

Deliverable No. 7.1

Project acronym:

MareFrame

Project title:

„Co-creating Ecosystem-based Fisheries Management Solutions"

Grant agreement No: **613571**

Project co-funded by the European Commission within the Seventh Framework Programme

Start date of project: **1st January 2014**

Duration: **48 months**

Due date of deliverable:	31/12/2015
Submission date:	30/12/2015
File Name:	D7.1 MAREFRAME_Institutional challenges for policy-making and fisheries advice to move to a full EAFM approach
Revision number:	01
Document status:	Final ¹
Dissemination Level:	PU ² (PP: not to be made public until further notice)

Revision Control

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¹ Document will be a draft until it was approved by the coordinator

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Deliverable D7.1

Institutional challenges for policy-making and fisheries advice to move to a full EAFM approach

28/12/2015



Executive Summary

This report is the first deliverable of Work Package 7 (WP7 – Synthesis & training development), entitled: Institutional challenges for policy-making and fisheries advice to move to a full EAFM approach. The report is set up as required by the reference peer reviewed journals in the field of Marine Policy/Ocean and Coastal Management, where it will be submitted. The manuscript is titled: Institutional challenges for policy-making and fisheries advice to move to a full EAFM approach within the current governance structures for marine policies. Building on a framework constructed from existing literature to identify barriers and pathways for progress within the current governance system and key-informant interviews, the article explores the institutional challenges involved in implementing Ecosystem based Approach to Fisheries Management (EAFM). The analysis is conducted on the basis of two case studies that address the design of multi-annual multi-species management plans for the Baltic Sea and for the Atlantic Pelagic fisheries. The Common Fisheries Policy presents such multi-annual plans as the main tool to preserve marine biological resources and to achieve sustainability objectives. The report concludes that whilst the development of the Baltic multi-annual plan is a step in the right direction towards EAFM, there are still several challenges to address including, an institutional gap between fisheries and environmental policy frameworks. Such a gap results in a limited integration of broader environmental concerns in the proposed plans and the standoff between decision-makers that delays the adoption and use of proposed management plans.



Institutional challenges for policy-making and fisheries advice to move to a full EAFM approach within the current governance structures for marine policies

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Abstract

The European Union is aiming to implement an Ecosystem Approach for the management of all human activities in the marine environment, hereunder the fisheries sector. Stakeholders with an interest in EU fisheries are asked to provide advice on how fisheries could be managed under an EA, the main goal being to minimize the impact of fishing activities on the marine ecosystem. Even though it is claimed that much of the framework to support the implementation of an EAFM in Europe is in place, stakeholders are facing institutional mismatches that hamper their efforts to substantively advance in this matter. The current paper aims to describe these institutional challenges, using a framework constructed from the literature to identify barriers and pathways for progress within the current governance system. This is carried out on the basis of two case studies that address the design of multi-annual multi-species management plans for the Baltic Sea and for the Atlantic Pelagic fisheries. The Common Fisheries Policy presents such multi-annual plans as the main tool to preserve marine biological resources and to achieve the sustainability objectives. The analysis identified several challenges including, among others, an institutional gap between fisheries and environmental policy frameworks resulting in a limited integration of broader environmental concerns in the proposed plans and the standoff between decision-makers that delays the adoption and use of proposed management plans and creates frustration for the involved agencies.

Keywords: Ecosystem Approach to Fisheries Management; Institutional challenges; European Union; Advisory Council; Member States regional groups



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Introduction

The European Union (EU) aims at implementing an Ecosystem Approach (EA) to the management of all human activities in the marine environment, hereunder the fisheries sector. The intention to apply an EA to fisheries management (EAFM) was first mentioned explicitly in the 2002 reform of the Common Fisheries Policy (CFP) (Regulation 2371/2002)⁴. The recently reformed CFP defines EAFM as

“an integrated approach to managing fisheries within ecologically meaningful boundaries which seeks to manage the use of natural resources, taking account of fishing and other human activities, while preserving both the biological wealth and the biological processes necessary to safeguard the composition, structure and functioning of the habitats of the ecosystem affected, by taking into account the knowledge and uncertainties regarding biotic, abiotic and human components of ecosystems”(Regulation1380/2013, art. 4 par 9)

Achieving the desired ecological, social and economic objectives of an EA in the European maritime sector will require time, considerable resources, and extensive intergovernmental cooperation (Long, 2012). The implementation of an EA is complicated by the unique legal order of the EU as a supranational entity (van Hoof, et al., 2012) (Long, 2012) and by the fact that the formulation and implementation of maritime policies takes place at different governmental levels (van Tatenhove, 2013). Lack of coordination between — and sometimes within— the Member States (MS), the EU and international initiatives has been mentioned as an obstacle for EAFM (van Tatenhove, 2013). Moreover, coordinating the different Directorate Generals and the different Councils of Ministers in order to harmonize the different sets of EU policies remains a challenge (van Leeuwen, et al., 2014). Finally, the implementation of an EA places new demands on a wide range of organisations, including the Regional Sea Conventions (RSC), national marine scientific agencies, and other national bodies responsible for environmental protection and for offshore licencing (Long, 2012).

Fisheries stakeholders are trying to adapt to policy requirements of moving towards EAFM, in which the impacts of fishing activities on the marine ecosystem are reduced. In addition to environmental conservation, however, EAFM involves a broadened scope of sustainability in fisheries, including a stronger emphasis on societal and economic aspects

Jennings & Rice (2011) consider that EU's decision making progress remains centralized despite the formation of the Advisory Councils (ACs), hampering the progress towards an EAFM. The emergence of the new MS regional groups, emphasised by the regionalisation approach of the recent CFP reform, has done little to facilitate the effective coordination with other marine/maritime policies required by an EAFM (Eliassen, et al., 2015). Furthermore, Symes & Hoefnagel (2010) emphasised that most of the effort invested in the policy process is concerned with traditional fisheries management tools, such as establishing annual Total Allowable Catches (TACs), securing compliance with catch quotas, minimum landing size, by-catch limits and closed areas.

⁴ The Regulation uses the term *ecosystem-based approach to fisheries management*. In this paper the term EAFM will be used.



Van Hoof (2015) emphasis the need to clarify the regional cooperation between MSs and between MS groups and other agencies, how to position EA between fisheries management and environmental aspects; resolve the tension caused by MS being granted fixed TAC shares (relative stability) and how to involve stakeholders; and the question of how to balance ecological and economic concerns. Ramirez-Monsalve et al (forthcoming) discuss the move towards establishing a genuine co-creation process as a means to improve the collaboration and interaction between policy, science and stakeholders (ACs), is suffering from three aspects: a) an absence of institutional structures to promote cooperation and coordination at a policy level; b) absence of a clear guidance on how to combine the MSFD and CFP and their associated governance systems; and c) lack of clarity about the width and depth of stakeholder participation, where the ability of ACs to provide stakeholder knowledge into a compatible and connected format under the EAFM approach is uncertain.

While it has been claimed that much of the political framework to support the implementation of an EAFM in Europe is in place (Jennings & Rice, 2011), the above issues point to institutional complications that, in addition to other challenges, substantially may hamper a transition towards EAFM.

The institutional interplay of EU fisheries management (*sensu* who decides what within the EU institutions) is nevertheless expected to remain unchanged for the coming decade, consistent with the EU strategy of moving towards EAFM in an incremental process (MareFrame C, 2015). Hence, advances on implementing an EAFM cannot be based on establishing new decision-making processes, but must focus on innovations in the provision of advice and the engagement of stakeholders.

In this context, the on-going development of multi-annual multi-species plans (MA-MSPs) is important as these plans are considered potential carriers of the first steps towards EAFM in Europe (MareFrame C, 2015). The 2013 CFP presented multi-annual plans as the main tool to preserve marine biological resources and to achieve the sustainability objectives (Prellezo & Curtin, 2015), and has encouraged that the scope of such plans extends to cover as many species as possible within a given ecosystem region (Regulation 1380/2013). Accordingly, this paper aims to provide an overview of the current institutional challenges for EU to move towards EAFM with basis in two ongoing cases, the development of MA-MSPs, for the Baltic and for Atlantic pelagic fisheries. By analysing the process and modes of cooperation in support of MA-MSPs in these cases, we aim at illuminating possibilities and constraints for moving towards EAFM within the current governance system in Europe.

This article includes the following four sections. *Section two* describes methodology and motivates and presents the selected case studies. *Section three* presents a non-exhaustive compilation of the institutional challenges presented in existing literature to operationalizing EAFM in the EU. *Section four* briefly describes the process of developing MA-MSPs in the two cases, with a focus on encountered institutional challenges. *Section five* offers a discussion of these challenges, describes both observed progress and experiences, and identifies opportunities for facilitating EAFM in the EU.

2. Methods

Two cases of developing MA-MSPs were selected, examined and compared to provide empirical insights on how the move towards EAFM is unfolding in the EU. The cases were selected to provide a contrast with regard to the stage of development of the MA-MSPs. Featuring an adopted Commission proposal, the Baltic MA-MSP was selected as a perceived frontrunner for the MA-MSPs as well as for

the management of the marine environment in general. In turn, the development of a MA-MSP for Atlantic pelagic fisheries was selected as a case where the MA-MSP is still under development, and as will be outlined shortly, comprises particular challenges. At the time of writing this article, no draft MA-MSP for pelagic fisheries was available.

The case studies focused on the roles of, and interactions between DG Mare, the providers of scientific advice, the ACs, and the regional groups of MS involved in the MA-MSP initiative in question. Empirical information for the case studies was collected through ten key-informant interviews, observations of meetings and available documents. In addition, a literature review was conducted to establish the context of EAFM in the EU, with an emphasis on identifying institutional challenges and opportunities. Eight interviews with actors involved in the development of MA-MSPs were conducted between October and December 2015 (table 1). In addition, an interview was conducted with an expert in stakeholder involvement in European fisheries management (Researcher 1). Observation studies were conducted for events with high relevance for EAFM in the EU (table 2).

Table 1. Overview of key informant interviews conducted with representatives of main agencies involved in the Baltic and Pelagic case studies (see chapter 4 for details).

Agencies		Interviews Baltic case	Interviews Pelagic Case
Commission	DG Mare	1	2
Regional MS group	BALTFISH	1	-
AC	Baltic AC	1	-
	Pelagic AC	-	3

Table 2. Details of meeting events.

Event	Topic	Participating agencies	Date
Round table discussion	EAFM in EU's CFP	DG MARE, ICES, STECF, EFARO	January 2015
Focus group meeting	Innovative Knowledge Frameworks for EAFM	Experts in fisheries and ecosystem modelling and fisheries governance (4 affiliated with the MareFrame project and 1 external)	June 2015

It is important to note that several of the actors consist of representatives from very heterogeneous interest groups and interviewing one or two members does not give a full picture of their work, position and internal dynamics. However, we have been carefully aware of the internal heterogeneity in our analysis. Further, for the development of the case studies, available documents, meeting minutes, letters, policy documents, among others were collected in addition to peer reviewed articles.

3. Challenges in the EU system to operationalize the EAFM

Existing literature documents challenges to operationalize the EAFM in the EU system. Such challenges can be divided into three groups: 1) What is needed to operationalize the principles of an EAFM; 2) how has the EU system presently operationalised EAFM, and 3) which challenges has been detected in the EU system to implement EAFM. Figure 1 below provides a graphic presentation of these three layers and their interrelatedness.

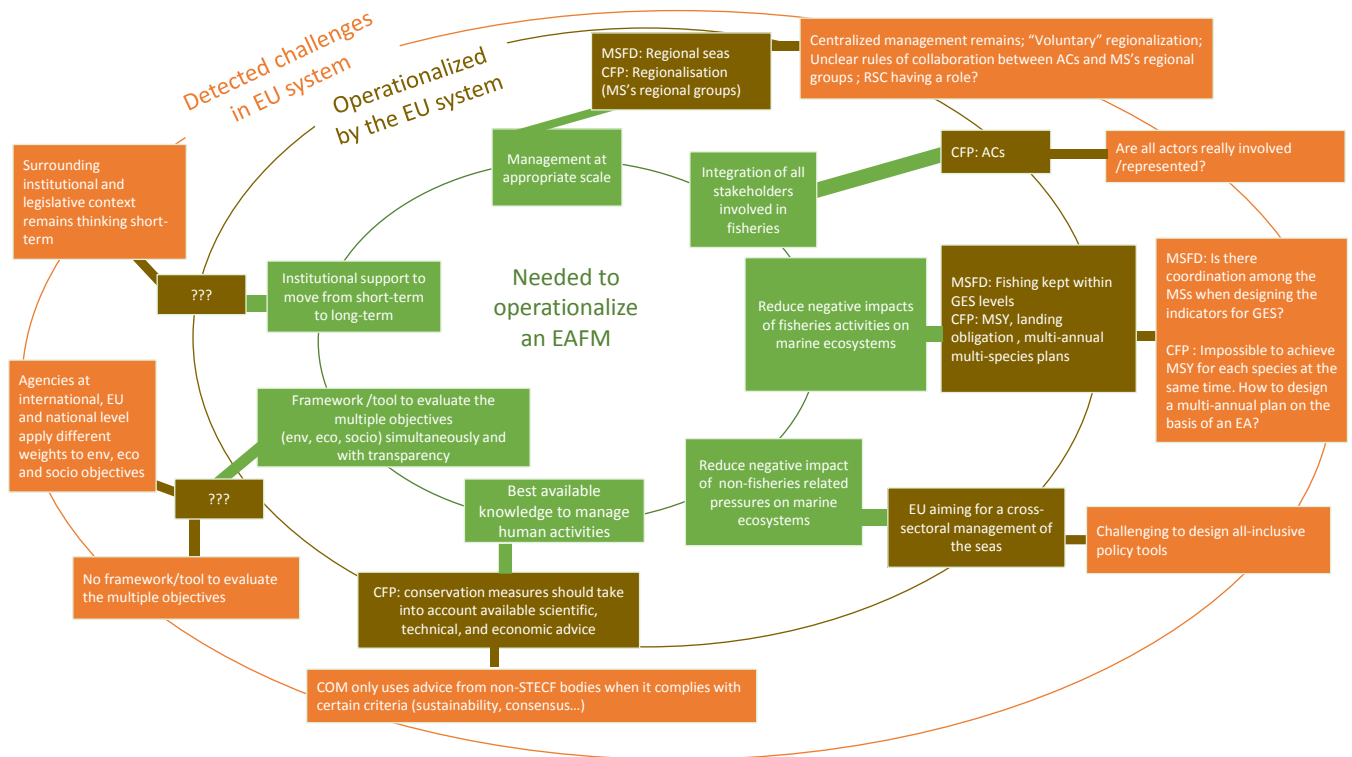


Figure 1: Three layers representing the means to operationalize the principles of an EAFM (inner layer); the way EU has operationalized the EAFM (middle layer); and the detected challenges in relation to implementing EAFM in the EU (outer layer). After (Bellido, et al., 2011) (Berkes, 2012) (de Santo, 2010) (Jennings & Rice, 2011) (Hegland, et al., 2015) (Long, 2012) (Ounanian, et al., 2012) (Peute, 2015) (Prellezo & Curtin, 2015) (Princen, 2010) (Salomon & Dross, 2013) (van Hoof, 2015) (van Hoof, et al., 2014) (van Leeuwen, et al., 2014) (van Tatenhove, 2013).

3.1 How to make principles of EAFM operational?

Some of the basic principles of an EAFM refer to humans as an integral part of the ecosystem (FAO, 2011) (Prellezo & Curtin, 2015); having an adaptive management to deal with the complexity of the ecosystems (FAO, 2011) (Prellezo & Curtin, 2015); and moving away from viewing resources as individual components to be separately managed to managing resources as being managed as interrelated parts of a system (van Hoof, 2015). Means by which some of these principles can be operationalized have been identified. For instance, advance towards the goal of wider and deeper stakeholder involvement in fisheries can be made by giving resource users a strengthened sense of ownership (Prellezo & Curtin, 2015). Addressing the long-term consequences of today's decisions (van Hoof, 2015) is associated with actors moving from short-term to long-term sustainability goals (Jennings & Rice, 2011). EAFM requires a capacity to address and balance a number of conflicting objectives in and transparent and legitimate manner. (Bellido, et al., 2011) (Patrick & Link, 2015). Such objectives may include ecological sustainability of stocks and ecosystems, economic viability of the fishing industry, and social viability and fairness for local communities (Garcia, et al., 2003) (FAO, 2011) (Gascuel, et al., 2014). The aim to reduce negative human impacts for ecosystem structural functioning and other essential ecosystem services (FAO, 2011) involves a reduction of impacts of fisheries (Rice,



2011) as well as of other anthropogenic pressures on marine ecosystems (Garcia, et al., 2003). The former is addressed by aiming for a sustainable exploitation of fisheries resources; considering the existing relationships within all ecosystem components (from single species management to multi-species management); and understanding the performance of fisheries relative to reference points (Prellezo & Curtin, 2015). Management measures should be coherent across a range of resources and be deployed at appropriate scales (Curtin & Prellezo, 2010). Complete ecosystem knowledge will never be available, but should not postpone an orientation towards EAFM, which must always be pursued on the basis of the best available knowledge (FAO, 2011). The inner layer of Figure 1 identifies needs with regard to making the basic principles of EAFM operational.

3.2 The EU approach to make EAFM operational

The EU identified ways to pursue the principles of an EAFM, mainly through the objectives and measures of the MSFD and CFP (Farmer, et al., 2012) (Prellezo & Curtin, 2015) (van Hoof, 2015). For example, the principle of *managing at appropriate scales* has been operationalized by working at the level of the regional seas (MSFD (Directive 2008/56/EC)) and by regionalisation approach of the reformed CFP (Regulation 1380/2013). As an attempt to give *resource users more sense of ownership* the ACs were established by the previous CFP (Regulation 2371/2002), congregating fisheries stakeholders in a single forum. The aim to reduce all human impacts that could negatively affect structural functioning of the ecosystem and its maintenance of essential ecosystem services has been addressed by 1) *reducing the impact of fisheries activities* and 2) *by reducing the impact of other pressures on the marine ecosystem*. The impacts of fisheries are mainly addressed by the CFP (Regulation 1380/2013), with the overarching goal of achieving a sustainable exploitation of fisheries. The CFP establishes that fisheries resources should be at or above levels that can produce Maximum Sustainable Yield (MSY); that unwanted catches should be avoided and reduced (landing obligation); and that stocks should be managed by means of multi-annual plans, including multiple stocks where possible. In addition, the MSFD (Directive 2008/56/EC) requires that the collective pressures of fishing resources should be kept within levels compatible with the achievement of Good Environmental Status (GES). Other impacts than fishers (shipping, agriculture, tourism, oil and gas production, sand and gravel extraction, offshore wind energy, coastal development, laying of submarine pipelines and cables) are managed through a cross-sectoral approach (COM(2008)187). Finally, the principle of *managing human activities under the best available knowledge* has been put into practice as the 2013 CFP (Regulation 1380/2013) requires that conservation measures should take into account available scientific, technical and economic advice from ICES, the STECF, ACs, MSs and other advisory bodies. The medium layer of Figure 1 refers to how the EU has made the EAFM operational.

3.3 Detected challenges in the EU system to implement EAFM

Despite some progress, it remains unclear how the EU will render some principles of EAFM operational. For example, *addressing the long-term consequences of today's decisions* requires actors to move from short-term to long-term sustainability goals (Jennings & Rice, 2011). However, short-term thinking still dominates the institutional and legislative context as high short-term transition costs discourage



decisions makers from making decisions that favour long term sustainability (Jennings & Rice, 2011) (Bellido, et al., 2011) (Freire-Gibb, et al., 2014). Another principle not clearly addressed is that of *balancing the conflicting objectives of ecological sustainability, economic viability and social viability*. This balancing would require a framework for evaluating options and trade-offs, simultaneously and with transparency, (Bellido, et al., 2011) (Patrick & Link, 2015), and such a framework does not appear to be available. Costs and benefits of specific options on the various dimensions of sustainability are simply not described in a systematic format (Jennings & Rice, 2011). Actors find themselves in a crossroad between agencies at international and national level, each having applied different weights to the necessary trade-offs among environmental, social and economic objectives (Rice, 2011), or the weights and priorities may be shifting continuously (Berkes, 2012). At EU level, asymmetries between the MSFD and the CFP have been identified that complicate actors' intentions to implement an EAFM. According to the CFP, fishing is allowed so long as its impact on the ecosystem is limited; according to the MSFD, fishing is allowed so long as it contributes to ecosystem health (van Hoof, 2015) (Ramirez-Monsalve, et al., forthcoming).

Several impediments for progressing towards an EAFM in the EU have been documented. Although recent regionalisation approaches in the EU seek to achieve *management at appropriate scale*, critical observers argue that management remains highly centralized (Säwe & Hultman, 2014) (Prellezo & Curtin, 2015), and that regionalisation is being done on a "voluntary" basis (Hegland, et al., 2015) (Eliassen, et al., 2015), and that there are unfair and unclear rules of collaboration between the ACs and the recently formed regional MS groups (Hegland, et al., 2015). Although RSC have been given new demands related to implementation of EA at regional level (Long, 2012) (van Tatenhove, et al., 2014), this has involved several challenges (Long, 2012) (Salomon & Dross, 2013) (van Leeuwen, et al., 2014) (Freire-Gibb, et al., 2014) (van Hoof, 2015) and the extent to which these forums are being used is unclear. Regarding the *integration of stakeholders* fisheries by means of the ACs, linked to the principle of resource users gaining more sense of ownership, it is questioned whether, how and to what extent actors are being involved and/or represented (Linke & Jentoft, forthcoming). The reformed CFP appears to have strengthened the position of the ACs to slightly above purely advisory capacity. But even when they represents consensus and comply with certain sustainability criteria, neither the Commission, nor the MS, are obliged to follow the recommendations of the ACs (Hegland, et al., 2015).

The MSFD (Directive 2008/56/EC, art 1(3)) states that collective pressure of human activities (fishing) should be kept within GES levels. However, indicators for GES are being designed by each MS (Peute, 2015) and in this respect there are indications of a lack of coordination between the MS bordering the same regional sea (van Hoof, et al., 2012, p. 11) (Peute, 2015). Must fishers comply with different sets of regulations when fishing in different territorial waters? Further, while fisheries are required to be at MSY levels, single species MSYs cannot be simultaneously achieved for all fisheries. This is acknowledged by the scientific community and fisheries managers, which make efforts to adapt the MSY concept to an EAFM (Prellezo & Curtin, 2015). Academic debates on the ecosystem benefits and drawbacks of highly selective fishing (Prellezo & Curtin, 2015), have relevance for the landing obligation and its aim of avoiding and reducing unwanted catches. Concerning the *reduction of negative impact of non-fisheries related activities*, the pursuance of cross-sectoral management of the seas (COM(2008)187), involves the challenging task of designing and implementing policy tools to ensure that all sectors responsible for adverse impacts are included in an integrated approach (Princen,



2010) (Salomon & Dross, 2013) (van Hoof, et al., 2014). The outer layer of Figure 1 refers to the detected challenges in the EU system to implement EAFM.

4. The multi-annual multi-species management plans for the Baltic Sea and the Atlantic Pelagic Fisheries

The 2013 CFP presents multi-annual plans (MAPs) as the main tool to preserve marine biological resources and to achieve the sustainability objectives (Prellezo & Curtin, 2015). A multi-species approach appear as candidate carrier of the first step towards EAFM in the incremental process envisaged in the EU (MareFrame C, 2015).

MAPs provide a framework for sustainable exploitation of the stocks (Regulation 1380/2013, §24). MAPs define management objectives and safeguarding mechanisms for unforeseen developments and have clear time frames. The plans shall contain conservation measures to restore and maintain fish stocks above levels capable of producing MSY (Regulation 1380/2013, art 9(1)) where MSY exploitation rates shall be achieved by at least 2020 for all stocks (Regulation 1380/2013, art 9(2)). Implementing MSY is considered a significant contribution to the EAFM since the sustainability concept of MSY brings exploitation of resources within the ecosystemic boundaries in regards to fish stocks (Commission rep (2), 2015). MA-MSPs are also considered the tool of choice to apply EAFM within the few possibilities provided by the 2013 CFP (PelAC NGO rep (2), 2015).

In the case of mixed fisheries, or where the dynamics of stocks relate to one another, the plans shall cover fisheries exploiting several stocks in a relevant geographical area (Regulation 1380/2013, art 9(3)). That is, the plans should, were possible, cover multiple stocks where stocks are jointly exploited (Regulation 1380/2013, §24). Knowledge about the interactions between fish stocks, fisheries and marine ecosystems should be taken into account (Regulation 1380/2013, art 9(3)). For fisheries where landing obligations applies, the plans also establishes the *de minimis* exemptions from the landing obligation (Regulation 1380/2013, §31). Finally, the MAP should be adopted in consultation with ACs, as well as with operators in the fishing industry, scientists, and other stakeholders having an interest in fisheries management (Regulation 1380/2013, §24). These plans shall be adopted based on scientific, technical and economic advice (Regulation 1380/2013, art 9(1)).

The content of the plans is to be complemented by (technical) ecosystemic measures that further facilitate the implementation of an EAFM. Such technical ecosystemic measures will be part of a new Commission's proposal that aims to cover the whole of the EU waters, broken down by sea basin. MAP are considered a tool to bring fisheries and environmental measures together. These plans need to be seen then in connection with that upcoming technical measures proposal (Commission rep (2), 2015).

In the following section, we describe the process towards a MA-MSP for Atlantic pelagic and Baltic fisheries, respectively, which will subsequently provide a basis for discussing opportunities and constraints relevant for EUs ambition to move towards EAFM.



4.1 Multi-annual multi-species management plan for Atlantic pelagic fisheries

The Commission's communication about fishing opportunities for 2016 under the CFP (COM(2015)239 final) states "A multi-annual plan for the Atlantic pelagic fisheries is under consideration" (p. 3). With the text, the Commission wanted to manifest its aspiration to have such a plan available at some point, but that there is nothing concrete on the table yet (PelAC rep (1a), 2015).

Members of the Pelagic Advisory Council (PelAC) aim to be at the forefront in relation to the development of this plan "because we have relevant knowledge and we are affected by this [plan]" (PelAC rep (1a), 2015). Drafting a MA-MSP is understood by several PelAC members as the first step to operationalise EAFM in the pelagic fisheries. In order to identify the practical factors relevant for developing a MA-MSP and advice for pelagic fisheries, an Ecosystem Focus Group (EFG) was set up in February 2015. The EFG is open to all PelAC members (PelAC Ecosystem Focus Group, 2015). However, at the moment, the Commission has no concrete plans for a MA-MSP for shared Atlantic pelagic species (Commission rep (2), 2015) (Commission rep (3), 2015).

4.1.1 Identified institutional challenges

Despite the fact that MA-MSP for Atlantic pelagic fisheries is not among the mid-term plans of the Commission, some of the potential actors that might be involved in the development of the plan, in specific the PelAC is already working on this direction. The situation raises particular challenges as described below.

EU is not the sole manager of pelagic stocks

Drafting MA-MSPs for the pelagic fisheries is a complex task compared to other stocks in EU waters due to the widely distribution of pelagic stocks in the North East Atlantic. Furthermore, mackerel, blue whiting, and Atlanto-Scandian herring are managed in collaboration with the Coastal States: Faroe Islands, Greenland, Iceland, Norway and the Russian Federation in the North East Atlantic Fisheries Commission (NEAFC). These shared stocks are jointly managed by means of Multi-annual management strategies. There is a process of permanent consultation and decision making, but in recent years negotiations have mostly been difficult. Introducing an ecosystemic dimension into this discussion, which has mainly been focused on fishery issues, could complicate matters even further (Commission rep (2), 2015) (Commission rep (3)). This view was also expressed by PelAC representatives (PelAC rep (3), 2015) (PelAC rep (1b), 2015)

The logic of MA-MSPs cannot be directly applied to these jointly managed pelagic stocks. It is for this reason that the development of a MA-MSP for shared pelagic species of the Atlantic is not among the mid-term plans of the Commission:

"We have said that somewhere in the future we will analyse what the added value of such a EU MAP should be" (Commission rep (2), 2015).



Reaching consensus on advice

PelAC members foresee a challenge in reaching consensus internally on how to provide advice on MA-MSPs:

"We are asked to provide advice, but have to also decide what the advice is to be on. It is a whole scope of issues. This makes it more difficult as there is a whole new set of decisions that need to be taken [and] find consensus on what to advise on, and not only on how to advise" (PelAC NGO rep (2), 2015).

One of the PelAC members expects that there will be disagreements, not only between eNGO and fisheries representatives, but also internally among fishers, about how to define the aim of the advice:

"People would have potentially opposing views on how we should manage it, so I think it will be more challenging without a doubt" (PelAC rep (3), 2015).

Another emphasised that it will be difficult, for a group of people with very different background – fisheries, natural science, marine biologist, to think what needs to be taken into account, given all the different levels of EBFM and the requirements that arise from the MSFD (PelAC NGO rep (2), 2015).

At the time of writing this article, there have been no clear specifications on what the MA-MSP for pelagic fisheries should include. Despite this lack of guidelines and the internal challenges, the PelAC aim to be prepared to be involved in the drafting of the MA-MSP once the Commission decides to move in this direction. PelAC does not want to be left out of the process of drafting MA-MSPs and is already considering how to deal with the increased complexity of the information required for drafting them.

Requirements for more information and more complex information

The EFG is currently, by the end of 2015, learning how to deal with multiple species interactions. Although pelagic fisheries is usually a relatively *clean* fisheries, by-catch still sometimes occurs, for example in the mixing of mackerel and horse mackerel at certain times of the year in certain areas. The MA-MSP has attempted to cover those aspects. Another aspect related to multi-species interaction is that of the hypothesis around the issue of large stocks of one species leading to decline of other stocks. Although there is limited knowledge around these interactions, it is important to get clarity to avoid speculation. Presenting specific measures in the MA-MSPs will require scientific data and analysis beyond what presently is available. As one of the representatives in the PelAC stated in an interview:

"It is difficult if you only have observations and you want to avoid correlation biology" (PelAC rep (1), 2015).

In addition, it is perceived by some of the PelAC members that there is more uncertainty about the pelagic ecosystem and how it functions in general compared to other stocks (PelAC NGO rep (2), 2015).

For one of the PelAC members, scientific data supporting the need for decisions will be crucial when dealing with the different interests, an issue which is acknowledged as challenging for the drafting of the plan:



*“I can foresee that what we’ll really need is to up the game in terms of the scientific data input, so that we really have a much clearer understanding on how the particular stocks are doing”
(PelAC rep (3), 2015)*

The information needed for MA-MSPs is substantive and complex. Most of the existing attempts to develop methods to manage all this information have focused on computer modelling. This poses several problems to the process: First of all, as just described in relation to the predator-prey relationships, much of the information about inter-species dynamics is of a more qualitative character, which might not be easy to fit into a computer model. Secondly, the amount of information and the complexity of the dynamics that require scientific description also means that the information will be characterised by high levels of uncertainty – something which is also difficult to incorporate in computer models or at best tends to be mis- or underrepresented when quantified in this manner. Finally, this emphasis on computer models, which are much more complex than single-species stock assessments, will also function as an obstacle to stakeholder involvement as stakeholders can have difficulties in commenting due to the complexities of the internal dynamics of such models. Furthermore, stakeholders’ inputs will often be qualitative and not easily feed into the modelling process.

The Commission services underline the challenges of moving into multi-species plans given the limited conclusive research on inter-species and multi-species relations. The Commission would like to manage fisheries by means of multi-species plans once this is feasible. However, difficulties are not only related to scientific aspects but also to the fact that sometimes decisions in terms of what is given priority in the ecosystem are linked to political choices (Commission rep (2), 2015).

Concerns among stakeholders about whether they will be involved early enough

Relations with the Commission have improved in recent years and the Commission is generally being supportive of PelAC, e.g. sending requests to ICES on issues of importance for PelAC and being supportive of the management plans developed by the PelAC. Nevertheless, some PelAC members have doubts whether they will be involved early enough in the process of developing a MA-MSP, and a few are speculating about whether the Commission is already working on it (PelAC rep (1a), 2015). One PelAC member said:

“I think the important thing for us at this stage, and we’ve already communicated it to the Commission, is that we want to be there from the start of the process, as soon as they are to say ‘yeah, we’re going to try to go forward with this’. That we are [...] embedded in the process so that we can help develop [the plan] it in the best possible way” (PelAC rep (3), 2015).

PelAC wants to be proactive to ensure that they can have a say when decisions are taken. According to another PelAC member:

“we’re quite worried that other people might work on the plan, while we’re standing at the side line...From our experience, although this does not hold true all the time, if we come up with something first, then the chances that at least part of it gets taken up by others are relatively good.” (PelAC rep (1a), 2015).

A related topic is that PelAC believes that several of the MAPs could have been integrated in EU legislation if it had not been for the “institutional deadlock” in Brussels (PelAC, Oct-Dec 2014).

This concern also relates to the exclusion of PelAC in the drafting process developed by the MS Regional groups. The rules of collaboration between the ACs and the recently formed MSs regional groups are unclear. PelAC is eager to interact with the MSs regional groups to ensure their recommendations are included in the joint recommendation that the MSs will present to the Commission. The PelAC feels it has to start from zero building up its relationship and learning to gain the trust of these MS regional groups. This situation is similar to the experiences of the newly-created PelAC 10 years ago, when it started its interaction with the commission (PelAC rep (1b), 2015). However, our interviews with PelAC representatives revealed that the PelAC has recently been invited to meetings at the NWW and the Schveningen group, and the attitude of these groups has been much more positive and open than in the past:

“It just takes some time to reach that equal footing again” (PelAC rep (1b), 2015).

Concerns that predator-prey dynamics are not addressed

Commercially significant pelagic species in the North Atlantic (including herring, sand eel and sprat) constitute central prey species for piscivorous predators, which typically are demersal species (Engelhard et al, 2014). This is part of the reason Sidney Holt criticised the proposed approach to a MA-MSP for North Sea demersal species, which did not consider the predator-prey linkages with pelagic species:

“First, I must say that creation of separate management plans for the demersal and – presumably – pelagic fisheries in this area does not make sense. For example there are certainly inter-specific relations between some of the demersal species and pelagic ones” (Holt, 2015).

Although Holt raised this concern in relation to the proposed approach for the North Sea demersal MS-MSP, his observations clearly also has relevance for a separate plan or pelagic species in the same area. If neither predator-prey dynamics, nor environmental drivers, are substantially addressed in the MS-MSP pelagic species in the North Sea, it might not be substantially functionally different from a set of separate single species plans. Hence, although the existence of such a plan would represent significant progress in other respects, it may not appear to represent advance towards EAFM. It is worth noting, however, that if predator and prey dynamics are considered explicitly, this might raise interest conflict between demersal and pelagic fisheries, which subsequently must be resolved in a manner that is considered transparent and legitimate by the involved parties.

4.2 The Baltic multi-annual multi-species management plan

As the first of its kind, a MA-MSP has been developed and formalized as a Commission proposal for the three species which account for about 90% of the commercial catches in the Baltic sea (HELCOMa, n.d.), namely cod (*Gadus morhua*), herring (*Clupea harengus*) and sprat (*Sprattus sprattus*) (COM(2014)0614final). The proposed plan has been presented by the Environment, Maritime Affairs and Fisheries Commissioner Karmenu Vella as a blue print for other MA-MSPs:

“This plan is not only very important for the Baltic region and the countries that are directly concerned, but it will also be a positive precedent for other management plans to be adopted in the future” (European Parliament, 2015).



The MA-MSP aspires to bring the management of fish stocks in accordance with the requirements of the CFP and to contribute to the envisaged regionalisation ideas (SWD(2014)291final).

The idea of creating a MA-MSP stemmed from discussions and research invested in preparing a basis for a MAP for pelagic fisheries in the Baltic. In 2007, a management plan for the Baltic cod was adopted (Regulation 1098/2007) and the intention was to proceed with a separate plan for the pelagic fisheries in this region. However, following the impact studies related to the prospective plan for the pelagic fisheries (MRAG, et al., 2009) and based on an ICES assessment of the performance of the cod plan, a decision was made to change towards a common plan for the three main commercial marine species of the Baltic Sea. It is important to manage these species together because they are strongly linked through predator-prey interactions, although these dynamics are also shaped through environmental forcing conditions (Casini, et al., 2006) (Harvey, et al., 2003) (Köster & Möllmann, 2000) (Gislason, 1999) (Köster, et al., 2003) (Rindorf, et al., 2013) (Voss, et al., 2014) (COM(2014)0614final). The decision to develop a three species plan was made in consultation with representatives of the MSs and stakeholders at a Baltic Sea Fisheries Forum (BALTFISH)⁵ meeting and was motivated by the anticipated 2013 CFP reform that would favour plans covering multiple stocks. The decision was later formalised when the Council of Ministers encouraged the Commission to propose such a plan (EU Council, 2011)

The primary objective of the Baltic MA-MSP is to establish an approach for sustainable management of cod, herring and sprat requiring that the stocks are harvested at levels that can produce MSY. The focus of the plan is to establish target fishing mortality ranges and conservation reference points (minimum SSB limits) and it includes some provisions in relation to the implementation of the landing obligation with respect to specific gears as well as other measures. The plan allows concerned MS to submit joint recommendations on technical measures, hence opening for implementation of specific management measures on a regional basis. The proposal allows for the adoption of delegated acts by the Commission on certain technical measures, and introduces a review clause, stating that its impact on the stocks and fisheries concerned should be evaluated every 6 years.

The process of developing the Baltic MA-MSP involved a number of agencies, notably DG MARE, the Scientific Technical and Economic Committee for Fisheries (STECF), ICES, BALTFISH, and the Baltic Sea Advisory Council (BSAC). The development of the plan, including the consultation process, followed the DG MARE procedure for development and evaluation of long-term management plans. As an interviewed Commission official pointed out:

"[The] Commission [had] a leading role in the process. [The] Commission has to propose legislation based on scientific advice, consultation, but the proposal is [the] Commission's" (Commission rep (1), 2015).

The consultation process centred on the Baltic AC as well as the fisheries administration in the respective MS through BALTFISH. The STECF provided scientific advice with regard to scoping, modelling, evaluating alternative MAPs and their potential impacts (STECF, 2012a) (STECF, 2012b).

Some of the main elements of the process are listed below:

⁵ BALTFISH (HELCOMb, n.d.) is a forum for regional cooperation about fisheries management for the eight EU member states in the Baltic area.



- 2007: Cod plan proposed and adopted.
- June 2011: BALTFISH forum decision to work on a MA-MSP for Baltic cod, sprat and herring.
- 2012: Work to scope the MS-MAP and subsequent impact assessment by STECF in meetings open to stakeholders.
- March – June 2014: Consultations with stakeholders in Baltic AC and MS in BALTFISH.
- 6 Oct 2014: Legislative proposal and new impact assessment presented by the European Commission.
- 10 Dec 2014: European Economic and Social Committee opinion published.
- January – April 2015: Discussions within and between the Council and the parliament.
- 28 April 2015: EP opinion on first reading. Vote postponed – some amendments.
- 24 June: Negotiations suspended.

The decision to go for a multi-species plan required a set of new rounds with science and stakeholders. This included a new round of STECF meetings, now with a scoping of multi-annual management plans (Simmonds, J; Jardim, E (eds), 2012b); an ICES workshop on integrated multi-species advice for Baltic fisheries; and a meeting of the STECF expert working group to provide an impact assessment of candidate approaches. Members of the Baltic AC participated in all these meetings, which were open to stakeholders (STECF, 2012a) (STECF, 2012b).

The STECF working group did not find that there was a sufficient scientific basis for identifying and evaluation of Harvest Control Rules, which represents the typical approach to developing single species management plans in the EU. However, their report provided an evaluation of a set of F-ranges to represent target exploitation rates of the key stocks. The STECF explained that:

“[T]he lower limits of these ranges correspond to the single species MSY values. In turn, “the upper limits of the F target range are rather uncertain and depend heavily on assumptions of growth and predation” (STECF, 2012b)

The multi-species approach based on target F-ranges was later included as a corner stone in the adopted Commission proposal (COM(2014)0614final). The proposal was presented to decision makers together with an impact assessment (SWD(2014)291final), with an updated set of target F-ranges provided by ICES on a request from the Commission (ICESa, 2014).

After the Commission published its proposal, the trilogue negotiations started between the Commission, the Council and the Parliament (EP). However, the trilogue negotiations stalled on June 24, 2015 following disagreements about specific details of the proposal. The main disagreement concerns the use of the F-ranges for the cod, herring and sprat stocks. While the Commission's proposal identified these ranges as “targets” the EP insists that they have to represent upper exploitation limits. The EP does not provide specific details on how the F-range for each species should be seen as an upper limit. If it implies that that the lowest end of the F-range should be applied (which as the STECF noted corresponds to single species F_{MSY}), it is worth noting that this would tend to shift the multi-species plan in a direction that would make it functionally equivalent with a set of separate single species plans.



The EP, however, proposed a range of other amendments, some of which seem to reflect a slightly stronger commitment to EAFM and to consider certain ecosystem aspects in the management plan, for instance with specific reference to the MFDS and related descriptors of GES (European Parliament, 2015). At the time of writing, no agreement has been reached on the Baltic MA-MSP.

4.2.1 Identified institutional challenges

The MA-MSP for Baltic fisheries has been identified as a potential role model, and therefore the development and decision making process relating to the plan holds important lessons in regard to potentials and constraints of moving towards EAFM in an EU context. In the following section, we identify three main institutional challenges associated with this case.

Regional cooperation - behind closed doors?

BALTFISH operates at two different levels: The High Level Group (HLG) is comprised of the fisheries directors the 8 EU MS, as well as European Commission representatives. In turn, the Forum is a broader arena as it consists of representatives of the Baltic AC, NGOs and intergovernmental institutions such as ICES and HELCOM. As noted by (Hegland, et al., 2015), the Forum works as a discussion arena, while major decisions tend to be made within the HLG. A memorandum of understanding of BALTFISH states that ACs can be invited to the HLG when required, but this only happens to a limited extent at present (Hegland, et al., 2015). This is the reason why an interviewed researcher, who has worked extensively with stakeholder involvement, observed that the regional MS groups seem to represent a reversal of previous trends towards increasing stakeholder engagement rather than facilitating stakeholder involvement:

"For stakeholder organisations to be linked with the regional policy process has become very, very difficult. I think it also applies to the Baltic group, the link between national policy makers and stakeholder organisations has been weak. It is difficult to trace the decision-making process: there are no minutes available publically, there are no talks, except for the occasional invitation for someone from an AC to go a meeting. So it is very much a closed process so far. I don't know if it will remain that way, but so far it has been a very different process from the ones we have had, say, the past 10 years." (Researcher 1, 2015).

Excluding stakeholders from an important decision-making process will likely undermine the legitimacy of the regional process of the adopting MA-MSPs. This has been a grievance for some members of the AC who feel that true regional management should not be taking place behind closed doors at MS level (Baltic AC rep (1), 2015)- A similar view of discontent with the closed-door practice has been expressed in joint statements by three environmental organisations with interest in Baltic fisheries (CCB, FISH and WWF, 2010) (CCB, FISH and WWF, 2012).

A Commission official noted the importance of involving stakeholders very early in the process because they can be a valuable asset and come up with many good ideas, especially if they feel listened to. However, the Commission appears unwilling to interfere in the stakeholder involvement through the regional MS groups, which it regards a MS responsibility (Commission rep (1), 2015).



Limited consideration of environmental aspects?

An important aspect of an EA is to move towards managing resources as interrelated parts of a system (van Hoof, 2015). The Baltic MA-MSP represents a change from single species management (mostly even without single species plans) towards an integrated approach, where the most significant predator and prey species are considered together. Whereas the MA-MSP does not seem to represent any significant change to address broader environmental concerns. It only relates to commercial fish stocks and not to GES descriptors of the MSFD such as indicators of the presence of large fish, seafloor and foodweb integrity (this in spite that at least some indicators of this kind have been identified, for instance under the auspices of HELCOM) (Oesterwind, et al., 2013).

However, as an interviewed Commission representative observed, the Baltic plan is open for the introduction of ecosystemic measures beyond the fisheries management measures included in it, for example, further protection of harbour porpoises, regulations of the use of certain gears, or temporary closure of certain areas to protect certain species or habitats. Accordingly,

*“...the plan also has to be seen also in connection with the technical measures proposal”
(Commission rep (2), 2015).*

The decision not to include a broad range of MSFD indicators in the plan is arguably a pragmatic solution that demonstrates the necessity of having a plan in place rather than going through a cumbersome process to achieve a more comprehensive plan. However, the fisheries focus of the developed MA-MSP reflects the institutional gap between fisheries and environmental concerns described in literature (Ramirez-Monsalve, et al., forthcoming). This perspective is consistent with the view of a Commission official involved in the planning process, who observed that environmental MSFD aspects were not included because their implementation is the responsibility of MS, cooperating through HELCOM, and that the Commission would not want to duplicate this work (Commission rep (1), 2015).

The standoff between co-legislators

Since the Lisbon Treaty introduced co-decision, there has been a long-running stand-off between the EP and the Council over who should have precedence over fisheries management decisions. In relation to the MA-MSP, the main issue is the interpretation of F-ranges in relation to MSY. An interviewed Baltic AC representative expressed frustration with the delay:

[The proposal]...has gone into the moving circus of EU parliamentarians who also are empowered to come with their amendments to the Commission proposal... Until that is resolved, we're not going anywhere. It is still single species management, although ICES advice takes consideration of ecosystem impacts. How many years do we have to wait? (Baltic AC rep (1), 2015).

Similarly, some fishermen have voiced their frustrations about the prolonged decision making process in a recent public hearing on the MS-MAs (Fisheries Secretariat, 2015).

In turn, a BALTFISH representative observed:



“The main focus is certainly on what we can do in a regionalized process when the management plan is adopted. There is nothing for us to do before that.” (Baltfish rep (1), 2015)

In addition to hinting frustration with lack of adaptation of a MA-MSP, the latter quote (together with other parts of this interview) indicates the perception that the proper role of regional groups in developing such a proposal is limited, and that the agency of BALTFISH in relation to the plan would only be empowered through an adopted plan. In this perspective, the decision-making standoff represents a strong impediment for the further development of the organisations intended to have major roles in the regionalisation approach of the CFP.

5. Discussion: the way forward

Much of the framework to support the implementation of an EAFM in Europe is in place. However, stakeholders are facing institutional mismatches which hamper their efforts to advance in this matter. This article has provided an overview of the current institutional challenges for policy makers and fisheries advice to progress towards EAFM. The point of departure was the framework identifying the challenges involved for implementing EAFM. This framework was applied to the two case studies on the development of MA-MSPs for the Baltic and Atlantic pelagic fisheries. This because MA-MSPs are considered an essential tool to apply EAFM within the possibilities given by the reformed CFP.

The analysis has identified several key challenges for both case studies. For the Pelagic MA-MSP these are:

- a) The fact that EU is not the sole manager of the pelagic stocks and there is the uncertainty if these non EU states would agree to include ecosystemic aspects in an already difficult negotiation process;
- b) The difficulties in reaching consensus on how to provide advice on MA-MSP when clear guidelines for it have not been given yet;
- c) Learning how to deal with the new requirements for information on interrelatedness between species and dynamics in the ecosystem as such; and
- d) The concern among stakeholders that they will not be involved by the other actors (Commission and MS regional groups) early enough in the process of drafting a MA-MSP.
- e) The concern that predator-prey dynamics may not be sufficiently addressed within a MS plan for pelagic species only.

Key challenges related to the drafting of the proposed Baltic MA-MSP are that:

- a) Decisions are taking place behind closed doors;
- b) An institutional gap between fisheries and environmental concerns resulting in a limited integration of broader environmental concerns in the plan; and
- c) A stand-off between co-legislators approving the proposed Baltic plan, meaning that all the actors are on stand-by in awaiting the implementation of the plan.

Although the Baltic MA-MSP has not been adopted by the co-legislators yet, the present proposal for a MA-MSP for the Baltic represents a significant step in the direction of EAFM in three ways.



- a) It is a prototype to be used by other regional seas. The Baltic MA-MSP is perceived as the “blueprint” for all future plans. One of the Commission representatives mentioned that they see the Baltic plan as a “test case” on whether adopting such plans is possible under co-decision (Commission rep (2), 2015).
- b) It is the first management plan that covers the three species with predator-prey relationships, between the existing levels of ecosystem knowledge. Even though these interactions have been studied and evaluated by ICES for a number of years, there is still substantial work to be done on the interspecies linkages and connection for all relevant seas. It must be stressed though, that it is not necessary to have full ecosystem knowledge in order to start implementing an EAFM (FAO, 2011) (Patrick & Link, 2015).
- c) The development of the Baltic plan shows that it is possible for the relevant actors to cooperate and produce a common-agreed proposal, where all the participants involved want to see it implemented. This indicates a new path towards collaborative fisheries management. EAFM does not only represent a broader management perspective to include more environmental concerns than commercial fisheries, but EAFM is seen to require and build upon good governance principles and foster transparent stakeholder involvement.

Although the plan represents a significant step towards EAFM, it must be acknowledged that it is also a limited step. Ideally the plan should have included ecosystem considerations instead of making reference to the upcoming technical proposals. This point was also raised by a Commission representative who highlighted that the urgency to put a proposal on the table meant that the plan was less comprehensive (Commission rep (2), 2015).

Having one MA-MSP for the Atlantic pelagic stocks seems an overambitious and difficult to envisage in the current situation (Commission rep (2), 2015). Discussions with the Coastal States about fishery issues have been difficult in recent years. Matters are expected to complicate even further if ecosystemic issues are added into the negotiations. Nevertheless, a PelAC representative suggested a focus on the stocks of mackerel, blue whiting and Atlanto-Scandian herring if a MA-MSP is to be developed, given the importance of these three stocks for the EU industry, and for the PelAC (PelAC rep (1b), 2015). A possible way forward could be to take certain elements from the different management strategies agreed with the partners, and translate these elements into a plan for the EU. However, it is still early days to speak of a process and obviously it would need to be explored first with the other Coastal States how this process could take place (Commission rep (2), 2015). This is something that needs further analysis in the future (Commission rep (2), 2015). In the meantime the PelAC is investigating interactions and evaluate how EBFM can be further developed in relation to pelagic fisheries. The interviewed PelAC representative concludes by saying that small steps need to be taken

“this is what we have to do, we cannot from now until tomorrow implement the EA, we just have to take these [process] in kind of small steps” (PelAC rep (1b), 2015).

The findings of the cases studies clearly demonstrate several institutional challenges at various levels and amongst players:



- Interaction between ACs and MS regional groups, where the regionalisation process is causing what is expected to be a *temporary closure of doors* from the MS regional groups towards the ACs.
- Interaction between MS regional groups and the Commission. Although MS appreciate regionalisation, they are experiencing challenges in applying it.
- Interaction between ACs and Commission, and this relates particularly to the Pelagic AC, where the AC requires guidelines for the development of a MA-MSP for the pelagic stocks. This would help address the uncertainty involved in providing EAFM advice.
- Interaction between Regional Sea Conventions and all of the other groups (Commission, ACs, MS regional groups). These conventions are considered a sector independent from fisheries.
- Interaction between the Commission, the EP and the Council, where the Commission is, at the time of writing, awaiting a decision on the Baltic plan before proceeding with others. The slow negotiations for the Baltic plan makes it inopportune for the Commission to table another proposal for another sea basin since it could hinder negotiations. This is because the Commission could be seen to have taken a certain position, rather than facilitating an agreement between the legislators (Commission rep (2), 2015).

Acknowledgements

This article was written as a part of work in the MareFrame project titled: *Co-creating Ecosystem-based Fisheries Management Solutions*. MareFrame has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 613571. We would like to thank all AC Secretariats for participating in the MareFrame focus group meeting and interviews as well as the representatives from DG MARE, ICES, STECF and EFARO who participated in the Round Table Discussion.



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