopt bi-annual TACs and quotas in line with the ranges. Where ranges of fishing mortality are not yet available ICES will be asked to deliver these and in the meantime the species would be managed by the ICES precautionary approach.

TACs and quotas managed by MSYranges should provide the necessary flexibility needed for mixed fisheries. Furthermore Member States can foresee additional measures at national level to adapt the quota share system to the likely catch mixture of the fleets or at regional level to recommend closing areas/periods to fishing etc.

The mechanism to achieve sustainable fishing levels would therefore be set in the multiannual plan (F-ranges/precautionary biomass levels as the basis for TAC and quotas) but the exact management tools to deliver on this would be left to Member States, through regionalisation. This is in line with the request of stakeholders in the public consultation to let the multiannual plan focus on the orientation and determination of the objectives, while the micro management is decided in a more flexible way (regionalisation).

vii) Choice of how to introduce measures regarding the landing obligation

As described in Annex 2, the Basic Regulation allows the adoption of so-called "discard plans" through Regionalisation to adopt exemptions from the landing obligation for no more than three years. After the expiry of these discard plans, exemptions will still be needed, in order to allow for the discarding of species that survive discarding (i.e. it makes more sense for them to be thrown back in the sea if they will survive as they can reproduce and increase the biomass) and to allow for exemptions in situations where the landing obligation would put a disproportionate burden on the industry (e.g. in terms of the cost of implementing the landing obligation). The Basic Regulation itself foresees in Article 15(5) that such exemptions should be adopted as parts of a multiannual plan and could be done on the basis of Regionalisation.

When drafting a multiannual plan, the Commission will have to decide which elements of the future exemptions from the Basic Regulation will be included in the multiannual plan itself and which elements will be adopted as a part of a delegated act to be adopted on the basis of joint recommendations by Member States. The approach for this will follow the future political compromise on the North Sea plan. The discard plans covering the demersal fisheries in north- and south-western waters respectively were supplemented for 2017, through joint recommendations from the regional groups, and are supplemented further for 2018, with new fisheries coming under the landing obligation. This includes additional exemptions on the basis of new scientific research for example on survivability of species after discarding. In line with the current system, respondents during the public consultation expressed a preference for not fixing the specific measures

in the multiannual plan but leaving this to be decided through regionalisation. The adaptive, flexible approach of regionalisation would therefore be the preferred option for this element of the plan rather than having to amend the multiannual plan through the ordinary legislative proposal for such non-essential supplements or amendments.

The choice of how to introduce provisions to implement the landing obligation is not considered to affect the possible environmental, social or economic impacts of an EU multiannual plan or the effectiveness in achieving the objectives.

In conclusion the WW MAP, to be adopted under the Ordinary Legislative Procedure, would thereby translate the provisions of the Basic Regulation relating to the MSY objectives, regionalisation and the landing obligation into a specific geographically targeted framework, taking into account the most up–to–date scientific information about demersal fisheries in that area. This will include allowing certain technical parametres (e.g. closed areas, gear specifications, exemtions from the landing obligation) to be updated through regionalisation, in order to ensure updated and fit-for-purpose management tools.

Summary for options 2 and 3:

Option 2: One mixed-fisheries multiannual plan covering western waters

Following the outline above this option would imply one plan covering all of the western waters. This option would take into account that many of the same Member States and the same fleets fish in both north- and south-western waters.

Furthermore one plan would also allow presenting joint recommendations covering specific fisheries in either the north-western waters or south-western waters respectively. Further to this there is a significant overlap in the Member States represented in both the north- and the south-western waters groups.

Option 3: Two mixed-fisheries multiannual plans covering north-western waters and south-western waters

Following the ouline above this option would imply two plans, covering north-western waters and south-western waters respectively. The difference between this and option 2) would be that this option would emphasise the current set-up for regionalisation, as these two areas are covered by the Advisory Council for the north-western waters and the Advisory Council for the south-western waters separatly. These are also the areas covering the north-western waters Member State Group and the south western waters Member State Group, which produce joint recommendations for the discard plans. Two plans could thereby work as a natural continuation of the work done through the discard plan recommendations within the regional Member State Groups.

The differences between options 2) and 3) are thereby mainly associated to issues of consistency, involvement of stakeholders and administrative burden.

5.3. Perceptions of the options by consulted stakeholders

This question was only addressed in the targeted consultation. In total there were 28 replies from a mix of environmental non-governmental organisations (NGOs),

professional organisations (POs) and one from a Member State authority (UK), details of which can be found in Annex 3. The Member State who replied (UK) and the majority of other respondents either "Fully" or "Mostly" agreed that MAPs (Options 2 and 3) would be the most effective options. All agreed on the need for the EU to take action. For further details please refer to Annex 3.

6. WHAT ARE THE IMPACTS OF THE DIFFERENT POLICY OPTIONS AND WHO WILL BE AFFECTED?

6.1. Approach to the impact analysis

Annex 1 describes the procedural steps followed for this Impact Assessment Report. This impact assessment is a revised version of the report examined by the Regulatory Scrutiny Board (RSB)[43] on 12 February 2016. The RSB suggestions for improvements at that occasion, together with a summary description of how they have been addressed, are described in Annex 1.

DG MARE asked STECF to provide a technical and scientific analysis of the options considered, which is provided in Annex 5. STECF provided expert judgement on the advantages and disadvantages of setting alternative **geographic coverage** of MAPs and ran forecast models to describe the likely situation of the fisheries on 1 January of 2017, 2021 and 2025 - **using given environmental, economic and social indicators** for the different options. On the basis of this study, the following indicators have been used:

1. Socio-economic impacts:

Catches, revenues from catches, costs, Total Allowable Catches (TACs) or quota and their inter-annual variability, quota usage, fleet dependency and employment were all considered to have both social and economic dimensions and have been considered together in one section. Higher revenues, sustainable catches, stable and predictable TACs or quotas and lower fleet dependency, with stable or increased employment are considered to be beneficial and desirable during analysis of the options as they provide more certainty of financial income and stability of employment for the fishing community.

2. Environmental impacts:

F_{MSY} ranges, fishing mortality, fishing effort, stock size/biomass, risk to biomass were used to consider the environmental and conservation elements of the different options. Sustainable or reduced fishing mortality and effort leading to an increased stock size and biomass, in line with Maximum Sustainable Yield (MSY) objectives were considered a positives. This is especially the case when comparing sustained use of different points of the F_{MSY} ranges and boundaries. In scenarios where sustained use of an upper boundary led to increased fishing mortality and reductions in the fisheries' population, especially the spawning stock biomass, such scenarios were considered as not beneficial or

[43] The Regulatory Scrutiny Board is a Commission body which provides a central quality control and support function for Commission impact assessment and evaluation work. It was set up on 1 July 2015 and replaced the Impact Assessment Board. The Board examines and issues opinions on all the Commission's draft impact assessments and of major evaluations and "fitness checks" of existing legislation.

desirable in the subsequent analysis. These scenarios may result in a deviation from sustainability objectives such as MSY and even risk possible overfishing.

3. Administrative Burden:

The complexity and coherence of management frameworks and corresponding administrative costs and burden are also considered for each of the options. Where an option is considered more complex, it has been considered more expensive, less coherent and more cumbersome to administer and therefore has been considered more negatively in the subsequent analysis and comparison of the options.

6.2. Option 1: Baseline (Status quo)

The environmental and socio-economic impacts of this option are presented in section 2. However the main impacts of continuing the status quo are summarised as follows:

6.2.1. Environmental impacts

Although considerable progress has been made in achieving sustainable stocks, some stocks remain in a bad state with low recruitment **and low stock size and biomass**. The **status quo risks objectives of the CFP not being achieved**, such as not reaching MSY, not having all stocks in safe biological limits and not taking into account the mixed fisheries aspects of fishing effort. **Fishing mortality** is still considerably high on several fish stocks in the western waters and is the principle source of mortality for several key fish species in the regions.

6.2.2. Socio-economic impacts

A lack of "ownership" and connection to the management of fisheries by stakeholders, could threaten the viability and profitability of the sector due to overfishing and ineffective governance. Inter-annual **TAC variations do not make for stable and predictable yields**, which complicates the business management of fishing fleets and their dependant enterprises and communities. In the western waters region, STECF identified a **high fleet dependency**, ranging from 15 to 60% on fleet segments in north-western waters and 20 to 51% in south-western waters for a range of species from cod, whiting, haddock, hake and nephrops to plaice, sole, megrims and anglerfish.

6.2.3. Administrative costs

The current system is **complex** with a **mix of inter-annual TAC, quota and vessel catch limits and single species plans**. Further, these do not take into account **mixed fisheries aspects**, complicating the adoption of the landing obligation and the objective to minimise discards. There are also differences in geographical applications of fisheries management measures that **do not reflect stock and fishing fleet locations**, causing ineffective implementation of regionalisation and in some cases a **lack of coherence** in the application of fisheries management and regulations. The departure of the United Kingdom from the EUwill add a layer of international negotiations to this system, and will thus further complicate the system and increase administrative costs**.**

6.3. Option 2: one mixed fisheries multiannual plan for western waters

STECF modelled the condition of key stocks in both the western waters up to the year 2021. The models compared two scenarios under the establishment of a multiannual plan versus the baseline (status quo): The first assumes the systematic choice of lowest end of the MSY ranges (F_{MSYlow}) under the plan; the second is the opposite, modelling the systematic choice of the higher or upper end of the MSY range (F_{MSYupp}). Further details are available in Annex 5.

6.3.1. Environmental impacts

Upper boundary of F_{MSY} range:

Fishing Mortality would be about 25% **higher**. **spawning stock biomass** would be around 10% **lower** for cod and haddock, around 5% lower for plaice, sole and whiting in the north-western waters, 20% lower for hake and megrim in the Bay of Biscay and up to 10% lower for stocks in the Iberian Peninsula. For Iberian stocks of horse mackerel the model results show the probability of this stock falling below B_{lim} is double that than under the baseline scenario.

Lower boundary of F_{MSY} range:

Fishing Mortality would be about 25% **lower**. **spawning stock biomass** would be around 10% **higher** for cod and haddock, around 5% higher for plaice, sole and whiting in the north-western waters, 20% higher for hake and megrim in the Bay of Biscay and around 5-15% higher for all stocks in the Iberian Peninsula. For Iberian stocks of horse mackerel the model results show the probability of this stock falling below B_{lim} is less risky, at around 75% less than the baseline scenario.

In Summary: Environmental impacts can be most positive if the lower boundary of F_{MSY} range is consistently applied. A systematic application of upper boundary values when considering TAC and quotas would have negative consequences including increased fishing mortality and lower spawning stock biomass.

6.3.2. Socio-economic impacts

Upper boundary of F_{MSY} range:

In north-western waters **TACs and Catches** would be around **20% higher** by 2021. **Inter-annual variability** of catches would be around 20% **lower** (much lower for nephrops and Whiting in north-western waters), with **quota consumption increasing** for anglerfish (+20%) but decreasing for whiting (-20%) in north-western waters. In north-western waters, there would generally be 30% larger catches except for Spanish and Irish fleets of demersal trawls and seines over 10m. However, these **increased catches also have increased costs** of around 20%, again except for Irish and Spanish Trawlers.

In the Bay of Biscay catches of hake and megrim would again be lower, with a similar decrease in TAC for hake, but megrim TAC remaining the same as baseline scenario.

Quota uptake would also remain mostly the same. Inter-annual variability would increase slightly, but far less than the lower boundary scenario, with the exception of sole, where variability would decrease more than 25%. Higher effort is associated with higher variable costs, but also revenues are higher under this scenario, depicting an increase in catch per unit effort in the Bay of Biscay.

For the Iberian Peninsula, models depict TACs and catch to be up to 30% higher than in the lower boundary scenario. By 2021 all indicators, except fixed costs and number of vessels are modelled as showing similar trends with 30-40% increases compared to baseline.

Lower boundary of F_{MSY} range:

In north-western waters **TACs and Catches** would be around **20% lower** by 2021. **Inter-annual variability** of catches would be around 10-50% **higher** (notably for nephrops and Whiting in north-western waters), with **quota consumption** being generally **lower** (especially for anglerfish and nephrops in north-western waters, but slightly higher for cod). Generally fleets in the north-western waters would have **reduced effort, costs and catches**, apart from Irish drift netters who would have a slight increase in catches.

In the Bay of Biscay catches of hake and megrim would be around 5% lower, with a similar decrease in TAC for hake, but megrim TAC modelled to increase by more than 15%. Quota uptake is around 20% lower. Inter-annual variability would also be much higher.

For the Iberian Peninsula inter-annual variability is higher across all stocks than in the upper boundary scenario, compared to baseline. For Spanish netters, long-liners, hand-liners and trawlers, revenue differences to baseline are minimal. For Portuguese fleets, models show 20-25% lower revenues.

In Summary: Socio-economic impacts again differ, depending upon setting TACs and quotas consistently in line with the upper or lower boundaries of F_{MSY} ranges. Whilst choosing the upper boundary can lead to some short-term increases in quota and catches in some stocks, the STECF analysis suggests there can also be increases in costs.

6.3.3. Administrative costs

A single plan containing a single management framework for stocks and mixed fisheries over a longer period of time, would represent a **considerable simplification upon the current baseline** approach (option 1). The current baseline has a mix of inter-annual TAC and quota variations and several plans for several different areas and species. A single plan could still have built-in options for regionalisation and adaption to changes in fisheries, management and scientific advice. Coherence and compliance should be simpler than the current status quo and thus reduce the administrative burden.

6.4. Option 3: Two mixed fisheries multiannual plans (south-western waters and north-western waters)

6.4.1. Environmental impacts

The impacts of establishing multiannual plans versus the baseline scenario of option 1, remain the **same as option 2**. STECF were also asked to assess the number and scope of multiannual plans. They concluded that "provided the objectives were followed and biomass safeguards applied", the number and scope of plans was largely a regulatory and policy issue. However artificial and arbitrary boundaries that do not reflect stock distribution can cause inconsistencies in fisheries management and fishing fleet activity. This can, in turn, have a negative impact upon both stocks and the environment. Such a scenario would not improve upon the current baseline (option 1) and could lead to displaced fishing effort that may have a disproportionate effect on stock structure and recruitment.

6.4.2. Socio-economic impacts

Similarly the impacts of establishing multiannual plans versus the baseline scenario of option 1, remain the same as option 2, except for **the increased risks from having two separate management regions**. Again this could lead to differences in regulations, a lack of coherence and displaced fishing effort, with artificial or arbitrary lines that may not reflect fishing fleets activity or stock distribution. This in-turn may limit inter-area flexibility for usage of quota allocations. Complications in fisheries management may also limit quota uptake.

6.4.3. Administrative costs

The establishment of two multiannual plans would be less complicated than the status quo, baseline approach of option, but **not as simple as a single framework approach**. Different regulatory regimes could complicate control, compliance and cohesion and require increased administrative effort to cover the two separate regimes. Fleets moving between regions and member states who administer national fleets operating in the two separate regions may find they have duplication in administrative effort and expense. Adaptation of two different management plans may also be complicated and lengthier.

7. HOW DO THE OPTIONS COMPARE?

7.1. Assessment of environmental, economic, social and other impacts

Table 7 provides a comparison of the options in terms of environmental, socio-economic and administrative impacts of new mixed fisheries multiannual plans compared to the baseline.

Table 7 shows that multiannual plans (Options 2 and 3) in general have far more positive environmental, socio-economic and administrative effects than the baseline (Option 1). However the STECF's assessment did highlight that multiannual plans using F_{MSY} ranges could potentially have negative environmental and socio-economic effects versus the baseline, depending on the systemic choice of upper or lower boundaries of F_{MSY} ranges. The division of the western waters area into two different multiannual plans for two different regions (Option 3) could lead to artificial and arbitrary boundaries that may not reflect stock distribution and may lead to differences in management regimes and regulation and trans-boundary "straddling stock" issues compared to the improved

cohesion of a wider, single multiannual plan for the western waters (Option 2). This, in turn, could lead to displaced fishing effort that may have a disproportionate effect on stock structure and recruitment and limit quota flexibility and uptake, along with complicated administration of differing fleets and management regions. For these reasons, Option 3 has less positive effects than Option 2.

Table 7. Comparison of options in terms of their environmental, socio-economic and administrative impacts.

	Option 1: Baseline	*Option 2: One MAP for all western waters*	*Option 3: Two MAPs (north- and south-) western waters*
Environmental effects	0	+/-*	+/-*
Socio-economic effects	0	+/-*	+/-*
Administrative effects	0	++	+

Key: 0= neutral impact, +=positive impact, ++ = very positive impact (relative to other options), -= negative impact, +/- positive and negative impacts

*N.B. The STECF analysis demonstrates that the results are dependent on the choice of the lower (F_{MSYlow}) or the upper (F_{MSYupp}) boundary of the ranges of F_{MSY}. Please see Section 6 for more detail for comparison of use of upper or lower boundaries of F_{MSY} range in each option

7.2. Assessment against the objectives

The section below, including Table 8, provides a qualitative comparison of each of the options against the objectives identified in Section 4.

Main objective:
Whilst both Option 2 and 3 are an improvement over the baseline (Option 1) in achieving the objectives of the CFP, the improved cohesion of having one plan (Option 2), versus several plans (Option 3) is considered an asset. The administrative, socio-economic and environmental benefits of not having fleets and stocks split over two arbitrarily defined areas are considered **more positive under Option 2** and should **facilitate meeting the objectives of the CFP**.

Specific objectives:
The baseline, status quo of Option 1 would continue with the existing framework and risks not meeting the majority of the objectives, as described in section 2. Options 2 and 3 allow for one or two mixed fishery multiannual plans that would be an improvement on Option 1, providing a transparent framework for achieving **MSY** whilst taking into account the complexity of **mixed fisheries**, something that current single species plans under Option 1, would not be able to achieve. Options 2 and 3 would therefore improve the outlook for placing all stocks in **safe biological limits** compared to the baseline of Option 1. However the increased administrative burden of having two separate plans (Option 3) could complicate management measures, such as the implementation of the **Landing Obligation.** Also, under Option 3, **Regionalisation** may be more complex than Option 2 and there is a risk that the units of regional management would not be defined by fish stocks or fleet location. This could lead to a more complicated administration, control and inspection regime than one plan under Option 2 which would provide a more **stable and predictable** management framework. However both options are an improvement over the status quo of Option 1.

Table 8. Comparison of options against main and specific objectives.

		Option 1: Baseline	*Option 2: One MAP for all western waters*	*Option 3: Two MAPs (north- and south-) western waters*
Main objective	To contribute to the achievement of the broad **objectives** of the reformed **CFP**, in particular the long term sustainability of the stocks, expressed in terms of MSY, and the implementation of an ecosystem-based approach to fisheries management.	0	+	+
Specific objectives	To provide a transparent framework to achieve Maximum Sustainable Yield **(MSY) by 2020** at the latest.	0	+	+
	To ensure that the relevant stocks are maintained within **safe biological limits** and those stocks outside of biological limits are brought within those limits as rapidly as possible.	0	+	+
	To ensure that the fishing opportunities on each of the stocks are set taking into account the nature of the **mixed fisheries.**	0	++	++
	To provide a management framework facilitating **stability and predictability** in the fixing and allocation of fishing opportunities.	0	++	+
	To facilitate the consolidation of the rules on the **landing obligations** introduced in the reformed CFP and establish the framework that is necessary for the implementation of **regionalisation.**	0	++	+

Key: 0= neutral impact, +=positive impact, ++ = very positive impact (relative to other options), -= negative impact, +/- positive and negative impacts

7.3. Effectiveness, efficiency, coherence and acceptability

Effectiveness

Option 2 is more effective than Option 1 (the CFP objectives are unlikely to be met under Option 1) and considered more effective than having 2 separate plans (Option 3)

The analysis can be complemented by examining the effectiveness of the options in achieving other desirable objectives not explicitly mentioned in the CFP. For example, the objective to simplify legislation, where Option 2 is clearly more advantageous than Option 1 since it replaces all former MAPs by 1 regulation, and an improvement on Option 3, which would still require 2 regulations. Options 2 and 3 also outperform Option 1 in that they bring legislation closer to the stakeholders through regionalisation. However splitting the management framework over two separate areas would still be a complication (Option 3) and would be less effective than one multiannual plan (Option 2). Overall Option 2 scores highest in effectiveness, as shown in Table 9.

Efficiency

Option 1 is inefficient, with poor results and high administrative burden, especially in monitoring and implementing year after year the complicated effort regimes associated to some of existing MAPs. There is a lack of predictability for the industry because of uncertainty in the annual TAC negotiations, which impacts negatively on efficiency.

Options 2 and 3 are clearly more efficient especially when considering administrative burden and burden for the industry. One management framework would be the most efficient, avoiding any trans-boundary complications. Therefore, Option 2 scores highest in efficiency (Table 9)

Coherence

Option 1 will lead to contradictions with the reformed CFP, especially because some of the existing MAPs are not in line with the new objectives, and some use biological reference points that are outdated. Neither is it coherent with the objective of simplifying legislation and it creates an enormous administrative burden. Options 2 and 3 are both coherent with the current policy, legislation and practices equally and are given an equal score (Table 9).

Acceptability

The replies to the Public Consultation, although not expressly addressing the issue in detail, show that Option 1 has little or no support and that new mixed fisheries multiannual plans (Options 2 and 3), replacing the existing ones, are an acceptable way forward. There was no specific detail in the responses from stakeholders regarding one versus several MAPs, so they have been scored equally positive in comparison to the baseline of Option 1 (Table 9).

Table 9. Comparison of the options in terms of effectiveness, efficiency coherence and acceptability in achieving the objectives.

	Option 1: Baseline	*Option 2: One MAP for all western waters*	*Option 3: Two MAPs (north- and south-) western waters*
Effectiveness	0	++	+
Efficiency	0	++	+
Coherence	0	+	+
Acceptability	0	+	+

Key: 0= neutral impact, +=positive impact, ++ = very positive impact (relative to other options), -= negative impact, +/- positive and negative impacts

7.4. The preferred option

From the analysis above and from other practical, legal and political considerations, it is clear that, in order to better achieve the objectives defined to tackle the main and specific problems, it is justified to propose one mixed fisheries multiannual plan (Option 2) that would cover all demersal fish stocks, give clear rules for the stocks driving the fisheries and set procedures to bring all associated stocks within sustainability boundaries. This would address environmental objectives and implement the landing obligation. Importantly it would put in place the legal framework for stakeholders to design concrete measures to achieve sustainable fisheries together with the regional groups of Member States concerned via regionalisation.

Whilst Options 2 and 3 both score higher than the baseline Option 1, the preceding analyses (see Tables 4,5 and 6) demonstrate that **Option 2: one mixed fisheries multiannual plan for all western waters** scores best on the following criteria:

- Effectiveness and Efficiency
- Reducing administrative burden
- Achieving the overall main objectives of the CFP
- Provides a management framework facilitating stability and predictability

8. HOW WOULD ACTUAL IMPACTS BE MONITORED AND EVALUATED?

This question was addressed in the targeted consultation, which asked which indicators should be used to measure the performance of MAPs. One Member State suggested to measure progress i) towards good environmental status (GES) as defined in the MSFD and ii) towards good socio-economic status of the fishing sector. The other Member State suggested i) number of stocks at MSY, ii) economic indicators, iii) trajectories towards B_{MSY}, iv) progress in discard ban implementation, v) stock trajectories in relation to safe biological limits for species not directly covered by the MAP and vi) degree of satisfaction of the fishing industry.

Under the CFP, annual monitoring reports are required on progress towards the MSY target, and progress on the implementation of the landing obligation.

The Basic Regulation also anticipates that MAPs may be subject to periodic monitoring and assessment of progress in achieving the objectives of the plan (See Box 4 in Annex 2, Article 10(2b)). Apart from such specific monitoring of the objectives of the plan, monitoring of the impacts happens through existing monitoring of fisheries:

(1) Catches from fish stocks are monitored by the Commission on a monthly basis in the context of the TAC system. Member States collect catch data at a much finer scale, by vessel and by day, as part of their quota management;
(2) Detailed data on catch (size and age of the fish caught) are also collected by scientific bodies in order to provide input into stock assessments. Data on the fleets is also collected regularly, allowing estimates of number of vessels by fleet segment, their fishing capacity and fishing effort, as well as economic data allowing an assessment of their economic performance. All this is done in the context of the Data Collection Framework[44];
(3) STECF conducts every year an assessment of the performance of the fleets through an Annual Economic Report;
(4) The effects of management measures are also reflected in ICES annual stock assessments. Every year, ICES assesses the status of fish stocks against MSY and other benchmarks related to sustainability. Historical values for fishing mortality and spawning stock biomass (SSB) are estimated and catch projections are conducted showing how different catch levels in the coming year would affect F and SSB relative to chosen benchmarks (F_{MSY}, MSY $B_{trigger}$, B_{pa}, etc.). ICES also evaluates the effects of fishing on the wider marine ecosystem, including impact on habitats, sensitive species and food webs;
(5) The markets are also a valuable source of information. The EU Market Observatory for Fisheries and Aquaculture products (EUMOFA[45]) enables direct monitoring of the volume, value and price of fishery and aquaculture products, from the first sale to retail stage, including imports and exports;
(6) Progress toward MSFD GES is already an obligation for Member States under that Directive and both ICES and Regional Seas Conventions (OSPAR in the present case) collaborate in this work.

One Member State suggested monitoring the satisfaction of the fishing industry, and this could be dealt with by occasional or recurrent opinion polls which may be *ad hoc* or included in other wider polls.

Specific monitoring of the performance of plans could happen through reporting on the indicators below, related to the specific objectives. Data for all of these is already being collected, so monitoring would imply a limited extra effort by Commission services.

[44] Regulation (EU) 2017/1004 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy and repealing Council Regulation (EC) No 199/2008 (recast)

[45] http://ec.europa.eu/fisheries/cfp/market/market_observatory/index_en.htm. EUMOFA enables direct monitoring of the volume, value and price of fishery and aquaculture products, from the first sale to retail stage, including imports and exports.

Table 10. Objectives, indicators and targets

Objectives	Monitoring indicators (and frequency)	Possible targets
To provide a transparent framework to achieve sustainable fisheries (MSY) by 2020 at the latest	Number of target stocks covered by plans that are fished at F_{MSY}	All stocks managed at MSY by 2020
To ensure that the relevant stocks are maintained within safe biological limits and those stocks outside of biological limits are brought within those limits as rapidly as possible	Number of stocks covered by plan that are within safe biological limits	All stocks within safe biological limits by 2020
To ensure that the fishing opportunities on each of the stocks are set taking into account the nature of the mixed fisheries	Assessment of number of TACs where the upper part of the range of F_{MSY} was used to take into account mixed-fisheries considerations	Target depends on conditions in MAP – upper part of the range of F_{MSY} should only be used under those conditions.
To provide a management framework facilitating stability and predictability in the fixing of fishing opportunities	Assessment of number of TACs that are set in line with plan	All TACs set in line with the rules included in the MAP
To implement the accompanying measures for the landing obligations currently contained in the discard plans introduced in the reformed CFP	Number of stocks covered by plan which are entirely covered by the landing obligation	All fisheries covered by regionally agreed discard plan
To establish the framework that is necessary for regionalisation	Number of joint recommendations received from regional Member State groups with input from stakeholders, and number of management measures included in resulting delegated acts	n/a

In addition, the **socio-economic impacts** of the plan should be monitored. Since 2010, STECF carries out an annual assessment of the economic performance of the EU fleet[46] on the basis of Member States' data (including assessment of employment, profit, salary). The Commission would ensure that this annual assessment continues so that the socio-economic impacts of the plan can be monitored indirectly.

Impacts of the plan on markets (prices, trade patterns) will also be monitored by the Commission on a biennial basis through the EU Market Observatory for Fisheries and Aquaculture products (EUMOFA).

[46] https://stecf.jrc.ec.europa.eu/reports/economic .

There are however some aspects whose monitoring is not done routinely, such as **administrative burden**, which may need an *ad-hoc* system. Monitoring the **satisfaction of the fishing industry** is also be done for example through regular meetings between Commission services and stakeholders both at Advisory Councils as well as bilateral meetings throughout the year.

As far as evaluation is concerned, Article 10(3) of the Basic Regulation stipulates that MAPs shall provide for their revision after an initial ex-post evaluation, in particular to take account of changes in scientific advice. Under the assumption that the MAPs for demersal fisheries in western waters are adopted by mid-2018, a first evaluation could not take place reasonably before 2023, i.e. about 5 years after their entry into force. An earlier evaluation is not sensible, due to fact that there is an important time gap between implementation of the plan and when the data required for evaluation are available. STECF notes that a period of 48 months after implementation would be required in order to have 3 years of biological data at its disposal and 60 months for 3 years of economic data to be available. Furthermore, it would be sensible to allow for a few years of full implementation of the landing obligation (foreseen by 2019) before evaluating the plan.

Indicators to be used for the evaluation do not need to be specified in the legal acts setting the MAPs; instead, they can be developed subsequently in consultation with the relevant stakeholders and scientific bodies. In any case they should be environmental (such as fishing mortality and SSB for all relevant stocks), social (total employed (FTE), economic (such as net profits, return on investment, gross value added, etc.), average wage, etc.) and cost-efficiency related (administrative burden). Disaggregated analysis should be preferred in order to find out whether there are fleet segments or fish stocks for which specific action would be required.

Annex 1 Procedural information

Member States and the PECH Committee of the European Parliament were consulted on the possible scope of this initiative on 29 January 2015. The minutes of this meeting are appended to this Annex.

This was followed by the constitution of an inter-service steering group for the impact assessment (IASG). The services represented in this ISSG were:

– DG Maritime Affairs and Fisheries;
– DG Environment;
– DG Internal Market, Industry, Entrepreneurship and SMEs;
– The Commission Legal Service;
– The Secretariat General.

The IASG met on 5 February 2015, 15 April 2015, 27 October 2015 and 27 January 2017. The IASG contributed to the scoping of the exercise and the consultation strategy and reviewed the Impact Assessment Roadmap[47], the terms of reference for STECF and this Impact Assessment Report.

The Roadmap was later on adapted to take the form of an Inception Impact Assessment[48] which can now be consulted via http://ec.europa.eu/smart-regulation/roadmaps/docs/2016_mare_004_005_plan_demersal_fisheries_north_and_south_western_eu_waters_en.pdf

Commissioner Karmenu Vella announced his intended working schedule for the near future, which included the proposals on multiannual plans, at the December 2014 Fisheries Council and at the PECH Committee of the European Parliament during its meeting of 22 January 2015.

The proposals for multiannual plans for demersal fisheries in western EU waters were inserted in the Agenda Planning[49] by the end of March 2015, and they were included within an extract of major planned Commission initiatives in September 2015.

This Impact Assessment Report was reviewed by the IASG during its meeting of 27 October 2015 and by correspondence. It was submitted to the Regulatory Scrutiny Board (RSB) on 19 February 2016, who gave a negative opinion and asked to re-submit an improved report following five main recommendations. These were addressed in the present version of the report as follows (more details in table 9 below).

47 Roadmaps for new major initiatives describe the problem to be tackled and the objectives to be achieved, explain why EU action is needed and its added value and outline alternative policy options.

48 If an impact assessment is planned, the roadmap is replaced by an Inception Impact Assessment which sets out in greater detail the description of the problem, issues related to subsidiarity, the policy objectives and options as well as the likely impacts of each option.

49 Agenda Planning (AP) is the Commission-wide internal database used for programming and reporting purposes as regards legislative and other initiatives which the Commission plans to adopt. It translates the Commission Work Programme (CWP) and the DGs'/Services' Management Plans (MPs) into an operational planning of initiatives to be adopted by the College.

(1) Clarify the policy context and the link to other initiatives. In the revised version the main features of the CFP reform are described in more detail in simpler language. The legal text is moved to an annex. The general context including description of the areas and the fisheries concerned and the links with other similar initiatives (MAPs for the Baltic Sea and the North Sea) is more clearly described.

(2) Improve the problem definition. The main problems are now made more explicit, showing their main drivers, how these were addressed over time by successive reforms of the CFP and what are the remaining problems, which the present initiative intends to tackle. It also shows the likely consequences of these problems if no action is taken.

(3) Clarify the content of the policy options. Apart from an improved explanation of the policy options, which now refer to specific choices to be made when drafting MAPs, figures illustrate the link between the options and the problems to be addressed and the objectives to be achieved.

(4) Better assess and compare the options. The revised version explains the rationale of the methodology proposed to STECF more clearly (e.g. the reasons for the choice of the target dates of 1 January 2017, 2021 and 2025) and refers to the results in a less technical language, while a more technical analysis is moved to an annex (although ultimately, the report also gives the links to all STECF analysis where interested readers can have the full details).

(5) Improved presentation. This report uses plain language except where it is inevitable to include technical terms and in the latter cases these are explained the first time they are mentioned. All acronyms are equally described when first mentioned, and both terms and acronyms and their description are summarised in a glossary and a table of acronyms at the beginning of the document.

The IASG was consulted on the revised IA in a meeting on 27 January 2017.

The IASG members welcomed the significant process made compared to the first version of the report, especially in terms of presentation and clarity. The IASG emphasised the importance of clear and understandable language, and noted that many technical elements have been moved to the Annex.

The IASG agreed with the re-submission of the revised report, and urged DG MARE to verify the text again for consistency and to do a final editorial control. This has been undertaken with the current version of the Impact Assessment.

Annex 2: Main Elements of the Common Fisheries Policy

The new CFP, Regulation (EU) 1380/2013 entered into force on 1 January 2014. The main elements of the new CFP are:

(1) **Maximum Sustainable Yield** is the best possible objective for renewable and profitable fisheries, harvesting the maximum amount of fish on a long term basis. The objective of the CFP is to ensure that MSY is achieved by 2015 where possible, and by 2020 at the latest. Not all stocks in the north-east Atlantic are MSY-assessed. Of the assessed stocks 57 % (both demersal and pelagic) are fished in line with MSY (up from only 6 % in 2005).

(2) **Annual/biannual legislation on fixing fishing opportunities** (TACs and quotas): to fix, based on scientific advice that is consistent with MSY and in accordance with multiannual plans (where they exist), the amount of fishing for the stocks concerned, and to allocate quotas to the Member States following the so-called relative stability key. In turn, Member States distribute their national quotas to their fishermen. Annually fishing opportunities are set for the Baltic, North Sea, Atlantic and biannually for the deep-sea stock, by Council only, to determine the level of catches, for each stock. The COM outlines its approach for its proposals on fixing the TACs in spring each year in a Policy Statement.

The COM proposals are based on biological advice. The proposals for TACs in western waters are no longer based on the existing MAPs as all of them are by now outdated (only the Baltic MAP is updated). TACs are shared out to Member States following fixed allocation keys (so-called relative stability, which differs among stocks). TACs (in tonnes) are a translation of fishing mortality (F, mortality caused by fishing as a ratio of the stock). In the context of multiannual plans the COM will be seeking updated advice on MSY expressed in ranges of fishing mortality that correspond to sustainable fishing and MSY, for the target species. Under some of the outdated exisiting multiannual plans TACs are accompanied by effort schemes for certain fleets. These effort regimes are currently considered ineffective, causing red tape, and sometimes creating conflicts with the TACs. They are likely to disappear from future multiannual plans, but effort figures are currently still being proposed as part of the TAC proposals, awaiting the repeal of the outdated MAPs.

(3) **The landing obligation**: The new CFP includes a landing obligation for all catches of species subject to catch limits (TACs).

It applies to all Union vessels fishing in Union and non-Union waters. The landing obligation is applied in a gradual way and is fishery based. As of 1 January 2016 demersal fisheries are being phased in under the landing obligation. The landing obligation comes with a set of measures and flexibility instruments to make the transition and timely implementation possible. These include quota flexibilities, exemptions for species that have a high survival rate (i.e. it makes sense to return these fish to the sea if they are likely to survive) and a *de minimis* exemption to cater for unwanted catches, where e.g. the costs of handling these is disproportiate. The plans may also fix conservation reference sizes for fish. These

measures should be developed through multiannual plans, but in the absence of such plans, *discard plans* can be adopted (with duration of maximum three years).

(4) **EU multiannual plans**: they contain the framework for management of stocks (by fishery). Multiannual plans are designed to ensure effective management of the fisheries and to bring conservation and management provisions for groups of stocks under plans. Plans contribute to stability and a long-term security for the industry. The elements to be included in a multiannual plan are specified in Article 9 and 10 of the Basic Regulation. The main elements of plans are:

MSY-related targets (per target stock), deadlines for achieving MSY, and fishing mortality/exploitation ranges that are consistent with MSY (F_{MSY} as a range of values), safeguard provisions if science indicates that stocks are in trouble; specific conservation measures for non-target species, so as to keep them within sustainable boundaries, mechanisms to allow for regionalisation of implementing measures under the plan.

The precise shape and content of multiannual plans were subject to work by an Inter-Institutional Task Force involving the Commission, the European Parliament and the Council in order to provide guidelines on the structure and content of these multiannual plans and to solve delicate issues on the sharing of competences among those EU Institutions[50]. A Court ruling[51] complemented the conclusions of the Task Force, confirming that the adoption of measures necessary for the pursuit of the objectives of the CFP must be reserved to the EU legislature under Article 43(2) of the Treaty on the Functioning of the EU (TFEU)[52] as they entail a policy decision. Measures on the fixing and allocation of fishing opportunities can be adopted by the Council in accordance with Article 43(3) of the TFEU, as they do not require such a policy assessment since they are of a primarily technical nature and are intended to be taken in order to implement provisions adopted on the basis of Article 43(2) of the TFEU.

(5) **Fleet capacity rules**: these are provisions to support that the fleet capacity of a Member State matches with the fishing opportunities that are allocated to it; fleet overcapacity potentially leads to overfishing. Member States on this basis cannot increase the engine power or storage capacity of their fleets. Each Member State has a maximum capacity threshold (in engine power (kW) and in vessel volume (GT). Nominally, all Member States' fleets are under these ceilings.

Member States must report annually on the balance between capacity and fishing opportunities. Historically this has not been linked to targeted actions. For the first time, under the new CFP Member States have to give follow-up to the identification of overcapacity with an action plan to eliminate it, in order to have access to funding for decommissioning of excess vessels. The assessment exercise by Member States on the balance between capacity and fishing

[50] Council Document No 8529-14 PECHE 117 CODEC 1004, also published by the European Parliament: http://www.europarl.europa.eu/meetdocs/2009_2014/documents/pech/dv/taskfor/taskforce.pdf

[51] Court ruling of 1 December 2015 in joined cases C-124/13 – Parliament/Council and C-125/13 Commission/Council.

[52] Consolidated version of the Treaty on the Functioning of the European Union. OJ C 326, 26.10.2012, p. 47–390

opportunities is facilitated by common guidelines developed by the Commission. It includes technical and economic parameters. Member States will have to include in their reports an action plan for the fleet segments with identified imbalance. In the action plan, Member States have to set out the adjustment targets and tools to achieve the balance. The plan has to include a clear time frame for the implementation of the action plan as well.

(6) **The External Dimension**: The CFP reform enshrines for the first time the external dimension of the CFP (Part VI of the Basic Regulation: Articles 28-33). It calls for strong external action that follows externally the same principles and standards as internally while promoting a level-playing field for EU operators. Under the CFP new international agreements should contribute to long term sustainability worldwide via stronger bilateral relations, e.g. with a view to promote joint management of joint stocks, tackling global issues such as IUU fishing and fishing overcapacity, uphold and strengthen the global architecture for fisheries governance (UN, FAO, OECD, etc.), contribute towards a more effective functioning of RFMOs, more sustainable Fisheries Agreements and ensure better coherence with other EU policies.

(7) **Data Collection Framework**: a set of requirements on collection by fishermen and Member States and management of biological and other data as input for biological, economic and other knowledge and advice in support of the policy. To align to the new CFP, a recast Data Collection Framework Regulation has been adopted[53]. It introduces simplifications and more flexibility and adaptability, based on an evaluation of the previous framework.

(8) **Advisory Councils**: The Advisory Councils (ACs) were established since 2004 to advise the Commission on matters related to fisheries management in their respective areas of competence. Seven ACs were established for: the Mediterranean Sea, the south-western waters, the north-western waters, the North Sea, the Baltic Sea, small pelagic species, and the Long Distance Fleet.

ACs are stakeholders' organisations that bring together the industry (fishing, processing and marketing sectors) and other interest groups, such as environmental and consumers' organisations. They receive an annual grant of up to €250.000 from the Commission to cover part of their operational costs. The new CFP foresees the creation of four new ACs for Aquaculture, Markets, the Black Sea and Outermost Regions.
ACs are expected to expand their play in the regionalised CFP and are to be consulted by Member States when preparing joint recommendations on conservation measures. The functioning of ACs is set out in the Basic Regulation, articles 43-45 and Annex III.

(9) **Regionalisation:** Another important innovation introduced by the Basic Regulation (Article 18) is "**Regionalisation**". The Basic Regulation enables

53 Regulation (EU) 2017/1004 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy and repealing Council Regulation (EC) No 199/2008 (recast)

Regionalisation for a number of instruments and measures: multiannual plans, discard plans, establishment of fish stock recovery areas and conservation measures for compliance with obligations under EU Environmental legislation. Where regionalisation applies, EU Member States with a direct management interest may agree to submit joint recommendations for achieving the objectives of the above-mentioned plan or measure. The recommendations have to be compatible with the objectives of the CFP, with the scope and objectives of the measure or plan, and be at least as stringent as measures under EU law. The EU countries have to consult the relevant Advisory Council(s) on the joint recommendations before submitting them to the Commission. If all these conditions are met, the Commission can then adopt a Delegated Act to transform these joint recommendations into EU law applicable to all operators in the region.
Concretely, in most cases, regionalisation may only be used in the context of multiannual plans.
The aim of Regionalisation is to increase the involvement of the Member States affected by Regulation and thus their ownership of the measures. The Commission's role is to ensure that the adopted measures fulfil the objectives of the Basic Act. Regionalisation thus constitutes an important shift from instrument-based to results-based management.

(10) **Establishment of fish stock recovery areas:** Under Article 8 of the Basic Regulation, the Union shall endeavour to establish protected areas due to their biological sensitivity, including areas where there is clear evidence of heavy concentrations of fish below minimum conservation reference size and of spawning grounds. In such areas fishing activities may be restricted or prohibited in order to contribute to the conservation of living aquatic resources and marine ecosystems. Member States shall identify, where possible, suitable areas which may form part of a coherent network and shall prepare, where appropriate, joint recommendations (in line with regionalisation) with a view to the Commission submitting a proposal. The Commission may be empowered in a multiannual plan to establish such biologically sensitive protected areas.

Annex 3 Stakeholder consultation

Findings following a Public Consultation on the Development of Multiannual Plans for the management of demersal Fisheries in western EU waters

1. Background

The Commission services have taken the responsibility to propose multiannual plans (hereinafter, MAPs) as foreseen following the CFP reform in 2013. A MAP has in the meantime been adopted for the cod, herring and sprat stocks in the Baltic Sea and a proposal covering demersal fisheries in the North Sea is expected to enter the trilogue process in autumn 2017. A plan for small pelagic stocks in the Adriatic Sea is currently discussed in the Council and in the European Parliament. Work is also ongoing to prepare an MAP for the western Mediterranean.

In the context of the Commission's better regulation policy, an impact assessment has been carried out to assess the potential environmental, economic and social impacts of alternative policy options for the Western Waters MAP in preparation for the relevant proposal. As an integral part of the impact assessment process an open public stakeholder consultation was launched to collect inputs about the main elements of the proposal for demersal fisheries MAPs in western waters.

The open Public Consultation was made available by 22 May 2015 to the main public in the EUROPA webpages of 'Your Voice in Europe' and dedicated to Fisheries, with a deadline of 15 September 2015 for submitting replies to the consultation document. Parallel to this Public Consultation, a targeted survey was done with more technical questions. It was addressed to the Advisory Councils, to Member States authorities, to the PECH Committee of the European Parliament and to the NAT Committee of the European Economic and Social Committee.

2. Number of Replies

We received 28 replies to the consultation. Of these, 5 were non-pertinent (not really addressing the issue), 14 came from environmental NGOs (hereinafter NGOs), 7 from professional organisations (hereinafter POs), 2 from other organisations OTHs) and one from the authorities of a Member State (UK), hereinafter MS.

3. Detail of the replies

This summary report presents the results of the consultation, without entering into the analysis of the extent to which the views of the respondents are right or wrong or of the question whether they supported or not the views of the Commission. The texts in italics are referring to the relevant parts of the consultation document.

1. THE PROBLEM

The overall problem is that, despite recent improvements, most demersal fish stocks in the area are not yet at levels above those capable to produce MSY, and that there are also a few fish stocks clearly depleted. Therefore the fishing industry and the consumers cannot yet enjoy fully the benefits of a fishery in conditions of environmental, economic and social sustainability.

Current fisheries management plans are no longer fit for purpose: they are either out of date (their targets are superseded by new science) or they have proven ineffective (for instance restriction of the fishing effort –days that fishermen can spend at sea- have not yielded results). The current fisheries management plans do not allow the use of any of the tools of the new, reformed EU fisheries policy: regional decision-making, management measures that are adapted to regional circumstances, or flexibility to change management measures to new circumstances.

Question 1: Do you agree with this perception of the problem?

Fully	Mostly	Partially	Barely	Not at all
2 POs 2 NGOs 1 OTHs	1 PO 11 NGO 1 MS	3 POs 1NGO 1 OTH		

Comments received were:

POs: MSY not achievable, TAC system too rigid and obsolete, rules should adapt to reality, not the opposite.

NGOs: Rather than inappropriate rules (existing MAPs), the problem is that the rules have not been adhered to (TACs set above scientific advice); lack of data and science, precautionary principle not applied.

Question 2: What is your perception of the importance of the problem?

Very severe	Severe	Moderate	Appreciable	insignificant
3 POs 12 NGOs 1 OTH 1MS	2 PO 2 NGOs 1 OTH	1 PO		

All comments received agreed that there was an important social and economic issue.

Question 3: Do you agree on the need for the EU to take action?

Fully	Mostly	Partially	Barely	Not at all
4 POs 14 NGOs 1 OTH 1 MS	1 PO	1 PO 1 OTH		

Comments received: NGOs remarked that, beyond the question of a need, an EU action was an obligation from the Treaties. POs demanded more collaboration with the fishing sector.

2. MULTIANNUAL PLANS AS MANAGEMENT INSTRUMENTS

Fishery management decisions can be taken just in a reactive fashion, responding to fluctuations in stock sizes produced by fishing activities, environmental variations, natural or anthropogenic catastrophes or market disruptions (such as the recent Russian import ban on certain fish products from the EU).

These decisions can also be taken in a proactive manner, establishing multiannual plans. These would determine in advance the type of measures that are to be taken in each circumstance, what are the ultimate and intermediate objectives and would ensure the transparency and predictability of the management measures, which can then be defined at the regional level and in response to specific circumstances.

Question 4: Would you prefer a multiannual, proactive approach rather than an annual, reactive one?

Fully	Mostly	Partially	Barely	Not at all
3 POs 13 NGOs 2 OTH	1 NGO 1 MS	3 POs		

Comments received: Some POs, NGOs and a MS noted that the approach should also be reactive to changing circumstances. Most NGOs noted that a multiannual, proactive approach was a legal obligation.

The ultimate aim of this multiannual approach would be to address the main problem as described above, with the following specific objectives:

– *To provide a transparent and stable framework to achieve MSY, avoiding stock decline and taking into account the interactions between fish stocks and the diverse fishing modalities and the economic and social consequences of management measures;*

– *To provide a legal framework for the long-term implementation of the landing obligation and the regional approach to fisheries management*

Question 6: Would you agree with these objectives?

Fully	Mostly	Partially	Barely	Not at all
2 POs 1 OTH	3 POs 8 NGOs 1 OTH 1 MS	1 PO 6 NGOs		

Comments received:

POs: The objectives do not address the true problems; avoid decline of fishermen populations (shared by 1 OTH).

NGOs: The objectives are incomplete and ill-defined. Should refer to MSY objectives as stated in CFP; include environmental objectives (contribution to MSFD)

3. SPECIES COVERED

A number of fisheries have not so far been included in multiannual management plans. However, many fish species are being caught together in mixed fisheries. Managing them in isolation from other species in the same fishery is not appropriate. Some of those species, such as sea bass, have been over-exploited as a consequence.

Question 8: Do you agree it is appropriate to establish a framework for managing the main species coherently within a multiannual management plan?

Fully	Mostly	Partially	Barely	Not at all
2 POs 8 NGOs 1 OTH 1 MS	1 PO 6 NGOs	3 POs		

Comments received:

POs: Coherence is difficult in the multi-species Celtic Sea; coherence should also be between catch composition and quota allocation.

NGOs: Cover also species other than the main species (shared with a MS); coherence to be sought with geographical distribution in biological and fishery terms; multi-species consideration to be phased in.

Question 9: Which fish species should be included in such a management plan as a matter of priority?

POs and OTHs referred to the species leading the main fisheries as currently defined in the discard plans; some mentioned specifically cod, hake, megrim, anglerfish. They did not suggest including data-poor species in these MAPs.

NGOs proposed an exhaustive list: demersal fish (hake, sole, plaice, haddock, whiting, cod, megrims, anglerfish, Norway lobster, pollack and saithe), deep-water species (lings, great silver smelt, tusk), elasmobranchs (including porbeagle, skates and rays and dogfish) and non-TAC species (sardine, sea bass, lemon sole, all these either as main species or as by-catch). Nevertheless, "group TACs" such as "skates and rays" were opposed.

4. GENERAL QUESTION

Question 10: Please include below any other comments you may have on this initiative

Comments received:

POs regretted not having taken part earlier in the scoping of this exercise; current scope is too narrow, not including socio-economic elements. According to their view, CFP should take into account regional specificities.

NGOs: apply a precautionary approach; F_{MSY} should be a limit instead of a target; use B_{MSY} as a safeguard; the regional approach should better involve stakeholders; MAPs performance needs to be assessed against B_{MSY}. Apply an ecosystem approach, include contribution to MSFD; review 2003 effort regime (WW); introduce clear harvest control rules.

MS: use same structure and principles as for the Baltic MAP.

Annex 4 Who is affected by the initiative and how

Once the Regulation setting out the MAP for demersal fisheries in western EU waters is adopted, the immediate consequences will be as follows:

1) for the EU institutions:

- The Council should endeavour to adopt total allowable catches (TACs) at levels which, according to scientific advice, would be compatible with objective to keep fishing mortalities within F_{MSY} ranges as soon as possible and by 2020 at the latest. TACs should also be set so as to minimise "choke" effects while ensuring full utilisation of available resources and avoiding stocks falling below safeguard levels. In practice this means that the Commission should request adequate advice from science (ICES and STECF) so its TAC proposals also address the above-mentioned specifications;

- The Commission should adopt, as appropriate, delegated acts implementing the discard plans foreseen in Article 15 of the Basic Regulation and *ad hoc* technical measures devised by regional groups, in particular those aiming at contributing to facilitate the specifications of the previous paragraph. The European Parliament and the Council will in this respect play their supervisory roles for Commission delegated acts

- The Commission should ensure that the work programmes of ICES and STECF include any monitoring and assessment requirement not already foreseen in our current arrangements with these scientific institutions. It should also anticipate the associated costs and cover these as they are incurred.

2) for Member States:

- Within the fish quotas allocated to them by the Council, Member States should distribute fishing opportunities to their fleets in accordance to the criteria specified in Article 17 of the Basic Regulation and, especially, in a manner minimising the likelihood of choke effects. Where quotas were imbalanced with regard to the existing fishing capacity, national measures should be adapted to restore such balance;

- They should gather in regional formations in order to devise discard plans and *ad hoc* technical measures to be adopted by the Commission via delegated acts (regionalisation);

- Member States should also continue to use their competences on surveillance and control (Regulation (EC) No 1224/2009 and associated legislation) in order to enforce the fair consumption of quotas, the landing obligation and any new measures adopted within the regionalisation process;

- Where adaptation to new control and surveillance needs would imply additional costs, the EMFF (see footnote 17) has a number of possibilities to alleviate or compensate for such costs;

– Finally, they will need to continue to comply with the monitoring requirements specified in the above-mentioned Control Regulation and in the Data Collection Framework (see footnote 18) or any new monitoring requirement required by the multiannual plans. The Data Collection Framework is being recast and will include financial aid to cover these requirements.

3) For fishing operators:

– Fishermen have the skills and the means to change their behaviour and adapt to new measures and cope with them in the most efficient way. They can exchange their quota allocation, ensuring smooth consumption; they can apply their knowledge of the fishing grounds and techniques to avoid catching "choke" species; they can adopt fishing strategies that avoid concentration of supply leading to lower prices. They regularly come up with innovations that allow them to fish more selectively and in a more economical way. They should, in short, make all efforts to facilitate achieving the objectives of the CFP with minimum economic burden. The EMFF can also contribute to this end by providing financial support to initiatives concerning market organisation, advisory services, partnerships between scientists and fishermen, diversification of activities, systems of allocation and exchange of fishing opportunities, port facilities to handle unwanted catches, permanent and temporary cessation of fishing activities, purchase of selective gear, etc.;

– Fishermen should also contribute with their skills and knowledge to participate in the conception of measures under regionalisation, either directly or within their participation in Advisory Councils. Fishermen play an important role in the framework of regionalisation to design measures to achieve sustainable fishing for the benefit of the fishing industry in terms of improving the economic performance in the long run as well as for the benefit of consumers;

– Finally, the fishing industry is the main source of raw data to monitor the performance of multiannual plans. By providing accurate catch and effort data and admitting scientific observers on board their vessels they play a decisive role in the monitoring process. The new multiannual plans, however, do not add additional requirements in this regard so no additional costs are expected.

Annex 5.

Analysis by the STECF: main findings

Background: Developments since the analysis by STECF

In 2015, after the new CFP was launched, the Commission started a simultaneous dialogue and development of several multiannual plans (MAPs) for relevant regions, including the Western Waters. The STECF (STECF-15-08) were asked to assess several fisheries for a proposed Western Waters plan, including in the evaluation the impact of introducing ranges of F_{msy} and evaluating the species to be covered. In this 2015 exercise, the STECF were asked to conduct an analysis within only two management options: no plan (option 1), and multiannual plans, covering SWW and NWW respectively (option 2).

For the 2015 submission of the impact assessment (IA) and subsequent Regulatory Scrutiny Board (RSB) meeting of January 2016, the two options and the structure of the STECF assessment were followed and included the addition of a range of sub-options to the second option allowing for possible additional policy choices for the plan. These sub-options elaborated on the number and geographical scope of MAPs, the fisheries approach to management and possible multispecies TACs for bycatches, along with fast versus slow recovery of stocks towards 2020.

Since the IA submission and RSB opinion of early 2016, certain developments have justified a review of the policy options. These include the adoption by the co-legislator of the Baltic Sea multiannual plan as a template for future plans, the lessons learned from the IA of the North Sea multiannual plan and the progress in examination and discussions with the co-legislators on the North Sea proposal, including further dialogue with stakeholders. While the IA can still take its scientific basis in the STECF assessment of 2015, the revised IA focuses on the most relevant options at this stage; leaving the situation as it is with a series of older long-term plans (option 1), the adoption of either one multiannual plan for the whole of the western waters, from north of the UK all the way south to the Iberian waters (option 2) or two multiannual plans covering the northern and the southern Western Waters respectively (option 3).

For the comparison of the different options, the work done by STECF in 2015 is still relevant and valid on the substance of the parameters for comparison.

The analysis by the STECF:

In 2015 the STECF was requested to analyse the evolution of EU fisheries and to describe their likely situation in the short and medium term under two main management options: no plan (option 1), and multiannual plans, covering SWW and NWW

respectively (option 2). STECF was also requested to provide guidance on the sub-options considered under option 2[54].

On the setting of TACs under a MAP, and in the absence of precise harvest control rules[55], the STECF had no guidance on what precise values of F, within the F_{MSY} ranges, the Council would adopt as targets. The STECF working group decided that the best alternative would be to use an "envelope" approach. Such an approach considered the potential consequences of fishing at the limits (upper and lower) of the F_{MSY} ranges, to simulate both high and low exploitation cases, and thereby inform managers on the range of potential outcomes of alternative tactical management decisions, without giving advice about the 'best' way to get to the target. Under this approach, each scenario has two management options that lead to two simulations:

- upp: TAC is set as the catch that results from exploiting the stock at F_{MSYupp}
- low: TAC is set as the catch that results from exploiting the stock at F_{MSYlow}

Biomass safeguards were set as the precautionary biomass (B_{pa}). In the absence of harvest control rules to define the tactics to recover the stock, recovery was simulated as a linear increase in SSB up to the safeguard. Two recovery periods were simulated: fast and slow (5 and 10 years).

For each scenario, STECF was requested to run the appropriate forecast models in order to describe the likely situation of the fisheries on 1 January of 2017, 2021 and 2025 using a set of given environmental, economic and social indicators. The choice of these years was made on the following grounds:

i. 2017 would be the baseline, since the stock size at 1 January 2017 would be a reflection of the pressure on the fishery during 2016, when the MAP would not yet be in force;
ii. The status of the stock at 1 January 2021 would be a reflection of whether the target F was applied during 2020, as required by the main CFP objective;
iii. The status of the stock at 1 January 2025 would help see whether there is a trend (increase or decrease) after the 2020 deadline and the magnitude of such trend.

STECF was also requested to describe, by expert judgement, the advantages and disadvantages of setting alternative geographic coverage of MAPs like i) a single MAP for all western waters, ii) distinct MAPs by geographical sub-region and iii) several MAPs addressing specific groups of fisheries having common characteristics, on the

[54] With Reference to the two original options submitted to STECF in 2015. Please see information in the box 'Background: Developments since the analysis by STECF'

[55] Harvest control rules are mathematical formulas or algorithms that predefine how the TACs are to be set on the basis of the state of the stock and the exploitation rates that they are subject to, relative to target values of these parameters. Due to lack of understanding on how this system should be implemented in EU law, the Inter-institutional Task Force that discussed the form and content of MAPs (see footnote 1) decided that MAPs will not have explicit harvest control rules.

basis of the groups of fisheries proposed by Member States in their joint proposals for discard plans[56].

Finally, STECF was also requested to examine the effects on by-catch species of addressing the MSY objective uniquely for the target species that define the fisheries mentioned in point iii) of the preceding paragraph. As a complement to this request, STECF was asked to advise on the appropriateness of multi-species TACs covering combinations of by-catch species.

In its analysis, STECF noted that the likely responses of the fishing sector to any management decisions are of major importance when forecasting potential stock and fleet impacts. The range of potential responses is very wide, which makes it extremely difficult to forecast. Although a large effort was allocated to modelling fleet response to management, the results obtained were not satisfactory: in most cases there were large differences with what was observed in the past, and the scientists participating in the STECF working group in charge of the calculations were not able to find justifications for such differences. Consequently, only one fleet behaviour was simulated, in which the fleets distribute their fishing effort in the same way they have done in the past, reflecting a strong inertia to change in face of the new management options.

The STECF working group could not undertake the simulation of the effects of technical measures since, in the absence of guidance about which precise measures are likely to be implemented and what effects were expected from them in quantitative terms, the number of simulations required would be too large.

The analysis for north-western waters was limited to the Celtic Sea (CS), and for south-western waters it was broken down into the Bay of Biscay (BoB) and Iberian waters (IW). For the purposes of this exercise (to compare Option 2 under several modalities against the baseline Option 1) this can be considered a reasonable compromise between data availability, computational effort and manpower.

In order to simulate the MAP scenario under Option 2, values for F_{MSY} ranges were required. These should in principle have been provided by ICES. However, for the stocks in this area the ICES advice was scheduled for around February 2016, so STECF computed provisional F_{MSY} ranges which try to keep the fundamental concepts required by DG MARE i.e., the fishing mortality ranges that produce 95% of the maximum possible long-term catch while ensuring with a high (95%) probability that the stock will not fall below safeguard levels. The values for F_{MSY} ranges used are presented below.

[56] In preparation for the step-wise introduction of the landing obligation for demersal fish, Member States have presented joint recommendations defining the main fisheries that would be covered by the landing obligation in 2016 and the specific rules that would govern certain exemptions allowed by the Basic Regulation, such as the *de minimis* rule and the exemptions justified on the basis of survivability.

Table 11. Values of F_{MSY}, and their lower and upper range, as used in the analyses.

Stock	F_{MSY}	F_{MSYlow}	F_{MSYupp}	Method
Hake (south)	0.24	0.17	0.36	YPR (WD: Abad et.al)
Hake (north)	0.27	0.18	0.37	PLM (WD: Jardim)
Horse mackerel (south)	0.11	0.08	0.16	PLM (WD: Jardim)
Megrim (south)	0.17	0.08	0.19	YPR (WD: Abad et.al)
Sole (Bay of Biscay)	0.26	0.17	0.36	PLM (WD: Jardim)
Blue whiting	0.30	0.20	0.41	PLM (WD: Jardim)
Four spot megrim (south)	0.17	0.11	0.24	PLM (WD: Jardim)
Horse mackerel (western)	0.13	0.09	0.18	PLM (WD: Jardim)
White anglerfish (south)	0.19	0.13	0.26	PLM (WD: Jardim)
Haddock (VIIb-k)	0.40	0.26	0.60	EqSim (WD: Gerritsen and Lordan)
Cod (VIIe-k)	0.40	0.27	0.55	EqSim
Whiting (VIIe-k)	0.32	0.21	0.44	PLM (WD: Jardim)
Sole (VIIfg)	0.31	0.21	0.43	PLM (WD: Jardim)
Plaice (VIIfg)	0.3	0,21	0.43	PLM (WD: Jardim)

STECF gave its opinion during its plenary meeting of 6-10 July 2015. Plenary and working group reports are to be found in the STECF website[57].

1. Results of the analysis of the scenarios proposed

The results were presented as ratios between the values obtained under the MAP proposal scenario and the baseline scenario. Thus, they focus on the differences between the two options, with or without a MAP framework, and show in a simple way the effect of the MAP. A value of 1 means that there is no difference between the scenario considered and the baseline. A value below 1 means that there was a reduction of the variable when compared with the baseline (e.g. a value of 0.5 in F would mean that F in the MAP scenario was half of the value of F in the baseline scenario), and vice-versa for values above 1. Results are given separately for management at F_{MSYlow} and F_{MSYupp} levels.

STECF evaluated the relative effects of the two main options by 1 January 2017, 2021 and 2025. Major differences started to appear only in 2021. Since 2021 is related to the deadline at which MSY should have been attained (F_{MSY} at 2020), for simplification purposes this report will only present the results for that year. Interested readers can have access to the whole set of results[58].

The main models used for the simulations were FLBEIA and IAM. Descriptions of these models can be found in Annex 6.

[57] http://stecf.jrc.ec.europa.eu/documents/43805/1099561/2015-07_STECF+PLEN+15-02_JRCxxx.pdf

[58] For further details, see the STECF report (http://stecf.jrc.ec.europa.eu/reports/plenary) and the STECF EWG report (http://stecf.jrc.ec.europa.eu/reports/management-plans).

1.1. North-western waters

I. State of the fisheries by 2021

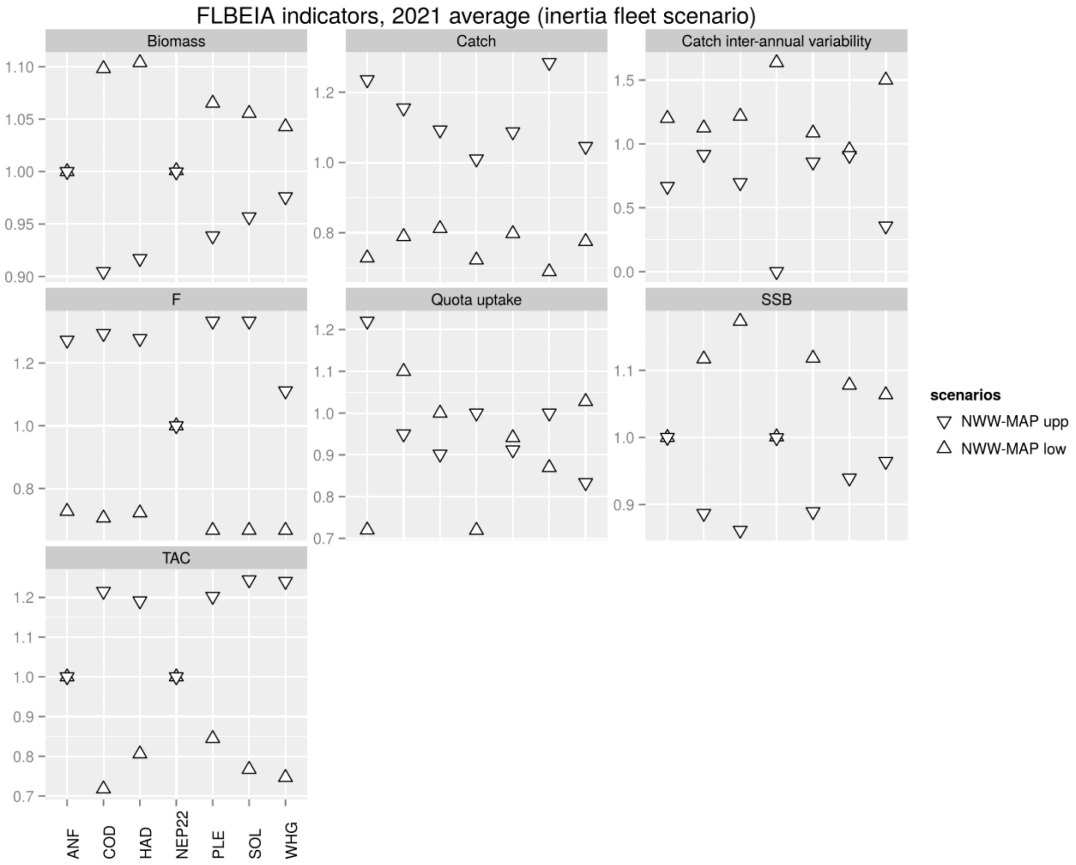


*Figure 4. Ratios of various indicators for the upper and lower MSY ranges against the baseline (CFP) scenario, for the NWW MAP in 2021, and for seven stocks in the area. Species codes: ANF (anglerfish); COD (cod); HAD (haddock); NEP22 (*Nephrops*); PLE (plaice); SOL (sole) WHG (whiting).*

The outlook for 2021 under the tested condition shows how the different species incorporated in the model are more or less sensitive to the targeted F_{MSY} value. Gadoids (cod, whiting and haddock) show higher differences in terms of biomass, than flatfish (sole and plaice). However, catches of sole can vary quite extensively.

One way of interpreting these results is:

- Compared to the baseline, a MAP where it is chosen to use systematically the lower boundary of the F_{MSY} range (F_{MSYlow}) results in fishing mortality about 25% lower, TACs and catches around 20% lower, spawning stock biomass (SSB) around 10% higher and inter-annual variability of catches around 10-50% higher (notably for NEP and WHG). Quota consumption is generally lower, especially for ANF and NEP, but slightly higher for cod;
- Compared to the baseline, a MAP where it is chosen to use systematically the upper boundary of the F_{MSY} range (F_{MSYupp}) results in fishing mortality about 25% higher, TACs and catches about 20% higher, SSB around 10% lower, inter-annual variability of catch around 20% lower (much lower for NEP and WHG).

Quota uptake increases particularly for ANF (+20%) but decreases for WHG (-20%).

In other words: the use of upper boundary of the F_{MSY} ranges leads to noticeable increases in yield (around 20%) for relatively small loss of spawning biomass (10%). The extent to which this decrease in biomass constitutes a biological risk is dealt with by STECF later on.

II. State of the fleets by 2021

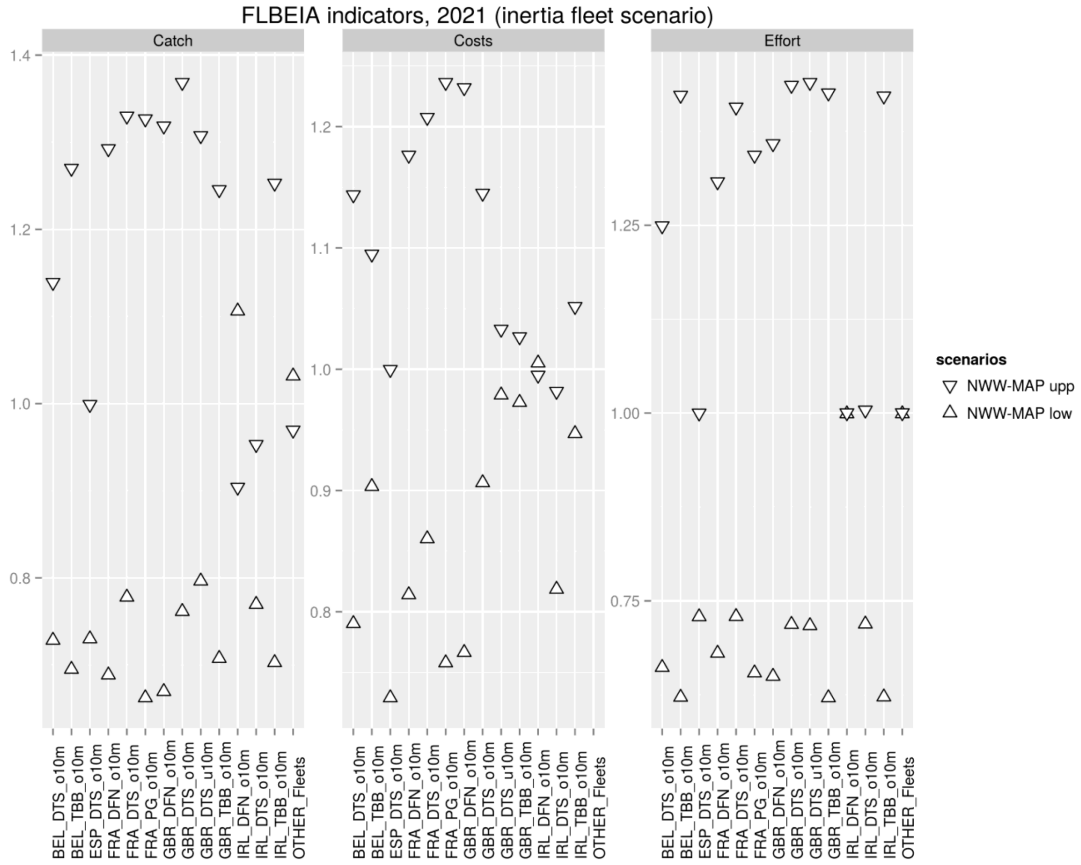


Figure 5. Ratios of various indicators for the upper and lower MSY ranges against the baseline (CFP) scenario, for the NWW MAP in 2021, and for fourteen fleets operating in the area. The codes for the fleets are given by the Member state code, the code for the main gear used (DTS: Demersal trawl and demersal seiner; TBB: beam trawl; DFN: driftnets and fixed nets; PG: passive gear) and the overall length of the vessels.

In 2021, fishing at the upper limit of the F_{MSY} ranges will produce larger catches (around 30% larger) except for the Spanish and Irish fleets of demersal trawls and seines over 10m, which do not show a noticeable increase in catches. However, these increases in catches are at the cost of increased costs (around 20%) again except for Spanish and Irish trawlers.

1.2.1. South-western waters - Bay of Biscay

I. State of the fisheries by 2021

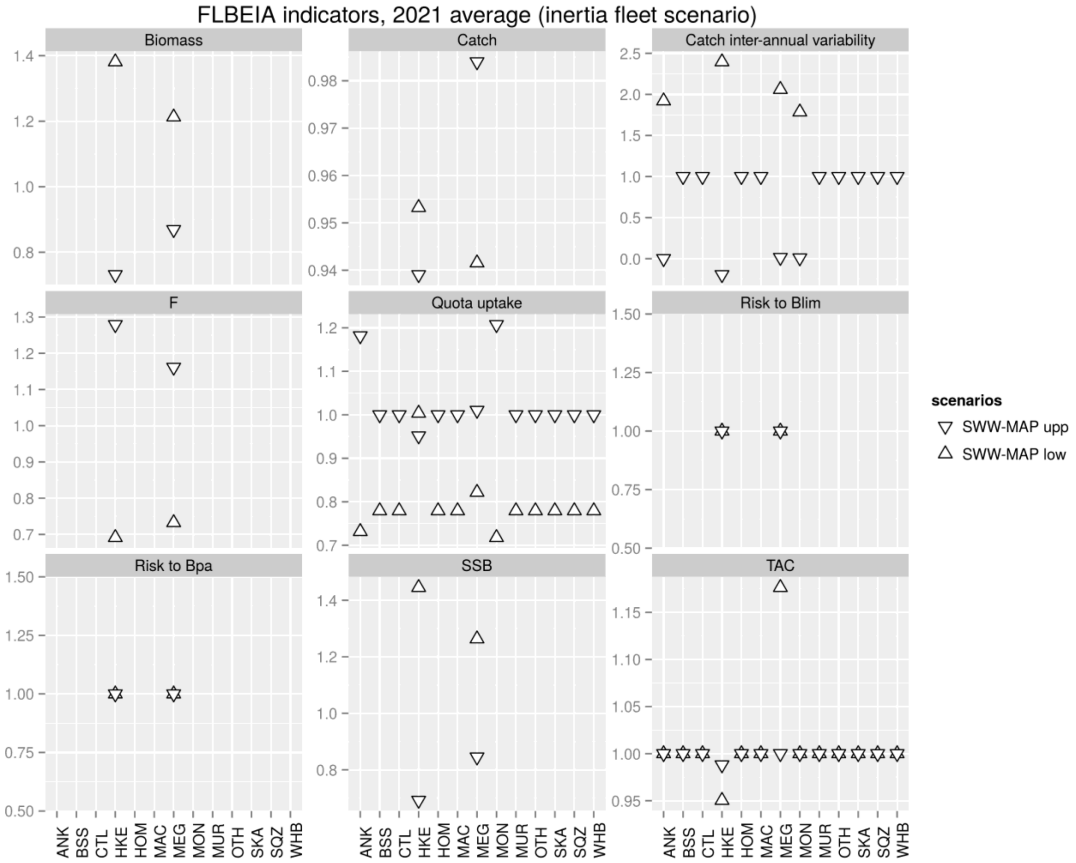


Figure 6. Ratios of various indicators for the upper and lower MSY ranges against the baseline (CFP) scenario, for the SWW MAP (Bay of Biscay, FLBEIA) in 2021, and for 13 stocks in the area. Species codes are: ANK: black-bellied anglerfish; BSS: seabass; CTL: cuttlefish; HKE: hake; HOM: horse mackerel; MAC: mackerel; MEG: megrim; MON: white-bellied anglerfish; MUR: red mullet; OTH: others; SKA: skates and rays; SOZ: soles; WHB: blue whiting.

Detailed results are only given for hake and megrim. Biomass is expected to be about 20% lower in the F_{MSYupp} scenario and about 20% higher in the F_{MSYlow} scenario with relation to the baseline. The catches of hake and megrim are expected to be lower for both scenarios. In the case of hake there will be more catches in the F_{MSYlow} scenario than in F_{MSYupp}. As for TACs, these are expected to be lower for hake in both scenarios and higher for megrim in the F_{MSYlow} scenario. Quota uptake in the F_{MSYlow} scenario is about 20% lower, and is maintained at the same value in the F_{MSYupp} scenario, except for both species of anglerfish, for which the quota uptake increases by 20%.

Simulations were also conducted with the IAM model and results are as in Figure **A.5.4.**below:

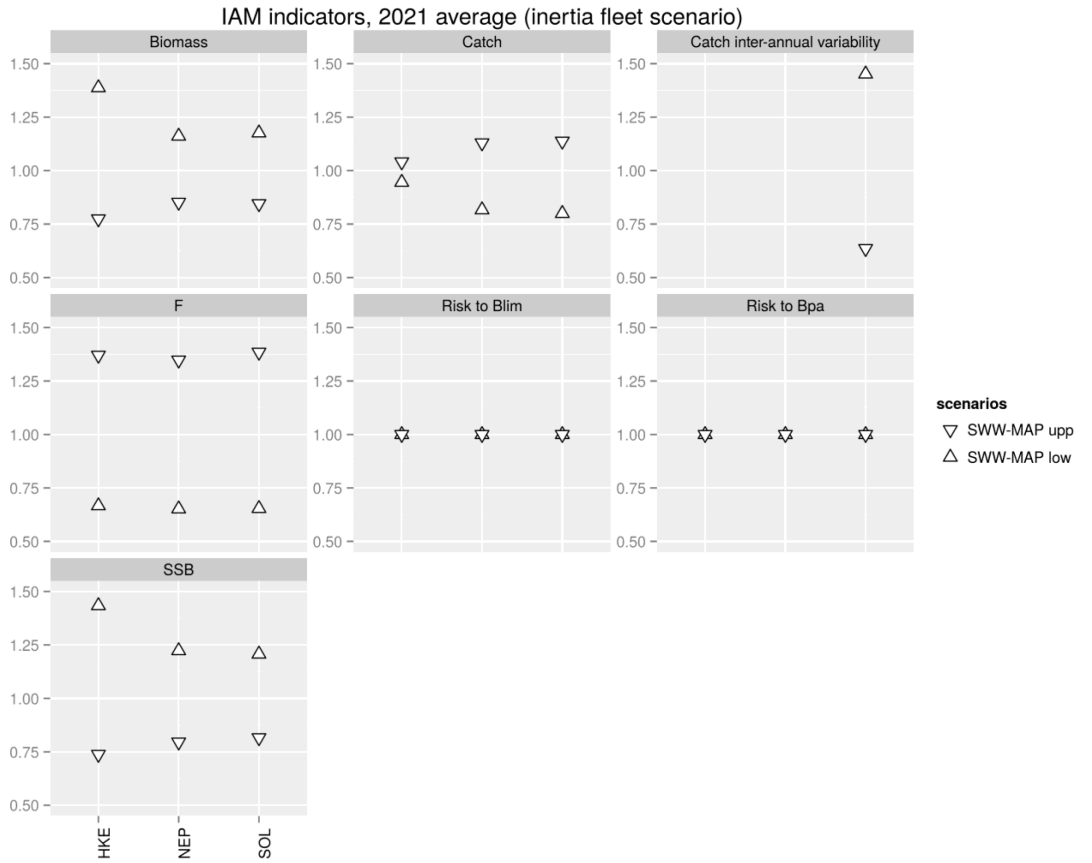


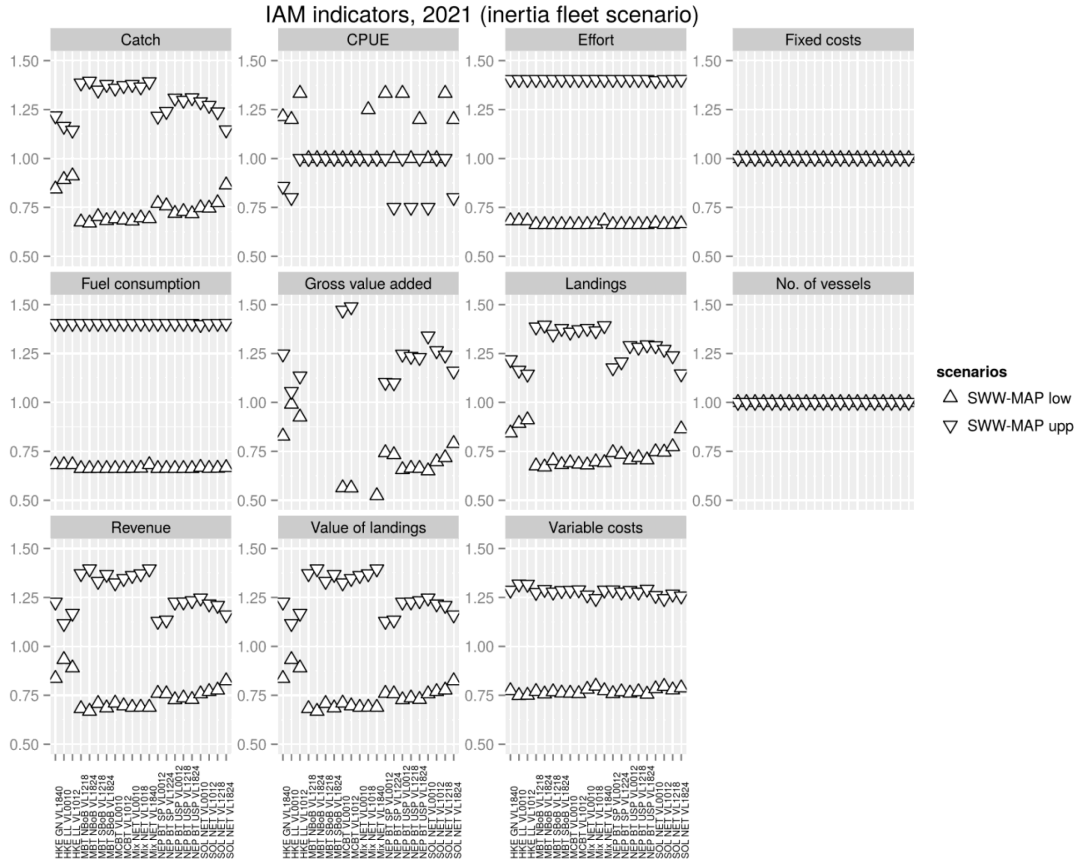
Figure 7. Ratios of various indicators for the upper and lower MSY ranges against the baseline (CFP) scenario, for the SWW MAP (Bay of Biscay, IAM) in 2021, and for three stocks in the area.

The results obtained by the IAM model in 2021 show higher SSB and biomass of sole, *Nephrops* and hake the F_{MSYlow} scenario as a result of decrease in F. Risks of falling below B_{lim} and B_{pa} are, however, not increased. Results show that F_{MSY} objectives for hake and sole are reached (or almost) for all the scenarios, which means that reconciliation of objectives for sole and hake is possible. Modelled fleets only account however for a part of the fishing mortality on hake and choke effects for other non-explicitly modelled fleets are not taken into account. In the case of *Nephrops* or sole, modelled fleets account for more than 90% of the total mortality on those stocks.

The decrease in F observed for *Nephrops* is to be linked with the management objectives for sole and hake. However, it should be underlined that correlations between *Nephrops* and sole are modelled in this application at the fleet-métier level and that spatio-temporal allocation of effort can modify correlation between species. Since both species have low geographical overlap, fishermen can catch both species almost separately. *Nephrops* and hake are more attached by their spatial distribution.

II. State of the fleets by 2021

The IAM model allowed a more detailed analysis of the state of the fleets than by using the FLBEIA-based analysis. Results are shown in Figure 8.



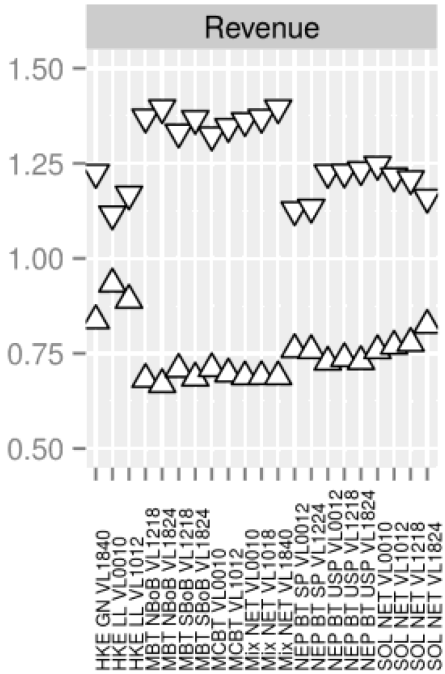


Figure 8. Ratios of various indicators for the upper and lower MSY ranges against the baseline (CFP) scenario, for the SWW MAP (Bay of Biscay, IAM) in 2021, and for 21 fleets operating in the area. The plot on revenue is given amplified so fleet codes are more easily readable.

Despite higher effort which is associated with higher variable costs (around 25% higher), revenues become substantially higher in the MAP-upp scenario, due to important increases in catch per unit effort.

1.2.2. South-western waters – Iberian Peninsula

I. State of the fisheries by 2021

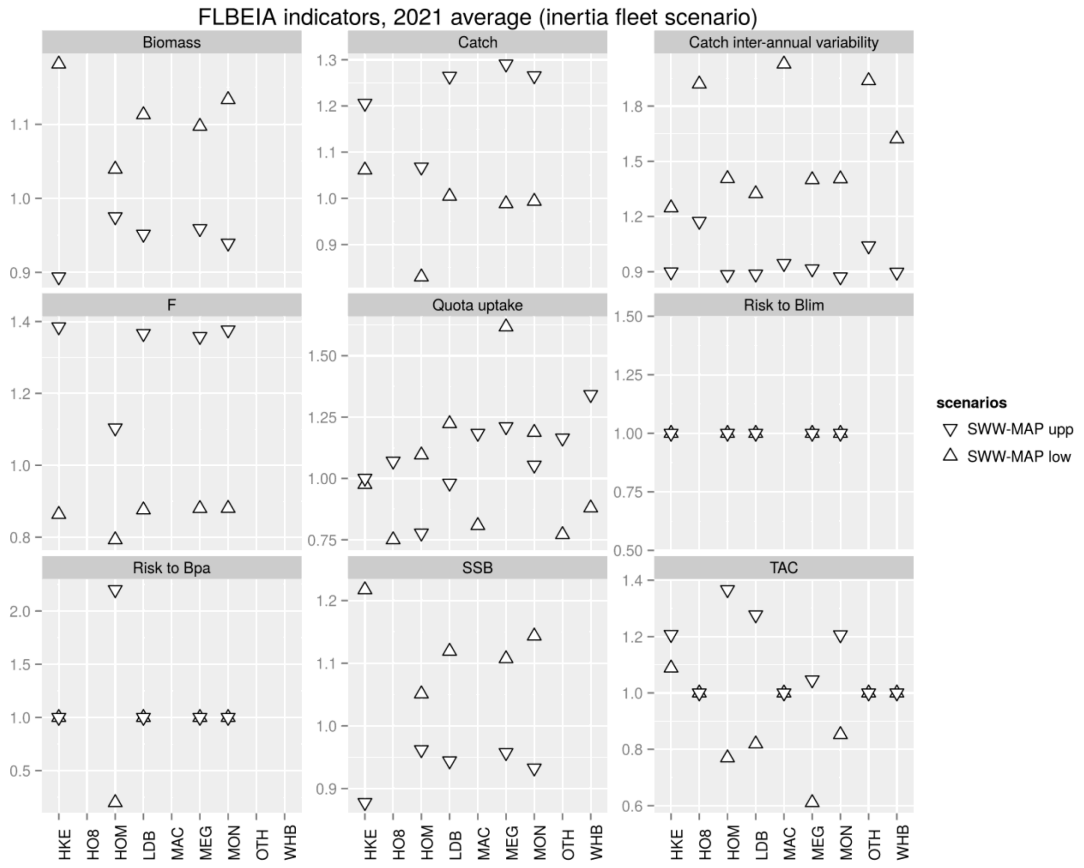


Figure 9. Ratios of various indicators for the upper and lower MSY ranges against the baseline (CFP) scenario, for the SWW MAP (Iberian waters, FLBEIA) in 2021, and for nine stocks in the area.

As expected, biomass and SSB are always higher in the F_{MSYlow} (>5-15%), and lower in the F_{MSYupp} scenario (up to 10%) compared to the baseline scenario. The risk of SSB falling below B_{lim} is null for all the stocks and the risk of falling below B_{pa} is significant only for horse mackerel. For this stock the probability to fall below B_{lim} is double under F_{MSYupp} than in the baseline scenario and under F_{MSYlow} is 75% lower. TACs and total catch are up to 30% higher in the F_{MSYupp} scenario and in the F_{MSYlow} scenario catch is only lower than in baseline scenario for horse mackerel (~15% lower). Inter-annual variability is always higher in F_{MSYlow} scenario. Quota uptake depends greatly on the stock and scenario.

I. State of the fleets by 2021

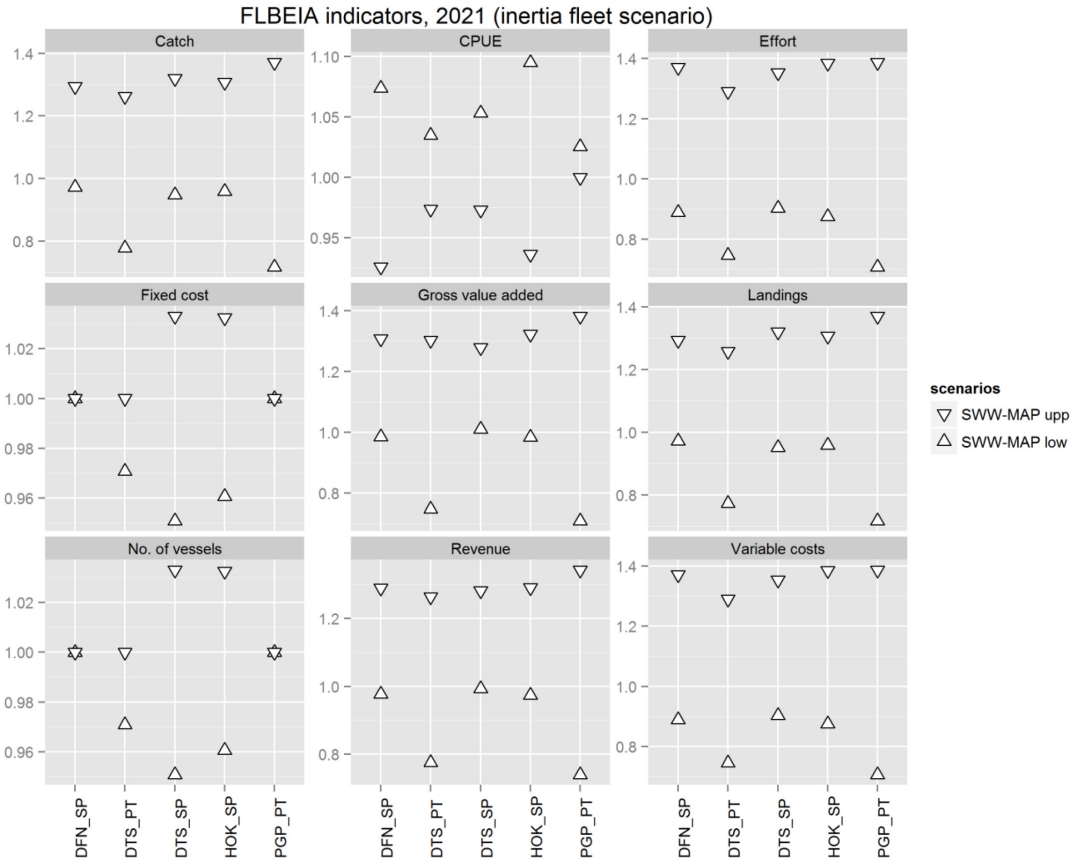


Figure 10. Ratios of various indicators for the upper and lower MSY ranges against the baseline (CFP) scenario, for the SWW MAP (Iberian waters, FLBEIA) in 2021, and for five fleets operating in the area. Codes for the fleets are: DFN_SP: Spanish netters; DTS_PT: Portuguese trawlers; DTS_SP: Spanish trawlers; HOK_SP: Spanish hooks (handliners and longliners); PGP_PT: Portuguese polyvalent vessels using passive gear.

In 2021 all the indicators except fixed cost and number of vessels follow similar trends. They are all around 30% and 40% higher in the F_{MSYupp} scenario than in the baseline.

In terms of revenue, under the F_{MSYlow} scenario the differences with the baseline are minimal for Spanish fleets (DFN_SP, DTS_SP and HOK_SP). For the Portuguese fleets revenues are between 20% and 25% lower than in the baseline.

Summary tables reflecting the 2015 STECF analysis

Analysis of the scenarios under Options 1 and 2[59]:

Table 12. Indication of approximate values of certain biological and economic variables under Option 2 as compared to Option 1 (Baseline). Values under Option 1 are set to 100 for comparison.

	Option 1 (Baseline)	**Option 2 (MAPs)**			
		North-western waters		**South-western waters (separately for Bay of Biscay and Iberian waters)**	
		Systematic choice of F_{MSYlow}	**Systematic choice of $F_{MSYhigh}$**	**Systematic choice of F_{MSYlow}**	**Systematic choice of $F_{MSYhigh}$**
Fishing mortality (F)	100	75	125	75 (B. of B) 85 (Iberia)	80-90 (B. of B.) 140 (Iberia)
Fishing effort and cost	100	75	125	75 (B. of B) 85 (Iberia)	80-90 (B. of B.) 140 (Iberia)
TACs, catch and revenue from catch	100	80	120	75 (B. of B) 85 (Iberia)	100 (B. of B.) 125 (Iberia)
Quota uptake	100	70-100	100-120	80 (B. of B.)	75-150 (B. of B.)
Inter-annual variability of catch	100	100-150	40-100	200 (B. of B.) 120-190 (Iberia)	0-100 (B. of B.) 90 (Iberia)
Biomass	100	100-120	95	125-150 (B. of B.) 110-120 (Iberia)	75 (B. of B.) 95 (Iberia)

[59]With Reference to the two original options submitted to STECF in 2015. Please see information in the box 'Background: Developments since the analysis by STECF'

Fleet dependency

I. North-western waters

Table 13. Top 10 higher employment fleet segments in North-western waters, and dependency indicator.

Country	**Gear**	**Overall length (m)**	**No of Fishers employed**	**Dependency on target species (%).**
UK	Pots and traps	00-10	2846	15.6
ES	Trawlers and seiners	24-40	1632	23.1
ES	Hooks	24-40	1595	32.2
UK	Trawlers and seiners	18-24	1080	30.7
UK	Drift and fixed nets	00-10	1011	33.8
UK	Trawlers and seiners	12-18	971	59.7
UK	Hooks	00-10	860	2.8
UK	Trawlers and seiners	24-40	798	23.0
FR	Trawlers and seiners	18-24	783	38.3
NL	Beam trawlers	>40	734	0.0

II. South-western waters

Table 14. Fleets with highest dependency (≥ 20%). Those employing more than 500 workers are shaded.

Country	**Gear**	**Overall length (m)**	**No of Fishers employed**	**Dependency on target species (%).**
ES	Drift and fixed nets	24-40	117	51
FR	Drift and fixed nets	18-24	278	48
FR	Other active gears	10-12	7	44
FR	Drift and fixed nets	12-18	330	41
FR	Trawlers and seiners	12-18	619	40
PT	Drift and fixed nets	18-24	351	35
ES	Drift and fixed nets	18-24	342	32
FR	Drift and fixed nets	24-40	327	31
PT	Trawlers and seiners	18-24	53	25
ES	Drift and fixed nets	12-18	588	21
PT	Trawlers and seiners	12-18	66	20
FR	Drift and fixed nets	10-12	579	20
PT	Drift and fixed nets	10-12	124	

Table 15. Top 10 higher employment fleet segments with the number of employed people and dependency degree. Those with a dependency above 10% are highlighted as shaded.

Country	**Gear**	**Overall length (m)**	**No of Fishers employed**	**Dependency on target species (%).**
ES	Polyvalent	00-10	4,223	2
ES	Dredges	00-10	4,013	0
PT	Active and passive gear	00-10	2,852	0
PT	Polyvalent	00-10	2,415	5
ES	Trawlers and seiners	24-40	1,632	14
ES	Hooks	24-40	1,595	8
ES	Purse-seines	24-40	1,123	0
ES	Hooks	12-18	1,040	16
PT	Purse-seines	18-24	1,002	0
ES	Purse-seines	18-24	998	0

Annex 6.

Models used by STECF in simulations

The main models used by STECF were FLBEIA and IAM. Further explanations on how the models were used can be found in the EWG Report STECF 15-08[60] (especially Table IV) and Annexes 1 to VI to that report.

Both models tackle the very complex interaction between the human utilisation of ecosystem services and the dynamics of the ecosystem which provide such services. As such, the models project into the future the major components of the system and do not try to model/describe all the existing factors and their interactions. These models are particularly suitable to compare the added value of different scenarios in relation to a baseline, which is the main objective of this study, and should not be used to infer in absolute numerical terms the outcome of each scenario/option.

---

[60] https://stecf.jrc.ec.europa.eu/documents/43805/1023356/2015-07_STECF+15-08+-+MAPs+SWW+and+NWW_JRC96964.pdf

Annex 7.

Coherence between different EU multiannual plans and overview of EU multiannual plan for Baltic fisheries

Coherence between EU multiannual plans for fisheries

One of the key tools provided by the CFP is the **EU multiannual plan**. Since the entry into force of the current Basic Regulation in 2014, only one EU multiannual plan has been adopted, concerning the Baltic Sea[61], while the multiannual plan concerning the North Sea[62] is still being negotiated between the EP and the Council and the MAP for pelagic species in the Adriatic is still being discused between the Member States in Council and in the European Parliament..

At the time of submission of this Impact Assessment work is ongoing on the proposals for multiannual plans for fisheries in the Western Mediterranean.

The coherence between the multiannual plans for western waters and the other multiannual plans referred to above relate to their shared objectives of reaching sustainable fishing levels by 2020 at the latest. The multiannual plans also all include provisions to facilitate the implementation of the landing obligation, and to enable the process of regional decision making for concrete management and conservation measures. Within this shared framework, each multiannual plan retains specificities stemming from the particular characteristics and problems faced by the fisheries and sea basins concerned.

Baltic multiannual plan

In July 2016, the multiannual plan for Baltic fisheries was adopted. The main elements are presented below.

The Regulation establishes a multiannual plan for stocks of cod, herring and sprat in the Union waters of the Baltic Sea and for the fisheries exploiting the stocks concerned. It also contains measures concerning plaice, flounder, turbot and brill caught as by-catch in the Baltic Sea.

Fishing mortality ranges

The plan includes fishing mortality targets in the form of F_{MSY} ranges in an annex to the plan, for the stocks covered by the plan. The F_{MSY} ranges will be split into two parts and the use of the upper part of the ranges is conditioned as follows: the upper part of the range may only be used due to mixed-fisheries issues, to avoid serious harm to a stock caused by intra- or inter-species stock dynamics, or to limit variations in fishing opportunities between consecutive years to not more than 20%. Furthermore the upper part of the range can be used, when a stock is fished in accordance with MSY.

[61] Regulation (EU) 2016/1139 establishing a multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks, amending Council Regulation (EC) No 2187/2005 and repealing Council Regulation (EC) No 1098/2007

[62] Proposal for a regulation establishing a multiannual plan for demersal stocks in the North Sea and the fisheries exploiting those stocks and repealing Council Regulation (EC) 676/2007 and Council Regulation (EC) 1342/2008

The plan does not include an empowerment to the Commission to update the ranges when scientific advice changes.

Safeguards
The plan stipulates biomass safeguards for the main targeted stocks. Whenever the biomass of a stock falls below a certain threshold, stipulated in an Annex to the plan, remedial action shall be taken. This may include setting a TAC at a fishing mortality level below the F_{MSY} ranges, suspending the targeted fishery for the stock in question and taking further measures, including technical measures of measures related to the landing obligation.

Regionalised measures
The plan empowers the Commission to adopt specific conservations measures when scientific advice states that remedial action is required to protect any of the stocks covered by this regulation. The plan also empowers the Commission to adopt follow-up measures of the current "discard plans", i.e. exemptions from the landing obligation. As established in Art. 18 of the Basic Regulation, both kind of regionalised measures will be based on Joint Recommendations from the Member States concerned and will be adopted as delegated acts.

Control measures
The plan sets out additional control measures, such as the use of prior notifications and logbooks and establishing thresholds for the obligation to land catches in designated ports as required by the fisheries Control Regulation Regulation (EC)[63].

Evaluation of the plan
The Commission shall report to the European Parliament and to the Council on the results and impact of the plan on the stocks covered by this Regulation three years after the date of entry into force of the Regulation and every five years thereafter.

[63] Council Regulation (EC) No 1224/2009 establishing a Union control system for ensuring compliance with the rules of the common fisheries policy

Annex 8

Impact Assessment: Multiannual plan for the Demersal Stocks and their Fisheries in the Western EU Waters (WW IA). List of changes following 2nd Opinion of Regulatory Scrutiny Board (RSB) Ares(2017)4766788 – 29/09/2017

The following are changes made to the revised document, based upon the comments and concerns of the RSB, specifically those detailed in section C "Further considerations and adjustment requirements" of their Opinion document received 29/9/17

1) Address the implications of the UK's departure from the EU
Page 15 – Paragraph inserted on "implications of 'Brexit'"
Page 32 - further detail on Brexit and admin burden

2) Streamline the description of options and improve the analysis of impacts
Page 23 - some re-wording and grammatical changes to improved clarity and flow.
Page 30 - changes to description of Option 3 wording to help clarify and differentiate from other options and prevent any prejudgement of elements of the eventual policy choice
Page 31-32 - included more detail on what is considered a + or - in analysis and comparison of options in response to RSB concerns/comments on clear differentiation of benefits and costs (last paragraph of opinion)
Page 33-34 – Restructuring of impacts and further information on what is considered positive or negative and summary paragraph to help explain why some terms/ variables are considered to have positive impacts and to reduce repetitive narrative.
Page 35-36 – some minor grammar and re-wording to help with clarity.

References

Baranov, T.I. 1918. *On the question of the biological basis of fisheries. Nauch. Issledov. Iktiol. Inst. Izv. I (1), 81–128 (Moscow)*.

Garcia, D., Prellezo, R., Sanchez, S., Andres, M., and Santurtun, M. 2012. *FLBEIA: A toolbox to conduct Bio-Economic Impact Assessment of fisheries management strategies: 1–28.*

Garcia, D., Urtizberea, A., Diez, G., Gil, J., and Marchel, P. 2013. *Bio-economic management strategy evaluation of deepwater stocks using the FLBEIA model.*

Kell, L. T., Mosqueira, I., Grosjean, P., Fromentin, J., Garcia, D., Hillary, R., Jardim, E., *et al.* 2007. *FLR : an open-source framework for the evaluation and development of management strategies: 640–646.*

R.Core.Team. 2008. *R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. http://www.r-project.org/.*

Guillen, J., Macher, C., Merzereaud, M., Fifas, S. and Guyader, O. 2014. *The effect of discards and survival rate on the Maximum Sustainable Yield estimation based on landings or catches maximisation: Application to the* Nephrops *fishery in the Bay of Biscay. Marine Policy, 50, 207-214*

Macher, C., Raveau, A., Guyader, O., Le Grand, C., Merzéraud, M., Biais, G. and Lissardy, M., 2012. *Poursuite des travaux du groupe de travail partenarial bioéconomique : cas de la pêcherie de sole du Golfe de Gascogne. Convention socle 2011 DPMA-IFREMER.18 p.*

Marchal P., Lallemand P. and Stokes K. 2009. *The relative weight of traditions, economics, and catch plans in New Zealand fleet dynamics. Canadian Journal of Fisheries and Aquatic Sciences;66: 291-311.*

Merzéréaud, M., Macher, C., Bertignac, M., Frésard, M., Le Grand, C., Guyader, O., Daures, F. and Fifas, S. 2011. *[en ligne] "Description of the Impact Assessment bio-economic Model for fisheries management (IAM)", Amure Electronic Publications, Working Papers Series D-29-2011, 19 p. Available : http://www.umr-amure.fr/electro_doc_amure/D_29_2011.pdf*

Raveau, A., Macher, C., Méhault, S., Merzéréaud, M., Le Grand, C., Guyader, O., Bertignac, M., Fifas, S. and Guillen, J. 2012. *A bio-economic analysis of experimental selective devices in the Norway lobster (*Nephrops norvegicus*) fishery in the Bay of Biscay. Aquatic Living Resources, 25(3), 215-229*