

# Fishing for opinions: stakeholder views on MSFD implementation in European Seas

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## Abstract

Stakeholder participation is vital when introducing and implementing ecosystem-based management (EBM) at any scale. This paper presents the results of a survey covering four European Regional Seas (Baltic Sea, Black Sea, Mediterranean Sea and North-East Atlantic Ocean) aimed to collect stakeholders' perspectives on their Regional Sea governance to implement the European Union (EU) Marine Strategy Framework Directive (MSFD). In this survey, drivers of good governance including stakeholder involvement, willingness & capacity to cooperate, efficiency, institutional ambiguity and decision-making were explored. The results indicate a clear gap in perception between the current, the ideal and the foreseen situation regarding the implementation of the MSFD. The preferences for the future governance structures vary between stakeholders and across seas although some similarities can be found. Based on the results of the survey, this paper concludes that tailor-made rather than off-the-shelf solutions will be needed to accommodate regional cooperation in the European marine environment for implementing ecosystem-based management under the MSFD.

## Keywords

Stakeholder participation; Marine Strategy Framework Directive; Marine sectors; Regional seas; Marine Regional cooperation; Survey

## 1. Introduction

The European Union (EU) Marine Strategy Framework Directive (MSFD, 2008/56/EC), adopted in 2008, falls within this new era of environmental management policies trying to broadly regulate activities by imposing a limit on their impact to the environment. The MSFD aims to ensure that the marine environment achieves good environmental status (GES) across 11 marine descriptors. Van Tatenhove recently assessed marine governance arrangements existing at the level of European regional seas and described it as a challenging patchwork of policies, private initiatives and regulations on different levels [1]. The issue of fragmented governance systems plays out in very different contexts across European regional seas, with this pattern going beyond the field of marine environmental protection [2,3].

It is stated in the MSFD that Member States should address regional cooperation "*using existing regional institutional cooperation structures*" and include both EU and non-EU countries for the purpose of establishing and implementing marine strategies (Article 6 L164/27). Yet this task hides large complexities, which need to be unravelled to improve governance performance. The challenge here is to establish effective coordination structures that can deal with the large complexity of European seas while simultaneously improving governance performance.

In order to unravel and understand current governance structures and their challenges in the four European regional seas, a large-scale survey on stakeholder perceptions was distributed across four European marine regions including: Baltic Sea, Black Sea, Mediterranean Sea and North-East Atlantic Ocean (Fig1).

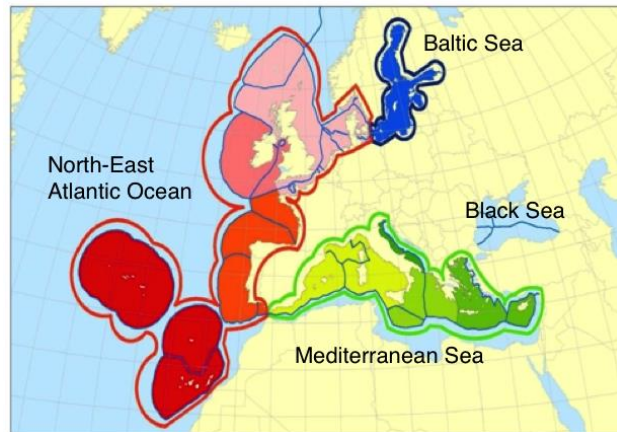


Fig1. Marine regions identified in the MSFD

The objective of this survey was to obtain an overview of views, attitudes and opinions from the main marine sectors with business activities in European regional seas, on current and future governance for the implementation of ecosystem based management at: a) the regional level between Member States, and b) within marine eco-regions. This survey is a core task of the 7<sup>th</sup> work package of the Options for Delivering Ecosystem-based Marine Management Project (ODEMM) which provides scientifically-based operational procedures that allow for a step-by-step transition from the current fragmented system to a fully integrated ecosystem based management across European regional seas. This paper presents the main results of this survey.

## 2. Stakeholder involvement in European Marine Environmental Policy-making

Stakeholder support is recognized as being essential for successful implementation of environmental policies and programs [4]. Bulkeley & Mol concluded ten years ago that with the growing complexities and interdependencies in the field of environmental governance, new roles and positions within environmental sciences were established [5]. This was due to the emergence of unstructured problems in the political agenda with the assumption that a more participatory approach may help to bridge the gap between a scientifically-defined environmental problem and the experiences, values and practices of stakeholder groups who are at the root of both cause and solution of such problems [5].

Involving a variety of stakeholders in MSFD decision-making processes is supported across all European regional seas. However, it is identifying when and how to engage stakeholders in different phases of decision-making and implementation processes that can be problematic to policy-makers. Moving towards more frequent, intensive and influential stakeholder involvement is, according to Beierle, a recognition that environmental decisions are political as well as scientific and therefore cannot be resolved with technical tools only such as risk assessment and cost-benefit analysis [6]. Since Arnstein described the 'ladder of participation' in 1969 [7], the degree of stakeholder participation and extent of their influence during decision-making processes is a crucial factor in determining future stakeholder activities and policy implementation success. In the context of European Marine Policy, and specifically the MSFD, this does mean that previously established procedures need to be carefully reconsidered and redesigned to allow different stakeholder groups a place in the planning or implementation process, rather current and future processes need to consider how to engage stakeholders.

Paradoxically, involving stakeholders in decision-making processes can add considerable complications, as their knowledge, experiences and preferences do not automatically synchronize with the most optimal solutions from an expert point of view. Often there is not a single best solution that fits all stakeholder groups equally [8,9]. In line with the integration of different activities, the MSFD suggests stakeholders to be involved at different stages of program implementation:

*'To ensure the active involvement of the general public in the establishment, implementation and updating of marine strategies, provision should be made for proper public information on the different elements of marine strategies, or their related updates, as well as, upon request, relevant information used for the*

development of the marine strategies in accordance with Community legislation on public access to environmental information.’ (MSFD, 2008/56/EC).

This approach ratifies the rights enshrined in the Aarhus Convention (1998)<sup>1</sup> and supports greater stakeholder compliance with management due to favouring the emergence of “credible, accepted rules that identify and assign the corresponding responsibilities appropriately” [10,11].

The recognition and inclusion of interests from all stakeholder groups, where possible, is fundamental to the concept of “good governance” [12]. Stakeholder participation may improve the quality of decision making by clarifying different views and interests, preventing implementation problems, fostering communication and trust and therefore establishing commitment among stakeholders [5]. Participation by stakeholders has perhaps been most widely encouraged in EU fisheries governance and a number of EU projects currently explore and support the involvement of stakeholders in developing the science and management for process implementation. This will create a trade-off between the need for stakeholder acceptance and applying evidence-based information for decision-making [4,6,13,14].

Although MSFD decision-making processes will need to incorporate this trade-off, it critically lacks detail on the underlying governance structures to allow for both stakeholder involvement at the appropriate scale and the integration of evidence-based management [1,2,15]. The lack of a detailed governance structure for stakeholder involvement in decision-making processes causing a number of marine sectors in European regional seas, including: fisheries, coastal tourism, navigation, offshore oil and gas and offshore renewable energy, to be on unequal footing in policy decision making [3,8]. This is caused when stakeholders represent a wide diversity of institutional capabilities, economic strength and political authority during their engagement in policy-making processes [3,8].

### 3. Methodology

#### 3.1. Stakeholder Identification

A large scale online survey entitled ‘Marine Regional Cooperation’ targeted stakeholder groups from identified marine sectors of countries around each European regional sea; and examined stakeholder perspectives as an approach to reveal ideas, opinions and opportunities in future governance of the European marine environment. This survey was electronically sent to 650 stakeholders across 18 EU countries and 5 non-EU countries that surround the Black Sea, Baltic Sea, Mediterranean Sea and the North East Atlantic Ocean. The survey was available in 12 languages with translation of responses completed by native speakers of the respective language experts in the marine field. Considerable efforts were made by ODEMM project partners working in the European marine environment to compile a stakeholder inventory for sectors that are operational in European regional seas. This inventory flowed into an extensive stakeholder list of relevant organizations and representatives.. This stakeholder list was cross-referenced with a literature research to identify and check if all crucial sectors in European regional seas were represented. Following the research of Ounanian et al. [8], who identified fisheries, offshore renewable energy, offshore oil & gas, coastal tourism and transport & shipping industries as the most important

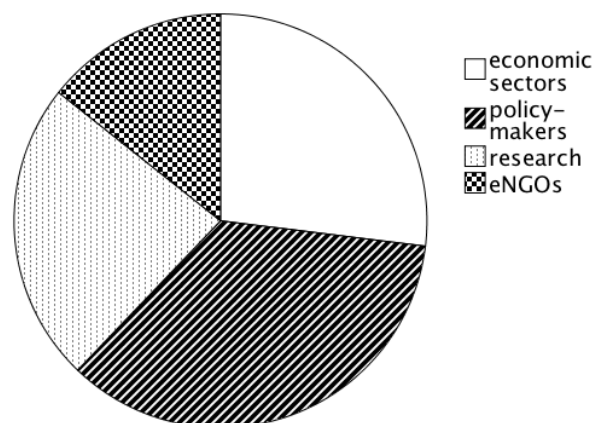


Fig2. Composition of the respondents pool

<sup>1</sup> Aarhus convention. Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, Aarhus, Denmark, 25 June 1998

sectors in European seas, the survey targeted stakeholders within these sectors of activities. This was in addition to MSFD national coordinators under the EU Ministry of Environment, European scientists and environmental eNGOs representatives.

Survey response rate was 37% ( $n=239$ ) and to keep a relevant number of respondents per subgroup it was decided to merge them into four stakeholder groups and included: economic sectors (27%), policy-makers (35%), researchers (24%) and eNGOs (14%).

### 3.2. Survey design

The online survey consisted of three sections that included: statements, propositions and scenarios. This survey aimed to:

- a) understand stakeholder views of current marine governance structures and,
- b) explore stakeholder views on what has been considered, in literature and by experts from the marine field, as drivers of good governance: decision-making structures, efficiency, capacity & willingness to cooperate, institutional ambiguity and stakeholder involvement [1,16,17].

These drivers of good governance were tested in the online survey in various ways as to strengthen the interpretation of results. In the first section of the survey, all governance drivers were explored in four to five statements and measured on a five-point Likert scale using the following labels: 'strongly disagree'; 'disagree'; 'neutral'; 'agree' and 'strongly agree'. These statements were specific to the implementation of the MSFD at the European regional sea level in relation to each driver.

In the second section of the survey, the drivers were used to develop propositions to obtain stakeholder perspectives on the current governance structure (2012), the foreseen governance structure (2020) and the ideal governance structure (2020) for their organisations to create regional cooperation for the implementation of the MSFD. The propositions were measured on a five-point Likert scale that ranged from 'very low'; 'low'; 'neutral'; 'high' to 'very high'. Finally, the third section of the survey proposed five governance scenarios (Box 1) formed by different combinations of governance driver emphasised with the aim to present future possibilities for European regional sea governance. The basis of scenario building lies in developing hypothesis about possible futures rather than making predictions and therefore scenarios can be helpful for decision-making about the future [18].

The third section of the survey asked stakeholders to rank five governance scenarios based on two contexts:

- a) The situation they would expect to happen by 2020 (foreseen situation), and
- b) The situation they would find the most likely to allow 'Good Environmental Status' to be achieved in 2020 (preferred situation).

Survey respondents were asked to rank the scenarios from 1 to 5, using each ranking number once. In the analysis the mean score of all sectors was calculated and resulted in an overall ranking between 1 and 5, where the smallest ranking being the preferred option. Since the initial ranking positions were ordinal variables, relative values were used to calculate the mean rank in order to interpret distances. The ranking of the scenarios was an average of the ranking per sector.

*Box 1: The five proposed future governance scenarios presented to survey respondents in the online ODEMM survey.*

**Scenario A: National focus**

In this scenario the countries prioritise fulfilling national obligations. Both countries and the stakeholders are not willing to be involved in regional cooperation. Decisions are not taken at the regional level and this level is perceived as unnecessary and overly costly. This situation occurs because there is no regional organisation in charge of the process and it is not known how regional cooperation should be organised.

**Scenario B: Regional focus without commitment**

In this scenario countries put some effort into regional cooperation but do not feel committed because regional cooperation has been imposed by the European Commission. Various stakeholder groups are involved in realizing regional cooperation. Decisions at the regional level are made in a rather unclear way. Therefore stakeholders are required to attend a large number of events, and it is not clear which forums are of real importance for the final decision. Whilst there is reluctance to commit to regional cooperation, countries are in control of the process. Some important economic sectors are represented at the regional level, whilst other stakeholders are clearly absent.

**Scenario C: Regional cooperation by creating new structures**

In this scenario both countries and stakeholders are committed to achieving regional cooperation. Funding and participation is not a problem. Working together at the regional level has become the norm, but in some cases it is unclear how to proceed at the regional level. New rules and procedures are rapidly developed and all stakeholder groups are actively involved in participation, and are required to do so in many steps of the process. Although regional cooperation is expensive, due to the number of meetings and effort required to reach decisions, the prevailing feeling of participants is that the final decisions are the correct and necessary ones.

**Scenario D: EU leading regional cooperation**

In this scenario Member States and Non-EU countries are very reluctant to cooperate at the regional level and are not willing to commit resources (money/time/personnel). In reaction to this, the European Commission decides to remove the responsibility for regional cooperation from the Member States and transfer these responsibilities to the Commission. The Commission establishes new regional councils in which the Member States are forced to jointly implement and operationalize the MSFD according to strict rules imposed by the Commission. There is no need for stakeholder involvement at the regional level; if stakeholders wish to participate, they can only do so through their Member State.

**Scenario E: Regional cooperation without changing the structures**

In this scenario there is a general commitment from countries and stakeholders to cooperate regionally. Everybody agrees to use existing institutions at the regional level and to build partnerships to facilitate implementation of MSFD. Countries financially support regional cooperation and lead the process of implementing the MSFD. Stakeholders are involved in the important steps at the regional level. The focus is clearly on obtaining plans that will ensure that GES is achieved by 2020.

### **3.3. Survey respondent background**

The survey results were analysed with the statistical program SPSS. The overall response rate of the survey was 37% (239 completed questionnaires). The respondents were experienced in the marine field (mean=16 years), having an average of 12 years of seniority in their present organisation. Of these organisations, 81% have a national focus. The remaining 19% of the organisations work at the international level, such as, the EU, the Regional Sea Conventions, the Regional Advisory Councils, trans-boundary eNGO programmes, international environmental agencies, that cover more than one regional sea. Of the survey respondents, 82% stated that they had represented their organisation in relation to policy making, whereas 57% of all the respondents have executive power in their own organisation. An analysis of the organisations revealed that 11% are not involved in MSFD implementation processes; 34%

of the organisations are informed; 40% are asked for advice and 36% of the organisations participate directly in MSFD implementation processes (Table 2) Involvement here is defined as being informed and/or asked for advice and/or participates directly in MSFD implementation processes. Respondents were able to tick more than one of the applicable boxes for this question.

*Table 2: The type of involvement for each stakeholder group in the implementation process of the MSFD (% per sector).*

Engagement in the MSFD implementation process	Not involved	Informed	Asked for advice	Participates directly
Economic Sectors	17%	39%	45%	26%
Policy-makers	8%	26%	25%	51%
Researchers	15%	26%	39%	37%
eNGOs	3%	64%	58%	24%

Of interest is the higher result for eNGOs as compared to other sectors in response to being informed or asked for advice in the implementation process of the MSFD, and at the same time their low score as compared to other stakeholders for participating directly in MSFD implementation processes. The survey analysis is presented as overall results from two groupings: a. stakeholders and b. regional seas. Following the line of thought of unequal footing [8] results were disaggregated into these two main groups as it allows a comparison of drivers across European regional seas to identify and understand which specific drivers are influential in the governance structure for implementing the MSFD.

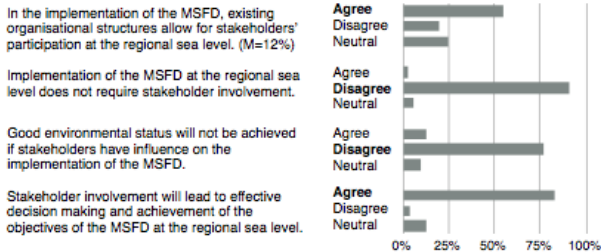
#### **4. Stakeholder views on governance structures**

##### **4.1. Drivers of good governance**

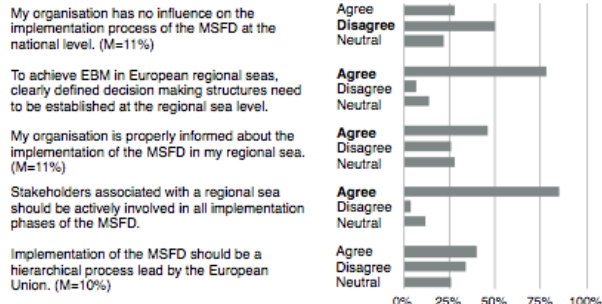
The first section of the survey focused on stakeholder views on drivers of good governance: decision-making structures, efficiency, capacity to cooperate, willingness to cooperate, institutional ambiguity and stakeholder involvement. Each of the drivers were included and operationalized into four or five statements (Box 2).

*Box 2. Stakeholder answers about the six drivers of good governance to achieve Good Environmental Status for the MSFD. Negative percentages correspond to the disagreements and the positive to the agreements. The neutral answers are centred on zero. The missing answers (boxes non applicable and don't know) are expressed in percentage of the total answers to each statement but are not included in the bars.*

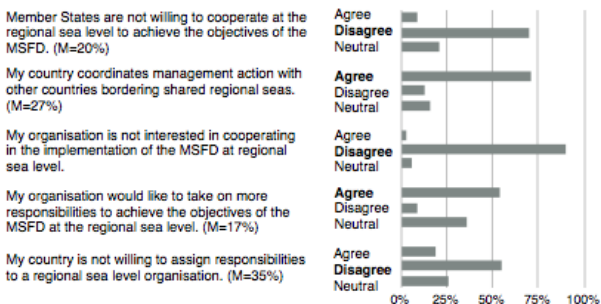
**Stakeholder involvement**



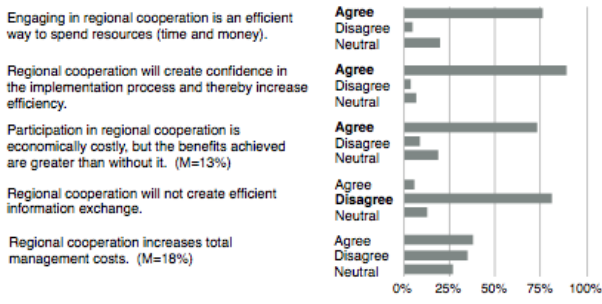
**Decision-making**



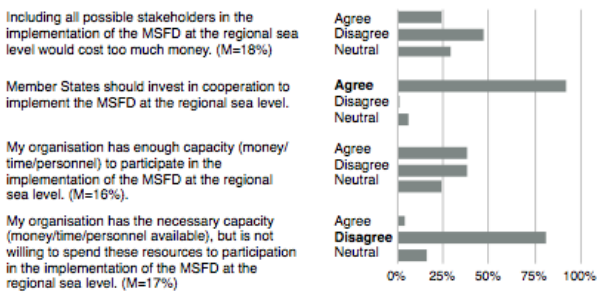
**Willingness to cooperate**



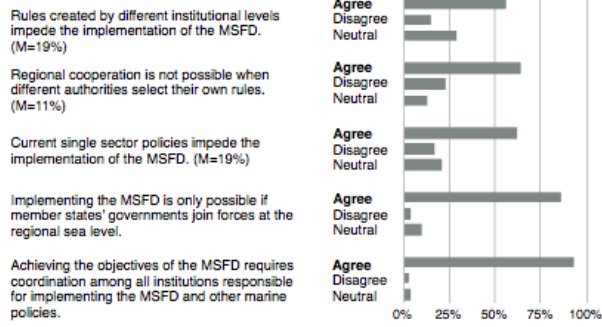
**Efficiency**



**Capacity to cooperate**



**Institutional ambiguity**



The importance of stakeholder involvement in the MSFD process is demonstrated significantly by the analysis of responses by survey respondents to these statements. Survey respondents state that active involvement of stakeholders in all phases of the implementation of the MSFD is crucial. Only 3% of the survey respondents agreed that for the implementation of the MSFD at the regional sea level, stakeholder involvement is *not* required. Survey respondents expressed and showed willingness of wanting to cooperate at the regional sea level and would be in favour of investing more in securing regional cooperation at this level. Only 3% of the survey respondents answered that their organisation was not interested in cooperating, while 54% of the survey respondents stated that their organisation would like to take on more responsibilities to achieve the objective of the MSFD. Concurrently, 38% of the stakeholders lacked sufficient resources to participate in the implementation of the MSFD.

From an efficiency perspective, there might be benefits through regional cooperation dependent on improving existing- or creating new institutional structures. Of the survey respondents, 73% agreed that participation in regional cooperation is economically costly, but the benefits achieved are greater than without participation. Currently, it is unclear how stakeholder participation will influence total management costs. In order to achieve ecosystem-based management in European regional seas, 81% of the survey respondents believed that clearly defined and transparent decision-making structures need to be

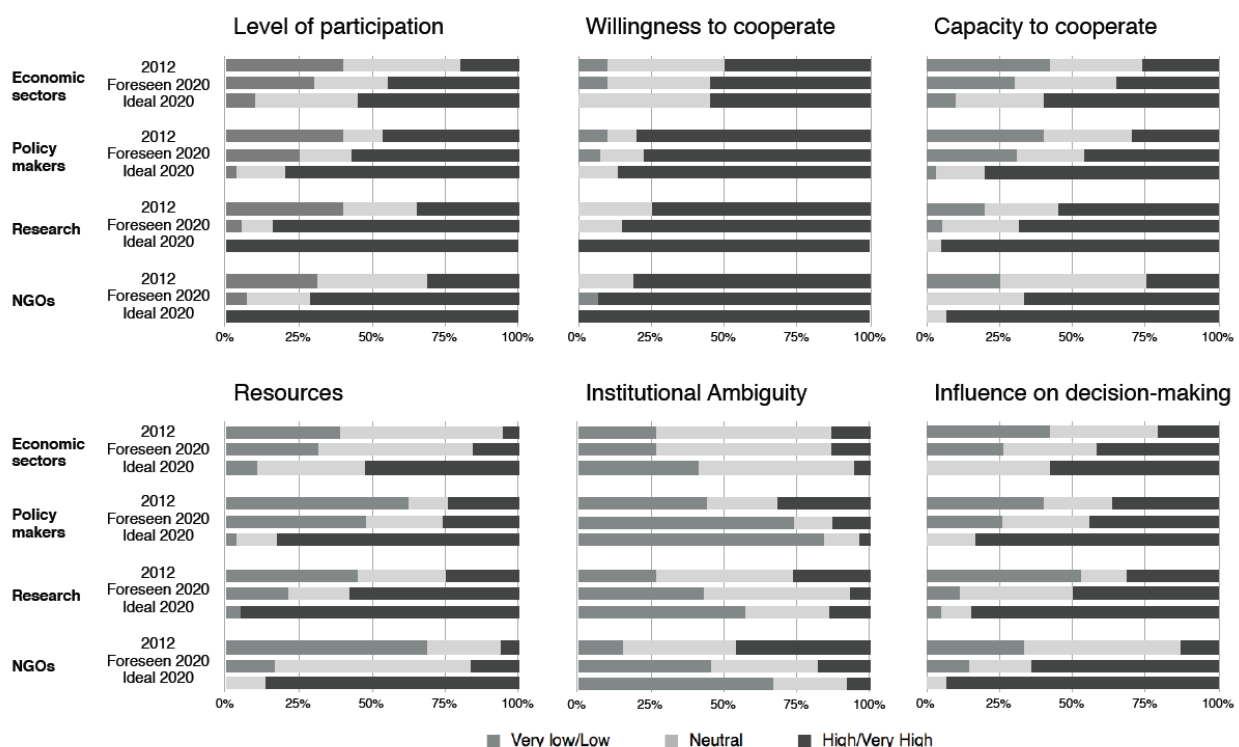
established. At present, 47% of the survey respondents answered that they were properly informed about the implementation of the MSFD in their regional sea. The majority of the survey respondents (64%) believed that regional corporation is not possible when different authorities select their own rules. Consequently, coordination among all institutions responsible for implementing the MSFD is needed for cooperation at regional sea level. These findings support Van Leeuwen (2012) who found that institutional ambiguity is a severe impediment and challenge to MSFD implementation and emphasised the need to explore alternative governance structures.

#### 4.2. Propositions for the current-, the foreseen- and the ideal situation

This section of the survey was introduced with the statement: ‘The overarching objective of the MSFD is to achieve Good Environmental Status by 2020 across Europe’s marine environment which will be assessed at the regional sea level’. This was followed by a number of propositions that included the drivers: level of participation, willingness to cooperate, capacity to cooperate, resources, institutional ambiguity and influence on decision making at the regional sea level to obtain stakeholders’ organisation views on the current (2012), the foreseen (2020) and the ideal (2020) governance situation. Survey respondents’ perspectives are presented per regional sea and per sector (Box 3). The percentages represent how survey respondents rank each driver (very low/low, neutral, very high/high).

*Box 3. Baltic Sea sector perspectives about the current, foreseen and ideal situation for regional cooperation for MSFD implementation based on governance drivers.*

#### Baltic Sea



All stakeholder groups ranked the level of participation lower in the current situation (2012) than in the foreseen situation (2020), which again was ranked lower than what was considered to be the ideal situation (2020). In the ideal situation, 100% of research and the eNGOs, 80% of the policy-makers and 55% of the economic sectors selected a high level of participation. The gap between the foreseen and the ideal situation is big for the economic sectors, where 30% foresees a low level of participation and 10% of

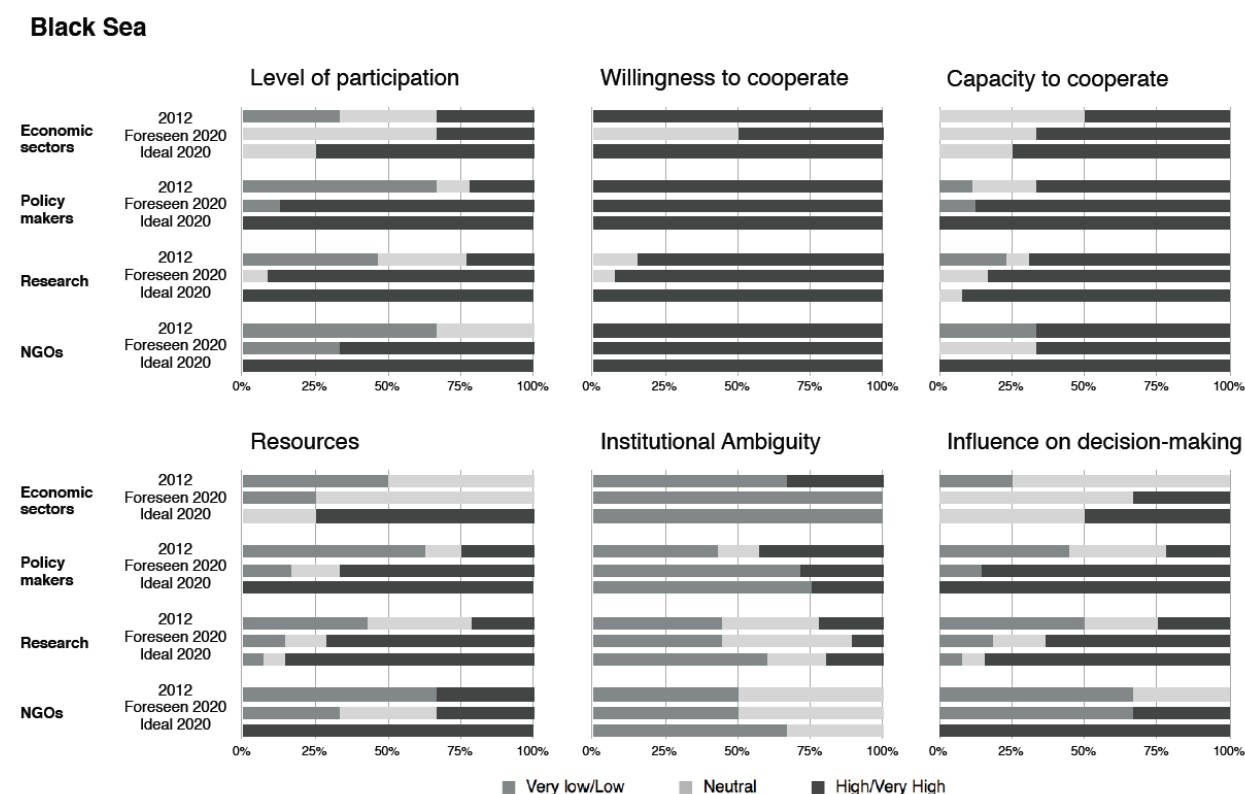


these economic sectors believes a low level of participation is ideal. The same gap counts for the policy-makers who scored 3% low level of participation in the ideal situation and 25% low level of participation in the foreseen situation. Around 6% of the eNGOs and research foresee a low level of participation.

There is a clear interest in willingness and capacity to cooperate among all stakeholder groups. It can be noticed that there is not much change in willingness to cooperate between the current and the foreseen situation. In the ideal situation again eNGOs and research most strongly reported high willingness and capacity to cooperate. Concurrently, economic sectors (39%), researchers (48%), policy-makers (62%) and eNGOs (69%) selected low rankings for resources under the current situation. All stakeholder groups foresee an improvement in resources available in 2020. Of the researchers' 25% ranked high on resources available in the current situation improving towards a ranking of 58% in the foreseen situation. The economic sectors scores and the eNGOs score 16% resources available in the foreseen situation, as policy-makers score 26%.

Selecting for the current situation, survey respondents applied a low ranking to the driver influence on decision-making, changing to a high ranking for the foreseeable situation in 2020. Institutional ambiguity rated low across all stakeholder groups for all situations. Up to 60% of the survey respondents ranked neutral on the propositions about institutional ambiguity. It is a bit surprising that in the ideal situation low ambiguity is not ranked closer to 100%.

*Box 4. The ranking of drivers into current, foreseen and ideal situations by survey respondents disaggregated by stakeholder group for the Black Sea.*



Within the Black Sea, the overall results show a low level participation in the current situation to high level of participation in the foreseen and ideal situations, indicative that survey respondents envisage greater involvement during MSFD implementation. None of the eNGOs scored on high involvement in the current situation. In the ideal situation 100% of the eNGOs, policy-makers and research select a high level of participation. The economic sector prove a distinctive score for the level of participation in the ideal situation with 25% neutral and 75% high ranking. Concerning the level of willingness to cooperate, the

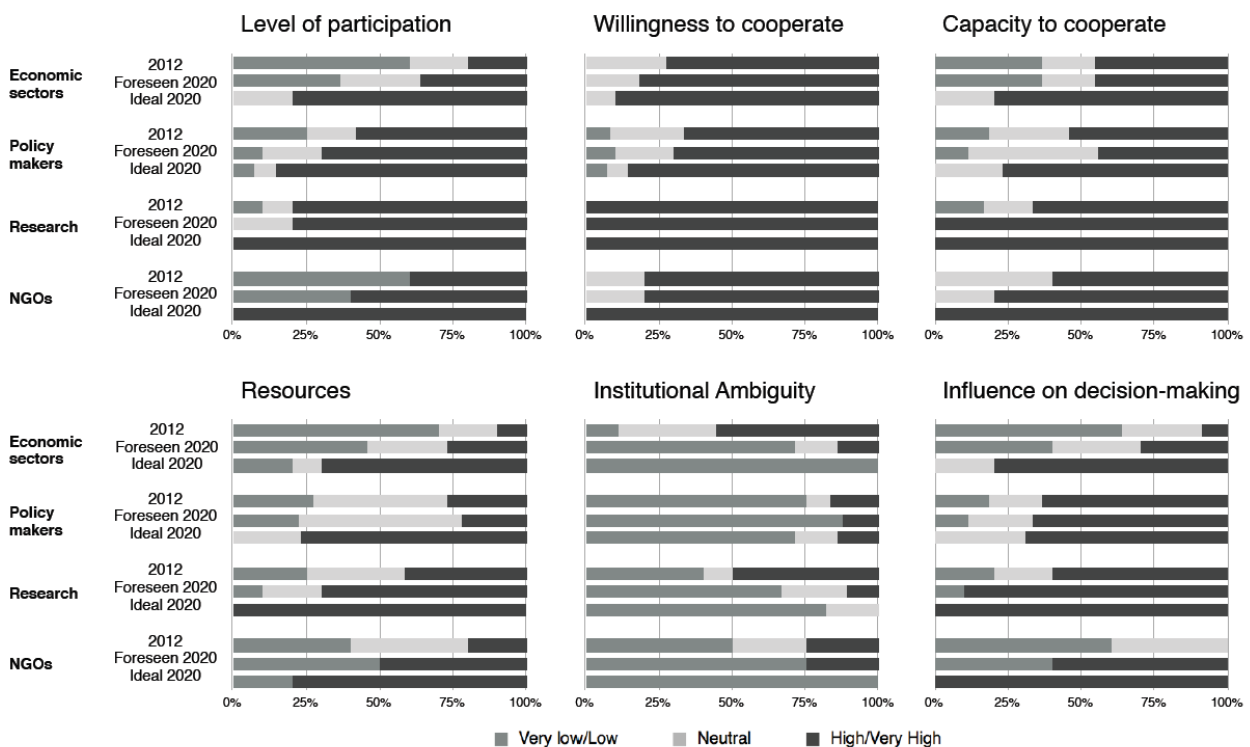
economic sector is distinct too in its rankings, ranking much lower than the other sectors in the foreseen situation. Of all respondents, 93% accept that in the ideal situation the capacity to cooperate should be high.

Responses to the driver resources, found 52% of the stakeholders judge their current situation as having low available resources to participate in the implementation of the MSFD at the regional sea level with specific results including: 50% for economic sectors, 62% for policy makers, 43% for research and 67% for eNGOs. This percentage drops in the foreseen situation (mean = 19%) across all stakeholder groups. A majority of respondents, 97%, believe a high amount of resources is necessary in the ideal situation.

The economic sectors and eNGOs believe there should be no institutional ambiguity for implementing the MSFD in the ideal situation, whereas 20% of the researchers and 25% of the policy-makers prefer conflicting rules and procedures in the ideal situation. Economic sectors and eNGOs believe that their organisations have low influence in decision making in the current situation, however this changes to high influence in the ideal situation. All stakeholders indicate that they will have greater influence on decision making in the foreseen situation, where low influence on decision-making is *not* the ideal situation.

*Box 5. Mediterranean Sea sectors perspectives about the current, foreseen and ideal situation*

**Mediterranean Sea**



Regarding the level of participation in the current situation the different stakeholder groups acted rather mixed in the Mediterranean. Of the eNGOs 60% ranked the level of participation low and 40% ranked it high. Economic sectors present a similar response with 60% low, 20% neutral and 20% high scores. 25% of the policy-makers and 10% of research ranked low on the current level of participation. Although the current situation reflects lower levels of participation across all stakeholder groups, there is an overall positive and strong interest for a high level of participation across all stakeholder groups, 91%, in the foreseen and ideal situations within the Mediterranean Sea. There is a clear overall picture that all stakeholder groups are willing to cooperate for all situations; however, their capacity to cooperate is ranked lower for all situations.

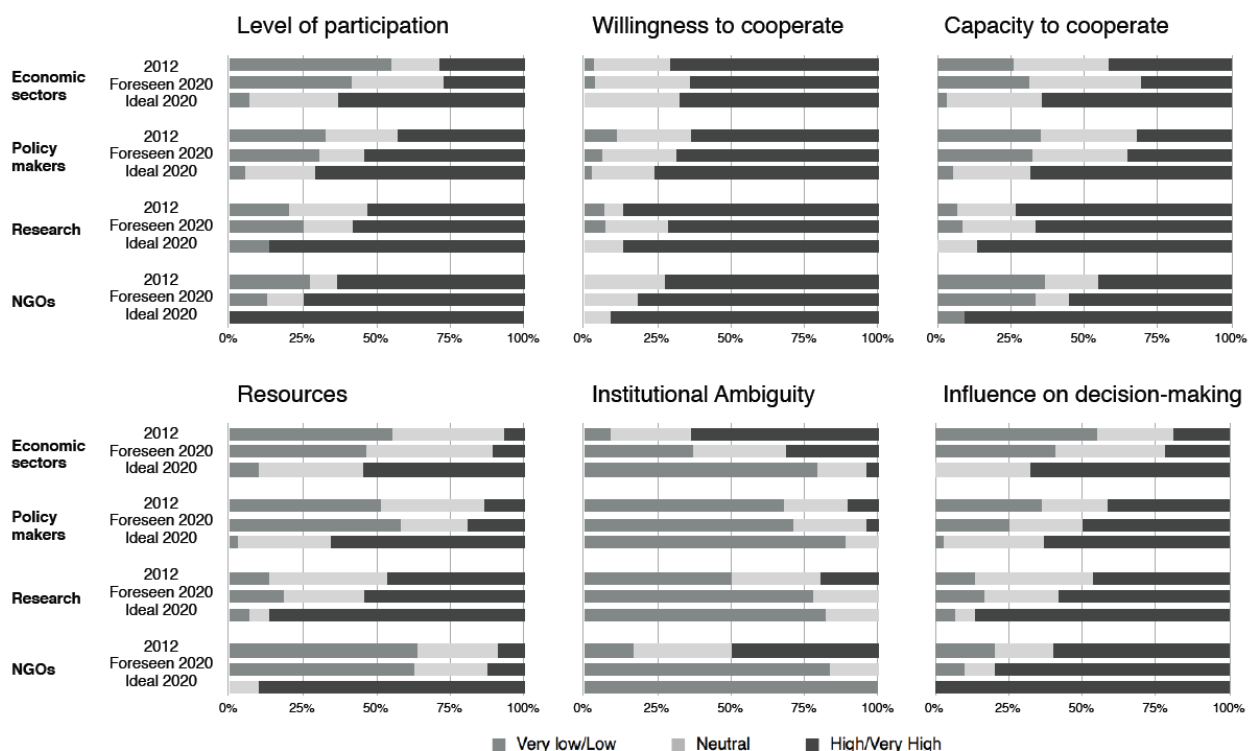
All stakeholder groups believe that in the ideal situation, their resources will be high comparatively to the lower resources available in both the current and foreseen situation. The policy-makers foresee fewer resources available in the foreseen situation (22% high score on available resources) than in the current situation (27% high score on available resources). The other sectors foresee more resources available in the near future.

Institutional ambiguity is believed to be lower in the foreseen and ideal situations by all stakeholder groups as compared to the current situation, where researchers and economic sectors score this driver higher than policy makers and eNGOs.

The influence on decision-making is in the current situation clearly held by policy-makers and research stakeholders respectively 60 and 64% ranked it high. On the contrary, 64% of economic sectors respondents and 60% of NGO respondents ranked their influence on decision making in 2012 low. NGOs are more optimistic to see their influence on decision making improving, 60% ranked a high foreseen situation than the economic sectors that scored a 30% high ranking. Research foresees a status quo of their influence on decision making by 67% high ranking and policy-makers foresee much improvement by 90% high ranking.

Box 6. North East Atlantic Ocean sectors perspectives about the current, foreseen and ideal situation

### North-East Atlantic Ocean



Aside from willingness to cooperate, all rankings of drivers across all situations in the North-East Atlantic Ocean, present a scattered picture for all stakeholder groups. In the ideal situation, eNGOs rank all propositions high, while two thirds of the economic sector ranked the preferred situation as high. There is a similar response rate across all stakeholder groups for level of participation for all scenarios, where in the ideal, the levels of participation would be high. Willingness to cooperate remains high for all stakeholder groups across all situations. Interestingly, economic sectors and policy makers ranked capacity to cooperate lower across all situations as compared to researchers and eNGOs.

Similar to results presented across other regional seas, all stakeholder groups believe that high level of resources would be available in the ideal situation, while realistically the availability of these resources would be lower in the foreseen situation. Only 53% of all survey respondents from the North East Atlantic answered that their organisation has the necessary resources to participate in the implementation of the MSFD at the regional sea level, with the economic sector being the lowest at 7% followed by eNGOs at 9%.

Of interest, is the higher level of institutional ambiguity as ranked by the economic sector and eNGOs in the current situation comparatively to policy makers and researchers. However, all stakeholder groups believe there will be lower institutional ambiguity in the foreseen and ideal situations. The influence on decision-making in terms of regional cooperation for the implementation of the MSFD in the current situation is ranked low by 37% of the sectors and at the same time ranked high by 37% of the sectors. Differences between the sectors are sizeable: 13% of the research sector answered that their organisation has low influence on decision-making. 20% of the NGOs stated that their organisations have a low influence on decision-making. 36% of the policy-makers and 55% of the economic sectors sector believe that their organisations have a low influence on decision-making. Considering the ideal situation, except 7% of the research sector and 3% of the policy-makers all respondents stated that a low influence on decision-making is not the ideal situation.

### **4.3. Governance Scenario Preference<sup>2</sup>**

#### *Baltic Sea*

Overall, scenario B '*Regional focus without commitment*' ranked the highest amongst all survey respondents for the foreseen future in 2020 (Table 3.1). This scenario is described as a model that the European Commission would impose. Decision-making at the regional level happens in a rather vague manner. Only the eNGO stakeholder group foresee scenario E '*Regional cooperation without changing the structures*' as a governance preference in 2020. The main difference between scenarios B and E, is that scenario E demonstrates a general commitment from countries and stakeholder groups to cooperate at a regional level. The least likely ranked scenario foreseen in 2020 by policy makers, researchers and eNGOs was scenario D '*EU leading regional cooperation*' while the economic sector ranked scenario A '*National focus*' as the least likely scenario. In both scenarios A and D, countries and stakeholders are reluctant to cooperate at the regional level.

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<sup>2</sup> A full description of the scenarios has been given in the methodology part. '1' counts the most preferred scenario and '5' counts the least preferred scenario. The scores represent the mean of all rankings scored by the concerned stakeholder group and shows an overall rank presented in the different table per regional sea.

Table 3.1 Baltic Sea respondents' foreseen and ideal scenarios of regional cooperation in 2020

Baltic Sea			Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Research	Foreseen	rank	3	1	4	5	2
		score	3,06	1,56	3,39	4,22	2,78
	Ideal	rank	5	3	2	4	1
		score	4,33	3,39	2,00	3,67	1,61
Policy-makers	Foreseen	rank	3	1	4	5	2
		score	3,11	2,11	3,33	4,19	2,26
	Ideal	rank	5	3	2	4	1
		score	3,89	3,26	2,37	3,81	1,67
NGOs	Foreseen	rank	3	2	4	5	1
		score	3,00	2,56	3,31	3,75	2,38
	Ideal	rank	5	3	2	4	1
		score	4,38	3,69	1,75	3,75	1,44
Economic activities	Foreseen	rank	5	1	3	4	2
		score	3,47	2,41	3,06	3,24	2,82
	Ideal	rank	5	4	2	3	1
		score	4,41	3,24	2,41	2,88	2,06
TOTAL Baltic	Foreseen	rank	3	1	4	5	2
		score	3,15	2,14	3,28	3,90	2,53
	Ideal	rank	5	3	2	4	1
		score	4,21	3,37	2,17	3,56	1,69

It should be noted that there is complete agreement across all stakeholder groups for the ideal scenario in 2020. Scenario E 'Regional cooperation without changing the structures' is the preferred scenario followed by scenario C 'Regional cooperation by creating new structures'. Scenario A 'National Focus' is the least preferred scenario across all stakeholder groups. In the Baltic Sea a unanimous view prevails according to the preferred future.

### Black Sea

Table 3.2 Black Sea respondents' foreseen and ideal scenarios of regional cooperation in 2020

Black Sea			Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Research	Foreseen	rank	2	1	4	5	3
		score	2,91	2,27	3,27	3,55	3,00
	Ideal	rank	5	4	2	3	1
		score	3,73	3,55	2,73	2,91	2,09
Policy-makers	Foreseen	rank	4	2	2	1	5
		score	3,00	2,89	2,89	2,78	3,44
	Ideal	rank	5	4	2	3	1
		score	4,33	3,22	2,44	3,11	1,89
NGOs	Foreseen	rank	1	2	4	5	3
		score	1,33	2,00	4,00	4,33	3,33
	Ideal	rank	5	4	1	3	2
		score	4,00	3,67	2,00	3,00	2,33
Economic activities	Foreseen	rank	3	1	2	5	3
		score	3,20	2,40	2,60	3,60	3,20
	Ideal	rank	5	4	1	3	1
		score	4,20	3,60	2,20	2,80	2,20
TOTAL Black Sea	Foreseen	rank	2	1	3	5	4
		score	2,82	2,46	3,11	3,39	3,21
	Ideal	rank	5	4	2	3	1
		score	4,04	3,46	2,46	2,96	2,07

The foreseen scenario in 2020 for the economic sectors and researchers is scenario B: *'Regional focus without commitment'*, where decision-making at the regional level is vague (Table 3.2). eNGOs foresees scenario A: *'National Focus'* in 2020, whilst policy-makers rank scenario D: *'EU leading regional cooperation'* as their preference in 2020. In both scenarios A and D, countries and stakeholders are reluctant to cooperate at the regional sea level.

All stakeholder groups agree that the ideal scenario in 2020 is Scenario E *'Regional cooperation without changing the structures'* followed by scenario C *'Regional cooperation by creating new structures'*. Scenario A *'National Focus'* is the least preferred ideal scenario across all stakeholder groups. Interestingly, there is a large disparity between the foreseen and the ideal scenario in relation to regional sea cooperation in 2020.

### *Mediterranean Sea*

The foreseen scenario for 2020 is mixed across stakeholder groups for the Mediterranean Sea (Table 3.3). Scenario B *'Regional focus without commitment'* is chosen by researchers and the economic sector; while policy-makers and eNGOs prefer scenario E *'Regional cooperation without changing the structures'*. The least foreseen scenario in 2020 as ranked by eNGOs and the economic sectors is scenario C, scenario D for policy-makers and scenario E for researchers.

*Table 3.3 Mediterranean Sea respondents' foreseen and ideal scenarios of regional cooperation in 2020*

Mediterranean			Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Research	Foreseen	rank	2	1	4	3	5
		score	2,79	2,43	3,36	2,86	3,57
	Ideal	rank	3	4	2	5	1
		score	3,07	3,21	3,00	3,36	2,36
Policy-makers	Foreseen	rank	3	2	4	5	1
		score	3,08	2,46	3,38	3,77	2,31
	Ideal	rank	5	4	2	3	1
		score	3,92	3,38	2,77	3,23	1,69
NGOs	Foreseen	rank	4	2	5	3	1
		score	3,6	2,2	4,4	3,4	1,4
	Ideal	rank	5	3	1	4	2
		score	4,8	3,2	1,2	3,6	2,2
Economic activities	Foreseen	rank	3	1	5	4	2
		score	3,18	2,55	3,36	3,27	2,64
	Ideal	rank	5	4	1	3	2
		score	4,27	2,91	2,45	2,73	2,64
TOTAL	Foreseen	rank	3	1	5	4	2
		score	3,07	2,44	3,49	3,30	2,70
	Ideal	rank	5	3	2	3	1
		score	3,84	3,19	2,58	3,19	2,21

The ideal scenario as ranked by policy-makers and researchers is scenario E *'Regional cooperation without changing the structures'*, while the economic sector and eNGOs favour scenario C *'Regional cooperation with new structures'*. The least preferred ideal scenario for three stakeholder groups was scenario A *'National focus'*, excluding researchers, who selected scenario D *'EU leading regional cooperation'*.

## North-East Atlantic Ocean

In the North-East Atlantic Ocean (NEAO) researchers, policy-makers and eNGOs ranked scenario B 'Regional focus without commitment' as the foreseen scenario in 2020 (Table 3.4). This scenario is described as the model the European Commission would impose, where decision-making at the regional level is vague. Only the economic sector ranked scenario E 'Regional cooperation without changing the structures' as the foreseen 2020 scenario which states general commitment from countries and stakeholder groups to cooperate regionally. The two least ranked foreseen scenarios by all stakeholder groups were scenarios C 'Regional cooperation by creating new structures' and D 'EU leading regional cooperation'. Excluding eNGOs, all other stakeholder groups ranked scenario E 'Regional cooperation without changing the structures' as the ideal scenario in 2020, whereas scenario C 'Regional cooperation by creating new structures' is preferred by eNGOs. Scenario A 'National Focus' is the least ideal scenario for 2020 as ranked by all stakeholder groups.

Table 3.4 NEAO respondents' foreseen and ideal scenarios of regional cooperation in 2020

NEAO			Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
Research	Foreseen	rank	2	1	5	4	3
		score	2,83	2,06	4,00	3,17	2,94
	Ideal	rank	5	3	2	3	1
		score	3,94	3,22	2,61	3,22	2,00
Policy-makers	Foreseen	rank	3	1	4	5	2
		score	3,18	2,16	3,50	3,92	2,24
	Ideal	rank	5	3	2	4	1
		score	4,18	3,37	2,47	3,50	1,47
NGOs	Foreseen	rank	2	1	5	4	3
		score	2,73	1,73	3,82	3,73	3,00
	Ideal	rank	5	4	1	3	2
		score	4,55	3,73	1,91	2,73	2,09
Economic activities	Foreseen	rank	2	2	4	5	1
		score	2,82	2,82	3,50	3,68	2,18
	Ideal	rank	5	3	2	4	1
		score	4,07	3,21	2,32	3,29	2,11
TOTAL NEAO	Foreseen	rank	3	1	4	5	2
		score	2,96	2,28	3,63	3,68	2,44
	Ideal	rank	5	4	2	3	1
		score	4,15	3,34	2,39	3,29	1,83

## 5. Perspectives for future governance structures

Stakeholder views on the MSFD implementation demonstrate that within the different contexts across the four European regional seas, a challenging patchwork of future governance structures exist. All stakeholder groups strongly support the need and establishment of a clearly defined and transparent decision-making and support structure. Such a structure should ensure coordination among all institutions that are responsible for MSFD implementation at the regional sea level in order to adopt Ecosystem Based Management in European regional seas. However, in the current fragmented governance system cooperation at the regional sea level could be jeopardised if different authorities can determine their own rules, as suggested by the majority of stakeholder groups in this research. This response supports the work of Van Leeuwen [16] who described that institutional ambiguity is a severe impediment and challenge to MSFD implementation at the regional sea level.

Stakeholder perspectives on the survey governance drivers, propositions and scenarios showed a strong preference from all sectors across all regional seas for being involved in all phases of the MSFD implementation. The overall picture suggests that stakeholder involvement in regional sea cooperation will depend on improving existing or creating new institutional structures. As participation in regional sea

cooperation is economically costly for all survey stakeholder groups, they still believe that the benefits achieved would be greater than without participation. Although the majority of the survey stakeholder groups wish to participate in regional sea cooperation, they do find themselves in a position where they have little influence on the decision-making processes.

The lack of detailed governance structures for stakeholder involvement in decision-making processes causing the different marine sectors on unequal footing. Taking into account the different contexts across the European regional seas, a major step forward for MSFD implementation shows a need for the regional adjustment of governance procedures to allow different sectors a place in the planning and implementation process of the MSFD. It is important to acknowledge that even if all stakeholder groups aim for stakeholder involvement and improved decision-making processes, the differences in starting points per sea and per sector are crystal clear.

### **Competing interests**

The authors declare that they have no competing interests.

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