Fit for purpose?

An assessment of the effectiveness of the Baltic Sea multi-annual plan (BSMAP)

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OVERVIEW

The Baltic Sea Multi-Annual Plan (BSMAP)[1] has, overall, not been successful in delivering on its objectives[2] nor on the aims of the European Union's (EU) Common Fisheries Policy (CFP)[3] and the Marine Strategy Framework Directive (MSFD)[4] for the fish populations, fisheries and ecosystems it covers. Not only has the MAP proved unsuccessful in restoring stock biomass, eliminating discards, protecting vulnerable species, and minimizing the negative impacts of fishing on Baltic ecosystems, but the content of the BSMAP made it very unlikely that it could ever achieve its stated aims. This is primarily due to weaknesses in its provisions and a lack of ambition, both of which stemmed from an intention to design the BSMAP as a generic blueprint for MAPs in other areas that would provide more "flexibility" for decision-makers.

The content of the MAP has been driven by political pressure to downgrade its ambition with a desire to maintain status quo fishing practices and provide flexibility to fish at higher rates than the CFP allows, something that is now reflected in other MAPs. These drivers have been evident throughout the process, from the initial proposal made by the European Commission (EC), to the inter-institutional process to agree the legislation. This ensured the level of ambition was low, preventing the inclusion of measures to restore fish stocks and to achieve wider environmental improvements. This also led to the inclusion of inappropriate mixed fisheries "flexibilities" for relatively targeted Baltic fisheries, just to set a precedent in future MAPs for fisheries in other regions. This was exactly the generic one-size-fits-all approach MAPs were intended to overcome, through a process of regionalisation introduced to ensure management needs are adapted to the specific requirements of a given region in a timely manner.

Agreement of this weak plan was followed by under-implementation of even these unambitious requirements, further degrading management of Baltic Sea fisheries and ecosystems. The data show that the BSMAP has allowed overfishing of Baltic stocks to continue (see Table 1), with the most telling case being that of the eastern Baltic cod stock which, year-on-year, has seen Total Allowable Catches (TACs) set above scientific advice (and by as much as double in one instance). While the biomass of these stocks suffered inevitable depletion as a result, the MAP also failed to deliver other important fisheries management measures, such as the development of effective bycatch avoidance techniques, that might have helped mitigate these impacts.

Because the low ambition of the BSMAP was rooted in a desire to provide a blueprint for flexibility in fisheries management in other sea basins, the shortcomings of the BSMAP were further aggravated in subsequent MAPs for the North Sea, Western Waters, Western Mediterranean Sea, and the Adriatic, which include content that further weakens the ambitions of the CFP basic regulation.

It is imperative that EU decision-makers urgently learn lessons from the performance of the BSMAP, so that the same issues can be addressed in other regions, rather than waiting for future evaluations to identify the same failings. Ministers must set fishing opportunities at levels that allow fish populations to rebuild to levels above the biomass that enables a fish stock to produce its maximum sustainable yield (B_{MSY}), as stipulated in the CFP, rather than continue resorting to these flawed MAPs to further delay stock recovery and restore ecosystems. Ministers must put an end to overfishing and realise the significant environmental and socio-economic benefits that would arise from doing so.

HISTORY OF THE BSMAP

In 2013, after a lengthy process of negotiation between EU institutions, the EU agreed far-reaching reforms to the CFP. At the heart of these reforms was a commitment to overcome the failings of the

past policy that the Commission had identified in its 2009 Green Paper[5], particularly the short-termism that had perpetuated overfishing, and a perception that the policy had become over-centralised.

MAPs were proposed as legal tools that would refocus management from a short-term perspective, based around annual decisions on fishing limits, to longer term planning with clear objectives and more automatic rules to provide stability and ensure these objectives are met, regardless of short-term political pressures. The regional and fishery scope of these MAPs also served the purpose of regionalizing CFP implementation to address the specificities of fisheries and ecosystems in each region and, to a degree, devolve decision making by tailoring this legislation in collaboration with member states and stakeholders (even if the legislation was ultimately enacted through the ordinary legislative procedure at EU level – see below).

The CFP legal requirement

MAPs were intended to deliver a comprehensive range of CFP requirements in each region which goes far beyond simply the setting of fishing limits. Article 9 of the CFP regulation sets "principles and objectives" of MAPs, emphasizing the aim to restore any given fish stock above levels capable of producing its maximum sustainable yield (MSY)[6]. This requirement applies to all harvested stocks, bringing an imperative to gather data and manage all stocks on this basis. Where data are not available to calculate the MSY level of exploitation, the CFP requires a precautionary approach – i.e. more caution when less is known about the stock status in relation to the CFP's benchmarks – and MAPs specifically to provide "a comparable degree of conservation" to MSY.

Article 10 of the CFP regulation describes seven sub-paragraphs of mandatory content of MAPs, and three of optional content. The mandatory content ranges from objectives consistent with the CFP's Article 2 MSY requirements (i.e. stating that: "the maximum sustainable yield exploitation rate shall be achieved by 2015 where possible and, on a progressive, incremental basis at the latest by 2020 for all stocks"[7] to technical measures to implement the CFP's Landing Obligation (LO). The LO is a key pillar of the reformed CFP that, in summary, requires "…all catches of regulated commercial species on-board to be landed and counted against quota. These are species under TAC (Total Allowance Catch, and so-called quotas) or, in the Mediterranean, species which have a MLS (minimum landing size)…"[8]. Since this means fishers are obligated to land less valuable components of the catch complex – such as undersized or low-value fish that may formerly have been discarded under the previous CFP regime – the LO should result in an economic incentive to eliminate such captures, either through avoidance techniques or the use of more selective fishing gear. Where applicable, MAPs may also include management measures to minimize the impact of fishing on the marine environment – such as incidental catches of seabirds and marine mammals.

EU institutional roles

Most fisheries legislation is agreed through the EU's standard decision-making process (known as the "ordinary legislative procedure"), including MAPs and the CFP itself, as per Article 43(2) of the Treaty on the Functioning of the EU. Annual decisions on fishing opportunities, or TACs, are however different, with the European Council having the sole power to make these decisions, under Article 43(3) of the Treaty.

From the conceptual stage, the design and content of MAPs had to balance this distinction in legal powers set out in the Treaty. Multiannual and automatic harvest control rules are generally good for fisheries management, providing stability and certainty on how fishing pressure will be adjusted in response to changes in stock biomass. But as the Treaty makes specific provision allowing Council the ultimate decision on annual fishing limits, fisheries ministers were reluctant to yield any part of that role.

Conversely, the European Parliament proved eager to safeguard its role in areas where the ordinary legislative procedure must apply. For example, the Parliament (and Commission) took the Council to the European Court of Justice (ECJ) in 2013, and won their case, after the Council over-reached its powers in agreeing technical changes to the Cod Recovery Plan in 2012 without any involvement from the European Parliament[9].

In the spirit of compromise, at around the same time the reformed CFP was being agreed, the Council and Parliament reached a non-legally binding "inter-institutional agreement", through a Task Force on multiannual plans[10], on how their respective powers would be used in relation to fisheries policy. Importantly, this agreement signaled a potential compromise on fishing limits. Ministers would retain the power to set annual fishing limits but longer-term laws under the ordinary legislative procedure (MAPs) would outline fishing mortality objectives in terms of "ranges <u>of</u> F_{MSY}" – fishing mortality consistent with achieving MSY[11]. Subsequently, the Commission requested ICES to provide advice on "ranges <u>around</u> F_{MSY}", an interpretation that was to inflate exploitation rates above the F_{MSY} level[12].

Despite this rapprochement, the disagreement over powers had the effect of limiting (or preventing) the inclusion in MAPs of automatic rules to constrain fishing mortality and led not just to vague objectives expressed as ranges, but ranges that exceeded the limits on fishing mortality set out in Article 2 of the CFP. It also set the tone and battleground for negotiations on each MAP to follow (North Sea, Western Waters, Western Mediterranean Sea, Adriatic[13]), with an excessive focus on provisions regarding the setting of fishing opportunities, and associated "flexibility", to the exclusion of wider fisheries management and ecosystem provisions. In particular, many of the fisheries covered by these plans have a significant impact on other sensitive species of seabirds, marine mammals and turtles. However, MAPs lack any concrete actions to halt this problem. Instead, it was left to Member States to propose further measures through "joint recommendations". If Member States fail to propose these joint recommendations, then the Commission can trigger Article 18 and propose the management measures through ordinary legislative procedure – the same procedure MAPs must go through.

CONTENT OF THE BALTIC SEA MAP

In 2014, the Commission published its proposal for a BSMAP, the first such MAP proposed under the reformed CFP. After lengthy negotiations between the Council and Parliament, the MAP was agreed and came into force in July 2016. Arising from the inter-institutional dynamics outlined above, the agreed MAP failed to live up to the ambition to provide a regionally specific, ecosystem-based framework, as it:

- Focused primarily on fishing mortality and biomass reference points, as opposed to a broader ecosystem approach;
- Described mortality reference points as ranges which extended beyond the limits in Article 2 of the CFP (i.e. introducing fishing mortality ranges which exceed the F_{MSY} point estimate), justified as necessary to help implement the Landing Obligation;
- Watered down the biomass requirements, applying the concept of "MSY $B_{trigger}$" as the reference point above which a stock is considered fit to sustain heavier fishing pressure – whereas the CFP and the MAP's own objectives are to restore stocks above B_{MSY};
- Allowed the use of upper ranges as a means to address challenges in the management of mixed fisheries, but then contradicted that allowance by basing provisions on single species stock management;

- Contained no provisions on harvest control rules which should be used to safeguard the stock if its biomass is below critical reference points. Article 5.2 only stipulates "to take into account the decrease in biomass". Article 5.3 allows suspending the targeted fishery if a stock falls below B_{lim} levels (limit reference point for spawning stock biomass (SBB))[14], but does not require any concrete action within a specific timeframe;
- Omitted measures to avoid bycatch (such as developing more selective fishing gear, or other mitigating measures such as avoidance measures or spatio-temporal closures), but instead included delegated powers for these to be developed separately;
- Omitted measures to address specific environmental and wider fisheries challenges in the Baltic (e.g. the incidental catches of sensitive species such as seabirds, harbour porpoises and other marine mammals, or the protection of essential fish habitats).

The outcome

The way in which reference points were described in the BSMAP – the first "regionally implementing" tool under the new CFP – immediately set a lower bar than the CFP, effectively derogating from the CFP that had just been agreed. The ranges of fishing mortality allowed higher exploitation rates than the MSY reference point, despite the danger that fishing in this higher range carries more risk and could result in lower yields over the medium to long term[15].

Furthermore, the interaction of biomass outcomes and decisions on fishing mortality were constructed in a way that made it very difficult for the CFP's objectives to be met, as fish populations can be subjected to higher fishing pressures before they ever attain the biomass levels aimed for in the CFP. The end result was a weak MAP that focused primarily on TAC-setting, with creative justifications to overfish that derailed policy implementation by allowing the "flexibilities" needed to secure the agreement of the Council. Consequently, rules were set that allowed levels of fishing that scientists had advised would increase risk, reduce yield, and not meet the CFP objective.

Moreover, the Council has a history of habitually setting TACs above scientific advice. MAPs were considered a key tool to constrain this short termism and limit ministers' scope to set unsustainable catch limits, but this habit has continued even under the BSMAP. Unfortunately, the unique opportunity to set a new precedent and remedy this through the BSMAP has been lost, as evidenced by Table 1.

IMPACT OF THE BSMAP

Exploitation rates & stock status

Table 1 below shows three key indicators against which the performance of the Baltic MAP in achieving the objectives of the CFP can be assessed:

- Are TACs set at or below the level of scientific advice on catch limits?
- Is fishing mortality no higher than F_{MSY} (fishing mortality consistent with achieving Maximum Sustainable Yield – or MSY)?
- Is biomass higher than MSY $B_{trigger}$ (a biomass reference point that triggers a cautious response within the ICES MSY framework)?

The first of these metrics – TACs – can be seen as a measure of political performance, i.e. to what degree does the Council of ministers follow scientific advice in their decision-making? Taking 2016 as a baseline (because management decisions for that year were made in 2015 – before the MAP was implemented), subsequent decisions show that, despite an improvement, TACs continued to be set

above scientific advice, with a worsening trend between 2018 and 2019. Of notable concern is the eastern Baltic cod stock where the TAC has been consistently set above the advised limit, with even a doubling in 2019.

Table 1. Summary of TACs set in line with scientific advice by the EU Council and stocks in line with CFP requirements (F_{MSY} and MSY $B_{trigger}$). Green = in line. Red = not in line. Full explanations and methodology in Appendix 1[i] .

Summary of TACs set in line with scientific advice by the EU Council and stocks in line with CFP requirements^												
	2016			2017			2018			2019*		
Stock with total allowable catch (TAC) limits set using the Baltic Sea MAP	**TAC**	**F_{MSY}**	**MSY $B_{trigger}$**	**TAC**	**F_{MSY}**	**MSY $B_{trigger}$**	**TAC**	**F_{MSY}**	**MSY $B_{trigger}$**	**TAC**	**F_{MSY}**	**MSY $B_{trigger}$**
Western Baltic herring (subdivisions 20–24)	✓	✗	✗	✓	✗	✗	✓	✗	✗	✗	✓	✗
Central Baltic herring (subdivisions 25–29 and 32)	✓	✗	✓	✓	✗	✓	✓	✗	✓	✗	✗	✓
Gulf of Riga herring (subdivision 28.1)	✗	✗	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
Gulf of Bothnia herring (subdivisions 30 and 31)	✗	○	○	✓	○	○	✓	○	○	✓	○	○
Baltic Sea sprat (subdivisions 22–32)	✗	✗	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓
Western Baltic cod (subdivisions 22–24)	✗	✗	✗	✗	✗	✗	✓	✗	✗	✓	✗	✗
Eastern Baltic cod (subdivisions 24–32)	✗	○	○	✗	○	○	✗	○	○	✗	○	○
Belt Seas and the Sound plaice (subdivisions 21–23)	✓	✗	✓	✓	✗	✓	✗	✗	✓	✓	✗	✓
Baltic Sea plaice (subdivisions 24–32)		✓	✓		✓	✓		✓	✓		○	✓
Percentage of TACs set exceeding ICES advice	**63%**			**38%**			**25%**			**38%**		
Percentage of stocks not in line with CFP requirements	**67%**			**56%**			**56%**			**56%**		
Percentage of stocks where status in relation to CFP requirements unknown	**22%**			**22%**			**22%**			**33%**		

Sources: FishFix (2019), which collates data from: Council regulations fixing fishing opportunities in the Baltic Sea 2015-2018[16,17,18,19], ICES advice 2015-2018[20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37, 38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58], and ICES advice 2019[59,60,61,62,63,64,65,66,67]. For methodology see Appendix 1.

^ Fishing Mortality (F) is at/below F_{MSY} point value and Biomass (B or SSB) is above MSY $B_{trigger}$. Note: A true MSY $B_{trigger}$ represents the lower bound (5th percentile) of B_{FMSY}. Only Gulf of Riga herring has a true estimate of MSY $B_{trigger}$. For other stocks where MSY $B_{trigger}$ is available it represents the Precautionary Reference point B_{pa}, which is usually a lower value (and benchmark in relation to CFP objectives) than the MSY $B_{trigger}$ and a stock at this size may not be within the range of biomass levels that are capable of producing the MSY.

* Status in relation to F_{MSY} and MSY $B_{trigger}$ are predicted values. Status may be revised subject to new scientific assessments.

While some improvements in TAC setting have been made since the MAP was implemented, no catch limits should be set above scientific advice and thus the BSMAP needs to urgently address this problem, paying due consideration to the CFP's own precautionary approach. That the MAP is sanctioning this overfishing highlights the flaws in the overall decision-making structure.

[i] The FMSY and $B_{trigger}$ status for all years is derived from the latest ICES advice – 2019 – and not older advice where perceptions may have been different. The TAC refers back to historic ICES advice on catch and whether the TAC set was above or below that advice for the given years.

The other metrics (F_{MSY} & MSY $B_{trigger}$) are a measure of how the fisheries are actually performing, both over the long-term (i.e. F_{MSY}), and how responsive the management measures were to stock health warnings (i.e. MSY $B_{trigger}$). Significantly, since the MAP was implemented, there has been no change in the number of stocks above MSY $B_{trigger}$, staying consistent at five stocks throughout the time-series. Furthermore, the percentages of stocks whose status in relation to the CFP requirements is unknown (grey circles in Table 1) is also a cause of concern as the percentage is increasing, and this could potentially be masking a far worse situation.

Implementation of other MAP provisions

The absence of other measures foreseen as necessary in MAPs prevents an assessment of such measures for the Baltic Sea. When it comes to regionalisation, the MAP gave a deadline of one year for these measures to be provided, after which the Commission could trigger article 18 of the CFP and introduce these measures through the ordinary legislative procedure. Three years later, neither the Baltic Member States nor the European Commission have proposed any measures.
The lack of adequate technical measures or other specific measures intended to protect sensitive species and ecosystems prevented the BSMAP from achieving its objectives. ICES ecosystem overview data demonstrates the degradation of Baltic ecosystems[68].

MSY fishing mortality ranges and TAC-setting flexibilities have not delivered the various aims of the CFP, as these measures alone are insufficient to tackle other impacts of the fisheries. For example, the CFP requires MAPs to contribute to the achievement of Good Environmental Status by 2020 under the MSFD. The BSMAP includes provisions relating to fishing mortality that have the effect of preventing Good Environmental Status from being attained, and lacks wider measures that would help meet the Directive's requirements, such as measures to protect food webs and seafloor ecosystems. Similarly, the absence of measures to ensure coherence with the Birds Directive and Habitats Directive also fails to meet the requirements foreseen in the CFP's objectives for MAPs. In particular, spatial and/or temporal measures should have been considered to tackle incidental catches of sensitive species, as well as other mitigation measures such as acoustic devices.

Damaging impact of the BSMAP as a precedent for other regions

Under-delivery of the CFP reforms in the Baltic region is in itself a missed opportunity, but replicating these failures in multiple other regions (and exacerbating them with new flexibilities) is undermining the entire CFP and the optimism that surrounded the reform. Cutting and pasting MAP provisions in this way also runs counter to the regionalisation imperative for MAPs in the first place, deprioritising regional specificities and spreading the same damaging and inappropriate over-emphasis on TAC-setting flexibilities to other sea basins.

It is likely that future reviews of other MAPs will reach the same conclusions on the perpetuation of overfishing, delays to stock recovery, absence of measures to mitigate impacts of fishing on the wider ecosystem, and under-implementation of the CFP. Decision-makers should not wait for those reviews to take the actions now necessary to implement the CFP's requirements in every region of EU waters.

CONCLUSIONS

Faced with a new dawn for EU fisheries under a reformed CFP, legislators chose to set less ambitious objectives for Baltic stocks and ecosystems. After a weak Commission proposal, inter-institutional negotiations designed a MAP that included flexibility to overfish and to omit measures that might have helped deliver wider improvements for fisheries and Baltic ecosystems. This weakening of the policy was opposed by the European Parliament at the time, but ministers in the Council were ultimately successful in securing a MAP that required weaker management and safeguarded their flexibility to keep fishing pressure high.

This short-sightedness is evident three years later, with outcomes for Baltic stocks worsening as a result of these flexibilities with TACs that ignore the science, the CFP and the MAP. Aside from the resulting environmental harm, some of the biggest losers are the fishers themselves, with evidence to suggest that the highest economic benefits from the eastern Baltic cod stock, for example, are derived when that stock has a large spawning stock biomass[69] - benefits that would likely accrue from all Baltic stocks under similar conditions.

The state of the Baltic ecosystem, its fish stocks and the decision-making process speaks for itself. Rather than introducing predictability and stability in TAC setting, decisions made under the MAP are still made during highly politicised Council meetings where ministers negotiate with the Commission until they obtain the TAC they want – rather than the TAC that would deliver on CFP requirements and secure long-term benefits for both the fishers and the marine environment. Rather than addressing the impacts that fisheries have on Baltic marine ecosystems, decision-makers have devoted their attention mostly to catch limits, continuing to set these limits too high. Clearly ministers' decision-making flexibility should be much more tightly constrained than is the case under this MAP. Such measures are necessary in order to overcome the short-termism – and overfishing – that persists in Council TAC-setting and to help ensure that the significant environmental and socio-economic benefits that would arise from better management are realised.

In summary:

- MAPs were introduced in the CFP to address three specific challenges: the need for longer-term (multiannual) management geared towards achieving the CFP's objectives; the need to take into account regional and ecosystem specificities; and the desire to bring decision-making closer to the regions in question.

- The Baltic MAP was instrumentalised to serve other purposes, key among which was the facilitation of the implementation of the LO and providing decision-makers with flexibility regarding fisheries management – not only in the Baltic region, but first and foremost in other European seas.

- The flawed design of the Baltic MAP led to management decisions and fishing practices that have failed to fulfill the intent of the CFP and achieve the MSFD's Good Environmental Status target. The intended regionalisation elements have failed to ensure the MAP delivers on the specific needs of the Baltic in a timely manner, and lastly the MAP has failed to help deliver TACs in line with MSY and scientific advice.

Recommendations:

The CFP, the MAPs, and the scientific advice each define a maximum level of fishing mortality. The state of Baltic stocks and excessive fishing pressure in the Baltic sea demonstrate the legislative shortfalls and failed experiment of this first MAP, as highlighted dramatically by the Commission being forced to use emergency measures in an attempt to recover the once prolific eastern Baltic cod stock. In view of the MAP's failings **ministers** must**,** at the very least, ensure that fishing limits are set no higher than the scientific advice on exploitation rates that would meet the CFP's requirements. Ministers should also put forward the much-needed joint recommendations to tackle many of the impacts fisheries have on the wider ecosystem, including by establishing Fish Recovery Areas, establishing marine "no take" zones to limit interactions between fisheries and sensitive species, protecting vital marine habitats, and applying mitigation measures on board vessels, such as acoustic devices.

The **Commission** should guide ministers to doing this by clarifying the basis of advice, and making proposals for TACs that address the risks MAPs have introduced. The Commission should also develop an assessment of Baltic ecosystems and the impact of the fisheries in addition to focusing on the state of fish stocks. Furthermore, the Commission should introduce further emergency measures for fish stocks as well as for mitigating against wider impacts on ecosystems, such as incidental catches.

These recommendations apply equally across other regions, particularly in the North Sea and in Western waters, where the **Commission** ensured proposals for further MAPs replicated or further exacerbated the same shortcomings, and the **co-legislators** accepted these proposals and introduced new weaknesses that add cumulative risks beyond those in the Baltic MAP.

Appendix 1. Table 1 methodology

TACs set exceeding, or not, the ICES advice

1) The TAC set for each year was compared to the ICES advice in a given year in accordance with data collated and analysed in FishFix (2019). The TAC is counted as exceeding (red) or not exceeding (green) ICES advice.

2) For each year a percentage is calculated based on number of TACs set exceeding advice (red) in relation to total number of TACs set (eight).

Stocks not in line with CFP requirements

1) ICES latest advice was used to identify if Fishing Mortality for each stock (F) in each year is above (red) or at/below (green) the available F_{MSY} reference point. Where no estimate of F in relation to an F_{MSY} is provided it is marked as grey.

2) ICES latest advice was used to identify if Biomass (B) for each stock in each year is below (red) or at/above (green) the available MSY $B_{trigger}$ reference point. Where no estimate of B in relation to an MSY $B_{trigger}$ is provided it is marked as grey.

3) For each year the percentage of stocks not in line with the CFP MSY requirement is calculated based on the number of stocks where F is above F_{MSY} and/or B is below MSY $B_{trigger}$ in relation to the total number of stocks with TACs determined within the framework of the BSMAP. Where F in relation to F_{MSY}, or B in relation to MSY $B_{trigger}$ are 'unidentified' these are counted, but treated as unknown in the calculation of the percentage.

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[2] In summary: 1) to meet the obligations of the CFP (e.g. precautionary approach, restoring fish populations above levels that can produce MSY); 2) elimination of discards, 3) implementing the ecosystem approach to fisheries management, and 4) measures taken in accordance with the best available scientific evidence. For the full text of these objectives, see document: **REGULATION (EU) 2016/1139 OF THE EUROPEAN PARLIAMENT AND OF 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) No 2187/2005 and repealing Council Regulation (EC) No 1098/2007. Official Journal of the European Union, 15.07.2016. L 191/1**

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[4] https://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm

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[6] **Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy. Article 4.1. (7)** „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;"

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