MPA Europe –Stakeholder FAQs

29th August 2023

PROJECT SCOPE AND OUTCOMES

1) How long does the project run for?

We started in January 2023 and the project runs until April 2026, although our outputs will be mostly completed by the end of 2025.

2) I understand all the steps will contribute to maps of the best locations for MPAs. When do you expect the maps to be completed and the steps that contribute to each outcome?

The ecosystem classification is happening this year; the biodiversity modelling and Species Distribution Models (SDMs) including habitat maps are about to get underway with outputs later this year/early next year and the map of blue organic carbon (blue carbon, hereafter) stores will be available in May/June 2024. We hope a version of the atlas where you can run scenarios should be available around mid-2025. The MPA atlas is the final deliverable in 2025, because we need at least 1.5 years to process the data and we cannot start until the ecosystem classification, blue carbon and SDMs are available. We will finalise the map by the end of 2025 even though the project does not end until early 2026. This is our proposed timeline, with deliverables subject to sign-off by the European Commission (EC), but we are proceeding well.

3) Will you focus on the northern Mediterranean or the entire Mediterranean including non-EU countries? Data availability is much richer in the northern half, so sometimes areas can look richer, skewed by the data.

Scientifically our focus is the entire Mediterranean Sea and our initial stakeholder engagement is focusing on EU countries, as the recommendations will go to EU countries.

To avoid the problem of spatial bias in the systematic conservation planning, we are only using standardised complete data layers. For example, we will use species range maps, not data points where species are recorded. We will only use point data after the Zonation prioritisation analysis as a means of aiding understanding of the results or associating them with places of special interest.

4) Another project is to be initiated soon in the Black Sea region and will cover mostly Ukraine, Turkey and Georgia. To what extent are you planning to invite experts from other countries in the region?

We have initially focused on EU stakeholders for these briefings, but are open to broadening the network.

5) Will you produce some recommendations for countries, for example about where to start?

We would like to discuss with stakeholders where the best areas are. It is about having the dialogue. We know that some regional seas conventions like HELCOM and OSPAR are contemplating more regional MPAs as part of their strategies so it is good timing for this project to provide some ideas about where. We're producing data and then regional and national authorities can pull that into whatever they are already considering. We want to help catalyse what is already happening.

We are using data to classify ecosystems and model the associated velocity of climate change, based on spatial and temporal changes in temperature; and using environmental niche modelling methods to produce species shift range maps. All of these data layers together with the blue carbon data will contribute to the atlas. The outcomes (based on the scientific data mentioned above) will include a recommendation for where MPAs could be established. We know that most countries already have their Maritime Spatial Plans (MSPs) but some countries are in the process of revisiting their plans and we recognise the process is dynamic. This will come as a recommended tool for policymakers and planners; we understand there are a lot of pressures on limited space from different activities and MSP is a national process.

MPA Europe will provide a European context for all countries, so that each country can look at where it can contribute to protecting marine biodiversity in Europe. Some countries will have greater and some less opportunities depending on the distribution of species and habitats. We may also run the prioritisation analysis for not only a % of all European seas, but for a fixed % of each regional sea; a fixed % of each country's exclusive economic zone or a fixed % of each country's territorial sea, for comparison. For instance we could run prioritisations based on the following:

- Top 10% and 30% for all European Seas
- Top 10% and 30% for each regional sea (Baltic, Black, Atlantic, Mediterranean, Macaronesia)
- Top 10% and 30% for each EEZ
- Top 10% and 30% for each Territorial sea.

6) *Thinking about both the 10% and 30% protection when it comes to MPAs, and the final outcome with the atlas and maps, will you have two different levels of recommendations in terms of strictly and not strictly protected?*

The reality is biodiversity is neither evenly nor randomly distributed and it can only be protected where it is. The MPA Europe project will score every part of European seas as to their representativeness for marine biodiversity. If some high priority areas are not protected then either larger areas elsewhere will need to be protected to achieve the same conservation objective, or biodiversity is not protected.

Our analysis will identify the optimal areas for protecting the maximum of biodiversity and key blue carbon areas. This will help national and regional authorities to designate protected areas, but another key question is what protection means in practice. Protected areas are only as effective as the implementation of their management plans.

7) *I'm interested in the blue carbon scoring system, what is its purpose?*

We are in the process of establishing a new European blue carbon database and have asked collaborators across Europe to share all their blue carbon data. Blue carbon data will be added to our atlas for scenario planning, in addition to biodiversity data. The way we want to include the blue carbon is via a scoring system, which will indicate the relative importance of different areas of blue carbon sediments across European seas.

We hope the blue carbon map will be useful both for combining with biodiversity maps to see where you get maximum benefits from protecting both, and for gaining an impression of how blue carbon stores vary between different habitats and across the entire European sea area. We hope that this will be useful for stakeholders in planning where to place strictly protected areas to maximise the combined benefits of biodiversity and blue carbon.

We will also provide maps and papers for both biodiversity and blue carbon independently, since it is a decision for policy makers as to how they want to protect biodiversity and blue carbon stores, because they may have other things they also want to protect such as seabed cables and infrastructure. There may be areas that have high blue carbon stores but low biodiversity, and vice versa. We won't know until we see the maps and quantify these spatial relationships.

8) Does the project help develop climate change mitigation plans for all sea basins and would this be incorporated in regional or national case studies?

Nothing is set in stone; circumstances change. We can provide maps of where species and blue carbon stores are now and indicate where species may move in the future.

Our project will model likely climate change refugia of the future, which depends on sea basin dynamics, based on best efforts modelling of what the science indicates. We want to be able to protect those areas in the future, to optimise biodiversity protection. The model will indicate where species are moving from as a result of changing conditions, which may be helpful for informing where restoration activities may not succeed.

This is intended to support future-proofing of networks of MPAs and reflects the fact that MSP needs to be adaptive and dynamic to some extent. We can collaborate on all these issues to help them be better integrated in MSPs in all sea basins.

We are providing the European context for local scale planning and can indicate, for example, which areas are most important for biodiversity or particular species across all of Europe's seas. For example, bird areas are often ranked based on their European or international importance. This helps place local areas into some wider geographic context which we think will be helpful for wider spatial planning.

CASE STUDIES

9) Does the project have test sites?

No, and this is a point of difference from our sister projects MSP4Bio and MarinePlan. We are taking the data that exists in global and European databases and scientific literature and asking ideally where would be the best areas for protecting 30% and strictly protecting 10%. But we know there are existing protected areas that could be expanded or improved and there are existing human activities at sea, so we cannot necessarily achieve the perfect scenario. Our Work Package is to help stakeholders explore scenarios with these new datasets so that national and regional processes can consider the best areas for protecting.

10) Can you elaborate on how you will choose national and/or regional case studies, because I guess you will not cover all national case studies. Is there any guidance on making a selection, for example regarding scalability and replication?

Our sister projects MSP4Bio and MarinePlan have pre-identified co-produced case examples within each sea basin. We didn't do that when we designed this project because our project scope is all of Europe's seas and we want to be led by the needs of MSP stakeholders and regional seas conventions, and for outputs to be used flexibly. A lot can change between when a project is proposed and when the results are available. We can consider contributing to sister project case studies or co-identify new ones with stakeholders.

We have committed as part of the project to co-identify with stakeholders at least one outline use case per sea basin. We are aiming to achieve that by 2025, when we have our international conference, and we are sowing the seeds for this discussion now so that when we have tangible outputs to share, we can start that dialogue about what is of most interest to stakeholders. We are interested in as many use cases as we can manage because we are keen to see protection scaled, based on the best available science, and for conservation to achieve the best outcomes it can, within the context of very busy seas and MSPs at various stages of evolution.

We will also create a policy brief and are in discussion with our sister projects MSP4Bio and MarinePlan on potentially combining policy briefs to provide more added value for stakeholders.

11) *Do you also consider anchoring, one of the biggest problems for seabed areas including seagrass. These are often in different areas to where bottom fishing occurs, which may also damage the seabed. The protection idea is the same, but pressures are different.*

In our slides we presented the following possible use cases for our outputs:

- informing restoration plans;
- informing species protection plans and environmental impact assessments;
- identifying priority seabed areas for protection from types of bottom fishing;
- enabling climate-smart MSP; and
- optimising conservation effectiveness in European seas.

We are happy to take your suggestions; the use cases we have suggested are simply conversation-starters.

EXISTING ACTIVITIES AT SEA

12) *How are you taking account of existing uses of the seas? This will be interesting for any final recommendations about MPAs. Some countries lack ability to move things around.*

We will focus on biodiversity, marine ecosystems classification and blue carbon, and prioritisation of these for protection. Our results will not be based on other uses, but will provide standalone outputs to planners and policymakers for supporting an ecosystem-based approach to marine management. It is up to planners to prioritise activities, not us. Our prioritisation process will allow for different protection options to be considered by planners.

We appreciate that countries have different perspectives and abilities to use the data we will provide. This is also a regional project, which can support transboundary MPAs which are lacking.

Where countries lack "wiggle-room" to move existing or planned activities such as wind farms, the blue carbon map may nonetheless be helpful. For example, with new requirements under the Common Fisheries Policy to phase out types of bottom fishing from MPAs by 2030, which are the key areas of your seabed that would be a priority for that? So whilst you may not have scope for further MPA designations now, there may be applications for other tools at the national level to look at.

If developments take an ecologically sustainable approach, then perhaps protection of biodiversity can be achieved as well as economic development (e.g., windfarms). It would be naïve to think of MSP as being stable forever and that areas are only valued for one purpose to the exclusion of others. As new data, knowledge and understanding emerge these generate new possibilities for economic development and sustainable use of natural resources. Ignoring new information would hinder sustainable development.

We can only recommend what the science is saying about the best areas to protect, and we understand it is a societal decision and a stakeholder-intensive process We are trying to put the scientific argument forward about where the ocean would say it needs to be protected.

13) Will maps be blind to, or account for, existing protected sites? Activities and current designations are there and we have to deal with them.

This is a research project. We will produce outputs, but also provide the ability to run scenarios with anyone, to compare our results with existing protected areas, existing human activities, to run through MSP programmes, for stakeholders to compare results with existing protected areas and activities.

Our outputs may strengthen the evidence base to expand or improve existing protected areas.

Stakeholders can pick and choose which analyses are best, for example the outputs relating to blue carbon or connectivity, if countries have already done some biodiversity modelling for protected areas. This is not a one size fits all.

14) Are you using the _Common Database on Designated Areas_ for MPAs?

We are not using an MPA database, we are creating maps based on modelling of species, habitats and environmental data from, for example, OBIS, EMODnet, Copernicus and Bio-ORACLE and creating a prioritisation process to enable scenarios to be run. We are starting from the science and then we and stakeholders can compare the results with existing MPAs.

STAKEHOLDER INVOLVEMENT

15) What exactly is expected from us? Are we functioning as a think-tank, or advisory board, do you want us to share experiences, provide comments etc.

If you want to be involved through to 2025, we would welcome stakeholders who want to participate on a sea basin panel, to provide feedback and help refine outputs so that they are useful for you. We are also looking for partners to co-identify use cases for project outputs. We're open to any ideas, but ideally would like them to be driven by you. Next year we will continue our online workshops, based on some project outputs, and can get into a deeper dialogue, including with some of our science team.

In 2025 we would like to convene in-person workshops, we are very happy to join in with existing events or workshops to make it easier for stakeholders. We are also planning an international conference in 2025 where our scientists will present their work to invited scientists and stakeholders; another option is we may combine our workshops with this conference so that we have scientists, policymakers and planners together.

DATA SOURCES

16) I noticed we are talking about estimating species richness, is that based on temperature and existing species, or temperature and conservation/active restoration?

The Species Distribution Models will be based on various existing environmental datasets. Our expert partner CCMAR has developed a list of environmental data, based on previous projects modelling the influence of climate change on marine species. We will also include the conservation status of species, based on the IUCN red list.

17) So you are taking species data to which you add a further list of environmental data, and then overlay it with temperature modelling. Is that right?

Yes, temperature is the main one but we also include other environmental data that will affect the distribution of species in the future, and we will be reflecting different temperature scenarios. Our project Zenodo page MPA Europe Project provides a list of the environmental data we are using. An important disclaimer; this is a draft deliverable not yet approved by the European Commission, but it provides a good explanation of what data we are using.

18) The data sources you are using are the global data aggregators. From my previous experience I have seen a lot of data is held in national institutions and scientific organisations and they do not share it with the aggregators. Do you have the capacity or plan to consider national databases, which often do not often conform to FAIR principles, so you have to standardise the data?

Scientists tend to use repositories like OBIS and GBIF for their work, especially for recording new occurrences. OBIS has full metadata including depth, who collected the data, original sources and a DOI for each dataset.

We can consider including national datasets. National data may add to our thinking, but data needs to be published into either OBIS or EMODnet Biology. We can connect stakeholders to relevant staff at OBIS or Flanders Marine Institute to assist with uploading data. We need a pipeline of data to flow into our models, we can't realistically add in ad-hoc datasets.

During the first 6 months of the project we have made a special effort to compile additional data on the distribution of marine species in Europe and publish it into OBIS. Our project Zenodo page MPA Europe Project provides a compilation of additional datasets on marine species occurrences. This has added over 3 million new data records to OBIS. From this and existing data in OBIS we will model the geographic ranges of thousands of species in European seas for the systematic conservation analyses.

Contribution from MSP4Bio: MSP4Bio will publish a deliverable on data availability soon. We identified locations where you can access MSP and MPA-related data for the Baltic Sea.

19) For seabirds will the maps be built based on Important Bird Areas data, or what other data?

We will use the most updated version of OBIS data. The OBIS team has developed code to continuously search GBIF and other sources for data missing in OBIS and then quality assure it for inclusion in OBIS. The initial list of data sources used to update OBIS and published on our project Zenodo page (see link above) will be updated until we run the MPA prioritisation analysis in 2025.

20) It seems you are taking into account the changing ranges of species. Does this mean that once the MPAs are designated, there is the possibility of changing the boundaries or are these set in stone?

Any decision on MPA boundaries is a matter for national authorities. This is a research and innovation project providing a tool for national and regional authorities to think about how to future-proof planning of protected areas to some degree. MSP has to be adaptive, and to some degree dynamic. Species are moving and if we want to protect the maximum number of them then MPAs (existing and future ones) may (or may not) need to adapt to that too. That's why the climate modelling is important; we can see scenarios for how we think species will move. Species will only move at the edges of their current ranges, and when all species are considered it is likely that the present and proposed MPA locations may still be valuable for protecting biodiversity.

We will propose some climate refugia, and also transboundary MPAs and ecological corridors. Our prioritisation analysis can indicate the optimal representative network of MPAs based on species distribution models under both current, and future, environmental conditions. This will allow us to see what an optimal MPA network across European seas would look like now, and in the future. It may be that these two scenarios overlap to a significant degree. This is because some areas may be particularly rich in species due to physical habitat diversity (e.g., variable wave and current exposure, rocky and sediment habitats), not only temperature. The physical habitat diversity is unlikely to be significantly affected by climate change so probably such areas will remain rich in species in the future, albeit with some different species than may occur there now. Most species have large ranges and will remain within the bulk of their range. Many species may shift their northern and southern range edges due to climate warming so at a local scale, some species may emigrate from an area while others may arrive (immigrants). Such range shifts have likely happened during the Holocene climatic optimum and last interglacial.

We know species are moving quite freely in the Atlantic. It is not clear in the Mediterranean and Black Sea if species can move to cooler waters easily. Possibly they can by moving deeper but then they may encounter low oxygen problems. Climate change risk is possibly highest in the Mediterranean and Black Sea. Any empirical data and observations on species and trends such as on populations shrinking due to heatwaves or other events, for example, will be useful to improve our models.

21) *You mentioned you will produce Species Distribution Models. What is the difference between EMODnet Biology and EMODnet Seabed Habitats? Do you plan to acquire new data?*

EMODnet Seabed Habitats does not have any species distribution model layers for all European seas. It has some point data for particular species, e.g., for deep cold-water corals. We will use data from OBIS (which already has EMODnet Biology data) and acquire new data to create species distribution models for thousands of species. It is important for our Decision Support analysis that we have equal data layers throughout, to avoid any sampling bias. Then these layers could be published on EMODnet Biology and OBIS at the end of the project.

DATA ACCESS AND RESOLUTION

22) *Will the maps and data be publicly available for use in modelling?*

All maps and papers produced by the project will be available open access. We are currently collating data and formatting, harmonising and quality-checking it. We are considering where the maps and data layers might be hosted in the long-term, including options such as EMODnet and OBIS.

23) *What is the spatial resolution of maps, atlas and datasets? It is quite crucial for us to delineate areas that might be important.*

For blue carbon we will assess all data availability including specific data points and overlay these with EUNIS habitats to identify the average blue carbon storage by habitat.

Overall, for data other than blue carbon we are aiming for the finest data resolution available compatible with working with these particular data layers. Currently this is 5 km. However, national authorities can also access finer resolution data on species and habitat types from OBIS and EMODnet Biology, and EMODnet Seabed Habitats respectively.

OTHER EFFECTIVE area-based CONSERVATION MEASURES (OECMs)

24) Are you planning to enter into the Other Effective area-based Conservation Measure (OECM) discussion, within that 30%, and if so are you going to consider some of the related blue economy sectors (e.g., fishing) in your analysis?

Stakeholders can integrate our data layers with other human activity layers for blue economy sectors. We have chosen to focus on regional seas conventions and national planning authorities, who are responsible for convening regional and national stakeholders across sectors, because we don't have the capacity to go to all the blue economy sector stakeholders, as well as all European countries and regional actors. But we are happy to engage with anyone in a country who is interested in a case study, including with blue economy sectors, if we can see a role for us in providing important information into a scenario planning discussion, whether that be in relation to an MPA or OECM.

INDICATORS OF SUCCESS

25) What information could be shared in the Atlantic and Artic on improvements in biodiversity or ecosystems following conservation and restoration activities, or linkages between protection and conservation initiatives with societal outcomes?

We are open to discussing how the results of each step can be evolved and used by others undertaking similar activities. We are collaborating with sister projects and relevant parallel initiatives such as Blue Parks, Blue Missions and other Horizon and Interreg projects.

Tracking restoration activities is outside the scope of the MPA Europe project.

Contribution from Blue Parks: The following report for the Atlantic and Arctic identifies possible indicators for developing protection and restoration. These are indicative, there is no EC endorsement of the approach and the way we tried to assess the level of protection and restoration, but it may be interesting to consider. The matrix may be different by sea basin, so we need to identify common categories, for example IUCN categories, and compatible activities, recalling of course it is a national decision.

https://op.europa.eu/en/publication-detail/-/publication/a76c678b-a2ab-11ed-b508-01aa75ed71a1/language-en/format-PDF/source-279877894