

REPORT

Draft 1

Meeting: **MSFD Focus Group**
Parties: **NSAC/NWWAC members**
Date: **15 November 2021**
Location: **Webex**
Chair: **Sofie Smedegaard Mathiesen**
Rapporteur: **Tamara Talevska**

1 Welcome and introduction

The Chair Sofie Smedegaard Mathiesen welcomed everyone and noted that the agenda was extensive, but said she was optimistic to cover the different topics in the allotted time. She extended her welcome and thanks to Dr Wolfgang Nikolaus Probst, ICES expert from Thünen Institute, and to Dr Timothy O'Higgins from University College Cork and MAREi Environmental Research Institute.

No apologies had been recorded. Jacopo Pasquero joined a few minutes into the meeting.

The Chair asked whether members would like to see any changes to the agenda, adding that she would like to see agenda points 4 and 5 swapped, so as to adopt the latest version of the Terms of Reference first. No objections were raised to the proposal and agenda was adopted with this amendment.

2 Report of previous meeting

Report of previous meeting was considered page by page. No comments were raised by the members, but Tamara Talevska asked for clarification on statements on page 3: "There is no need for GES for the stock when both (referring to SSM and fishing mortality) are deteriorating." and page 5: "Under the CPF DG MARE demanded all stocks to be under GES, noting that this could add value to this ambition if it existed." The Chair concluded to check with Maurice Clarke, the author of the statements, or remove sentence, as they do not add to the understanding of the substance.

Talevska went through actions of the previous meeting, noting that all were considered complete.

Action	Status
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1. Terms of reference to be formally adopted at FG level once the NGO representative Serena Rivero reviews/comments on them.	<i>Completed</i>
2. Enquire with DG ENVI how the ACs are to take part in MSFD stakeholder workshop on 17 December	<i>Completed, no response from the COM</i>
3. Secretariat to circulate Clarke's presentation to members as an annex to the report.	<i>Completed</i>
4. Mo Mathies to share the filled-out questionnaire with NSAC Secretariat, to be circulated to the FG ahead of advice-drafting.	<i>Completed</i>
5. Jacopo Pasquero to share any relevant presentations from the EBCD/PECH Committee event on OEEM in fisheries with the FG.	<i>Completed, no updates</i>
6. Secretariat to confirm with Serena Rivero as OIG representative her availability for the meeting on 15 November.	<i>Completed</i>
7. Invite Richard Cronin (OSPAR Vice-Chair) and/or ICES expert on MSFD to the next FG.	<i>Completed</i>
8. NSAC and NWWAC Secretariats to look into options for an expert to assist with drafting advice.	<i>Completed, presentations on the day's agenda</i>
9. The next meeting to be held online on 15 November at 10.30 CET.	<i>Completed</i>

3 Expert presentations and Q&A

3.1 Dr. Wolfgang Nikolaus Probst, (Thünen Institute, ICES)

The Chair welcomed and thanked Dr Wolfgang Nikolaus Probst and began with a *Tour de table*.

Probst introduced himself as an expert from Thünen Institute working on sea fisheries as a fisheries biologist. He has been engaged in MSFD since 2010, and worked on ideas on how to improve the current fish stocks assessments within the CFP in order to make them MSFD-compliant. He added that in 2021 together with his colleagues he published a paper on MSFD Descriptor 3 (D3). The paper delineates six steps in ICES data and assessment products that could lead towards improvements in current assessments and clarifies how these could be used to build a new product more tailored to the requirements of the MSFD. Probst indicated that the current assessments (i.e. ICES stock advice) account for approximately $\frac{3}{4}$ of MSFD

requirements (i.e. catch data, recruitment data, fishing pressure, SSB). He said, however, that there was still a gap when dealing with commercial stock assessments. The current D3 is based on three criteria, first two of them coupled in pressure/state relationship: the first one being the fishing intensity/mortality (F), the second one spawning stock biomass (SSB), and the third one age and size distribution (not yet operational). The gap relates to the age and size distribution assessment for individual stocks, which is not considered in the CFP, yet is a requirement under MSFD.

Probst mentioned that there are ideas in ICES community how this aspect could be implemented. One major impairment is the definition of thresholds, what defines healthy/unhealthy status and/or optimal natural size distribution etc. Age/size distribution brings something additional to the MSFD which is not addressed under the CFP, namely the assessment of selectivity. If included, new structure of D3 would emerge with 2 criteria: D3C1 (stock biomass) - influence of fishing intensity on the spawning stock biomass, and D3C2 (size distribution) - selectivity and its influence on the size and age distribution. These are interlinked as intensity will affect size and age distribution when selectivity is the same. The structure of current D3 is not fully logical, as it has one pressure/state relationship (D3C1/2), while D3C3 (age/size distribution) is not tight to anything.

Probst continued with the presentation of the paper he worked on with his colleagues at ICES, which delineates six steps in improving the stock assessments and rendering them more aligned with MSFD requirements. He noted that the six steps were independent of themselves, therefore the order was arbitrary and did not hold any meaning in terms of priority.

First step (1) suggests provision of integrated advice by stock. Probst noted that ICES has already been doing this by providing advice on MSY, FMSY, BMSY trigger. However, in order to assess the overall status of the stock according to the MSFD criteria, integration is needed showing two pressure/state relationships, particularly for cases where individual indicators do not achieve their targets.

Second step (2) suggests assessment of age and/or size structure of a stock. In many stocks the climax of distributions/populations is where there are lots of larger individuals that dominate the structure of the stock. Where fisheries target larger individuals they are changing the structure of the stock, which as a result incorporates more smaller/juvenile individuals in proportion to the stock. The diagram (1) shows the year/recruit i.e. how much biomass there can be from an individual if it is left to grow to a certain size and then fishing is carried out with a certain intensity. Y axes shows the time of harvest and X axes shows the fishing intensity. One gets a sort of infinite maximum of selectivity around relative high age. These large individuals can be fished quite intensively. Probst concluded that the diagram shows that not only fishing intensity but also selectivity affects the stock structure and yield.

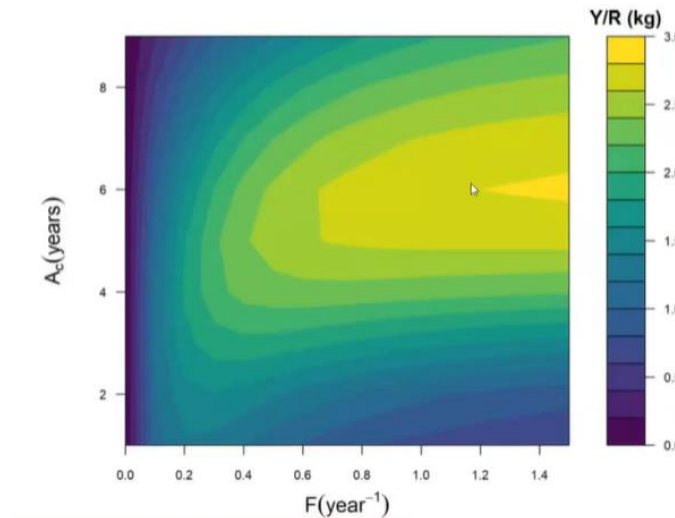


Diagram 1 (Probst et al.)

Third step (3) proposes analysis and assessment of selectivity through indicators. Probst explained diagram 2: L_c , meaning the size of the catch, moving towards the size of the first maturity, L_{mean} (mean length) approaching L_{opt} (optimal length) with catching at different maturity stages. He highlighted that the model is simplified, as combining data across all metiers has proven difficult. It shows a very schematic age and size distributions and the fractions of the catch that are uncaught immature, caught undersized immature, caught mature, or caught mega-spawner/ Caught mega-spawners are of particular interest since they are the components of the stock that convey a lot of stock reproductive potential by different mechanisms (i.e. disproportionately high fecundity, traditional knowledge on spawning grounds/migration routes) and are potential indicators for assessing age and size distribution.

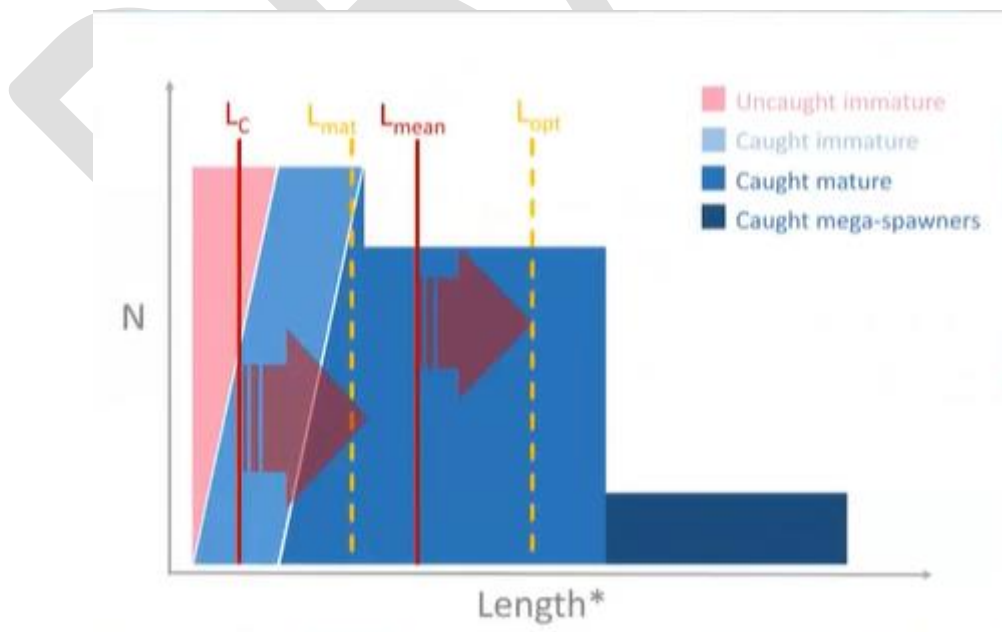


Diagram 2 (Probst et al.)

Fourth step (4) advises the use of all available information: i.e. data from ICES assessment categories using all analytical assessments. In this categorisation category 1 and 2 stocks are data rich stocks. The MSFD idea is to give an overview of overall exploitations/utilizations of commercial fish stocks. Probst pointed out that even stocks in categories 3 or 4, which do not have established reference points or other data, would still be relevant, and as such should be included and considered by MS for their reporting obligations.

Fifth step (5) instructs to perform mid-term assessments, which are now executed annually and presented in a form of catch advice. The MSFD proposes a mid-term perspective that should be incorporated in the 6 years cycles, as foreseen in the Directive. Probst explained that if a stock is performing well in 5 out of 6 years, we can assess that stock is at sustainable levels. In cases where stocks perform poorly in a number of years, it can be concluded that GES is not being met. Probst reiterated that this is not considered a final solution yet, but rather an indication on how GES assessments could be improved.

Sixth step (6) considers the use of response indicators. These are indicators used for measuring the reaction of management regime to the status of the stock. The question arising is whether the management measures are implemented and taking effect when the status is deteriorating. The response indicators are relevant for the reporting on Article 10 of the Directive (establishment of environmental targets) as it helps assess how the MS and the EU are moving towards the progression to GES by setting the right measures. Probst noted that in 2010 scientists proposed response indicators for fisheries as the ratio between landings/catch, and as ratio between the total allowable catch (TAC) set by the policy *versus* TAC recommendations by scientific bodies (i.e. ICES). The first indicator is giving you an indication of how well industry is responding to policy measures and the second one of how well the policy is adapting to scientific advice.

Probst concluded that the current assessment products by ICES are operational in the framework of the CFP, but not fully aligned with requirements for MSFD assessments. One major aspect missing is consideration of selectivity and its effect on stock structure (size/age distribution). He noted that each of the steps could be implemented separately, independent of other steps, and that this would still ensure progress. Full presentation can be found here: <https://prezi.com/view/ffZoi08YQ05rpejQ099Y/>.

At this point the Q&A session was launched.

Pim Visser, VisNed, noted that under the CFP Landing Obligation prescribes that in cases where the catch cannot be landed due to lack of quota, selectivity needs to be improved. The MSFD in turn impedes the catch and landing of mature fish. He wondered which of the legislative acts takes precedence. Visser explained that this is particularly problematic in bottom contacting mixed fisheries when size selectivity is difficult to achieve. He added that bottom trawling is practically not possible under the MSFD.

Probst responded that the question that should first be answered is how much deviation from natural distribution would still be considered appropriate under the MSFD. He had no final answer as to how much fisheries could still improve their selectivity and added that from experience in the Baltic sea there would still be room for improvement.

Visser noted that in the past policy was adapted and it was commonly agreed that GES was needed despite no clear definition of GES at the time, likewise it was agreed that natural distribution is desirable failing to realize that this was not possible where fisheries are carrying out their role. He added that there is a common perception that the policy is moving away from the view that fisheries are a necessary source of protein for the world population towards a view that favours nature conservation with no place for fisheries. He stressed that these are difficult times for fisheries, managers and biologists.

Henrik Lund, Danish Fishermen PO, thanked Probst for his presentation and queried whether Probst has examined how ICES had dealt with criteria D3C3, referring to special request in 2016 where it had been pointed out that one should focus on C1 and C2, and not put effort in C3 as it was considered relatively impossible.

Probst agreed with Visser that it is impossible to achieve natural stock distribution through fishing, and that there is a trade-off to be made. He also agreed with Visser's observation on the shift from utilitarian view to one favouring nature conservation. He noted that the focus in his opinion is on improving D3 and C3 by protecting juveniles and that the fisheries management should consider how much of the resource utilisation could be compromised in order to still fulfil the demand to feed the population. Simultaneously, the conservation managers are faced with the question on how much influence on pristine nature is considered acceptable. He concurred that these are challenging times for fisheries and managers, and added that policy requirements such as age and size distribution were one aspect of the changes facing managers. He was, however, optimistic that it was possible to achieve.

The Chair asked how scientists in the UK and Norway look at this, noting that GES rather than MSY is considered in their management plans, including multiannual management plans.

Probst responded that MSY and GES should not be contradicting each other, as well as that the CFP and the MSFD should, in principle, be aligned. There is general consensus amongst scientists that any contradictions should be eliminated and corrected. Probst indicated that currently the UK still applies provisions of the MSFD, but that in the future they might shift to OSPAR.

Serena Rivero, North Sea Foundation, thanked Probst for his presentation and raised a question on the lack of implementation of the integrated ICES assessments, asking Probst what he thinks was the reason for the ICES integrated advice across MSFD criteria not to be implemented during the past 10 years.

Probst responded that the reason for this is mostly the lengthy coordination procedures between the Commission and the MS. It might take years between the adoption of a piece of legislation and the actual adoption by the MS. He noted that the third cycle in 2024 is expected to gradually provide more consistency. He also reminded that ICES is mostly working on request submitted by the Commission, and that its work depends on the proactivity of the Commission, making the processes extremely long and including a number of actors involved.

Henrik Lund commented that MSY concept has been promising the highest yields and sustainable fishing and he was not convinced that this has been delivered. While the D3C3 will resolve to avoid both, the mature fish and the juveniles, leaving the catching window of 35-50 cm, in reality this would mean less catch for the fisheries. He stressed that 'it has been

more and more difficult to carry out fisheries.’ While this is true for single species fisheries, the situation in mixed fisheries is ‘even more complicated’.

Probst agreed that mixed fisheries are the most difficult part to resolve and explained that the MSY concept does not promise immediate higher yields, but in a longer-term perspective this should be the case. He argued that for some stocks the status of the biomass has already improved. As an example, he pointed out NS plaice whose biomass has increased and where in principle harvesting could be increased, but noted that there are other reasons preventing this. He admitted that in mixed fisheries it is difficult to achieve improvements in selectivity and bycatch issues, while still maintaining efficiency in target species. Finally, Probst challenged Lund’s suggestion on catching 35-50 cm large individuals in order to save the immature and mega-spawners, and proposed moving up to 40-45-50 cm and catching everything above the size – this would in his opinion be more feasible for fisheries while at the same time offer substantial gain for the stock by sparing the mega-spawners.

Serena Rivero noted that the strength of the MSFD lies in the fact that it provides an integrated ecosystem-based approach. She added that any proposed amendment to the legislation should add value to the current approach. She asked Probst how he sees these six steps would help policy-makers realize this and whether he thinks this could help managers get closer to the GES goal.

Probst believed that the steps could to some degree assist in approaching MSFD GES objective by moving between different descriptors and by providing an overview on how different descriptors achieve their GES accordingly. He agreed that the missing aspect is the integration of single stock assessments into an ecosystem approach. He admitted that ICES workshop has not been able to resolve the problem of integration fully yet. He recognized the differences in willingness in accepting different indicators for assessments and data quality as part of the problem, noting that high quality data together with uncertainty would blur and make data less comparable. He also noted that work after ICES workshop in 2016 on D3C3 has stagnated and that there had been very little workshops after that. It was the perception of ICES at that time that solutions in relation to D3C3 was not feasible. On D3 Probst said it would be helpful to assess the status of single species, but was not sure to what degree this was helpful for MSFD GES overall. He was also not sure whether overall GES is achievable across all descriptors. For D3 he noted that scientists were approaching a solution. He personally believed it would be possible to have a benchmark on several numbers of stocks, however if this was proven not to be true, he still believed that having proportions of stocks at GES would be meaningful in portraying the status of fisheries and stocks.

The FG moved on to a presentation on Overview of the MSFD and likely future developments by Dr Timothy O’Higgins.

O’Higgins introduced himself as a research fellow at University of Cork, and noted he has been working on MSFD since 2009 when he coordinated a project on the implementation of the Directive in regional seas. He noted that he recognised the challenges in implementation in different countries.

O’Higgins summarised the main points of his presentation as follows:

- Brief summary of MSFD;

- Geographic differences and regional management;
- Interactions between activities and descriptors;
- Direct effects of climate change;
- Indirect effects of climate change;
- Questions for future implementation.

He began by explaining that in the EU the integrated maritime policy is based on two pillars: the environmental pillar stemming from the MSFD's objective to achieve GES, and economic framed in the MSP. Both (MSP, MSFD) are intended to be integrating an ecosystem-based approach. The MSFD objective is to integrate activities, pressures and pieces of environmental conservation considerations. It was designed to work on six years implementation period divided in five parts: 1) initial assessment, objectives, targets and indicators (2012), 2) monitoring programmes (2014), 3) programme of measures to improve conditions of the sea – strategies (2015), 4) implementation of the Marine Strategy (2016), and 5) six-year review of the different elements of the Strategy (2018-2021). O'Higgins mentioned that currently the Directive is undergoing the 3rd cycle. There have been mixed patterns in terms of implementation, where different MS struggled with many aspects in 1st and 2nd cycle. There is a general recognition that it was not yet fully operational and he pointed out that there have been necessary tweaks and amendments since 2008.

O'Higgins continued by explaining that the GES is defined by 11 descriptors which are of mixed nature. Referring to Probst presentation focusing on D3 he noted that the population of commercial species have been covered well by data, the history of analysis and history of management measures, which are well understood. On the other hand, many other descriptors are less well known and understood (i.e. non-indigenous species, microplastics, marine noise etc.).

O'Higgins pointed out that the MSFD prescribes a joint management of these issues, which is ambitious in terms of scope. He noted that integration routes are lacking and that there are many practical difficulties in making an overall assessment of the environmental status. He, like members before, pointed to the need of a trade-off between conservation and managing human requirements (food, energy, transportation etc.).

The MSFD ecosystem approach is intended to integrate the connections between all human requirements to achieve GES by using systematic method to reach the vision of sustainable use of resources and environmental conservation. Apart from GES, there are the Green Deal and the EU Biodiversity Strategy - additional political aspects that are going to shape the future implementation of the Directive. By itself the Directive is ambitious and is met with different physical, social and geographical conditions of different regions.

O'Higgins further explained that regional seas, the North Sea, Baltic Sea, Black Sea, and the Mediterranean, differ in their flushing times. The North Sea flushing time is 1 year (compared to Baltic sea – 30 years, Mediterranean sea – 165 years, and the Black sea – 1000 years. He noted that there is a legacy of past and current activities, adding to a sort of memory effect. OSPAR reporting units of MSFD also differ substantially – e.g. the Baltic is a relatively small sea with lots of MS with limited EEZ. The North sea is relatively small shared by relatively few countries with relatively small EEZ, the rest of the NE Atlantic is characterised with small countries with very large EEZ, meaning large spatial areas to manage under the MSFD. He

also highlighted the 150-year history of cooperation, large amounts of data, history of joint management, which is more the case in the eastern Europe, and less so in the western parts.

The MSFD mandates regional seas cooperation, however it is ambiguous how such cooperation is to be achieved. In its introduction there was an assumption that this would be done through OSPAR, despite there being no legal obligation to OSPAR to implement the MSFD. This, said O'Higgins, is reflected in the management structure, where marine directors are responsible for the implementation, working groups are informed by technical groups, and the communication between the different working units is less than optimal. Regional sea conventions are there yet their role in MSFD implementation is marginal/non-existent. It is essentially the MS that are in charge for implementing the Directive.

O'Higgins introduced the diagram (3) made for RAGES (Risk-based Approaches to Good Environmental Status) as an attempt to map out the individuals, institutions and groups working on different aspects of MSFD implementation. He highlighted the institutional ambiguity and differing levels of participation, noting that in Ireland, as an example, there are only five people working on MSFD. In Portugal there are six people. Some countries have more people involved and are faced with different institutional challenges.

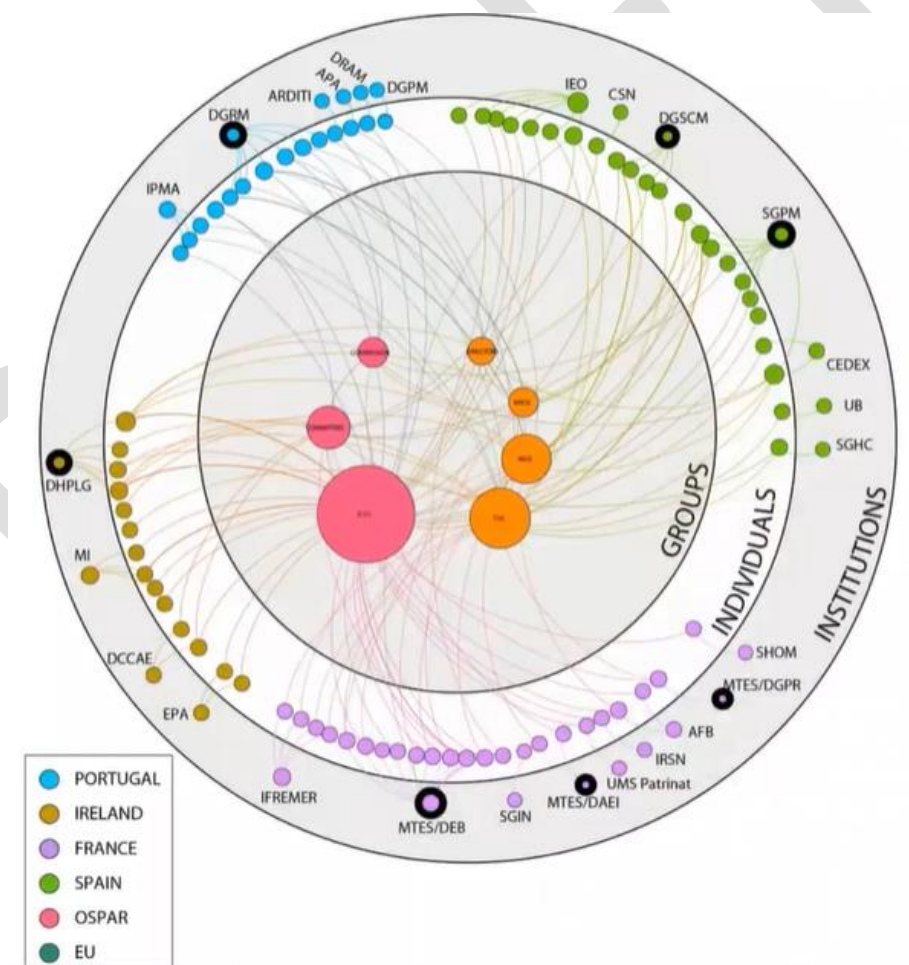


Diagram 3 (O'Higgins for RAGES)

O'Higgins further explained that 11 descriptors are related and are supported with different levels of data. He noted that difficulties remained in interpreting and combining the different aspects. He then offered his view on MSY/GES aspect in descriptor D3: D3 is set at MSY and this is harmonised with the CFP objectives where MSY is the target. Since commercial species extract biomass, they have a knock-on effect on other species. If MSY is GES, a good food web is a web based on MSY. Therefore, if we conclude that MSY for demersal species is GES then the level of MSY dictates the level of seafloor integrity. Nevertheless, in the ecosystem approach there is a trade-off in environmental damage and human welfare to be made. He concluded that this is decision that will need to be made at a high political level.

O'Higgins explained that there is limited knowledge about the effects of non-indigenous species, noting that eutrophication could either have a positive effect on commercial species in increasing biomass or a negative one by decreasing oxygen, as for some species these interactions are not yet fully understood. On marine noise he said that it has an effect but the way and extent to which it affects marine fauna is not yet understood. He concluded that there are numerous interactions between the 11 descriptors topped by the climate change.

O'Higgins went on to clarify the direct effects of climate change on the environment. He explained that marine systems undergo regular shifts in North Atlantic oscillation, superimposed on top of this there is the climate cycle where warmer periods appear to be getting warmer and the colder are less pronounced. This poses immediate management issue, i.e. expansion of feeding grounds of mackerel. In the Nordic seas, as these sporadic changes occur which are not fully understood, the ecosystems respond to these changes faster than the management, which in turn creates new conflicts when these stock straddle. As a response, individual countries are setting quotas arbitrarily high creating further pressure. 'Natural change is quicker than political/institutional reality,' O'Higgins concluded.

The indirect effects of climate change can be seen in the adaptation and mitigation policies, such as the ones to curb the greenhouse gases by expanding marine energy. He noted that at the moment there is 23 GWATT of energy produced by windfarms, however this is intended to be expanded to 50 by 2030. Additionally, the EU biodiversity strategy imposes 30% of MPAs. These are only some of the multisectoral changes facing the marine environment. The idea of MSFD to help to efficiently, effectively and equitably manage environment by integrating the connections between land, air and water. Through participation mapping this is supposed to provide mechanism whereby people can be represented in the management of public goods and the trade-offs between the different sectors, where activities are incorporated into management decisions and where conflicts can be effectively managed.

O'Higgins concluded his presentation by posing key questions to be answered in relation to MSFD review.

- How can MSFD better integrate ecosystems, humans and institutions?
- How can MSFD be adapted to meet the regional challenges?
- How can risk-based approaches be mainstreamed for MSFD implementation?
- How can MSFD be made more reliant on risk-based approaches due to climate change?
- What are the appropriate regional management structure?

- Is there a role for ACs in assessing which pressure pose greatest risk to marine environment?
- How can we use MSFD to tackle emergent management problems arising from climate change?

The Chair opened Q&A. Pim Visser asked O'Higgins about the RAGES diagrams and whether these showed that there were only a limited number of people involved in the MSFD implementation. O'Higgins explained that each descriptor is associated with different agencies. He clarified that usually the competent authority for marine strategy is a small department and they are dependent on all the other agents for the data.

Serena Rivero remarked that while advisory councils have a formal role in the CFP, their role in the MSFD is not formalized and therefore questionable. She noted that the theory would suggest that participation of all stakeholder groups would make the policy effective. She wondered how O'Higgins would develop an effective mechanism of participation in the practical international management, particularly when the management goes beyond national borders. O'Higgins replied that OSPAR is one forum managing regional coordination and noted that perhaps there is a role for regionally based groups to discuss regional implementation.

The Chair thanked O'Higgins for his presentation and the paper, which was deemed very insightful by the FG members.

4 Terms of Reference

The Chair asked the group whether the amendments proposed could be adopted. No objection was voiced and the ToR were considered approved.

5 NSAC/NWWAC Exchange of views and fisheries perspective

The Chair noted that the NWWAC filled-out questionnaire of the public consultation has been circulated to the FG. Mo Mathies from NWWAC explained that the response was general and there was no need to go through individual questions. These could be integrated to the final form of the advice if members felt this would add to fuller picture of issues to be highlighted.

The Chair raised a question on which descriptors the advice should focus on. Rivero responded that these would probably be D3 – commercial fisheries, D4 – food webs in relation to bycatch. O'Higgins pointed to biodiversity, commercial stocks, food web structure and seafloor integrity.

The Chair added that marine litter could be covered as well, and underwater noise, which was supported by Rivero.

6 Date and time of next meeting

The next meeting was agreed to be held online on 8 December 2021, 10.30 CET. Talevska confirmed that draft advice would be circulated by 24 November 2021.

7 Actions from the meeting

Action	Responsible
1. Draft MSFD advice considering FG conclusions and following agreed ToR to be circulated to members by 24 November 2021.	Tamara Talevska
2. Secretariat to contact Laurent Markovic on the MSFD conference and possible attendance of the NSAC/NWWAC representatives.	Secretariat
3. The next meeting to be held on 8 December 2021 at 10.30 CET.	Secretariat/Members

8 Meeting participants

First Name	Surname	Organisation
Merel	Barbosa	NSAC
Henrik	Lund	DFPO
Mo	Mathies	NWWAC Secretariat
Timothy	O'Higgins	University of Cork
Jacopo	Pasquero	EBCD
Wolfgang Nikolaus	Probst	Thünen Institute
Serena	Rivero	North Sea Foundation
Sofie	Smedegaard Mathiesen	DFPO
Tamara	Talevska	NSAC
Pim	Visser	VisNed
Jasmine	Vlietinck	Rederscentrale