



# **NORTH-EAST ATLANTIC STAKEHOLDER WORKSHOP**

18th February 2025

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Agency**



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## INTRODUCTION

The Horizon Europe Project MPA Europe (2023–2026) is mapping the optimal locations for Marine Protected Areas (MPAs) in all European Seas, to support science-based marine spatial planning. On 18th February 2025 the MPA Europe project joined forces with the European Environment Agency for a collaborative stakeholder event at Europa-Huset, Gothersgade 115 in Copenhagen. The day comprised an open Scientific Symposium with presentations from the MPA Europe team on a range of topics relating to marine biodiversity and factors influencing its distribution, and blue carbon stores. This was followed by a North-East Atlantic Stakeholder Workshop which included a panel of guest speakers, stimulating a discussion on how the results of MPA Europe can support the needs of stakeholders for optimal, climate-smart maritime spatial planning (MSP) in the region, including strengthening and extending MPA networks whilst expanding offshore renewable energy and respecting the needs of fishers.

This short report sets out key elements of the work being delivered by the MPA Europe team to support science-based designation of MPAs and science-based MSP. It also summarises the Stakeholder Workshop discussion. The report has been shared with all stakeholders who joined the workshop and other regional stakeholders of the MPA Europe project who were not present for the discussions. All presentations from the day are available [here](#).



## CONTEXT

The significant size of the North-East Atlantic region encompasses a broad range of environmental conditions and associated species. Whilst the North Sea has an average depth of below 100 m, the International Council for the Exploration of the Sea notes the offshore North-East Atlantic region is mostly deeper than 1,000 m and influenced by different processes to coastal areas<sup>1</sup>. Currents and oceanographic conditions divide the offshore region into a relatively cold area to the northwest and a relatively warm area in the south (ibid). The Subpolar Gyre carries cold, low-salinity, and highly oxygenated Labrador Sea Water to the region whilst the North Atlantic Current transports warm waters to the northeastern part of the region (ibid).

According to OSPAR's 2023 Assessment, since 2005 all 12 of its Contracting Parties bordering the North-East Atlantic have nominated sites to the OSPAR Network of MPAs both in their national waters as well as collectively in areas beyond national jurisdiction. By the end of 2023, the network comprised 597 MPAs with a total surface area of 1,473,100 km<sup>2</sup> or 10.9% of the OSPAR Maritime Area (OSPAR Commission, 2024).

In common with other regions in Europe, most MPAs have been designated in territorial waters (21.2% covered by OSPAR MPAs) and far less in Exclusive Economic Zones (2.9% covered by OSPAR MPAs). The distribution of MPAs is uneven across the five OSPAR Regions (Figure 1). The Celtic Seas (Region III), the Greater North Sea (Region II), and the Wider Atlantic (Region V) are the best represented OSPAR Regions with 21.0%, 19.8%, and 17.3% coverage, respectively, while coverage of the Bay of Biscay and Iberian Coast (Region IV) is at 6.0% and the Arctic Waters (Region I) show the lowest coverage with 2.0% of the area being OSPAR MPAs.

In 2024 the Government of the Azores announced plans to protect 30% of its sea area, which will contribute a further 287,000 km<sup>2</sup> to the region's MPA networks. Half of this area will be strictly protected<sup>2</sup>.

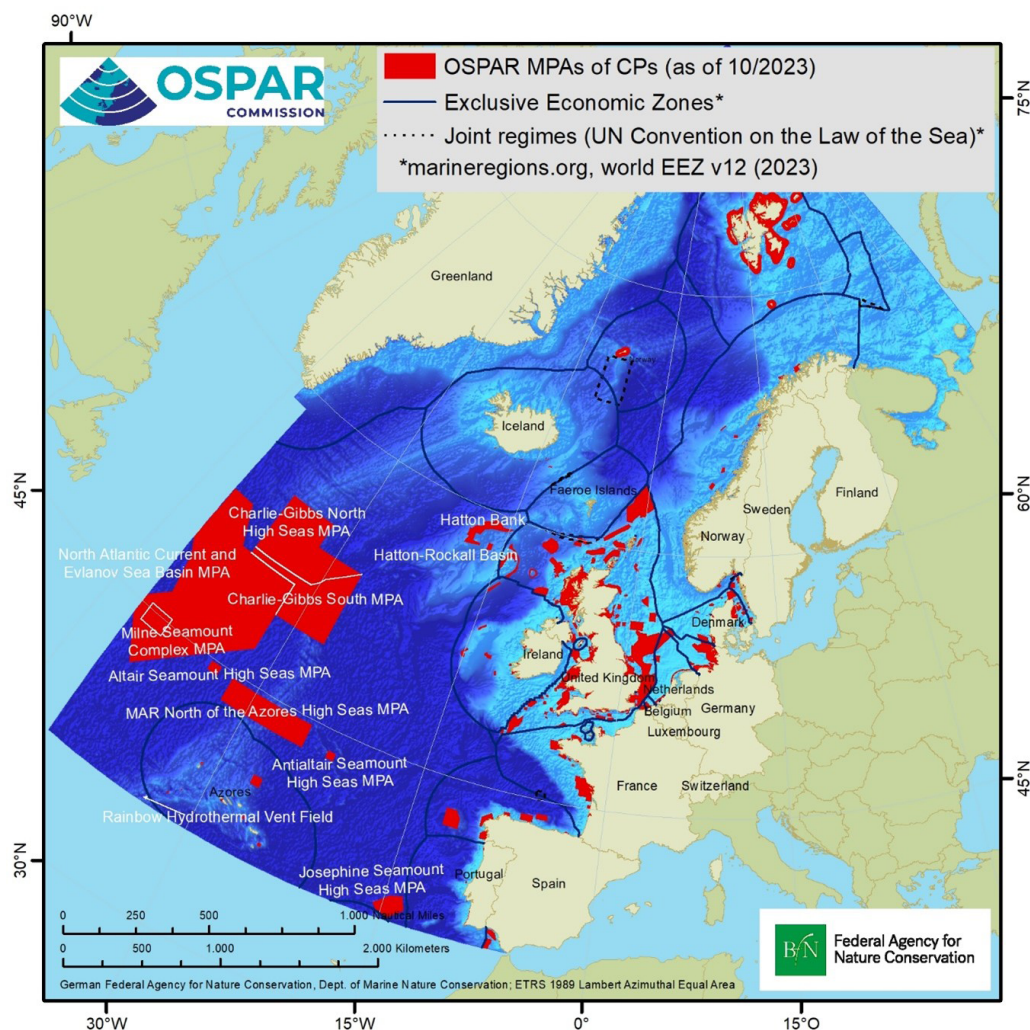


<sup>1</sup> See ICES Oceanic Northeast Atlantic Ecosystem overview available here: [https://www.ices.dk/advice/ESD/Pages/NEAtlantic\\_description.aspx](https://www.ices.dk/advice/ESD/Pages/NEAtlantic_description.aspx)

<sup>2</sup> Further details available here: <https://www.blueazores.org/azores-amp-rede>







**Figure 1.** The OSPAR network of Marine Protected Areas of Contracting Parties as of 1 October 2023. Available at: <https://oap.ospar.org/en/>

Coherent networks of MPAs should be representative of the biodiversity present in the North-East Atlantic region and cover adequately large areas for species to thrive with replicate protection of habitats and species across individual MPAs, insuring against local damage or die-offs caused by mounting pressures, such as marine heatwaves or pollution. Networks of MPAs that are representative of biodiversity (including species and ecosystems) in the sea basin will

help protect its biodiversity and accommodate climate-change effects, while supporting important blue economy sectors such as fisheries, offshore renewable energy and tourism.



## SYMPOSIUM AND STAKEHOLDER WORKSHOP APPROACH

The day began with a welcome from our European Commission Research Executive Agency Programme Administrator, Victoria Beaz Hidalgo and the scene was set with presentations from Vedran Nikolic of DG Environment and Johnny Reker of the European Environment Agency on how the EU is dealing with and reporting on marine protection and nature restoration. It was noted that the key challenge for MSP is how to reconcile the EU Biodiversity Targets (protecting 30% of seas by 2030, and 10% strictly) with maritime activities such as offshore renewables expansion in coastal areas and fisheries.

Our work package leads presented their work on diverse scientific topics including European marine regionalisations; species range maps under climate change scenarios; seabed organic carbon mapping; wave fetch and its implications for biodiversity and organic carbon storage; oceanographic connectivity and climate velocity; and our systematic conservation planning prioritisation process. Colleagues shared our extensive dissemination, exploitation and communications activities, which included publishing a series of articles for children in several languages. Links to all MPA Europe's outputs and resources may be found [here](#).



Our Stakeholder Workshop opened with a brief description of the activities we have undertaken on stakeholder engagement for the MPA Europe project. We then had short presentations from four guest speakers from the marine region, which vividly illustrated the maritime spatial planning challenge. Oliver Ó Cadhla (Ireland's Department of Housing, Local Government and Heritage) discussed the scientific process being used for identifying new MPAs and the new LIFE programme underway to support new MPAs to be introduced in Ireland. Kenn Skau Fischer (Executive Committee Chair of the North Sea Advisory Council) highlighted the spatial squeeze confronting fishers and the need for meaningful engagement with fisheries organisations in MSP processes. Thomas Kirk Sørensen (WWF Denmark) described the illusory nature of marine protection

in Denmark and highlighted the need for MSP processes and maritime activities to respect the carrying capacity of marine ecosystems, and to give MPAs a chance. Emma Hospes (Head of Environment, Permitting & Defence Co-Existence at Ørsted) shared the company's approach to its ambitious biodiversity net gain commitment for 2030, whilst highlighting the complexities for offshore wind operators in navigating diverse planning and policy regimes across Member States.

Stakeholders had many questions for our guest speakers and these, together with their responses, are given below.

In total we welcomed 37 attendees (in person and online) from a range of key sectors and organisations, as noted in the Appendix.



# MPA EUROPE APPROACH

[MPA Europe](#) is mapping the optimal locations for marine protected areas in European seas to support science-based MSP. Conservation and restoration of marine ecosystems underpins sustainable use of marine resources and the blue economy, and therefore the two concepts should be taken together as a single goal for MSP, rather than separated. For example, many studies show how MPAs rebuild fisheries and sustain tourism, whilst safeguarding biodiversity and helping to adapt to climate change (Costello, 2024). Areas with no or very few pressures are essential to understand what Good Environmental Status (GES), as defined by the Marine Strategy Framework Directive (MSFD), looks like and to act as controls for comparison with similar areas under a range of human pressures.

Rather than bias our approach to particular species or habitats, we take a holistic, data-driven approach to map as far as possible the full range of marine biodiversity present in European seas, and the concentration of organic carbon in seabed sediment stores, so that protection of either or both can be optimised under a changing climate. Our results will be shown in an online atlas later in 2025 and available for use by maritime spatial planners and any other stakeholders with an interest in optimising the designation of networks of MPAs. Our results can also support studies and sensitivity analyses for particular groups of species or habitats and provide input for relevant sea basin strategies such as the [Atlantic Action Plan](#) and the [Greater North Sea Basin Initiative](#).

Whilst MPAs are ultimately a societal choice, decisions regarding the establishment of networks of MPAs should be informed by an understanding of how species are currently

distributed and how this may be impacted by climate change. As the Intergovernmental Panel on Climate Change (IPCC) notes, protected areas are key elements of adaptation, but they need to be planned and managed in ways that take account of climate change, including shifting species distributions and changes in biological communities, and ecosystem structure and function (IPCC, 2022). Adaptation to protect ecosystem health and integrity is essential to maintain ecosystem services, including for climate change mitigation and the prevention of greenhouse gas emissions. Furthermore, protected and conserved areas are the most effective tool to address both biodiversity loss and climate change within a timeframe that reflects the required urgency (Young V. et al., 2024).

We do not constrain our analyses to particular habitats and species but consider all marine biodiversity groups, except for the Viruses, Protozoa, Fungi, Bacteria, and Archaea kingdoms. Modelling the ranges of species using spatially standardised data layers can remove the bias inherent in using sampling data alone.

This year we will run prioritisation scenarios at regional, country, and territorial seas levels, and we expect that regional prioritisations of networks of MPAs will be more efficient in maximising the range of biodiversity that is protected than the cumulative combination of national or sub-national prioritisation analyses. This type of analysis can support the incorporation or anticipation of future MPAs in MSP at regional, transboundary, and national scales.

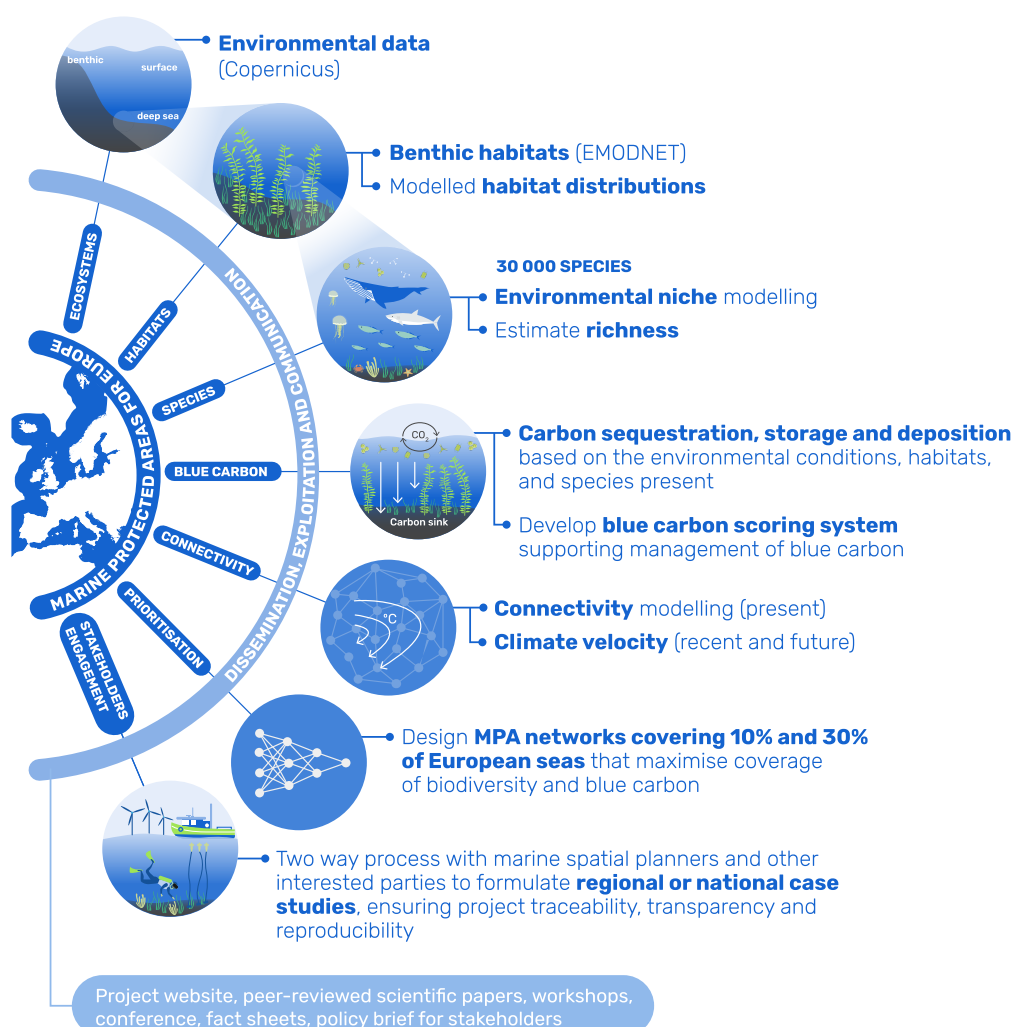






**MPA EUROPE IS MAPPING  
THE OPTIMAL LOCATIONS FOR  
MARINE PROTECTED AREAS  
IN EUROPEAN SEAS TO  
SUPPORT SCIENCE-BASED  
MARINE SPATIAL PLANNING**

**Figure 2.** Study area and main goal of MPA Europe



**Figure 3.** The principal components of MPA Europe.

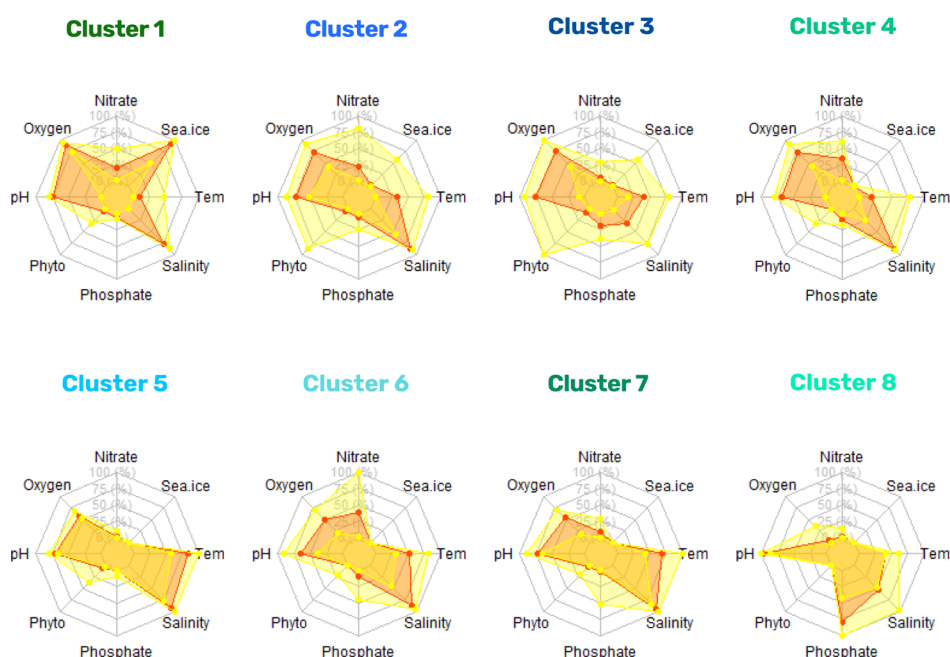
# MPA EUROPE RESULTS TO DATE

Our results so far include the following:

## 1. The first marine ecosystem classifications for Europe's seas

The term ecosystem is used very loosely but is imbedded in European and international policies. For data-driven systematic conservation planning we need a data-driven definition. Thus, we use the original “ecosystem function” concept as a region where energy flows are greater within the area than between adjacent areas, and we use ecologically relevant environmental variables to demarcate these areas.

For the purposes of the MPA Europe project, “ecosystems” are defined as “enduring, spatially bounded environments where biological and energy interactions are greater within than with other ecosystems” (Zhao Q. et al., 2019). These classifications are driven by a wide range of spatially complete and standardised environmental data that reflect both ecosystem conditions and functioning. Our methodologies and data parameters may be found [here](#). Using this basis, we created the first marine ecosystem classification for surface and near seabed waters of Europe (available [here](#) and [here](#)) and then created an additional depth-integrated marine ecosystem classification for Europe (available [here](#)). Overall, our analysis yielded eight distinct clusters across the different depth ranges for the project area, depicted in Figure 4 below.

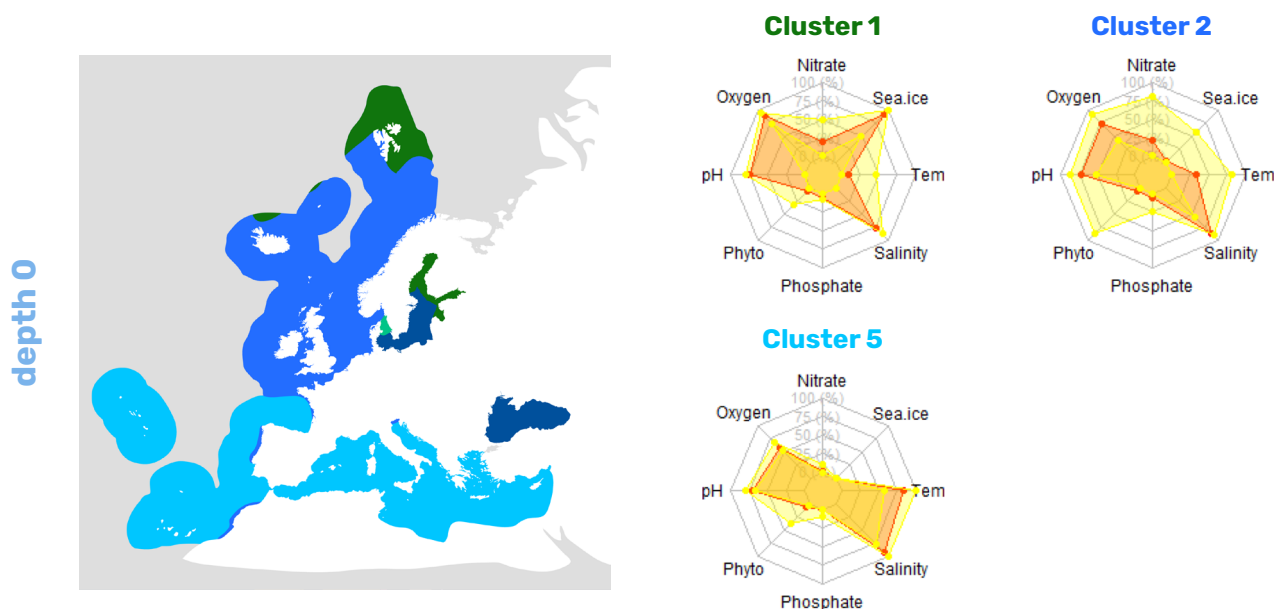


**Figure 4.** Environmental characteristics of the eight identified clusters. Eight variables: dissolved molecular oxygen (Oxygen), nitrate, ocean temperature (Tem), pH, phosphate, phytoplankton (Phyto), salinity and sea ice cover (Sea.ice). The mixed layer depth is not represented. Mean of each variable in red and range (minimum and maximum) in yellow. It is important to note that the values are presented in percentages, where 0-100% represents the full range of each variable. This approach ensures comparability among the clusters.

For surface waters of the North-East Atlantic region the following three clusters are present:

1. The surface layers in the Arctic area around Svalbard and to the north of Iceland form a notably distinct cluster 1 (dark green in Figure 5), which is characterised by high dissolved oxygen, low ocean temperatures, highly variable salinity and significant sea ice cover.

2. The surface waters of the North Sea, Northern France and northwards to Svalbard fall within cluster 2 (denim blue in Figure 5), which exhibits high dissolved oxygen levels, high phytoplankton levels, varying nitrate concentrations, a wide range of ocean temperatures and high salinity.
3. The surface waters of the Bay of Biscay area and EEZs of Spain and Portugal fall within cluster 5 (light blue in Figure 5), defined by consistently high ocean temperatures, high salinity, and low nitrate levels.



**Figure 5.** The three marine ecosystem clusters obtained for sea surface (depth 0 m) based on environmental data.

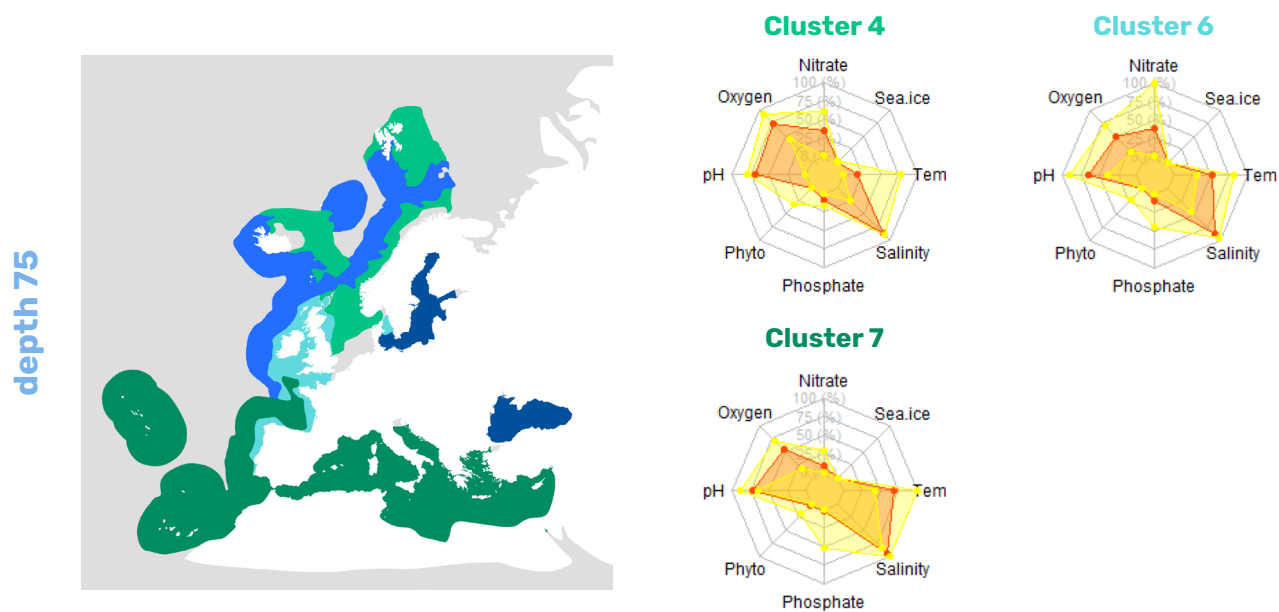
Below surface waters, three new clusters emerge in varying proportions, as depth changes:

1. Cluster 4 (light green in Figure 6) manifests across the northern part of the region, gradually expanding as depth increases. It is similar to cluster 2 but with slightly higher nitrate and phosphate levels and slightly lower average temperature.
2. Cluster 6 (teal in Figure 6) manifests around Ireland, much of the UK and the coastal areas of France, northern Spain and Portugal,

also gradually expanding with increased depth. Compared with the previous clusters it features more moderate oxygen levels, relatively high and more variable nitrate concentrations, moderate temperature ranges and more variable pH.

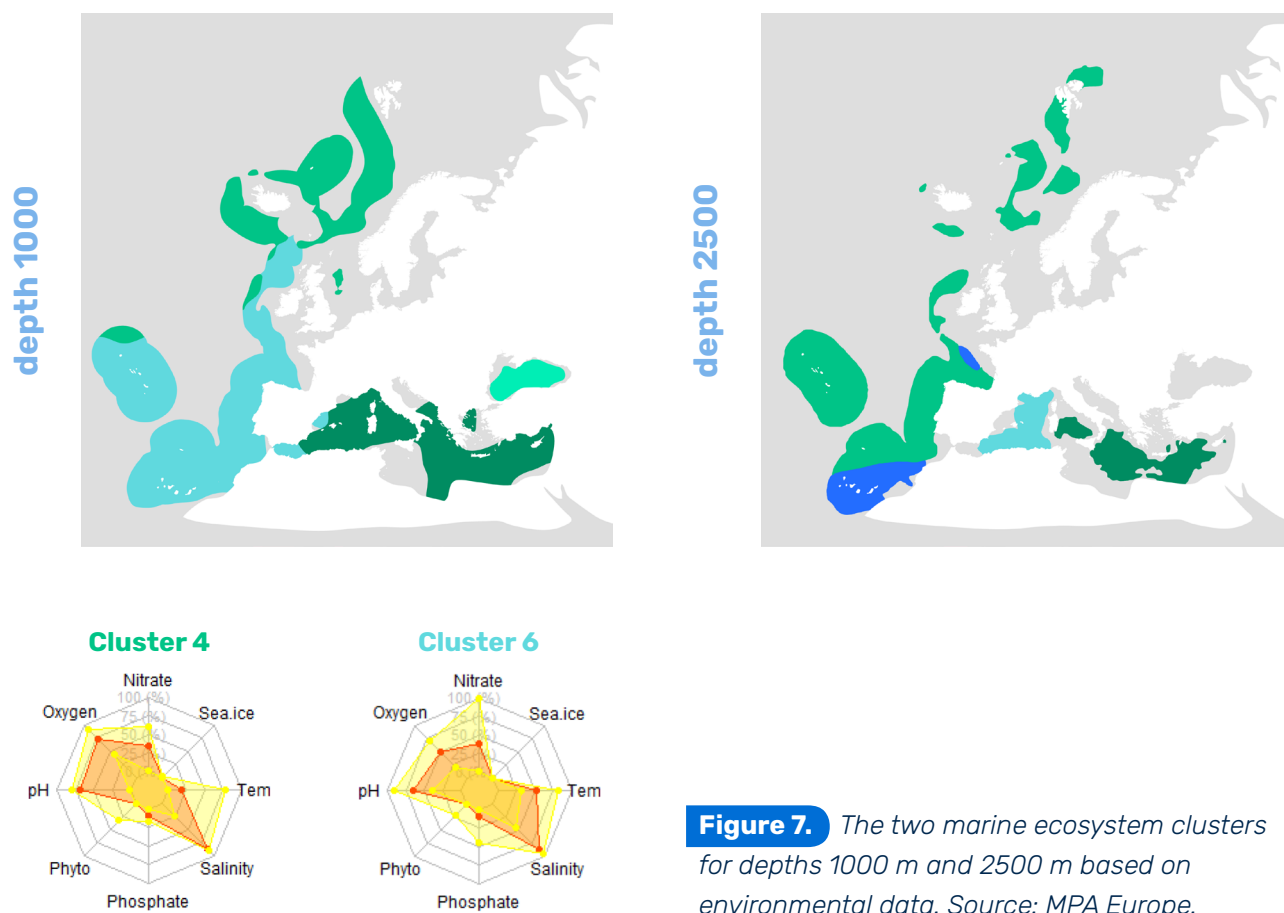
3. Figure 5 shows that surface waters of the southern portion of this region fall within the same cluster as surface waters of the Mediterranean Sea, and the same is true for waters down to depths of 150–200 m. Cluster 7 (dark green in Figure 6) is similar to cluster 6 but with lower nitrate levels.





**Figure 6.** The three marine ecosystem clusters obtained for depth 75 m based on environmental data. Source: MPA Europe.

As depth increases clusters 4 and 6 expand and then contract in the case of cluster 6, as shown in Figure 7.

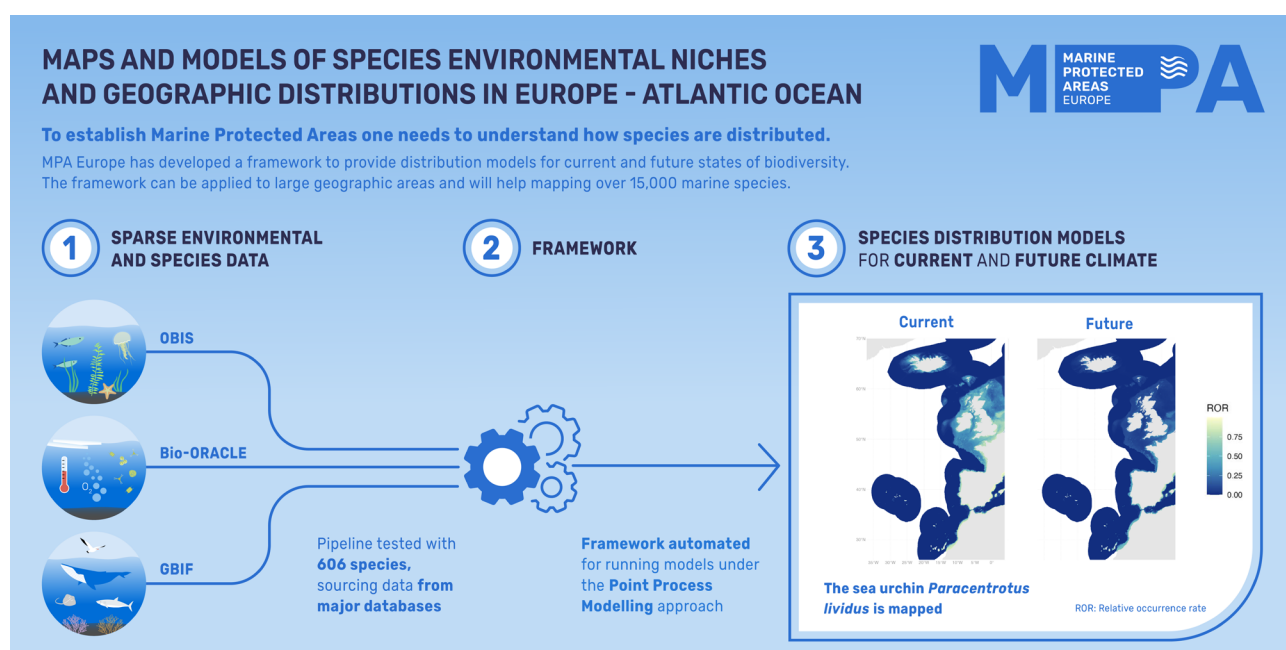


**Figure 7.** The two marine ecosystem clusters for depths 1000 m and 2500 m based on environmental data. Source: MPA Europe.

This analysis highlights that the environmental conditions across the North-East Atlantic region vary considerably across latitudes and depth, shaping and supporting distinctive assemblages of flora and fauna. This highlights the need for coherent networks of marine protected areas representative of all ecosystem types. Maintaining connectivity across transitional areas between different marine ecosystem clusters through MPAs is also important in supporting climate-induced range shifts (Assis J. et al., 2021). Connectivity and climate change impacts on it should be factored into adaptive MSP (Abecasis D. et al., 2023).

## 2. Maps of species richness in European seas based on multiple indicators

Our species distribution models are based upon actual observations, statistical estimators, and modelled environmental range maps. There are over 30,000 marine species in European seas with available occurrence records in at least one of the data platforms we used. We have now modelled the ranges of >12,500 species to date. Our methodology (Figure 8) may be found [here](#) and species distribution models may be explored in our new app [here](#). A user tutorial is available [here](#) and we welcome feedback from stakeholders to improve the models and the user experience. We invite all stakeholders with relevant expertise to provide feedback to [helpdesk@obis.org](mailto:helpdesk@obis.org). Finally, a second version of the models, applying several enhancements, is due in July 2025.

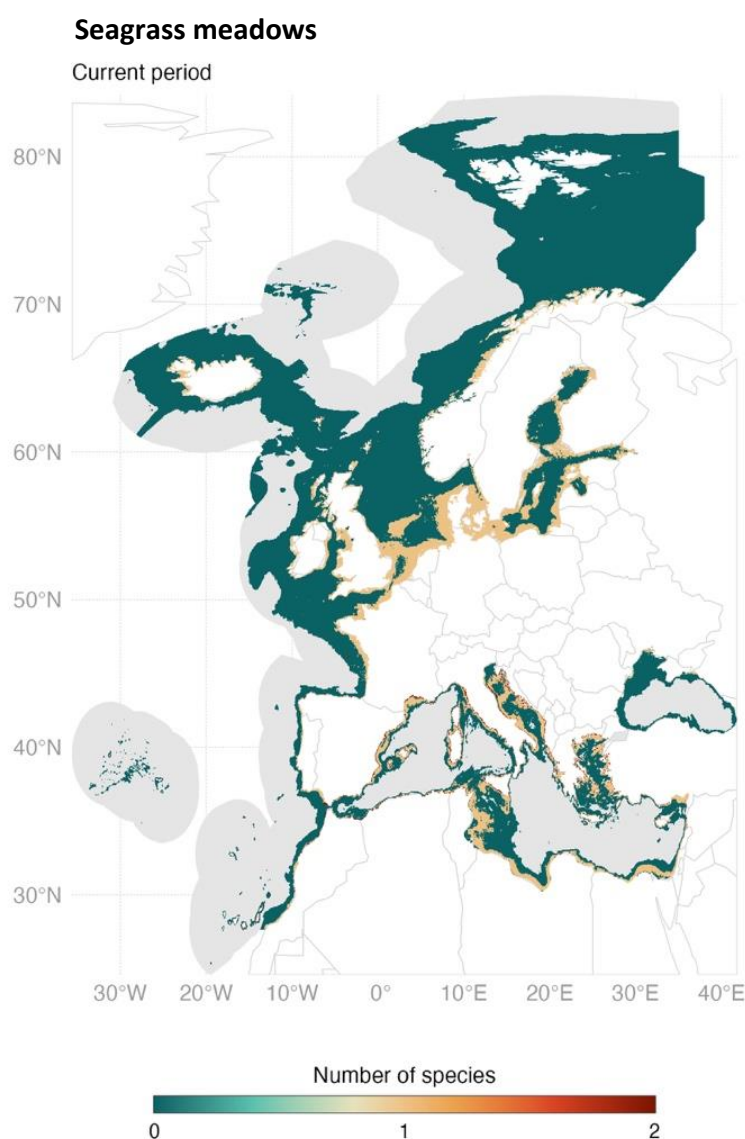


**Figure 8.** Infographic on methodology framework used to produce species distribution maps.

### 3. Potential geographic distributions of important biogenic habitats in European seas

Habitat-forming species significantly alter their environment by enhancing its structural complexity, thereby creating resources that support a richer diversity and abundance of species. We used Stacked Species Distribution Models to forecast the distribution of biogenic

habitats across European seas, considering nine distinct groups of habitat-forming organisms (e.g., Figure 9). These groups include habitat forming algae; cold-water coral reefs; mollusc reefs (composed of Bivalvia species); polychaete reefs (Sabellaridae); seagrass meadows; and maerl beds. Our methodology may be found [here](#). We continue to refine our modelling framework, and we invite all stakeholders with relevant expertise to provide feedback via the routes described above.



**Figure 9.** Example of seagrass species distribution map. Source: MPA Europe



#### 4. Sedimentary blue carbon database and maps

Marine sediments are one of the major organic carbon (OC) reservoirs on the planet and the efficiency of these sinks are important in regulating earth's climate. The protection of carbon sinks requires data on their location and size as well as knowledge on drivers. Blue carbon research has mainly focused on the management of vegetated coastal habitats to protect and increase their capacity to capture carbon dioxide and retain OC while also supporting biodiversity and other key ecological functions in marine ecosystems. The blue carbon concept is expanding, and marine sediments are categorised as “emerging blue carbon ecosystems” where human action to prevent disturbance may help to increase these sinks. In addition to further studies on how protection may affect marine sediment OC levels, there is a need for a robust understanding of the factors controlling these. However, despite decades of research into the factors controlling OC storage, relatively few larger scale studies have attempted to link OC levels across diverse seafloor habitats with variables regulating these standing stocks.

In April 2023 we invited the scientific community to contribute data to establish a Euro-Carbon database of Total Organic Carbon (TOC) stocks in marine sediments, i.e., blue carbon. Researchers were encouraged to submit both previously

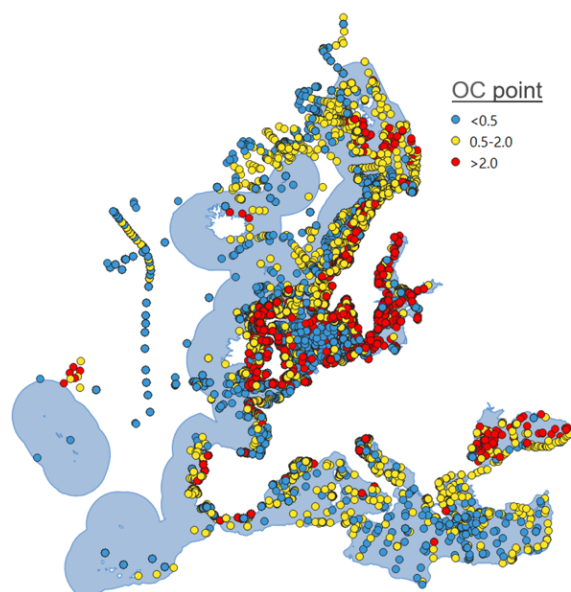
published and unpublished data. For this purpose, we created a template that all contributors used. Key information on sampling sites, methods and analytical techniques were provided along with the data. The current version of the Euro-Carbon database contains the data received from contributors, data from existing databases and scientific literature. To date we have compiled around 61,000 entries (updated on 31st December 2024) and it is available [here](#).

Our results show that the main environmental predictors of sediment OC levels at European level were wave exposure (which also drives patterns of biodiversity), maximum temperature, distance from shore and water depth, with highest OC content in sheltered, cool, shallow near-shore locations. The highest OC contents were generally found in muddy sediments, saltmarshes, seagrass meadows (in particular meadows of *Posidonia oceanica*) and in fine mud and coarse and mixed sediment substrata. These findings laid the foundation for development of an organic carbon scoring system and related organic carbon maps. The organic carbon maps, together with the biodiversity maps for species and biogenic habitat distributions, serve as a basis for proposing a network of MPAs and Other Effective Conservation Measures (OECMs) that maximises protection of marine biodiversity and carbon stocks across European seas as part of a systematic conservation planning approach and science-based, climate-smart MSP.





## BLUE CARBON DATA



**61,000** sample data points  
(update December 2024)

Spatial coverage of **organic carbon content (%OC)** in marine sediment (for **biogenic & non-biogenic habitats** (EUNIS definition) at European scale (and beyond)

© Graversen et al (2023) - MPA Europe (updated version)

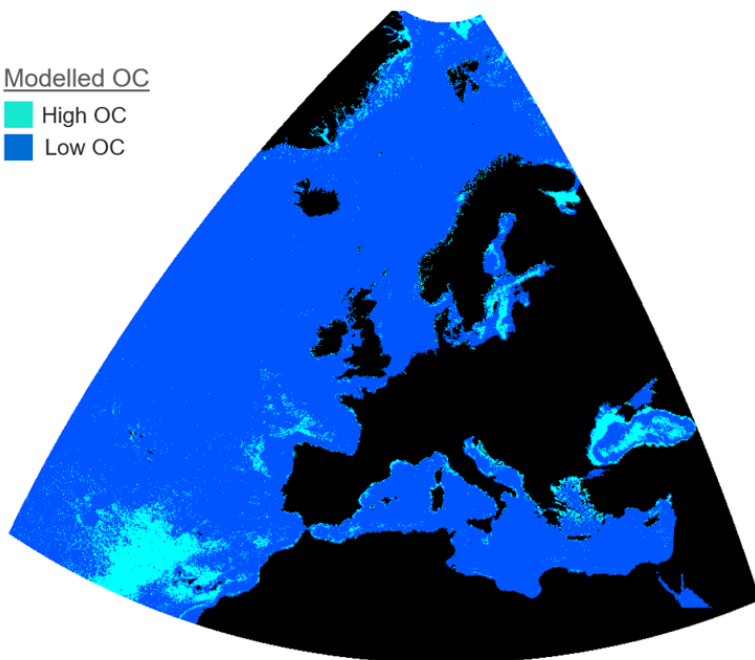
**Figure 10.** Infographic on the MPA Europe organic carbon data. Overview of the data received from collaborators and gathered from literature and databases review. Source: MPA Europe



## ORGANIC CARBON INDEX

Modelled OC

High OC  
Low OC



Modelled  
organic carbon  
in the  
MPA Europe organic  
carbon database

More organic carbon  
(**light blue**) in wave  
sheltered, cold and  
anoxic sediments

© Addamo et al (2024) - MPA Europe

**Figure 11.** Map showing the spatial distribution of sediment organic carbon concentration modelled across European seas. More organic carbon (**light blue**) in wave sheltered, cold and anoxic sediments. Source: MPA Europe



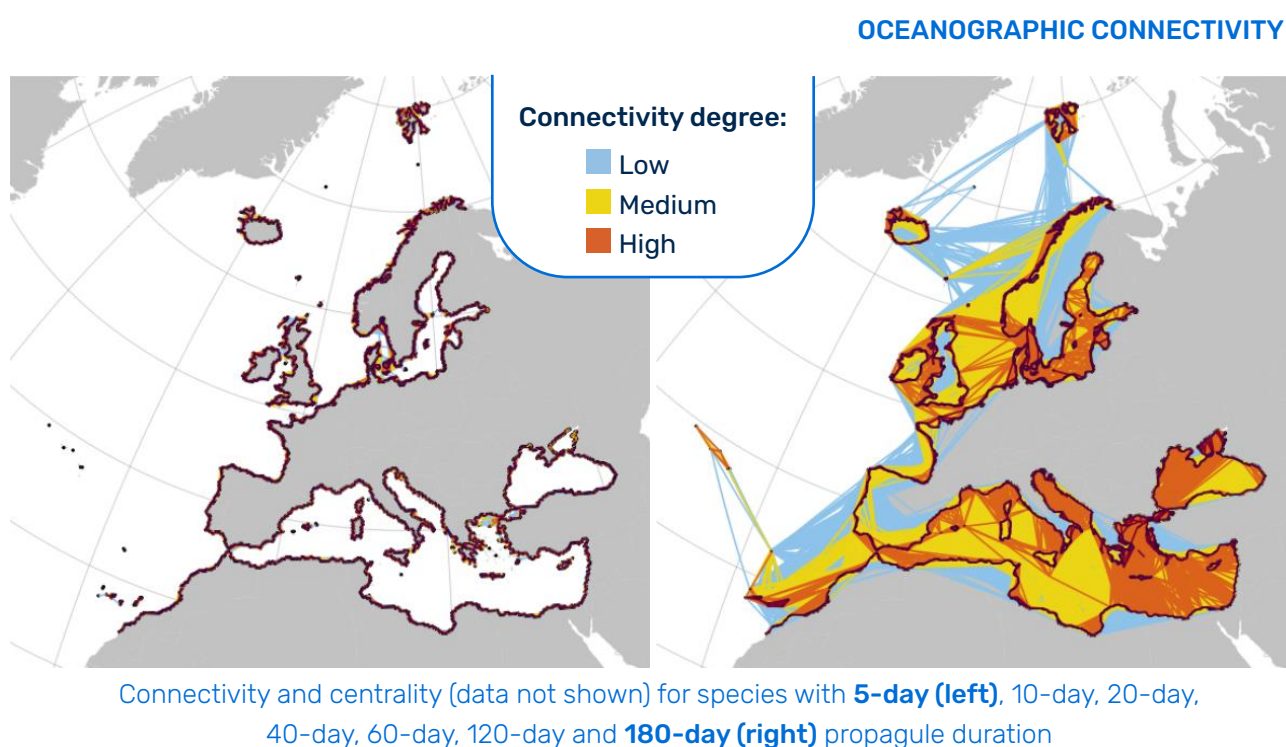
During our presentation, stakeholders noted that sedimentary OC concentrations may have different drivers when considered at a sea basin scale, rather than a pan-European scale. For example, in the Baltic and Black Seas wave exposure may be less of a key driver and other factors such as riverine carbon inputs and low oxygen levels may be relatively more important.

## 5. Connectivity and climate velocity

We have mapped oceanographic connectivity centrality for different species and propagule

durations. When overlaid with maps of existing and potential future MPAs, this helps us understand which MPAs within the network are highly connected and which are more isolated, and hence where new MPAs can improve connectivity for species.

We have also developed a map showing the velocity of projected climate change for sea surface temperature across European seas.



**Figure 12.** MPA Europe map showing the degree of oceanographic connectivity across the study area.  
 Source: MPA Europe

# STAKEHOLDER DISCUSSION

After describing the activities we have undertaken on stakeholder engagement for the MPA Europe project, we asked stakeholders to consider the following questions for the discussion:

- How would you like to see the results of MPA Europe used for MSP, whether at national, transboundary, or regional level?
- How would you like to see our results used for strengthening existing marine protected areas?
- How would you like to see the results used for extending the network of marine protected areas in the region?
- Do you have ideas for case studies that could be useful, based on our results?

The regional context for these questions was brought to life through short presentations

from four guest speakers from the region, each describing particular challenges and opportunities relating to marine protected areas in marine spatial planning.

Their presentations are briefly summarised below, together with their responses to questions from stakeholders.

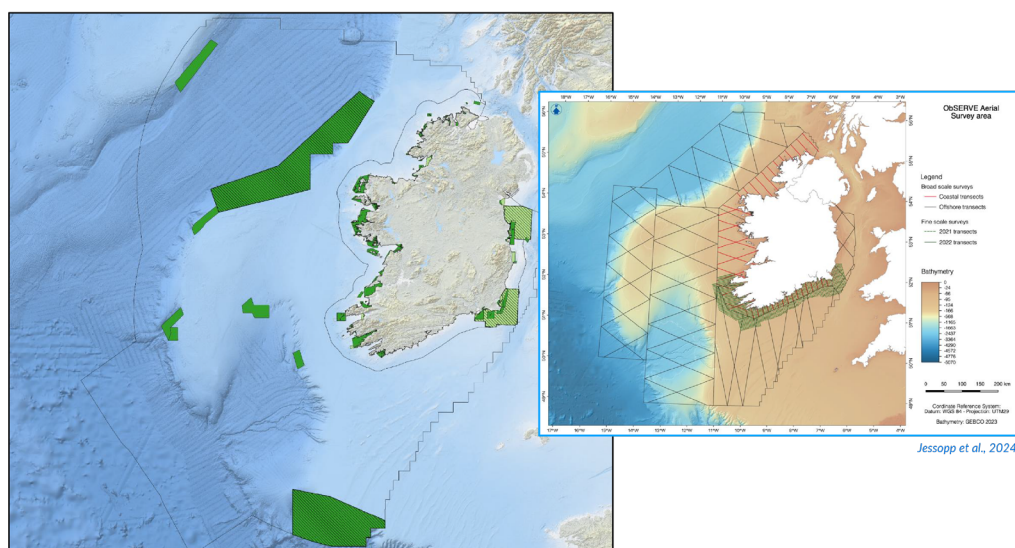
## 1. MPA's in Ireland: science, suitability, and space use

Oliver Ó Cadhla from Ireland's Department of Housing, Local Government and Heritage discussed "MPAs in Ireland: science, suitability and space use," and the new LIFE programme underway to support new MPAs to be introduced in Ireland.

## Where are we?

Currently: ~10% of Irish waters under area-based protection (EU Birds and Habitats Directives)

Global & regional responsibilities (incl. UN CBD, OSPAR)



**Figure 13.** Slide presented showing current and candidate MPAs in Ireland and survey transects for seabirds, mammals and sharks, data from which is used to inform potential designations.



Oliver described how a science-driven process is being used to consider new candidate MPAs. An Advisory Group established in 2019 has produced studies on governance systems; socio-economic

systems including consideration of cultural ecosystem services; and ecological systems; together with the following working definition of MPAs:

**“A geographically defined area of marine character or influence which is protected through legal means for the purpose of conservation of specific species, habitats or ecosystems and their associated ecosystem services and cultural values, and managed with the intention of achieving stated objectives over the long term.”**

MPA Advisory Group (Crowe et al.), 2020

**Figure 14.** Slide presented showing Ireland’s working definition of MPAs for legislative purposes.



A lack of MPA designations has been a stumbling block for planning Ireland’s offshore renewable energy, leading to a shift towards biological and spatial planning. So far, the process has considered non-birds and non-habitats features only, such as the OSPAR list of threatened species and habitats; key ecosystem services such as productive frontal systems; and spawning and nursery areas for commercial fish species. Marxan, Zonation and PrioritizR have

been used to generate scenarios to deliver suitable areas for MPAs, offshore renewable energy and commercial fisheries. A new 9-year LIFE project [MPA-LIFE-IRELAND](#) is getting underway to enable Ireland to get to 30x30 (30% protection of its ocean area by 2030). A lot of effort is going into stakeholder engagement, with participation and stewardship viewed as fundamental to the long-term success of MPAs.

| Questions from Stakeholders                                                                                                                                                        | Speaker's Responses                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| How did you use Marxan, Zonation and PrioritizR – for different scenarios or were you using different features of the software for different tasks?                                | <p>We used Zonation to look at where 40 or so features were distributed within the study locations, including to understand data gaps and species distribution gaps.</p> <p>We used PrioritizR for adding in socio-economic activities to the species layers, with a focus on shipping, fishing and offshore renewable energy. When we get into the process further, we will include more activities. These layers were all incorporated separately.</p> |
| Have you factored in how attaining the 30x30 goal could support delivery of the Marine Strategy Framework Directive (MSFD) goals, e.g. seabed integrity values?                    | MSFD is fundamental; our third marine strategy identifies features that are not in GES. We see the MPA process needs to include the commercial fish discussion, and it will help us get to GES for a quite wide range of biodiversity features.                                                                                                                                                                                                          |
| In the prioritisation process, you mentioned you avoided offshore wind areas. Did you also avoid important fishing grounds?                                                        | In PrioritizR model runs we tried to avoid both, since both are very important sectors in Ireland. We wanted to explore if, taking account of the existing consented regime for offshore wind for the Irish sea, there would still be space for protecting 20 or 30% of the distribution of features to be protected. There was very little overlap for the Irish Sea, but it is more difficult in the Celtic Sea.                                       |
| Did you put values on the human uses and biodiversity in the maps?                                                                                                                 | Yes, for example, we included weightings for species' conservation status. All models are available in published reports.                                                                                                                                                                                                                                                                                                                                |
| Is the new MPA legislation in Ireland being adjusted for the new Nature Restoration Regulation (NRR), including reflecting the distinction between active and passive restoration? | <p>It is not formally incorporated. In the modelling exercise we included in our features list all broad scale habitat types and a proportion of those will need to be restored. We see MPAs helping to deliver on that.</p> <p>As the NRR implementation plan for 2026 is developed we will need to ensure MPAs support delivery of both 30x30 and the NRR targets.</p>                                                                                 |
| Have you considered the cumulative effects of human activities on the designation process within marine spatial planning?                                                          | Before 2022 we had a standalone MPA process; the advent of the European Green Deal and offshore renewable energy targets expedited progress on marine planning. We have more work to do on cumulative impacts and also on building in socio-economic aspects, to weigh activities against each other.                                                                                                                                                    |

## Questions from Stakeholders

How did it go with engaging fisheries at the table in the process of designating sites?

Do you see scope for the science from MPA Europe and other EU supported projects (e.g., [FutureMARES](#)’ work with FAIR SEAS on adapting the Irish MPA network for climate resilience) contributing to your work?

Under Ireland’s presidency of the Atlantic Action Plan, do you see a way to discuss your approach on a regional scale?

Earlier today the Atlantic Steering Committee discussed creating a regional Community of Practice (CoP) on MSP, which could mirror the recently established [Mediterranean MSP CoP](#). The Med MSP CoP experts are working together to analyse projects and see how their recommendations can be integrated in the policy and practices of respective Member States.

We heard today that MPAs should consider fisheries, not just the Habitats and Birds Directives’ species. We also heard that designating MPAs shouldn’t only be done nationally.

After hearing about MPA Europe’s work to support science-based MSP and science-based designation of MPAs, what are your recommendations for the MSP processes nationally or regionally, and for the MPA processes?

## Speaker’s Responses

We only have suitable MPA areas so far, not designations. We have invited a wide range of fisheries organisations and fora to engage. The process of listening, taking views on board and adapting how we’ve approached things has certainly moved us into good spaces at times. A key aspect of the LIFE package is to maintain stakeholder dialogue as a constant, throughout the process. The biggest issue is the Common Fisheries Policy (CFP) part; we have at least 8 nations fishing in Irish waters and the only way to get designations beyond 12 nautical miles and further into our EEZ is to engage further afield, which is more challenging.

We need to move ourselves further into the regional space when it comes to sites we already have which contribute to the OSPAR network.

For us a regional approach is central to delivering on MSFD for a great many features and descriptors; for example, animals in Irish waters with high toxic burdens are coming from Norway or the North Sea.

First, we will do the MPA process nationally, but we could then move it into the OSPAR space, to contribute to the wider North-east Atlantic network.

In the Marine Environment section of our Department, our view is that nature is the area in which the activities happen, so it’s not about looking for an area for nature protection. It’s about acknowledging that nature is the area, and that the environment isn’t a sector like fishing or shipping.

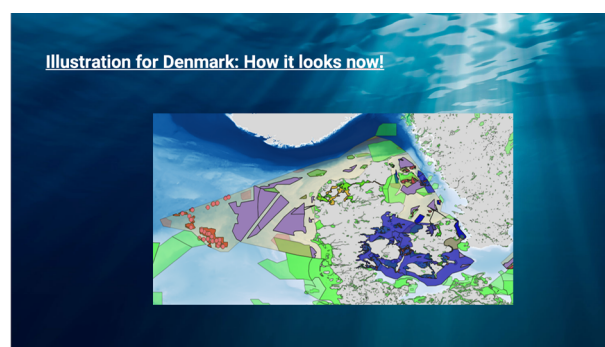
I think on the policy side, the availability of the project’s outputs, the transparency of the underlying data, and the underlying mechanisms behind those are very important. There is huge value to be gained from the work that this project is doing, for our own national process, for example, or in the OSPAR processes too.

Communicating and packaging the results of the project is also important. You could have delegates from a country involved in the OSPAR MPA group that would like to download the data sets and shapefiles and understand them. I think that’s very important going forward so that we can really use the outputs from the work.

## 2. The view of fishers on MSP – a way to reduce spatial squeeze?

Kenn Skau Fischer, Executive Committee Chair of the North Sea Advisory Council and CEO for the Danish Fishers Producers Organisation,

highlighted the spatial squeeze confronting fishers and the need for meaningful engagement with fisheries organisations in MSP and MPA processes.



**Figure 15.** Slides presented showing areas for fishing in Denmark 100 years ago (left) and today (right)

Kenn described how growing competition for the use of the sea over many years has manifested in more, larger shipping vessels and associated maritime corridors; small villages being transported around the sea on cruise ships; leisure activities all around the coast; more military activities; potential offshore satellite launches and increased offshore energy and aquaculture installations. Marine protection is part of the competition for use of the sea; because it reduces the area that can be used for all the other activities.

Fishing is less and less like it used to be, and fishers are very anxious about this spatial squeeze. Previously if fish stocks moved in response to weather or ocean conditions, fishers could follow the fish, but now options to follow them are becoming limited due to restrictions from competing uses. As a result, fishers have less optimal fishing, with higher costs and a higher negative footprint on the marine environment,

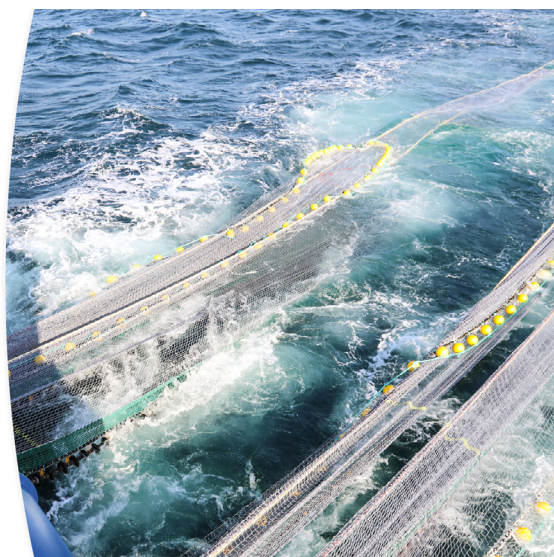
and lower food production for the effort involved. Coastal fishers are diminishing in numbers as a consequence, and vessels are becoming larger to fish further offshore.

Fishers appreciate the concept of marine special planning because there is a transparent process, and clear rules are set up. Whilst planning discussions focus on areas to devote for wind farms and military activities, in many countries including Denmark there is no discussion of areas reserved for fishing. Instead, fishers have to follow the planning process to understand where constraints will apply. The process in Ireland is considered better than that in Denmark, where the Danish Sea Act sets aside huge areas for offshore wind and specifies increased marine protection, and what will likely result is a reduction of the number of fishing vessels and crews.



## Recommendations

- ❑ MPAs must have a sound scientific reason (not just “bashing” fisheries)
- ❑ A holistics approach to MPAs (Does nature know)
- ❑ Accept all human activities have an impact on the marine environment – MPAs does not solve everything
- ❑ Monitoring essential
- ❑ Reduce one activity does not necessarily compensate for other economic activities (fishing versus wind parks)
- ❑ Cross-border cooperation on setting up MPAs



**Figure 16.** Slide presented showing recommendations for marine protected areas (MPAs)

Kenn's recommendations for MPAs included providing a sound scientific background to justify new MPAs, in order to gain buy-in from fishers; and taking a holistic view of the differing impacts of diverse pressures from human activities on land and at sea, beyond fishing alone.

Monitoring of the before-and-after impacts of an MPA are essential, to maintain the trust of fishers, since some MPAs have been shown as beneficial but others have not. Finally, does it make sense for all EU Member States to set up MPAs to fulfil the 10% and 30% Biodiversity Strategy targets? MPAs should be set up where they really make sense.



| Questions and remarks from Stakeholders                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Speaker's Responses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Would you agree that, as well as monitoring the effects of MPAs, it's also important to monitor the activities going on, including getting access to VMS data, which is one of the more problematic data sets to get hold of?                                                                                                                                                                                                                                                                                                                                                               | <p>A fishing vessel has to send a signal to the control agencies on their whereabouts, through AIS or VMS, and with the recent change of the control regulation in the CFP, this applies to all fishing vessels. Gaining public access to this data is quite easy.</p> <p>In some areas such as the Kattegat vessels get a ping if they are getting too close to an area where fishing is restricted.</p>                                                                                                                                        |
| Commercial fisheries are not part of the MPA designation process for OSPAR; I would welcome consideration of commercially exploited fish as the MPA networks are expanded, for the benefit of nature and the communities dependent on the fish stocks.                                                                                                                                                                                                                                                                                                                                      | I fully agree. I think it is essential that we move in that direction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| If an area was selected as a marine reserve because it was important for a particular fish population, would you expect that fish population to increase because it is no longer being fished?                                                                                                                                                                                                                                                                                                                                                                                              | <p>No, not necessarily; nature is dynamic. For example some years ago there was an idea to protect some spawning areas for herring along the coast of Jutland in the North Sea, but that spawning has changed.</p> <p>Climate change is causing heavier rainfall in countries around the North Sea and that has an influence on the outflows into the sea. This can influence recruitment in any one year and might influence where fish move to. So fish do not necessarily respect a particular area.</p>                                      |
| <p>In Norway there are more than 60 reserves for lobsters, not because the fishing industry wants them, but because local communities want them. These have a spillover effect.</p> <p>If the fishing industry knew particular stocks would increase if they had a protected area, why don't they propose protected areas to protect their fishery?</p> <p>This could be zoned so you have a no take area in the centre. This would then exclude all these other activities from interfering with the fishing industry. They could be partners in MPA development instead of objectors.</p> | <p>I'm aware of small projects that work for limited numbers of fishers, but in general I am not aware of an MPA that has had an influence on the volume of the stock in an area.</p> <p>If you look at cod, plaice, haddock, herring, some of the commercially valuable stocks in the North Sea, I find it difficult to find an example.</p> <p>It may work for lobsters, and certainly you can find discussions on how to do things much better, also at fishermen's level, but they are not the major economic drivers for the fisheries.</p> |

## Questions and remarks from Stakeholders

You mentioned fragmentation of responsibilities between European Union Member States. Some of it is needed and good.

But the CFP is an example where we have a working model with shared responsibilities on EU level, because fish move from one country to another, and we are able to manage fish stocks. This is supported by a scientific network underlying the CFP, where ICES provide scientific advice to member states.

Perhaps we need something similar for MPAs and implementation of the Nature Restoration Regulation?

Given the growing competition for sea space, how should we decide who to grant access to space at sea? Should it be based on a cost-benefit analysis looking at the economic value of the activity versus the environmental footprint, or should it be based on historical rights?

A correction – we do monitor the reefs in the North Sea; the boulders are still there but the biology is suffering in some places where there is fishing on the reef.

For many years an obstacle for having fishery management in MPAs was that there was no mapping, but there has been a mapping of the reef sites in Natura 2000 sites for 8-10 years, yet nothing has happened regarding fishery management. Why does it take so long?

## Speaker's Responses

The CFP is implemented through legally binding regulation directly from Brussels, not through national legislation, whereas the Birds and Habitats Directives are implemented at national level and though cooperation between Member States.

I think something in between, and you need genuine interaction with fishers in this respect. For historical reasons you need to take into account local communities depending on fisheries.

A cost benefit analysis alone could favour a couple of harbours for cruise vessels and enormous wind farms in the North Sea. But the local communities around the coastline may not see any gain from these wind farms; we have not yet seen any providing benefits for local communities. There is a need to take different things into account and from a democratic point of view, it is difficult to balance these different interests. Establishing some transparent rules is important.

Managing transitions for coastal communities is also not easy as new sectors require specialised skills.

I think you are referring to stone reefs; I was referring to bubble reefs, which fishers avoid to protect their gear.

In the 70s and 80s environmental concerns were focused on dumping of toxic materials, and fishers protested alongside Greenpeace. Today's fishers are less aggressive and more inclined to discuss how to protect reefs. Here however the bureaucratic processes required under the CFP can be draining and mitigate against action.

| Questions and remarks from Stakeholders                                                                                                                                                                                                                                                                                                                                                                          | Speaker's Responses                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>From a practical point of view, to what extent is there a burden on fishers to be part of the engagement process? In Denmark, or elsewhere in the North Sea, are fishers supported to engage?</p> <p>Do they get compensation for days missed fishing so that they can engage in the MPA process?</p>                                                                                                         | <p>I think in most countries this comes out of their own pocket.</p> <p>Most of the fishers' organisations receive some funding for their political activities through the EMFAF (European Maritime Fisheries and Aquaculture Fund) and so on.</p>                                                                                                            |
| <p>Are the Fisheries Local Action Groups (FLAGs) active in Denmark or the North Sea generally, to provide more of the local perspective?</p>                                                                                                                                                                                                                                                                     | <p>I think we may have closed the FLAGs at the end of last year, because the bureaucracy involved was too much, maybe due to how they were developed. I think they may be used to some degree in the Netherlands and Germany.</p>                                                                                                                             |
| <p>We heard today that MPAs should consider fisheries, not just the Habitats and Birds Directives' species. We also heard that designating MPAs shouldn't only be done nationally.</p> <p>After hearing about MPA Europe's work to support science-based MSP and science-based designation of MPAs, what are your recommendations for the MSP processes nationally or regionally, and for the MPA processes?</p> | <p>I'm a big fan of MSP; it makes sense to a very high degree when we look at how we use the sea.</p> <p>We have different ambitions about what we want to achieve with an MPA, and we have different definitions of MPA. So, we need to agree what we expect to get from setting up an MPA. This is essential to take forward in any discussions on MSP.</p> |

### 3. Reflections on MPA Network Designations and MPA Management

Thomas Kirk Sørensen of WWF Denmark described the illusory nature of marine protection in Denmark and highlighted the need for MSP processes and maritime activities to respect the carrying capacity of marine ecosystems, and to give MPAs a chance.

He noted that no Member States have attained Good Environmental Status and yet we're still inventing new ways to use the ocean; in Denmark this includes a first application for carbon capture and storage, huge zones for marine aggregate extraction and ideas for energy islands. WWF Denmark would like to discuss the levels of bottom fishing across broad scale habitat types, some of which have 50-60% of their distribution

(and 97% for soft, muddy sediment in the Kattegat) fished. But the conversation is always deflected to which areas are unfished.

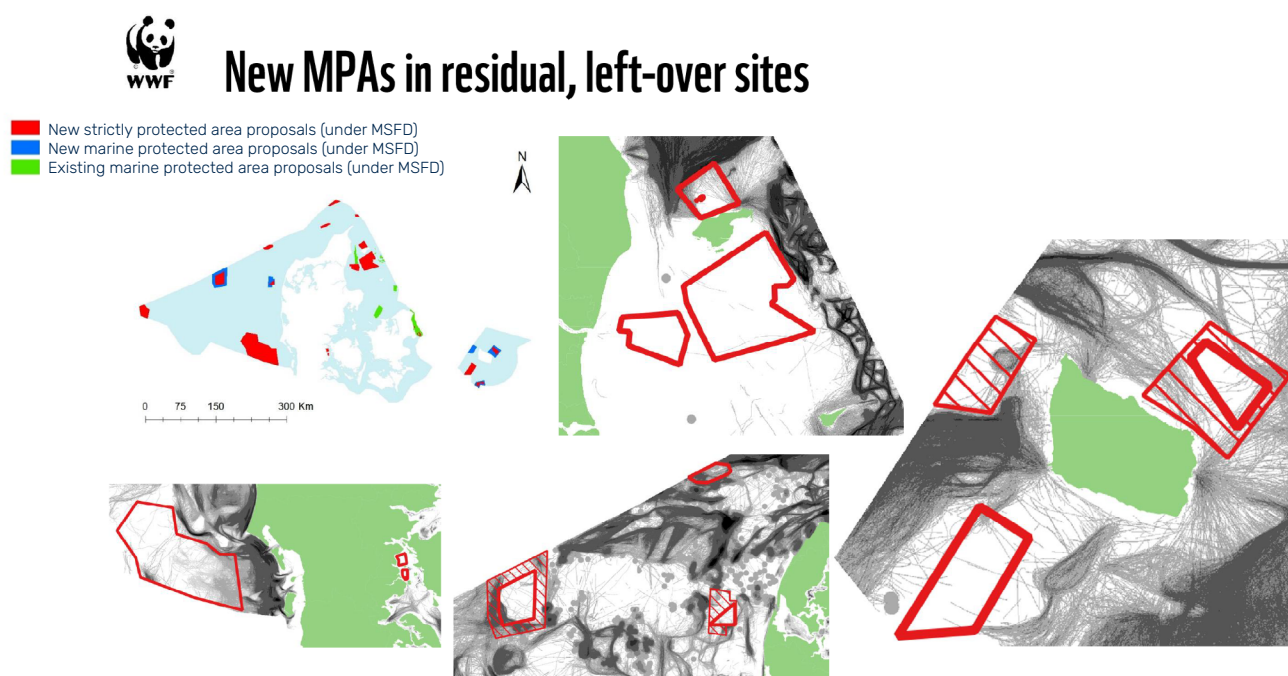
Examples were presented of MPAs that, it was claimed, did not work, but actually were poorly designed. These included the plaice box established in the late 1980s in response to beam trawling in coastal waters and the disappearance of juvenile flatfish. A ban on fishing vessels over a certain length or engine capacity in the area led to an explosion of smaller vessels fishing in the area. No systematic evaluations were done. Some spawning areas of cod in the Baltic Sea were closed off, but not enough of the spawning area to make a difference. Conversely, a shipping safety area around Øresund which was not an MPA and had displaced trawling led to significant cod recovery, at a time when cod stocks were



collapsing to the south and to the north. Small scale commercial gill netting and an unregulated recreational fishery sprang up and these led to the collapse of this cod stock over the past 20 years.

Natura 2000 sites have existed in some cases since the 1990s and it has been a very long trek towards any progress on management. While some specific zones around mapped features that are listed in the annex of the Habitats Directive have been protected with a buffer zone, a large proportion of the area within these sites, around 80%, is still open to bottom trawling. Scientifically

this cannot be expected to deliver very much improvement for the overall quality of the site, except for the sessile species that live on the formally protected feature. And many of these huge areas are only protected for birds or harbour porpoises. So although Denmark has apparently achieved 30x30 in its marine space, this is an illusion, and the Biodiversity Council in Denmark has estimated that only 1.9% of the sea is actually effectively protected.



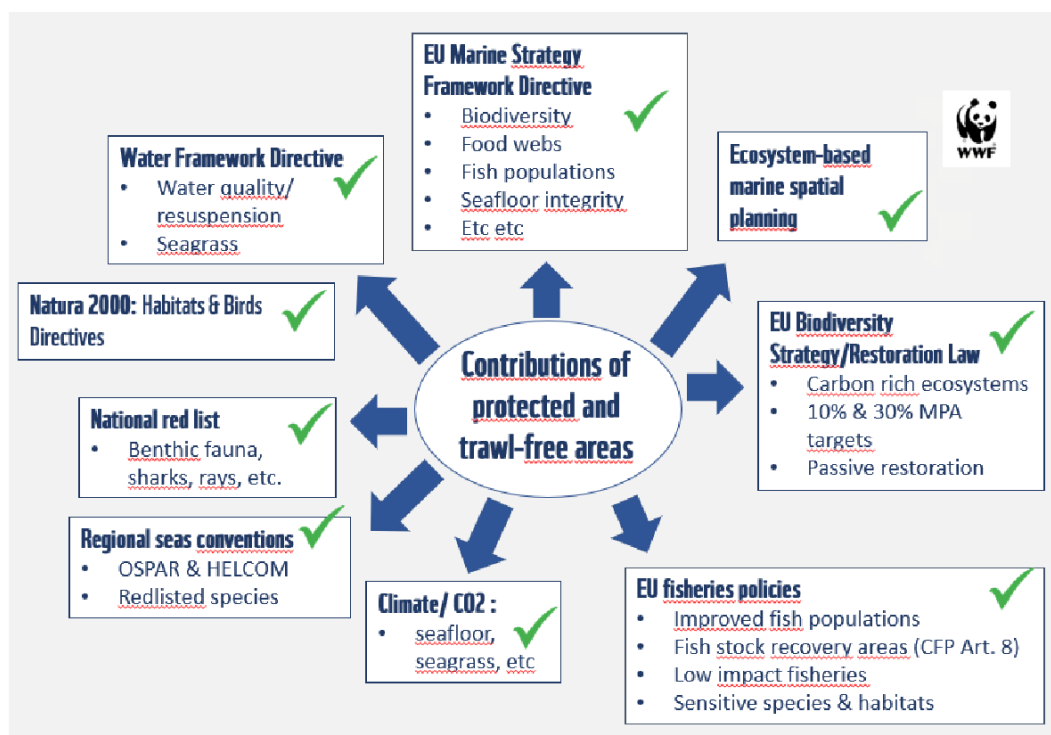
**Figure 17.** Slide presented showing areas where new marine protected areas (MPAs) were planned in Denmark, in areas left over after earmarking of areas for blue economy sectors.

In Denmark's planning process 30% of the sea was set aside for renewable energy before finding 30% of the sea for marine protection, so new MPAs were designated in residual sites. These places have the lowest cost and are not necessarily the areas that have the highest potential to recover or are home to the highest biodiversity. These areas are also largely protecting themselves because there is no fishing activity.

If this had been done in the right way and not in the way described, Denmark could have delivered on every relevant major policy area and achieved its conservation goals, be that for fish stocks or sea floor protection or biodiversity. But MPAs aren't working because Denmark hasn't really been trying.



## MPA's = policy multi-tools



**Figure 18.** Slide presented showing how marine protected areas (MPAs) can deliver multiple EU policy targets and regional and international conservation goals.

### Questions and remarks from Stakeholders

We heard today that MPAs should consider fisheries, not just the Habitats and Birds Directives' species. We also heard that designating MPAs shouldn't only be done nationally.

After hearing about MPA Europe's work to support science-based MSP and science-based designation of MPAs, what are your recommendations for the MSP processes nationally or regionally, and for the MPA processes?

### Speaker's Responses

I think Denmark has learned a lot from this first generation of spatial plans. I think they realized that planning is necessary, that science is expensive but necessary.

I think the main message is to acknowledge the science that the carrying capacity of marine ecosystems has a ceiling, as to how many wind farms you can put in the water, how much noise you can add to the noisy ocean. So protect the ocean and take good care of it and you can probably develop further and better.



#### 4. Offshore wind farms and MPAs: A wind farm developer and operator's perspective

Emma Hospes, Head of Environment, Permitting & Defence Co-Existence at Ørsted, shared the company's approach to its ambitious biodiversity net gain commitment for 2030, whilst highlighting the complexities for offshore wind operators in navigating diverse planning and policy regimes across Member States.

Ørsted is the world leader in offshore wind, developing, constructing and operating many

offshore wind farms internationally, but with a strong focus on the North Sea. The company has a big focus on biodiversity, people and decarbonisation and in 2021 it decided that projects commissioned from 2030 onwards will have a net positive impact on biodiversity, for many reasons but particularly recognising the large spatial demands of offshore wind and consequent ecological squeeze. Working with communities and the fisheries they depend on and working with nature in a more holistic way is also considered important going forward.

### Why is biodiversity important to Ørsted?

- The world needs to accelerate the transition to green energy
- Scaling up renewable energy at the pace required will have increased local environmental impacts
- We must continue to find ways to build in balance with nature
- As Ørsted accelerates the build-out of green energy, we will work with a greater number and more diverse set of ecosystems

6



Ørsted

**Figure 19.** Slide presented showing Ørsted's views on biodiversity.

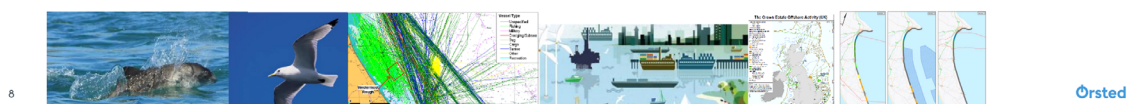
A multi-disciplinary programme was established to build the evidence base and tools, including to measure biodiversity, working collaboratively with many other organisations. Ørsted's policy is to avoid pristine protected areas, vulnerable ecosystems, and key biodiversity areas, where

that is within the gift of the company as developer. Different countries internationally apply different rules on how and where offshore wind is developed.

## Marine Protected Areas and offshore wind farms

-  Ørsted seeks to avoid pristine habitats, vulnerable ecosystems, and Key Biodiversity Areas, where this is within our decision as a developer.
-  Co-location of wind farms with other activities and designations needs to be considered more, given the ambitions states have and the renewable energy the world needs.
-  Effective Marine Spatial Planning is key as a tool towards this, alongside complementary site leasing and permitting regimes for offshore wind.
-  Regulatory regime surrounding wind farm activities is also important – eg how other activities that may be located in/around wind farms are regulated.

**Co-location of offshore wind and MPAs is possible**, depending on the habitat/features of the MPA, species/habitats, and **ecological connectivity is key**.



**Figure 20.** Slide presented showing Ørsted's policy on marine protected areas (MPAs) and wind farms.

Whilst marine spatial planning is important, particularly for considering multi-use and how activities can overlap where needed, the supporting regulatory regimes are also incredibly important. A marine spatial plan may be ineffective if it is not underpinned by the relevant legislation to support permitting for offshore wind, oil and gas, fisheries, and transport routes.

Co-location of MPAs and wind farms is possible; with examples cropping up in the UK and Belgium but needs to respect the features of MPAs and ecological connectivity. Wind farms have well

documented impacts on bird species, which is rarely because the wind farm is overlapping with a Special Protected Area (SPA, under the Birds and Habitats Directive) but more often because the wind farm lies between birds' foraging sites and a SPA further away, for example. There is more potential for the co-location of offshore wind farms with MPAs if the farms' impacts are not affecting the species and habitats for which those MPAs have been designated. A further consideration is that ongoing operational activities within windfarms may also overlap with MPAs.



## Questions and remarks from Stakeholders

Do you share the information and data that you're gathering with other stakeholders? Do you need other stakeholders to provide information for your activities and how can this be shared with other stakeholders?

You have seen what MPA Europe is doing and is about to deliver. Is the private sector doing a similar exercise, to identify where they can develop their farms in the future, based on any scenarios or other restrictions that may come?

What fishing will be allowed within the wind farm area, because sometimes you hear that no fishing will be allowed, for fear of anchor-dropping or damage to cables?

We heard today that MPAs should consider fisheries, not just the Habitats and Birds Directives' species. We also heard that designating MPAs shouldn't only be done nationally.  
After hearing about MPA Europe's work to support science-based MSP and science-based designation of MPAs, what are your recommendations for the MSP processes nationally or regionally, and for the MPA processes?

## Speaker's Responses

We're really reliant on environmental data and the latest scientific evidence to inform our impact assessments, our planning and similar. We also collect a lot of data ourselves.

Once we've got our permit, we built the wind farm and often have many years of monitoring. The vast majority, if not all, of that environmental data is provided to the local legislative authority, and then it is usually publicly available. But I think there is also a bit of work to do to make sure that it is available to databases like EMODnet.

We are heavily dependent on the relevant energy policy and right kind of facilitative framework (regarding leasing, permitting, grid connections, etc) in any country that might support us developing offshore wind. So, we probably wouldn't do that kind of modelling on a bigger scale necessarily. We do have trade associations that are continually advocating on our behalf.

It varies by country. In Germany until relatively recently, transiting through or fishing in operating wind farms was not allowed. In the UK wind farms only have ongoing rights to the space underneath the turbines and the cables, so any fishing is allowed. Then it's up to the fisher and their risk assessment as to whether they would like to enter. Other countries impose, for example, cable protection zones or exclusion zones for certain activities.

Generally speaking, in almost every country, fishing would be excluded during construction because it's dangerous. But during operation, there is a vast variety of approaches. For countries newer to offshore wind, the approach taken is more like that of the UK.

The project is doing fantastic science; but in private industry we operate within the realms of legislation and that's the boundary for our investors.

So how can you use the great outputs to inform policy and the regulations around MSP and MPAs, and what does that mean for an industry?

## NEXT STEPS

We would like to thank the European Environment Agency for supporting a joint approach to convening stakeholders, and to all guest speakers and stakeholders who were able to join us, for sharing their views and feedback. We invite stakeholders to contact us with any further suggestions for improving the usability of our information, or to discuss possible case studies.

MPA Europe has now completed its regional Stakeholder Workshop series and our previous Stakeholder Workshop reports for the Baltic

Sea, Black Sea and Mediterranean Sea are available [here](#). The outcomes of all these regional discussions will inform our Policy Brief in December 2025.

MPA Europe is also hosting an International Conference on Marine Protected Areas in Marine Spatial Planning (MPAinMSP) in July 2025 in Bodo, Norway. We encourage all stakeholders to join us for the discussions and register [here](#).

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## APPENDIX - Workshop Participants

| Organisation                                                   | Sector represented                | Country of organisation | Attending   |
|----------------------------------------------------------------|-----------------------------------|-------------------------|-------------|
| Aarhus University                                              | Scientific and research institute | Denmark                 | In presence |
| Aarhus University                                              | Scientific and research institute | Denmark                 | In presence |
| Aarhus University                                              | Scientific and research institute | Denmark                 | In presence |
| Aarhus University                                              | Scientific and research institute | Denmark                 | In presence |
| BirdLife Europe & Central Asia                                 | NGO                               | Belgium                 | Online      |
| Centre for Blue Governance, Aalborg University                 | Scientific and research institute | Denmark                 | In presence |
| Centre for Blue Governance, Aalborg University                 | Scientific and research institute | Denmark                 | In presence |
| Coalition Clean Baltic                                         | NGO                               | Denmark                 | In presence |
| European Commission / Research Executive Agency                | European Commission               | Belgium                 | In presence |
| European Environment Agency                                    | EU Agency                         | Denmark                 | In presence |
| European Environment Agency                                    | EU Agency                         | Denmark                 | In presence |
| European Environment Agency                                    | EU Agency                         | Denmark                 | In presence |
| Fair Seas Ireland, Ireland                                     | NGO                               | Ireland                 | Online      |
| Federal Agency for Nature Conservation (Bfn)                   | Federal authority                 | Germany                 | Online      |
| GEOMAR Helmholtz Centre for Ocean Research Kiel                | Scientific and research institute | Germany                 | Online      |
| International Council of the Exploration of the Sea            | International organization        | Denmark                 | In presence |
| ISPRA                                                          | Scientific and research institute | Italy                   | In presence |
| ISPRA                                                          | Scientific and research institute | Italy                   | In presence |
| ISPRA                                                          | Scientific and research institute | Italy                   | In presence |
| JNCC                                                           | Scientific and research institute | United Kingdom          | In presence |
| Marine and Freshwater Research Institute                       | Scientific and research institute | Iceland                 | Online      |
| Derpartment of Housing, Local Government and Heritage, Ireland | National authority or ministry    | Ireland                 | In presence |
| Marine Institute                                               | Scientific and research institute | Ireland                 | In presence |
| MPA TORRE GUACETO (Italy)                                      | MPA                               | Italy                   | Online      |
| Netherlands Enterprise Agency                                  | National authority or ministry    | The Netherlands         | In presence |
| Newcastle University, United Kingdom                           | Scientific and research institute | United Kingdom          | In presence |
| North Sea Advisory Council                                     | Regional organisation             | The Netherlands         | In presence |
| Norwegian Institute for Water Research (NIVA)                  | Scientific and research institute | Denmark                 | In presence |
| Ocean Institute (Taenketanken Hav)                             | NGO                               | Denmark                 | In presence |

## APPENDIX - Workshop Participants

|                                                                                                                             | Sector represented                | Country of organisation | Attending   |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------|-------------|
| Ørsted, Denmark                                                                                                             | Private company                   | Denmark                 | In presence |
| Ørsted, Denmark                                                                                                             | Private company                   | Denmark                 | In presence |
| Reginal Directorate for Marine Policies – Regional Secretariat for the Sea and Fisheries (Reginal Government of the Azores) | Regional organisation             | Portugal                | Online      |
| SUBMARINER Network                                                                                                          | International organisation        | Germany                 | Online      |
| Ocean Institute (Taenketanken Hav)                                                                                          | NGO                               | Denmark                 | In presence |
| Trinity College Dublin, University of Dublin Ireland                                                                        | Scientific and research institute | Ireland                 | Online      |
| University of Groningen                                                                                                     | Scientific and research institute | The Netherlands         | Online      |
| WWF Denmark                                                                                                                 | NGO                               | Denmark                 | In presence |



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