Deliverable D1.2 - Report on the available frameworks and tools for building constituency and expectations management

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Contents

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Executive Summary

This “Report on the available frameworks and tools for building constituency and expectations management” provides the foundations for the engagement of stakeholders in the Blue4All project. We assembled this report using the knowledge base taken from scientific literature and in addition incorporated direct stories, experiences and cases of stakeholder engagement from three European sea basins (Mediterranean, Baltic and North-east Atlantic Ocean) brought to us by our project partners. The aim of this report is to provide a knowledge base for building constituency and expectations management for effective, efficient and resilient (networks of) marine protected areas (MPAs) and other effective conservation measures in marine environments (marine OECMs).

In part 1, we discuss the bottom-up approach in the context of marine conservation, specifically (networks of) MPAs, as well as marine OECMs. In part 2, we analyse different cases and best practices of stakeholder engagement and co-management found along the MPAs, MPA networks and OECMs within Mediterranean Sea, Baltic Sea and the North-east Atlantic Ocean. In part 3, we discuss the gender aspect in conservation projects, explaining gender and intersectionality in natural resource management and suggest how to carefully implement the gender aspects to the Blue4All project, as well as other projects that involve stakeholder engagement. In the final part 4, we bring recommendations for enhancing the stakeholder engagement in the project Living labs and beyond, based on the cases from three European sea basins: Mediterranean, Baltic and North-east Atlantic.

Key concepts

Adaptive governance: An emergent form of environmental governance (i. e. higher-level decision-making) urged by both scholars and practitioners to coordinate resource management regimes facing complex and uncertain conditions associated with rapid environmental change (Chaffin et al 2014).

Adaptive management: Adaptive approach to management (i.e. the daily practices and arrangements in the protected area) that allows for flexibility and learning from experience. In the context of Blue4All, co-management recognizes that coastal ecosystems are dynamic and subject to change, and management strategies need to be regularly adapted based on the information collected through the continuous monitoring and assessment of the system managed.

Best practice: A planning and/or management tool that highlights guidelines to take action. Best practice relies upon examples of successfully demonstrated solutions or methods and can include not only single projects but also a special strategy or a series of projects considered as a whole.

Bottom-up approach: A strategy that emphasises the involvement of local communities and stakeholders in decision-making processes regarding management of natural areas and resources. A part of the bottom-up approach is empowering local communities and organizations to take the lead in identifying needs, setting priorities, and implementing projects. It recognizes the importance of local knowledge, participation, and ownership in driving development processes.

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Citizen science: The active engagement of the general public in scientific research tasks (Vohland *et al.*, 2021). It is a growing collaborative practice of scientists and citizens with the aim to produce new knowledge for science and society and engage local citizens and, e.g., MPA visitors.

Capacity building: Actions aimed at raising ability among stakeholders to actively participate in decision-making processes which include providing training, information, and resources to enhance stakeholder knowledge and skills.

Co-creation: In the context of Blue4All, co-creation is a collaborative process of creating tools and solutions for achieving effective, efficient and resilient MPAs, networks of MPAs, and OECMs. The co-creation of tools and solutions happens between the project partners (scientific community) and the stakeholders in each of the project Living labs (in form of SEGs – stakeholder engagement groups). Term co-creation is also used for collaborative creation/designation of MPAs, or MPA networks.

Co-management: The arrangement that implies sharing power and responsibility between the government and the local stakeholders. It refers to collaborative decision-making processes in protected or conserved areas. Co-management is a horizontal, rather than a vertical process where, ideally, all stakeholder groups are included in the decision-making.

Co-design: The participative process in designing of the protected areas in which all relevant stakeholders contribute interests, knowledge and other resources in planning of the area.

Conflict resolution: The approach to solving disagreements in the decision-making processes through the mechanisms of negotiation, and consensus-building to address conflicts and find mutually acceptable solutions.

Environmental governance: A set of regulatory processes, instruments and organizations through which the political actors affect environmental actions and outcomes (Lemos and Agrawal, 2006).

Knowledge integration: The process of utilizing both scientific, traditional and local knowledge systems in decision-making processes. This exchange of information and collaboration between different knowledge holders provides a firm base for complex decision-making.

Levels of protection: MPAs can be fully, highly, lightly and minimally protected. The level of protection greatly affects the biodiversity conservation outcomes of an MPA, where only full and high levels of protection also bring high positive outcomes for biodiversity protection of these areas (Grorud-Colvert *et al.*, 2021)

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Management objective: A specific goal that is set to guide the planning, implementation, and management of the protected area. Management objectives are designed to ensure the effective conservation and sustainable use of marine resources within the MPA, while considering the social, economic, and ecological aspects of the area.

Marine Protected Areas (MPAs), also referred to as protected areas: Clearly defined areas, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (IUCN definition in Day *et al.,* 2012). The essential criterion for MPAs, or protected areas in general, is that nature conservation is the primary objective. In reality, most of the MPAs lack effective governance and implementation of regulations and are therefore considered 'paper parks' (Rife *et al.,* 2013; Araújo and Bernard, 2016; Caduret and Beuret, 2016; Ramirez, 2016; Dehens and Fanning, 2018; Devillers *et al.,* 2020; Claudet *et al.,* 2020; Claudet *et al.,* 2021; Dehens and Fanning, 2018).

MPA networks: Collection of single MPAs working in synergy to fulfil ecological aims more efficiently (WCPA/IUCN, 2007).

Monitoring and Evaluation: Co-management emphasizes the need for regular monitoring and evaluation to assess the effectiveness of management actions, identify challenges, and inform adaptive management strategies. It includes the use of indicators and feedback loops to track progress and make informed decisions.

Other effective area-based conservation measures (OECMs), also referred here as conserved areas: Geographically defined areas, other than MPAs, which are governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity, with associated ecosystem functions and services, as well as cultural, spiritual, socio–economic, and other locally relevant values (Convention on Biological Diversity, 2018). Fundamental difference between an OECM and an MPA is that in MPAs, in-situ conservation of biodiversity is the primary objective, while the OECMs must show effective biodiversity conservation outcomes, regardless of their objective.

Participatory Decision-Making: Co-management emphasizes participatory decision-making processes that involve stakeholders at all stages of planning, implementation, and evaluation.

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Part 1. Bottom-up approach and engagement of stakeholders

1.1 Protection of Biodiversity

Biodiversity is fundamental to human well-being and a healthy planet, as well as for economic prosperity of all communities; we depend on it for food, medicine, energy, clean air and water, protection from natural disasters, recreation and cultural inspiration, and it supports all systems of life on Earth (Convention on Biological Diversity, 2022). Based on that recognition, the post-2020 Global Biodiversity Framework sets the ambitious target 3, known as '30x30 target' – a commitment to conserve 30% of terrestrial, inland water, coastal and marine areas by 2030, through ecologically representative, well-connected and equitably governed systems of protected areas (including MPAs) and other effective area-based conservation measures (OECMs), recognizing indigenous and traditional areas (Convention on Biological Diversity, 2022). In line with the Post-2020 Global Biodiversity Framework, in order to put biodiversity on the path to recovery for the European Union, the EU Biodiversity Strategy for 2030 was set to guide parties, inter alia, to improve and widen networks of protected areas (European Commission, 2020). Effectively managed, ecologically representative, well-connected and equitably governed systems of Protected Areas and OECMs are recognized as means to protect biodiversity, while integrating indigenous and traditional territories and ensuring sustainable use of these areas, as well as respecting indigenous peoples and local communities.

1.2 Marine Protected Areas

Marine Protected Areas (MPAs) are clearly defined areas, recognised, dedicated and managed, through legal or other effective means[1], with the main goal of achieving the long-term conservation of nature with associated ecosystem services and cultural values (IUCN definition in Day et al., 2012). The essential criterion for MPAs is whether nature conservation is their primary objective.

The main types of governance in the protected areas are divided by IUCN into four main categories (Day et al., 2012):

1. **Governance by the Government**, or a top-down approach, is the classic type where the State owns and manages the site as part of the formal protected area system. Historically, protected area legislation was based on a top-down approach, where management and maintenance of the MPAs are done by the government in public trust for the benefit of the people and for future generations as their natural heritage (UNEP/MAP et al., 2013).
2. **Governance by Indigenous People and Local Communities (IPLCs)** is a type of bottom-up approach and voluntary conservation. IPLCs can govern the areas to which they have ownership or rights for resource use and which they manage for long-term conservation. The status of the use rights of IPLCs depends on their recognition in the legal system of the country concerned.
3. **Private Protected Areas (PPAs)** are also protected through a bottom-up approach where the authority and decision-making power lies with the individual or organization that owns the property. PPAs can be either recognized as part of the formal PA system, or not, but they should be serving supportive conservation goals, being particularly used as buffer areas and connecting corridors. The main challenge with PPAs is how to best integrate them into national protected area systems and global conservation strategies and to harness more private initiatives.

[1] Other effective means, such as being managed through recognised traditional rules under which community-conserved areas operate or the policies of established non-governmental organisations (IUCN, 2012)

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4. **Co-management,** or shared governance is a horizontal approach which implies collaboration between two or more partners in the protected area management. This kind of arrangement normally uses partnerships or consultative agreements that define specific responsibilities of all sides sharing authorities.

MPAs can effectively conserve nature and biodiversity only if they adequately prohibit extractive and destructive activities (Grorud-Colvert et al., 2021). The level of protection which can be full, high, light or minimal protection is based on the regulations that are in place prohibiting extractive and destructive activities in MPA and its surroundings. Some of those activities are extractive and destructive activities such as mining/oil and gas extraction, dredging and dumping, anchoring, infrastructure, aquaculture, fishing (professional or recreational), as well as non-extractive, recreational, traditional and cultural activities.

Depending on the level of protection, some of the mentioned activities can be fully or to some extent implemented in the MPAs. In **fully protected MPAs**, no extractive or destructive activities are allowed while in **highly protected MPAs**, only light extractive activities that have a low impact on biodiversity are allowed, but all other impacts are minimized. Activities such as small-scale fisheries with minimal impacts, low-impact tourism or low-density aquaculture are allowed in highly protected MPAs. In **lightly protected MPAs**, some protection of biodiversity exists, but extractive activities and other impacts are allowed from moderate to substantial levels. Finally, in **minimally protected MPAs,** extensive extraction and other impacts are allowed, but some conservation benefits are still provided on the site.

Biodiversity conservation outcomes of MPAs are tightly connected to the levels of protection and on average fully and highly protected areas are the ones that deliver ecological benefits (Grorud-Colvert et al., 2021). Scientific work that supports usefulness of MPAs is mostly based on fully protected areas. However, in lower-protection categories which are preferred among the recently established MPAs as they do not block access to a wide range of users (Claudet *et al.,* 2021). MPAs with lower levels of protection often attract the wide range of allowed users; even when they are regulated, the biodiversity there can be more threatened than in areas outside of MPAs. Dureuil *et al.* (2018) found that among 727 MPAs designated by the EU, 59% are commercially trawled, and the average trawling intensity across MPAs is at least 1.4 times higher than in the non-protected areas.

Most of the MPAs lack effective governance and implementation of regulations, and are so-called 'paper parks' (Rife et al., 2013; Araújo and Bernard, 2016; Caduret and Beuret, 2016; Ramirez, 2016; Dehens and Fanning, 2018; Devillers et al., 2020; Claudet et al., 2020; Claudet et al., 2021; Dehens and Fanning, 2018). 'Paper parks' fail to achieve the most important goal of protected areas – nature and biodiversity protection, together with associated ecosystem services and cultural values. A key factor for the ineffectiveness of 'paper parks' is non-compliance with the MPA rules and regulations (Pierracini et al., 2017). Grorud-Colvert *et al.* (2021) show that MPAs cannot achieve their goals unless key conditions are in place, one of them being that stakeholders and resource users are involved in different aspects of an MPA.

1.3 Other Effective Area-based Conservation Measures

Other Effective Area-based Conservation Measures (OECMs) are also recognized as means to achieving the target of at least 30% of terrestrial and inland water areas, and marine and coastal areas effectively conserved and managed by 2030 (Convention on Biological Diversity, 2022)

OECM is a "geographically defined area other than a Protected Area which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity, with

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associated ecosystem functions and services, as well as cultural, spiritual, socio–economic, and other locally relevant values" (Convention on Biological Diversity, 2018, pp. 1). In 2018, the parties to the CBD agreed on the main criteria and guiding principles for the identification of OECMs (Convention on Biological Diversity, 2018, pp. 12-13):

- Criterion A: The area is not currently recognized as a protected area
- Criterion B: The area is governed and managed
- Criterion C: Achieves sustained and effective contribution to in situ conservation of biodiversity
- Criterion D: Associated ecosystem functions and services and cultural, spiritual, socio-economic and other locally relevant values

A fundamental difference between an OECM and an MPA is that in the case of MPAs in-situ conservation of biodiversity is the primary objective, while OECMs must show effective biodiversity conservation outcomes, regardless of their objective.

Recognition of OECMs is expected to include "the identification of the range of biodiversity attributes for which the site is considered important (e.g. communities of rare, threatened or endangered species, representative natural ecosystems, range-restricted species, key biodiversity areas, areas providing critical ecosystem functions and services, areas for ecological connectivity)" (Convention on Biological Diversity, 2018, pp. 12).

OECMs may include areas that are under some form of legal protection that is not related to the protection of habitats and species. For example, they could include areas designated for water protection, flood prevention areas, military areas with restricted access, agroforestry landscapes, fisheries restriction measures, underwater cables, etc. These areas indirectly support biodiversity even if that isn't their primary purpose.

Marine fisheries managers arguably use area-based management more than any other sector in such a way making it easier to identify OECMs because efficiently managing areas important to fisheries benefits both human well-being and nature (FAO, 2022). OECMs encourage recognition of the role that fisheries management plays in biodiversity conservation on a local scale (FAO, 2022).

1.4 Bottom-up approach in the management of the MPAs/OECMs and in marine conservation

A bottom-up approach in the governance and management of MPAs is a strategy that emphasises the involvement of local communities, stakeholders and resource users in decision-making processes. Bottom-up approaches evolved partially as a reaction to the failures of state-run exclusionary conservation, providing a more inclusive approach, sensitive to local needs (Berkes, 2007). MPAs that exclude stakeholders and resource users from decision-making and ignore their rights and livelihood dependency on the area can undermine their well-being and weaken compliance with regulations (Grorud-Colvert et al., 2021). Bottom-up approach recognizes that successful conservation depends on the participation and support of stakeholders that depend on and interact with the marine environment.

Stakeholders are individuals or groups with either direct or indirect interests in the management of a marine area or resource, or those who may be impacted by decisions regarding its current and future use (Sowman et al., 2014). Stakeholder engagement is a crucial enabling condition for effective MPAs delivering positive outcomes to biodiversity conservation (Grorud-Colvert *et al.,* 2021), as it fosters awareness, ownership, responsibility, social approval and compliance with MPA regulations. Public participation, integration of knowledge, transparency, communication and accountability to the stakeholders all serve as enabling conditions for effective MPAs (Grorud-Colvert *et al.,* 2021).

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Involving stakeholders in different phases of MPA planning and management is mandated by the Aarhus Convention, a legally binding global agreement on environmental democracy, which empowers individuals with the right to access information, participate in decision-making processes concerning environmental issues, and seek justice. On the other hand, stakeholder engagement in management is one of the criteria that needs to be satisfied for the area-based management tools to be recognized as OECMs (Criterion B: "Area is governed and managed", sub-criterion "Relevant authorities and stakeholders are identified and involved in management") (Convention on Biological Diversity, 2018, pp. 12).

Stakeholder involvement is mandated by the Aarhus Convention, ensuring environmental democracy with rights to information and participation. This framework supports public engagement in the 2030 Sustainable Development Agenda. Bottom-up approach implies identifying key stakeholders and involving them in developing plans and strategies for sustainable use of marine resources. By involving local communities in decision-making, the bottom-up approach can help build trust, foster cooperation, and ensure that management and conservation efforts are sustainable over the long term. Bottom-up approach also involves awareness raising and capacity building to promote an understanding of the importance of biodiversity conservation and the ecosystem services that a certain area can bring to communities.

Stakeholders can be divided to (adapted from UNEP/MAP and RAC/SPA, 2013):

A. Direct stakeholders:

- Government or public sector: individuals involved in policy-making, state/regional/district and municipal level institutions, and MPA staff
- Civil society (non-profit): non-governmental organizations (NGOs), universities, research institutes, local community organizations, and other relevant groups.
- Private sector (for-profit): companies, associations, fisheries organizations, tourism entities, coastal developers, and similar entities.

B. Indirect stakeholders:

- General public: local communities, tourists, recreational users, citizens, and essentially anyone who might have an interest in, be affected by, or simply visit MPAs.

1.4.1 Stakeholder Engagement Strategy for knowledge co-creation

In their Stakeholder Engagement Strategy, ICES outlines the key principles of stakeholder engagement and defines the roles of both stakeholders and scientists in the engagement. Their goals, which can also be transferred to other processes/organizations as best practice principles, are to:

1. Ensure input from various communities of knowledge so that essential knowledge from relevant disciplines and actor groups is incorporated into technical outputs (ICES science and advice);
2. Engage stakeholders and managers to develop and deliver current and future technical input for the changing priorities of managing marine activities;
3. Increase legitimacy, ownership, and accountability for the creation of knowledge;
4. Facilitate knowledge exchange and collaboration when addressing strategic and operational challenges, thus enhancing innovation and social learning.

These higher-level principles and recommendations require operationalization in the context of processes for which bottom-up engagement is required. For ICES this was done in a recent event "Workshop on Implementation of the ICES Stakeholder Engagement Strategy (WKSTIMP)" which defined a suit of actions to make the ICES Strategy operational. It proposed 35 time-based priority actions, urging the implementation plan's timely approval. The Summary of Actions is available in the "Workshop on Implementation of

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Stakeholder Engagement Strategy" document, pp. 5 – 8. These actions vary in depth and breadth; focusing on all the areas of ICES work: science advancement, data gathering, and advice creation. The actions span over ICES stakeholders: representatives of member states, experts, observers, advice recipients, partner organizations, and project collaborators.

1.5 Benefits and shortcomings of a bottom-up approach for the management of MPAs and OECMs

1.5.1. Benefits of bottom-up approach in MPAs

Embracing a bottom-up approach in MPA management brings many potential benefits and positive conservation results. The key is that without incorporating a bottom-up approach in MPA management, MPAs run the risk of becoming paper parks, lacking strict criteria and facing challenges in enforcing regulations against human activities that are harmful to the environment. A bottom-up approach in MPA management can bring, among many others, the following benefits:

1. **Promote trust, commitment, and ownership** among stakeholders, increasing their awareness of intended conservation outcomes.
2. **Enhance management legitimacy** by involving stakeholders in decision-making, leading to better and fairer decisions that are adapted to local conditions.
3. **Promote transparency and accountability** by regularly informing stakeholders and involving them in consultations before taking decisions.
4. **Encourage compliance with regulations and stewardship** as stakeholders are included in defining regulations and, therefore, feel more responsible for their implementation.
5. **Utilize broader knowledge and expertise from different sources** by incorporating and framing activities around local communities' experiential knowledge and perspectives. Scientific expertise and local experiential knowledge are integrated to inform decision-making and ensure effective conservation strategies.
6. **Facilitates joining of new actors and new sectors in marine conservation** (Maini et al., 2023)
7. **Greater balance between achieving biodiversity benefits and human well-being** (Maini et al., 2023)

1.5.2. Benefits of bottom-up approach in marine OECMs

Unlike in MPAs, OECMs require **a bottom-up approach for to be recognized as such.** Involving stakeholders and their input ensures inclusive processes that account for local rights and ecosystem services (WWF MMI, 2022). Stakeholder engagement is often a prerequisite for ensuring positive and long-term outcomes to biodiversity conservation, as it positively affects social acceptance and compliance with regulations.

Additionally to the benefits of the bottom-up approach in MPAs which are also relevant for marine OECMs, bottom-up approach in OECMs can bring some additional benefits:

1. **More effective and faster area protection.** If the local communities and organizations lead the recognition of their area as OECMs, this could expedite protection efforts, bypassing complex administration processes. This implies that local communities and organizations have capacities to recognize their local area management as an OECM, which needs to pass strict criteria to be formalized.

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2. **Raise awareness of the need to manage other activities in the area to reach conservation goals.** Fishers and other stakeholders actively involved in the conservation of fishery areas through the establishment of OECMs may also raise awareness about the need to prevent destructive activities by other sectors.
3. **Encourages collaboration between conservation, fisheries, local, and Indigenous actors,** helps bridge the gaps between different sectors and promotes joint efforts for sustainable management (FAO, 2022, Maini et al., 2023).

1.5.3. Shortcomings of bottom-up approach in MPAs

The process of incorporating stakeholders through a bottom-up approach to the processes of designing and managing MPAs may also have shortcomings, such as:

1. **Panacea effect.** There is a risk of viewing the bottom-up approach as a one-size-fits-all solution to conservation, leading to unrealistic expectations and overemphasis on community-based management. It is important to avoid treating the bottom-up approach as a blueprint solution without considering contextual factors and limitations (Berkes, 2007).
2. **Lack of evaluation.** Comprehensive comparative analyses of bottom-up approaches in conservation are rare, partly due to resistance from NGOs and foreign aid missions (Barrett *et al.*, 2001). Additionally, a significant percentage of protected areas globally have not been evaluated, hindering the assessment of management effectiveness.
3. **Human capacities.** It can be challenging to establish a long-term working team for co-management, as not all stakeholders may be interested in or have the capacity to be involved at all times in management activities. Some stakeholder groups may lose interest over time if co-management is not aligned with their primary interests or responsibilities.
4. **Assumption-based.** Community-based conservation often relies on assumptions that may not hold true in all circumstances (Wells and Brandon 1992, Barrett and Arcese 1995, Brandon 2000). It is crucial to understand the cultural context and decision-making processes based on traditional values, as well as the existing relationships within a community.
5. **Reinforcement of the local elite.** There is a risk that politically stronger stakeholders dominate decision-making processes in the bottom-up approach, excluding marginalized or politically weaker stakeholders (Berkes, 2009). This can limit poverty reduction efforts, equity, and overall community well-being (Berkes, 2009). Mapping stakeholder interests and resource use is essential for fair and inclusive involvement in designing and implementing conservation measures.
6. **Inequality of stakeholder engagement.** Gender, race, ethnicity, sexuality and indigeneity influence decisions regarding resource access and management, which as a result can negatively impact various stakeholders' livelihoods (source). In the example of fisheries, in many cultural contexts, men are generally the primary fishers out at sea, with higher control of marine resources and associated greater decision-making power. On the other hand, women are more involved in post-harvest processes like processing and selling, jobs often followed with lower wages and status. This imbalance can leave women and gender minorities in a vulnerable position. Conservation projects can often overlook the experiences and needs of these groups. To avoid these imbalances, it is essential for stakeholder engagement projects to be considerate of the gender, race, ethnicity, sexuality and indigeneity aspects in all project phases, starting with the stakeholder analysis. This approach is discussed in detail in part 3 of this report.

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7. **Lack of decisiveness when facing extreme, opposing viewpoints.** In a broader context of restoration of marine resources and ecosystem services, based on the research of Lynham et al. (2017), ecosystems often shift abruptly and dramatically between different regimes due to human or natural disturbances. These changes highly affect the ecosystem services they offer, impacting stakeholders that depend on them. "Dramatic differences in ecosystem states can lead to polarization among stakeholders who favour one ecosystem service over another" (Lynham et al., 2017). Lynham et al. found that some smaller groups of stakeholders managed to benefit from ecosystem services of a new, disrupted ecosystem and they may face significant losses if the ecosystem returns to its former state (2017). At the stakeholder meetings, these groups might propose extreme demands and oppose to management efforts to conserve ecosystems, restore biodiversity and return the ecosystem to its previous state. Even though the majority supports the restoring of the ecosystems and returning them to the previous (non-disrupted) state, these extreme opposing viewpoints tend to create a strong inertia among the rest of the stakeholders. Management interventions meant to restore biodiversity and ecosystem services lose their momentum, facing difficult negotiations and compromises. In those cases, a clear vision of what should be achieved, and someone who decides is lacking, considering that ensuring biodiversity conservation is the main goal of MPAs.
8. **Participation in decision making processes is costly for individuals.** In time spent preparing comments, distance travelled to attend meetings, and earnings sacrificed. The higher cost of decision-making meetings will serve to lock preferences of a few, and not the preferences of a majority. In deciding whether to participate, each individual compares the cost of participation with the impact of their presence on the meeting.
9. **Complicated decision-making processes.** Involving stakeholders who are not accustomed to administration environments and processes can potentially make decision-making a very complicated process resulting in lengthy and time consuming discussions. Collaboration with the administrative bodies, scientists and public sector organizations can provide informed decision-making support and facilitate smoother implementation of measures in co-management scenarios.
10. **Long-term sustainability**. Maintaining the long-term sustainability of MPAs can be challenging, since it requires ongoing commitment of stakeholders, enforcement of regulations, monitoring and evaluation, and adaptive management strategies. Without sustained efforts, there is a risk of losing effectiveness and potential degradation of the area.
11. **Data availability and monitoring.** Adequate data availability, monitoring systems, and scientific support are essential for evidence-based decision-making and adaptive management. However, data gaps and limited monitoring capacities at the local level can hinder the effective management and evaluation of MPAs.

1.5.4. Shortcomings of bottom-up approach in marine OECMs

1. **Insufficient capacities and commitment.** The bottom-up approach to area management alone may not meet the strict criteria for identifying and recognizing an area as OECM. Meeting the criteria for OECM designation requires careful consideration beyond a solely bottom-up approach. Communities and local stakeholders may require capacity building and technical assistance to effectively participate in the management of OECMs. Lack of knowledge, skills, and resources can hinder their meaningful engagement, leading to suboptimal outcomes. Also, it is crucial to ensure that the burden to prove effectiveness does not fall to already under-resourced local and Indigenous communities (Maini et al., 2023)

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2. **Inclusion of other sectors.** There is still uncertainty about how to effectively include stakeholders and sectors other than fisheries in OECMs. The integration of other sectors and their consideration in evaluating the OECM status of areas that have fisheries measures is a complex challenge that requires further exploration.

3. **Determining jurisdictional authority.** The determination of jurisdictional authority for OECMs remains unclear. Establishing clear boundaries and assigning authority for the management and governance of OECMs can be a complex process that requires careful consideration and coordination among various stakeholders and authorities.

4. **Limited financial resources.** Implementing the bottom-up approach and ensuring effective management of OECMs often requires adequate financial resources. However, securing sufficient funding can be challenging, especially for communities or regions with limited financial capacity or access to external support.

5. **Limited integration with national policies.** Incorporating the bottom-up approach into national policies and frameworks for OECMs can be limited. Lack of alignment and integration with broader policy objectives may hinder the long-term success and mainstreaming of community-led initiatives.

6. **Interests and conflicts among stakeholders.** Managing diverse stakeholder interests and resolving conflicts can be complex when following a bottom-up approach. Conflicting goals, power dynamics, and divergent perspectives may arise, requiring robust conflict resolution mechanisms and facilitation processes.

1.6 Defining co-management, co-creation, co-design and co-development

Within the Blue4All, terms **co-design** and **co-management** refer to collaborative interactions in MPAs, MPA networks and OECMs. The result of these actions is design, designation and implementation of the MPA, MPA network or OECM itself.

Co-design is a process that happens before MPA designation, or alternatively, prior to the major changes in site zoning or size of the site. In the MPA design, activities such as selecting the location, boundaries, protection level take place. In co-design, all relevant stakeholders are asked to participate in designing the protected area, contributing with their knowledge and experiences, and sharing their interests in MPA planning. Co-design is shown in the case of Baie de Seine Occidentale, the Natura 2000 site in France (chapter 2.3.1.1).

Co-management is an ongoing collaborative process where power and responsibilities are shared between the government and the local stakeholders. Rather than vertical, co-management is a horizontal approach (combination of top-down and bottom-up approaches) where all sides are involved in the decision-making. Co-management is shown in the example of Capo Milazzo MPA (chapter 2.1.4.2.), where the MPA is co-managed in collaboration between academia, public administration and NGOs, or in the example of the sand eel fisheries in Catalonia (chapter 2.1.3.2.) where a committee implements fisheries co-management which is formed of various bodies representing the fishing sector, scientific community and NGOs.

In the context of Blue4All, **co-creation** and **co-development** are more specific terms that refer to interactions that the project will have with the Information sites and Living labs. These terms can be both part of broader

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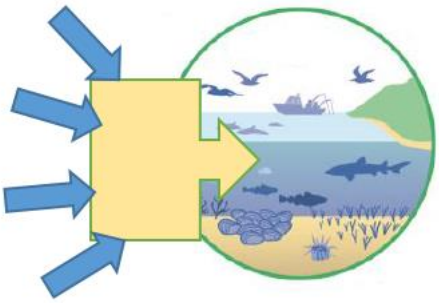
co-management or co-design processes. The project will co-create **sets of tools and solutions** for efficient, effective and resilient MPAs, MPA networks and OECMs. Co-creation of tools and solutions will be done consulting the literature, MPA managers and stakeholders in the project Information sites and Living labs.

After the tools have been created, they will be further tested and **co-developed** to be directly applicable for the project Living labs. An example of co-development is shown in the Cabo de Gata-Níjar Nature Park case (chapter 2.1.3.1.). There, the innovative tool Environmental Contracts, which was first created for the use in wetland systems, was co-developed with the local stakeholders to be applicable in different MPAs.

Co-design

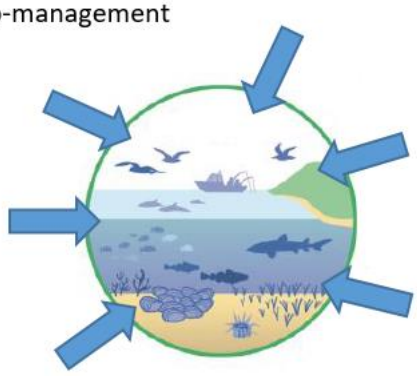


- Participation of all relevant stakeholder groups in design of the protected area or area-based conservation measures that could be recognized as OECMs
- Contribute interests, knowledge and inputs in design of the area

Co-creation

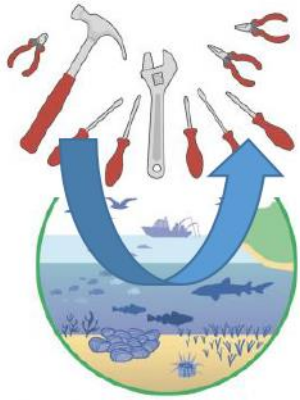
- Ecological and governance sets of tools and solutions co-created in collaboration with Living lab managers and stakeholders

Co-management



- Sharing power and responsibility between the government and the local stakeholders
- Horizontal process where all parties take part in decision-making

Co-development



- Further testing and co-development of tools and solutions to adapt them to the setting of each project Living lab

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1.5. Levels of stakeholder engagement

Co-management can be viewed on a continuum from the basic informing to formal partnership (Pomeroy and Berkes, 1997)**.** Within different approaches, the degree of stakeholder engagement in decision-making can vary considerably and the ratio of top-down and bottom-up elements depends on the local context (Berkes, 2009). An important prerequisite for defining levels of stakeholder engagement is to categorise stakeholders upon their influence[1] and interest[2] (Fig. 1). On that basis, stakeholders can be categorized into four main groups: low influence/low interest, low influence/high interest, high influence/low interest and high influence/high interest. Based on the stakeholders' level of interest and influence, we can design different approaches to their engagement. Different levels of stakeholder engagement based on their influence and interest are shown in the stakeholder engagement pyramid (see Fig. 2).

[1] Influence is the power or capacity of a stakeholder group to affect decisions, management, or the outcomes in the protected or conserved area. Stakeholders can have influence in terms of knowledge, regulations, economy, social and cultural aspects, as well as politics.

[2] Interest refers to the extent to which a stakeholder group is affected by, or can affect, the management and outcomes of the protected or conserved area. It also relates to stakeholder's concerns, needs, goals, or values that are connected to the protection, use, or management of the area.

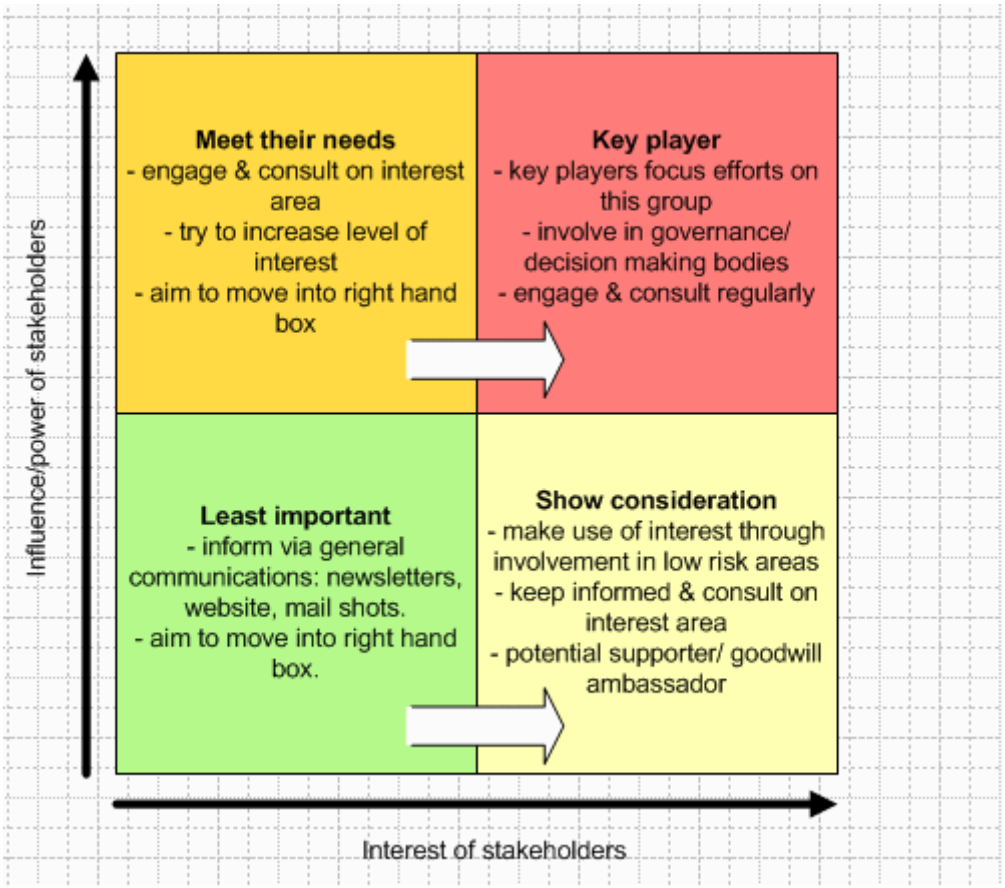

Fig. 1 Engagement strategy example based on interest/influence stakeholder map (Stakeholder map, n. d.)

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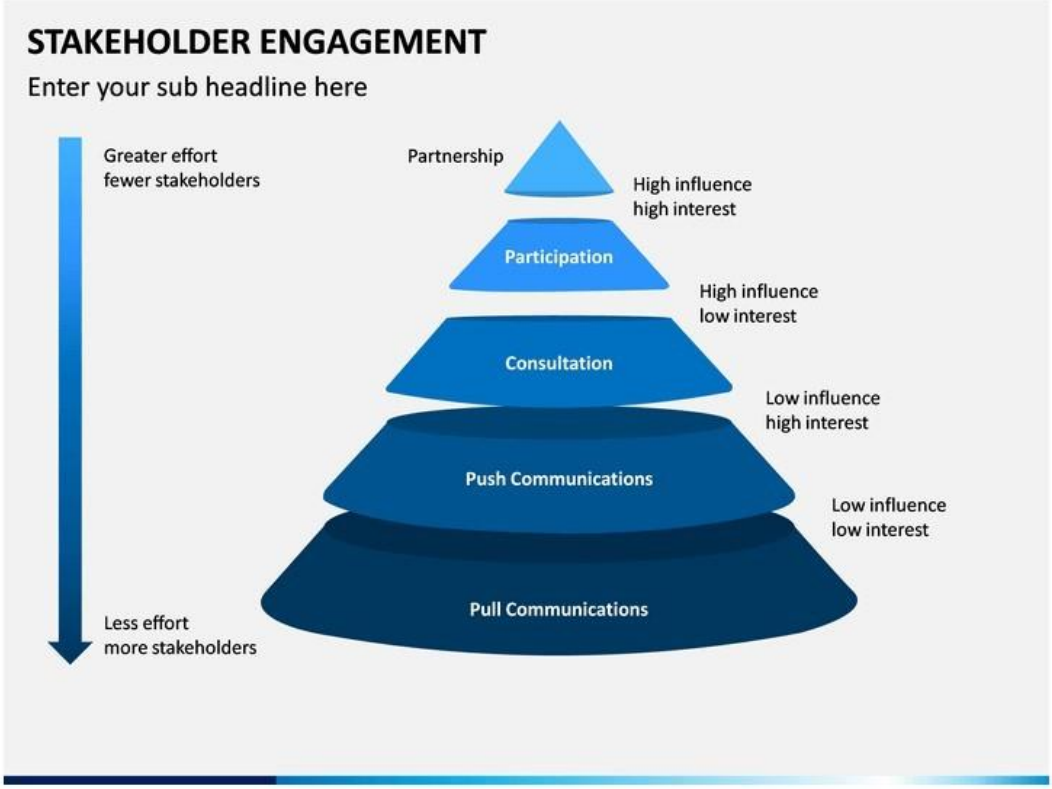

Fig. 2 Pyramid of stakeholder engagement (Morphie, 2017).

The pyramid of stakeholder engagement shows different levels and methods of stakeholder engagement appropriate for different types of stakeholders that we want to include in our project.

The main levels of stakeholder engagement are (stakeholder engagement pyramid in Fig. 1):

1. **Information -** one-way engagement where the decisions are communicated to the stakeholders:
    a. **Pull communications** - information is made available and stakeholders choose whether to engage with it or not. Some tools are web pages, social media and newsletters - e.g., when administration informs the stakeholders of their decisions through media. This approach is appropriate for low influence/low interest stakeholders.
    b. **Push communications** - the information is targeted and directly sent to the stakeholders, seeking their attention. Some of the examples are emails, text messages and phone calls. Stakeholders are segmented into groups in order to send relevant information to the right people. This approach is appropriate for low influence/high interest stakeholders.
2. **Consultation** certain stakeholder groups are engaged to provide their unique knowledge, experience and information that other stakeholders may not have. This is a limited two-way engagement where stakeholders are involved, but do not take any responsibility for the final decisions. The final decision-making is still top-down.
3. **Participation** is a limited two-way engagement. Stakeholders are a part of the project team, they can take part in the working meetings, engage in delivering tasks, or take responsibility for a certain area or activity, but the final decisions are made top-down. Participation is appropriate to high influence, high interest stakeholders.
4. **Partnership** is a two-way engagement with joint learning, decision-making and actions between the project and the stakeholders. Stakeholders share accountability and responsibility. Appropriate for key stakeholders with high influence and high interest. E.g., **collaborative co-management**

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partnership, when the main project or initiative and the local communities work and make decisions together (Collier, 2020). At the highest level of stakeholder engagement, partnership can turn into **leadership** by the stakeholders**,** e. g. when the project formally delegates decision-making to a community and stakeholders take the lead (Collier, 2020). Appropriate for key stakeholders with high influence and high interest.

Part 2. Overview and assessment of existing stakeholder engagement frameworks in three sea basins: Mediterranean, Baltic and North-East Atlantic

The countries and sites in this report were chosen based on their alignment with the project's Information sites and Living labs. This selection benefits from the direct local knowledge and experience of project partners, ensuring relevance and insight.

Across national boundaries, i.e., transboundary or at the regional level, several actors operate in the context of setting up spatial management areas for conservation purposes. Regional Seas Conventions (RSC) are HELCOM in the Baltic Sea, OSPAR in the Northeast Atlantic, the Barcelona Convention in the Mediterranean and the Black Sea Commission in the Black Sea, which was not covered within the Blue4All. Various groups and initiatives set up by RSC encourage transboundary thinking when setting up for the EU ecological coherent networks of MPAs, as mandated by the EU. While the resulting RSC work is not legally binding, it provides a platform for discussion and testing between the non-EU and EU countries.

2.1. Mediterranean

Co-management systems already existed in the past from the Mediterranean Sea to the Baltic and in north Atlantic fishing towns. Today the traces of those systems exist but are often transformed into new institutions and organisations on different levels (Sonderblohm and Berković, 2022). In most countries, the management of natural resources still falls under the jurisdiction of the national government. In 45% of Mediterranean MPAs, the status of stakeholder engagement was measured, and co-management turned out to be a minority in practice with only 11% of Mediterranean MPAs reporting having a co-management system in place (Fig. 3). There seems to be an awareness of the need to involve local stakeholders in the consultation phase, namely 28% MPAs reported operating on the principle of consultation, where stakeholders contribute to discussions but do not participate in the decision-making (Fig. 3) (Kersting and Gallon, 2022). In the Mediterranean, stakeholders (fishers, users' associations, nature protection associations, etc.) are sometimes represented on management boards of natural areas, but there are few examples where power and regulatory decision-making are shared (Kersting and Gallon, 2022). Thus, despite consultation being widespread, evidence for real delegation of decision-making power to user groups is rare, making co-management exception rather than a rule in this region (Mikalsen and Jentoft 2008; Arceo *et al.*, 2013 cited in Kersting and Gallon, 2022).

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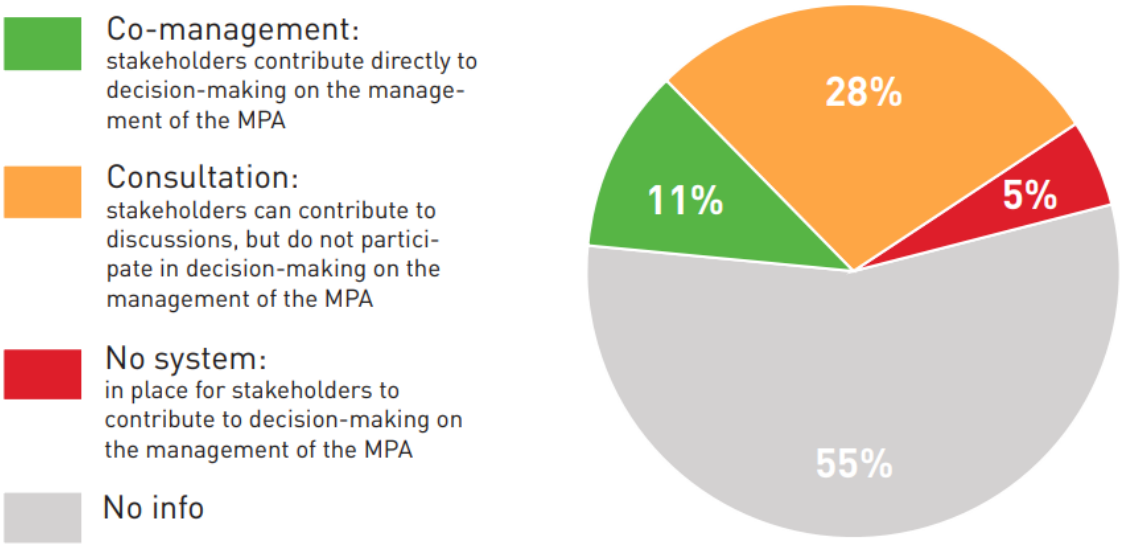

Fig. 3. Co-management of MPAs with a national statute in the Mediterranean region, based on MedPAN database on Mediterranean MPAs. Data was available for 119 out of 264 MPAs with a national statute in the Mediterranean (Kersting and Gallon, 2022)

The Protected Areas Programme of the Barcelona Convention's Regional Activity Centre (PAP/RAC) has published in 2019 a guide on the governance of the region's wetlands and coastal areas (PAP/RAC, 2019), which includes the general principles of the co-management approach. Other tools have also been developed on a case-by-case basis, for example in the framework of the LIFE INTEMARES project to support the participatory processes of N2000 sites in Spain (Nieto, 2021). Although it does not strictly concern (marine) protected areas, the approach developed within the framework of the SMILO project on sustainable islands is remarkable in the sense that it promotes the creation or reinforcement of local committees bringing together all the stakeholders in the construction of the territorial project (SMILO, 2023).

Finally, co-management is a key recommendation of the Post-2020 Roadmap (MedPAN, SPA/RAC, WWF, Prince Albert II Foundation, 2022) with a dedicated Recommendation 1.5 that stresses the need to empower MPA managers through legal and other mechanisms to apply a decentralized governance system that features participatory processes and co-management approaches and be more responsive to local conditions (Kersting and Gallon, 2022). The Conservatoire du littoral in France is currently developing a methodological guideline on co-management, which will be available in 2024. In the Mediterranean, the existing co-management frameworks in fisheries management, even though rare, facilitate problem solving and effective measures implementation in mitigation of bycatch and build a relationship of trust, partnership and responsibility with the involved fishers (Sonderblohm and Berković, 2022). Trust in the governmental system and scientific or local ecological knowledge that comes from established co-management is by far the best approach to address any issue in fisheries management, but unfortunately, due to cultural and historical circumstances, co-management is not common in fisheries management in the Mediterranean (Sonderblohm and Berković, 2022).

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2.1.1. Croatia

In Croatia, fisheries are regulated through Marine Fisheries Act (Croatian Parliament, 2017), and viewed as a strategic economic branch with goals to (i) ensure sustainable management of natural resources and (ii) improve the competitiveness of fisheries and their sustainability in socio-economic terms. Fishing is possible in common fishing areas and in protected areas, regulated by the Nature Protection Act (Croatian Parliament, 2020). Subordinate to the Marine Fisheries Act and Nature Protection Act is the "Ordinance on fishing in protected areas, special habitats and areas with special fishing regulations".

Co-management of marine resources is not yet formally recognized in Croatia, but has been prescribed for protected areas management in Guidelines for planning the management of protected areas and/or areas of ecological network by UNDP in 2018. Co-management has been introduced in the Eastern Adriatic on a smaller scale through WWF Adria's pilot projects: (i) DestiMED – co-management in tourism in Kornati and Lastovo MPAs (ii) FishMPABLUE2 co-management in small-scale fisheries in Telašćica and Lastovo MPAs, and (iii) small-scale fisheries (SSF) project in Vlora Bay, Albania.

2.1.1.1. Telašćica MPA (Information site)

In 2017, the Public Institution Telašćica Nature Park with the help of WWF Adria, established, on a voluntary base, a stakeholder group under the name **Local Governance Council (LGC) for Fisheries in Telašćica MPA**. The LGC was established with an objective of strengthening the role of the local community, primarily fishers, in management of fisheries in the MPA. The roles of the LGC were planning, implementing and supporting activities that contribute to sustainable use of marine resources and ensure the long-term benefit for local fishers. The focus was on determining and solving priority problems, co-ordinating and conducting joint activities, informing the general public and disseminating the positive image and role of the LGC.

The Council was established through a charter which prescribed that its members could be persons from the local community engaged in fishing or using fishing resources to achieve economic benefit, as well as the representatives of legal entities relevant for management and planning of fisheries in marine protected areas. The number of members was not limited, and each individual becomes a member by signing the Charter. The work of the Council was based on the principle of non-partisan non-profit and transparent action. The Council has been established with the ambition to become co-management, but since the Croatian Legislative system does not recognize co-management as the full partnership in which government and local communities make decisions together, the Council was established as a participation body with limited responsibility. As such, it was responsible for creating a Fisheries Management Plan for Telašćica MPA, which was translated into National Legislation through "Ordinance on fishing in protected areas, special habitats and areas with special fishing regulations". Today, the Council is not meeting actively anymore, but WWF Adria works on reactivating it soon.

2.1.1.2. Working group for fisheries in MPAs

The Ministry of Agriculture in Croatia, responsible for fisheries, proposed in 2021 the establishment of a working group for long-term monitoring and evaluation of measures for fisheries management in marine protected areas, supporting the "Ordinance on fishing in protected areas, special habitats and areas with special fishing regulations". This working group could potentially become an example of co-management in fisheries, consisting of different stakeholder groups relevant for management of fisheries in each of the protected areas. The working group has not yet convened to this day, but WWF Adria is currently working on

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encouraging this process. Additionally, co-management needs to be defined in Croatian national legislation in order to align and facilitate recognition and of this and similar initiatives.

2.1.1.3. On-line platform for public consultations

Consultation in fisheries in Croatia happens through the "e-Consultations" application (cro. "e-Savjetovanja"). This platform allows participation in open public consultations in the process of making laws, other regulations, and acts and allows the government to take into account the public comments on the regulations, but maintains decision-making authority to accept or reject the comments. Many fishers and scientists are using this platform to propose new scientifically-based measures such as no-take zones or fisheries management measures that contribute to recovery of biological populations.

2.1.2. France

In France, co-management is practised to some extent. A number of strategic documents by IUCN, WWF and MedPAN advises its incorporation in MPA management, considering it an important factor of MPA success. During the designation and management processes of MPAs, concertation meetings take place where all local actors are represented: representative state, technical organizations for biodiversity conservation, tourism/recreation actors, scientists, NGOs, etc. They participate together in the designation and the implementation of the MPA management plan and finally, the representative of the state has the main decision-making role. Depending on the type of MPA, experts can be asked for their opinion on the designation of an MPA or the management plan.

2.1.2.1. Parc Marin de la Côte Bleue (PMCB)

Parc Marin de la Côte Bleue (PMCB) is a particularly successful example of co-management. It emerged in 1983 from a bottom-up approach and shared governance process. The co-design of the park was based on strong dialog and participation of the local artisanal fisheries from the beginning. The fisheries organizations initiated the creation of the 2 no-takes reserves which have been renewed in 2014, again on the initiative of fishers. From the beginning, artisanal fishers collaborated closely with the Park staff on monitoring of landings, catches and fishing effort, participated in the scientific studies, meetings and exchanges and worked with the local schools for outreach and education purposes. Fishers provided information about poaching, abnormal or exceptional phenomena, such as invasive species, implementing mitigation of catch of sensitive and protected species, organizing signalization of lost nets, etc. As a result, professional fishers felt integrated in the decision-making processes and the relationship with the park was based on trust and mutual exchange. Surveys of social acceptance showed no negative perception of the PMCB. The majority of local fishers felt they were involved in decisions processes of the Park, they were aware of the positive effect on the marine environment, as well as on the local artisanal fisheries (Charbonnel, 2021). Social acceptance of the Marine Park was a crucial factor for its success.

2.1.2.2. Ile du Grand Rouveau

Ile du Grand Rouveau is a property of a public institution Conservatoire du littoral in charge of land protection and coastal preservation. In 2006, the maritime part of the domain belonging to the Conservatoire du littoral has been designated an MPA. This area is also a Natura2000 site and is in the SPAMI List (List of Specially Protected Areas of Mediterranean Importance). Since its designation in 2000, the site has been managed by the city of Six-Fours-les-Plage with the support of the organization for scientific monitoring and management

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Petites Iles de Méditerranée (PIM). This partnership paved the way to co-management in the island, when the PIM organization was designated by the Conservatoire du littoral as a co-manager, along with the city. This change in governance led to drafting of a new tripartite management agreement in 2021 between the owner and the two organizations.

2.1.3. Spain

2.1.3.1. The Cabo de Gata-Níjar Nature Park

The Cabo de Gata-Níjar Nature Park has been created in 1987 as the first maritime-terrestrial Natural Park in Andalusia, Spain. Since then it has also been designated as a Biosphere Reserve, a Specially Protected Area and a Site of Community Importance (Birds and Habitats Directives), it has joined the European Geoparks Network and is on the SPAMI List of the Barcelona Convention. The park is managed through a Governing Board, made up of representatives of the Regional Ministries and public administrations involved and representatives of the other interested bodies (representatives of all the social sectors: representatives of towns and villages, universities, farmers, fishers, sports associations,…)

From 2019 to 2022, the INTERREG Mediterranean TUNE UP project sought to test, implement and adapt an innovative tool, the Environmental Contract, in 10 MPAs. An Environmental Contract sets the basis for voluntary-based commitments undertaken by various public and private entities and was first used for the sustainable management of wetland systems (Polajnar Horvat and Smrekar, 2021). Environmental Contracts are negotiated agreements between the parties that take shape through an inter-sectoral approach and inclusive decision-making processes. Through this process, different sessions of participatory events were implemented by the Andalusian Federation of Towns and Provinces (FAMP), called “territorial laboratories”. These events involved various stakeholders with the aim of establishing a participatory governance arrangement for the Environmental Contract of the Natural Park made from representatives and technicians from three different city councils, the manager of the Natural Park, the Andalusian Government (agriculture, livestock, fishing and sustainable development departments), stakeholders from the fishing and tourism sector, civil society organizations, etc.

The main result: definition of 8 projects to be implemented within the Action Plan. Three projects were related to Governance and Management, four to Conservation and Environment and one on socio-economic aspects (Palazzo *et al.*, 2021). A Memorandum of Understanding was signed by the different parties to develop and implement the action plan. Despite the absence of a legally binding basis, the Environmental Contract is an interesting tool for implementing a participatory approach and a concrete partnership towards the definition of a shared territorial project.

2.1.3.2. Sand eel fisheries in Catalonia

A co-management success story both in theory and practice is co-management of sand eel fishing in Catalonia. Participative decision-making process was established through “The Decree of the Government of Catalonia (Spain) no. 118/2018 on the governance model for professional fishing in Catalonia”. On the government initiative, long-term management plans were developed and the co-management committee was formed consisting of: (i) fishing sector linked to the management plan in question, (ii) fishers’s guilds, federations and other bodies representing the fishing sector, (iii) scientific community and (iv) entities linked to environmental protection (NGOs). The Co-management committee was responsible for drafting a proposal

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for a professional fisheries management plan. If the management plan for the fishing is carried out in the protected area, the opinion of the competent Ministry of Environment is necessary. Once the proposed plan had been adopted, it was submitted to the competent Ministry of Fisheries, which adopted it by Decree and positioned it in the general acts of the state, obligatory for each citizen.

2.1.4. Italy

In Italy, the co-management of Marine Protected Areas (MPAs) is not explicitly recognized or officially mandated by national legislation. The legal framework for MPAs in Italy primarily relies on the *Framework Law on Protected Areas* (Law No. 979 of 1982) and subsequent regulations. It emphasizes involvement of local communities and stakeholders in protected area management, but does not specifically outline a co-management approach.

However, some MPAs in Italy have adopted collaborative management practices involving multiple stakeholder groups, which reflect co-management approach. Various actors contribute to decision-making processes, monitoring, and implementation of management measures within the MPAs. These arrangements often result from voluntary collaborations and partnerships among different stakeholders interested in the conservation and sustainable use of marine resources, driven by the shared goal of achieving effective management, community engagement, and integration of local knowledge and expertise.

2.1.4.1. Torre Guaceto MPA – Blue4All Information Site

Torre Guaceto MPA was created in 1991 by a decree of the Ministry of environment and consists of a marine and a terrestrial part. It is a Site of Community Importance (SCI) under the Habitats Directive and a part of the SPAMI list of the Barcelona Convention. It is managed by a Consortium formed by municipalities Carovigno and Brindisi and WWF Italy (Guidetti *et al.*, 2010)

The MPA has three levels of protection: zone A, B, and C. There are two Zones A (179 ha in total), which are no-take and no access areas and can only be accessed for scientific research and guided tours. Zone B (163 ha) is a no-take and access buffer zone, which is used for bathing, research activities and guided tours. Zone C, the largest zone (1885 ha) is used for used for small-scale fisheries, as well as research activities, bathing and guided tours.

Shortly after being founded, the Consortium decided to impose a four-year ban on fishing inside the MPA, to help recover marine ecosystems, which created strong conflicts with the fishers. A local stakeholder (Slow Food Convinium leader) helped overcome those conflicts by building a collaboration with the fishers through co-management approach. The local fishers benefited from a privileged program in the Italian law (Territorial Use Rights for Fishing – TURF which allows the fishers to (i) be the only ones to access a part of the MPA once a week for fishing and (ii) participate in the elaboration of the fisheries protocol to regulate fishing effort and avoid overfishing in the MPA. Moreover, the transgressors are subject to strict sanctions, criminal sentences, and the confiscation of their boats and fishing equipment.

A 4-year ban following TURF and fisheries co-management has led to the recovery of fish population, increasing the average catch per unit effort (CPUE) inside the MPA almost five times more than outside of it. The density and size of the seabream population increased, leading to recovery of macroalgae. Positive impacts were shown on the tourism sector as the area generates an income of €6 million per year (Visintin et al, 2018). To enable better access to funding, in 2013 a fishers cooperative EMMA (Eco Mare Mediterraneo

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Amico) was created, allowing the local fishers to participate in projects to improve the sustainability of their fishing practices and thereby receive funds.

A survey was conducted to understand the level of engagement of different key-stakeholders in the MPA and analyse governance strategies. Main stakeholder groups included the municipalities Consortium workers, fisheries, tourism and agricultural sectors, Slow Food organizations and citizens in general. It has been shown that the best stakeholders to represent the relevant local institutions are the Director of MPA, the communication Manager of the Consortium, the president of the EMMA cooperative and the regional Slow Food branch; and a member of the Thalassia cooperative (Russi, 2020).

Between 2020 and 2022, the Consortium focused on expanding the boundaries of the MPA. Fishers marked the significant areas for their activities on a blank map and after analysis this data was used to generate a distribution map depicting the use of the marine area by both professional and recreational fisheries, adapted to be utilized within the Marxan system, a tool used for systematic conservation planning (WWF Italy, 2022).

Fishers now have a positive attitude towards the MPA and are proud of being part of it as they play a wider and key monitoring role in the MPA by reporting turtles in difficulty, illegal fishing. However, they are still worried about the fishing pressure nearby made by recreational fishing that largely illegally exceeds the quotas.

2.1.4.2. Capo Milazzo MPA, Italy

Capo Milazzo was identified as a Marine Protected Area according to Law no. 979 of 1982, art. 31 (Ordinary Supplement G.U. no. 16 of 18 January 1983) and the Framework Law on Protected Areas, and was established by Decree 17 May 2018 (published in “Gazzetta officiale Repubblica Italiana n. 55” of 6 March 2019).

Co-management of the Capo Milazzo Marine Protected Area (MPA) involves a collaboration between multiple entities (Management Consortium): the University of Palermo (public administration), the organization Marevivo (no profit organization), and the Municipality of Milazzo (public administration). This horizontal co-management arrangement aims to ensure effective governance, conservation, and sustainable use of the marine resources within the MPA.

The University of Palermo, through its Department of Earth and Sea Sciences, plays a role in scientific research, monitoring, and providing expertise on marine ecosystems, biodiversity, and conservation strategies. Their involvement contributes to the understanding of the ecological dynamics and assists in making informed management decisions.

Marevivo, an Italian non-profit organization dedicated to marine conservation, is actively involved in the management of Capo Milazzo MPA. They collaborate with the MPA management authorities to implement conservation initiatives, raise awareness about marine conservation, and engage local communities and stakeholders in the protection of the marine environment.

The Municipality of Milazzo, as the local governing body, also participates in the co-management of the MPA. They work together with other stakeholders to ensure the proper implementation of regulations, enforcement of protection measures, and the development of sustainable tourism and socio-economic activities within the MPA.

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By involving these different actors, the co-management approach aims to integrate scientific expertise, local knowledge, and community engagement to achieve effective conservation and sustainable development goals within the Capo Milazzo Marine Protected Area.

2.1.5. Transboundary fisheries restricted area (FRA)

2.1.5.1. Jabuka/Pomo Pit FRA (Cro-It) – Blue4All Information site

Jabuka/Pomo pit is an area located in the Middle of Adriatic Sea, between Croatia and Italy that is a part of the EBSA (Ecologically or Biologically Significant Area). This area plays a key role as an important spawning area and a nursery zone for valuable demersal fish resources, in particular, hake and Norway lobster. This area has gone through a long-term process but at the end successful designation of transboundary fisheries restricted area that spans across the borders of Croatia and Italy. In the Jabuka/Pomo pit FRA, fisheries regulations are currently active and successful, bringing positive results on restoration of demersal populations.

Transboundary fisheries restricted areas (FRAs) span the borders of more than one state or subnational entity. They exist in different types of geographical configurations, with different levels of fisheries restriction and with different levels of international cooperation. Transboundary/transnational relationships often cause conflict due to different jurisdictions and different approaches and interests. Transboundary fisheries management measures are therefore governed by international or regional maritime, fisheries, environmental protection and spatial management legislations. The active involvement of not only national, but also international institutions, non-governmental organisations, policy makers, industry and scientists is essential to ensure that scientifically based data are collected and new area-based measures are established based on them to be implemented and enforced.

For many years, national and supranational authorities, research institutes and NGOs have attempted to establish Jabuka/Pomo Pit FRA to implement measures that will help protect this valuable marine habitat. Strong opposition from fishing associations and continuous fishing regardless of fisheries restrictions and spatial management measures were major causes of conflict. Scientists had long called for wider protection of the Jabuka/Pomo Pit, and a range of local and international organisations, administrations, individuals and NGOs were extensively involved in the process. In the end, the exceptional scientific data, on the successes of temporary restriction of fisheries and thus the restoration of the population of demersal species, was a strong base and flagship to convince fishers as well as the national and regional administration to continue the implementation of the temporary ban on fishing. Through bilateral initiative between both administrations, with a strong scientific support with comprehensive data that came out from three-year temporary fisheries restriction period and with fishers who were initially very against and later very much in favour of the establishment of the FRA, Jabuka/Pomo Pit FRA and all included fisheries restrictive measures became permanent in 2021. On the top of national legislations this new regime was also recognised by the GFCM Recommendation 44/2021/2 on the establishment of a fisheries restricted area in the Jabuka/Pomo Pit in the Adriatic Sea, amending Recommendation GFCM/41/2017/3. This proposal divides the FRA in 3 areas: Zone A completely prohibiting certain fishing activities (bottom-set nets, bottom trawls, set longlines and traps), while Zones B and C prohibit those activities from 1 September to 31 October each year, with additional conditions on fishing days, specific authorizations, and proof of historical fishing in this area. Zone C has further restrictions on the days and hours for bottom trawls (European MSP Platform, n.d.)

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This is an example where a collaborative process included various parties that had an interest in or were affected by the establishment and management of the FRA. Further management should include continued cooperation between administrations, further scientific data collection and collaborative inspection relations and communication with the monitoring centres to exchange information on the movements of fishing vessels in the area. The approach used for establishing the FRA area in Jabuka/Pomo Pit, including a combination of bottom-up and top-down approaches, represents an example of efficient management coordinated at many levels – scientific, sectorial and administrative and could be replicated in future efforts of establishing fisheries restricted areas in the Adriatic and elsewhere.

2.2 Baltic Sea

2.2.1. Introduction: Transboundary MPAs and MPA Management in the Baltic Sea

2.2.1.1. HELCOM MPAs

The Baltic Sea region includes the nation-states of: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden. The Baltic Marine Environment Protection Commission (HELCOM) is the regional sea convention responsible for staging regular meetings with its Contracting Parties (CPs) – those same nation-states as well as the European Union – to discuss issues related to the Baltic Sea, including MSP and MPA management. This presents the opportunity for cross-country cooperation. Moreover, HELCOM Recommendation 35/1 titled 'System of Coastal and Marine Baltic Sea Protected Areas (HELCOM MPAs)' recommends CPs to: *"**Harmonize the designation** of neighbouring HELCOM MPAs **in transboundary marine areas**, and where appropriate **to join forces between neighbouring states** when setting up management plans or measures"* (HELCOM, 2014).

On a regional scale, almost 60,000 km^2 of the Baltic Sea are designated as HELCOM MPAs. This equates to 188 individual HELCOM MPAs. Of that coverage, roughly half is fully managed (50.7%), whereas an additional percentage (7.7%) is partly managed. This means roughly 40% of HELCOM MPAs have no management structure in place. Note: data on the management of Natura 2000 sites in the Baltic Sea region was not available for this analysis.

Country	Designation level	Type	Designation type	Size (km2)
Total	**Regional**	**HELCOM MPA**	**Total**	**59232.29**
			Designated and managed	**30037.13**
			Designated and partly managed	**4563.537**
			Designated	**24631.622**
	European	**Natura 2000**	**Special Areas of Conservation (Habitats Directive)**	**34581.55**
			Special Protection Area (Birds Directive)	**41978.18**
			Both	**27368.43**

Table 1: Total km2 of MPA coverage in Baltic Sea region (HELCOM Map and Data Service, 2023)

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Despite this platform for cross-country cooperation and the recognition of **trans-boundary MPA collaboration** at the institutional level, there has been **little cooperation between states across HELCOM MPAs in the Baltic Sea Area**. This failing has been noted by Coalition Clean Baltic (CCB) who in 2021, published a report evaluating the lack of effective examples of well managed transboundary MPAs in the Baltic Sea. According to this report, 43 border-MPAs were identified within the HELCOM area in the Baltic Sea Region. These areas are protected by various national legislative measures as well as international networks, including Natura 2000, HELCOM and OSPAR (CCB, 2021).

Furthermore, stakeholder engagement frameworks are missing from many HELCOM MPAs and detailed information on how managed MPAs incorporate stakeholders is lacking. This is partly because HELCOM does not require its CPs to provide this information when they submit information on newly designated MPAs.

Subsequently, there is a large variability in the approach each CP takes to MPA management (WWF, 2016), which also affects the ability for cross-country cooperation with transboundary MPAs. HELCOM has little legal power to enforce or require CPs to provide such information.

2.2.1.2. The European Union and Natura 2000

The EU is another catalyst for setting up transboundary spatial management, for example the network of Natura 2000 areas, or the more recent coming into force of Regulation (EU) 2022/1614, the **deep-sea access regulation**. Across the EU waters, deep-sea access regulation bans all bottom fishing deeper than 800 m and protects vulnerable marine ecosystems (VME) between 800 and 400m. Another catalyst will be the newly adopted EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries (2023). An international legislative (UN, EU) driver is the “30x30,” which calls for 30 percent of the world's terrestrial, inland water, and of coastal and marine areas, to be in effective protection and management by 2030. Under this umbrella, countries are also setting up transboundary spatial management areas under regional fisheries management organizations (RFMOs). One such RFMO is North-East Atlantic Fisheries Commission (NEAFC) that has over the past decades set up closed areas to protect VMEs, as well as restricted bottom fishing in other areas (link).

2.2.1.3. Public and privately-owned waters (Finland, Sweden and the Åland Islands)

In the Baltic Sea region, only Sweden, Finland and the Åland Islands (an autonomous region of Finland) have public and private sea areas. The legal ability to own coastal water areas in these places presents an interesting dynamic to marine and MPA management.

Finland and Åland

Water areas in Finland and Åland Islands can be divided based on ownership. In the coastal areas the water areas are in private ownership (Finnish: *yksityinen vesialue*; Swedish: *privat vattenområde*) and beyond that, the so-called general water areas (Finnish: *yleinen vesialue*; Swedish: *allmänt vattenområde*), belong to the state. The water area 500 metres outward from the 2-metre depth line is privately owned. The water ownership is based on ownership of a respective land area by the shore. The owners can be, for instance, private persons, companies, municipalities and even state organisations. Management rights of such areas

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belong to the owners that are often organised as associations of water owners that jointly manage a water area. There are also water areas both owned and managed privately.

However, there are cases of state-owned waters where the general water areas and the so-called private water areas merge together. In essence, if there is a parcel of state-owned land that has an accompanying share of coastal sea area within the privately-owned water area, Metsähallitus (the organisation responsible for managing state owned land in Finland) will govern both types of areas, in addition to the general water areas (Metsähallitus, 2023).

Sweden

The same distinction between private and public waters applies to Sweden. According to the Swedish Public Water Areas (Boundaries) Act (SFS 1950:595), water areas in the sea are public (public water) where they do not form part of real property units (private water). In the sea, all water within three hundred metres of the mainland or of an island at least one hundred metres long form real property units (KTH, 2022; SGU, 2022). Legally, there are some further allowances to this rule but that is the basic principle. It should be noted that public waters are found in the sea, as well as in some select lakes. Most Swedish lakes consist solely of private waters.

To access more information on the MPAs, the European environment agency EEA maintains a large database of all MPAs, as does HELCOM through its Map and Data Service and MPA Portal, where – if in place – the management plans for HELCOM MPAs as well as their shapefiles, can be accessed.

2.2.2. Finland - Bothnian Sea National Park

Bothnian Sea National Park (BSNP) is a large MPA on the west coast of Finland. It covers an area of 912 km^2, of which 98% is water. The park is a 160 km long N-S strip of near shore waters in a sea area. The park has relatively good water quality and hosts valuable biodiversity. The natural conditions and vegetation zones change substantially along its N-S direction. The nature protection objective is to protect species and habitats of the islands and submerged, coastal areas and wetlands, as well as the cultural heritage. Specific objective unique to this site is to support the continuance of commercial fisheries by protecting important fish habitats and managing species that may cause damage to commercial fish stocks (the grey seals and cormorant) (Metsähallitus, 2014).

This park is managed by Metsähallitus Parks and Wildlife state authority that manages protected areas in state-owned land and water. Official designation process started in 2009 by the Government of Finland's decision-in-principle for the designation of park. Based on the decision-in-principle, Ministry of Environment prepared a government proposal for the park. Through parliamentary process, the law on the Bothnian Sea National Park (326/2011) came into force in 2011. The law delineates the park area and sets the general restrictions on human activities at the area. More detailed regulations are defined in a management plan and special ordinances for implementation.

Metsähallitus Parks and Wildlife has well established processes of participation. The participatory practices were utilized especially in preparation of the Bothnian Sea National Park's management plan and have

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further evolved since. Preparation of the management plan was run by a regional office of Metsähallitus Parks and Wildlife. To ensure effective participation of various stakeholders and authorities, several regional and thematic groups were established. Regionally, there were three groups: northern area Satakunta, southern area Varsinais-Suomi and municipality of Rauma group. Thematic meetings handled fisheries, hunting, bird and nature protection and tourism. Eleven thematic meetings and 13 public events were organized in a one-year period in different municipalities to cover the whole area (Metsähallitus, 2014). Numerous smaller events were organized on the islands and a newsletter was published for five years to inform about the process.

As part of the park designation, a regional collaboration group was established to support preparation and implementation of the management plan. It consists of representatives of relevant authorities, NGOs, and economic actors together with representatives of the region's municipalities. Participatory arrangements have evolved during the years, and they are rather diverse from communication activities to establishment of temporary and permanent working groups. Stakeholder engagement during the management plan preparation, was organized successfully. However, the designation process of the park that preceded faced contestation on many levels. In 2008, a study on park alternatives conducted by Metsähallitus Parks and Wildlife stirred initial opposition. The Ministry of the Environment commissioned the study to be done quickly and with limited resources, despite Metsähallitus officers advising for a transparent and consultative process. Local and national media covered the park's plans, generating discussions and concerns. To address the uproar, the Ministry organized meetings in municipalities, with the minister herself attending. The debates in Parliament during the drafting of the park law were heated, reflecting diverging regional views. The politicization of the debate coincided with approaching parliamentary elections.

2.2.3. Åland Sea Plan (MSP)

The Åland Islands are an autonomous region of Finland with its own government. Åland is unique for its close cultural and geographical relationship with Sweden, despite belonging to Finland (Finnish Government, 2023). The Government of Åland regulates its waters and holds the right to pass legislation on environmental issues. At the moment, Åland's surrounding marine area is categorized as an ecologically or biologically significant marine area (EBSA) (Convention on Biological Diversity, 2019). The Åland Sea Plan relates to currently protected areas in the Åland Islands as well as areas that could potentially become protected within a developed Maritime Spatial Plan (MSP).

The Åland Sea Plan (Ålands Landskapsregering, 2021a) contains proposals for the use of Aland's public waters, according to the European Parliament and the Council Directive 2014/89/EU (EU, 2014) for establishing a framework for MSP. The Åland Sea Plan is limited to public water areas governed and managed by the province of Åland. It does not include privately owned waters. The plan integrates a goal to achieve and maintain Good Ecological Status (GES) as well as adherence to the EU Biodiversity strategy with effective implementation of the ecosystem-based approach (EBA) under the Marine Strategy Framework Directive (MSFD). The plan was prepared in collaboration with relevant municipalities and authorities inside and outside the province. All interested parties were involved at the early stage through open procedure public consultations. The plan has been revised with consultation statements and by a politically appointed reference group. Moreover, the plan has been adopted by Åland's regional government and will be reviewed at least every six years. In total, 65 consultation statements and 604 referral statements from stakeholders

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were considered. These statements affected several decisions, such as scrapping a plan to build wind farms in areas where there was an overlap with socio-ecologically and culturally significant areas.

The Pan Baltic Scope (2019a) project was conducted with the aim to improve MSP planning, coordination, and stakeholder engagement within the Baltic Sea Region. As part of the project, a series of reports were conducted that were later used to support decision making for the planning and implementation of the Åland Island Sea Plan (Ålands Landskapsregering, 2021b). As an example of stakeholder engagement, the following of these reports will be discussed here:

- *'Local perspectives on marine and coastal planning. Background report to the Åland regional government's work with marine planning'* (Håkan and Kvarnström, 2019)

The report by Håkan and Kvarnström 'Local perspectives on marine and coastal planning…' (2019) was heavily based on local perspectives and supported by stakeholder participation. It covered a broad scope of issues, such as: fisheries management; biological diversity; changes in animal populations; water quality; pisciculture; culture and tourism, and socio-political issues. It also emphasized further the integral role of fishing within life and culture in the Åland Islands. Understanding the significance of fishing to Åland (as well as how cultural, economic, and social issues are tied to the environment) was essential to the design of effective solutions. More specifically, fishing and fisheries management were addressed through participatory mapping methods through which stakeholders indicated the location of key fishing, tourism, and leisure areas. Human-animal relations were discussed through the revision of grey seal hunting quotas. Additionally, concerns relating to water quality and eutrophication were discussed and contextualised within the islands. Key areas which, according to stakeholders, are negatively affected by pollutants were noted. Furthermore, issues regarding culture, tourism and rural politics were discussed. It was noted that a 'gap' is being felt between the local community and regional/national governments. A feeling of disconnect between these actors (i.e., that local administrative authorities do not adequately listen to or understand community concerns) makes political decision making particularly difficult to integrate. This disconnect has a direct impact on stakeholder engagement through a lack of willingness by some stakeholders to engage with environmental policy and marine management.

In the report by Håkan and Kvarnström (2019), stakeholders were engaged through **consultations**. A rich collection of data was gathered and analysed through extensive interactions with the stakeholders. The main methods used were **focus groups, interviews, individual meetings, dialogue workshops and field-site visits to various locations across Åland**. The analysis provided information on various socio-ecological dimensions and revealed locally observed changes in the environment. Although this report (Håkan and Kvarnström, 2019) broght fruitful results and spatially mapping stakeholder input across the islands, these results were only partially included in the finalised Åland Sea Plan (2021a). The Åland Sea Plan was limited to public waters and the government did not have the means to enforce changes proposed by stakeholders within privately owned waters (Ålands Landskapsregering, 2021b).

As such, there was difficulty translating these local issues to larger level MSP. Whether this was due to competing interests or lack of legislative means regarding private water management is unclear. However, with some improvement, this case could develop into higher levels of stakeholder involvement (participation).

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2.2.4. Pan Baltic Scope project – transboundary MSP collaboration

There is little transboundary MPA collaboration in the Baltic Sea, which makes it difficult to achieve consistency in protection within transnational MPA networks. Similar issues concern the transboundary maritime spatial planning (MSP) in the Baltic Sea. MSP processes differ in many ways both at regional as well as national level in the Baltic Sea countries.

The project called Pan Baltic Scope (2018–2019) was established to focus on cross-border MSP collaboration to find solutions and develop tools that could be used in future transboundary MSP activities to contribute to more coherent maritime spatial plans in the Baltic Sea Region. The project included partners of competent MSP authorities at different administrative levels around the Baltic Sea Region, including Finland, Åland, Estonia, Latvia, Poland, Germany, Denmark and Sweden as well as organizations such as HELCOM, VASAB and Nordregio.

Similarly, as with trans-boundary MPAs, competing national interests, heterogeneous planning systems, sectoral divisions and low stakeholder participation affect cross-border cooperation and management of transboundary MSP.

To zoom-in on these issues on different scales, from strategic-scale such as national and regional plans to local-level actors and effects, two subcases were selected to investigate how different planning systems, planning mandates, and planning cycles could be tackled using cross-border MSP collaboration.

The first subcase covering the Gulf of Bothnia, showing consultation and participation, invited different sector representatives and researchers to discuss which sectors in the Gulf of Bothnia need cross-border planning solutions, and which sectors use the sea areas "without borders". The aim was to identify conflicting interests and find solutions through public meetings and three workshops. During the meetings, various tools were used to engage participants: mapping exercises which were converted into GIS layers, illustrated overlaps as well as possible conflicting areas of interest between sectors. Afterwards, a traffic-light method was used to initiate discussions based on opinions. Other tools used during the workshop included draft version of the Baltic Explorer tool, Panel discussions, and a World Café with multiple, shorter tasks for the attendees. One of the tasks during the World Café was to respond to multiple questions in a Mentimeter questionnaire.
The importance of identifying relevant national-, regional-, and local-level stakeholders and involving them in collaboration as well as sharing data and research was highlighted.

The second subcase, push and pull communication and consultation focused on local-level fisheries stakeholders in the Åland Islands and in the Satakunta region (Finland). The aim was to study the level of social trust and to build trust using participatory methods and incorporating local-level knowledge into the MSP process (Pan Baltic Scope, 2019b).

Local-level stakeholders such as registered fishers, aquaculture representatives, anglers, and other fish-related professionals filled in online questionnaires. The results indicated respondents' trust towards project initiators and their motivations to engage in the MSP process. After that, the local level stakeholders filled in a web-based map survey (Maptionnaire) to identify the important, as well as the potentially conflicting areas.

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Recognizing these areas and involving them in MSP plans may prevent future local-level conflicts if they are identified beforehand.

After the survey, the need to engage the public in small local meetings was identified. At these meetings, the locals were informed about the MSP process and how they could take part in the MSP processes in the future. The outcome was an open discussion about issues and listening to the locals might give some resolution in the sense of how planners and stakeholders understand each other.

In summary, for these two subcases, the key aspects concerning cross-border issues include cooperation and collaboration, legal and policy frameworks, information sharing, harmonization of standards, institutional coordination, conflict resolution mechanisms, sustainable development and resource management, and stakeholder engagement. These aspects help facilitate effective management of challenges that span across borders.

2.3 North-east Atlantic

The North-east Atlantic provides a range of sites where stakeholder engagement and co-management are incorporated with marine conservation. In this report we cover cases from France, Scotland, Belgium, the Netherlands and Portugal, as well as one trilateral World Heritage MPA between the borders of Germany, Denmark and Netherlands. Cases of stakeholder engagement are reported from the Natura 2000 sites, fisheries management, shipwreck sites, one Biophysical Interest Zone, offshore windfarm areas, as well as the multi-use areas that are potential OECMs. Among the cases we cover in the N-E Atlantic, there is one project Information site (Baie de Seine Occidentale) and two Living labs (Vlaamse Banken and Wadden Sea, precisely its Danish part). Stakeholder engagement cases show a wide range of innovative solutions that could be adapted and replicated in other areas.

2.3.1. France

2.3.1.1. Baie de Seine Occidentale (Information site)

Baie de Seine Occidentale is the Natura 2000 site in the French part of the North Sea, which is both a Special Protection Area under the EU Birds Directive and a Special Area of Conservation under the EU Habitats Directive. The site was designated through two decrees issued by the Ministry of Ecology and Sustainable Development, respectively in 2008 and 2014. The site is co-managed by the Regional Committee for Maritime Fisheries and the French Biodiversity Agency (OFB). This allows one of the main stakeholders, the Regional Committee for Maritime Fisheries, to be active in the management of the MPA.

The site is an interesting example of stakeholder direct participation. All relevant stakeholders (i.e., local authorities, State authorities, local actors, and NGOs) were invited to workshops and meetings that took place between 2011 and 2016 to determine the MPA objectives and management measures. Two types of activities took place: steering committee meetings and working groups. This resulted in the management document, the DOCOB (document of objectives), adopted in 2016.

The designation and management of French MPAs happens mainly at the local level, giving an important role to relevant local stakeholders. However, most of the stakeholder participation is limited to the planning phase. Stakeholders describe this phase as one of intense consultation and participation, creating a feeling

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of ownership. Once the DOCOB is adopted, local stakeholders are not involved anymore in management of the site, which is left to the responsible authority (Beuret *et al.*, 2021). If necessary, the working groups can be mobilized, and normally, the steering committee holds meetings to keep the stakeholders informed of the progress of DOCOB.

2.3.1.2. Other projects on stakeholder engagement in the English Channel:

- PANACHE (UK, FR), the project aimed to improve the protection of the English Channel marine environment by establishing a network among existing MPAs. The focus was on assessing the existing MPA network for ecological coherence, mutualising knowledge on monitoring techniques and building a greater coherence and fostering dialogue for better management of MPAs, with case studies across the Channel. Deliverables available on SharePoint (link)

- VALMER (UK, FR), "How improved marine ecosystem services assessment can support effective and informed marine management and planning?" The potential role of ecosystem service assessment in marine governance in the western channel. Deliverables on Sharepoint (link)

- LIFE MARHA (FR), the project with aims to characterize the governance of Natura 2000 sites at sea in order to identify areas for improvement and monitoring and evaluation indicators.

2.3.2. Scotland

2.3.2.1. Shetland Shellfish Management Organisation (SSMO) Closed Area.

In the Shetland Islands, in the North of Scotland, shellfish fisheries up to six nautical miles are managed by the Shetland Shellfish Management Organisation (SSMO). Under the Shetland Islands Regulated Fisheries Order of 2012, the Scottish Government established fisheries closures around the archipelago and up to six nautical miles off the coastline. All licensed activities are prohibited within the closed area (scallop dredging, aquaculture and renewable energy production).

The fishers have been key stakeholders during the establishment process. They were involved from the beginning in collection of essential biological data together with the research institute of the University of the Highlands and Islands. Fishers also directly participated in the concrete planning of the closed areas, i.e., where they should be located and what ecological features should be protected. An important aspect is the timing of stakeholder participation, the meetings and consultations happened in a period of the year where fishers were not at sea and had the time to dedicate to the process.

2.3.3. Belgium

2.3.3.1. Shipwreck sites – potential OECM

Around several shipwrecks in the Belgian part of the North Sea, restrictive measures related to fisheries, anchorage and construction work have been put in place under Belgian legislation, under both the Marine Spatial plan of 2020-2026 and the law of 23 April 2021 for the protection of underwater cultural heritage and the valuable wrecks.

The 55 shipwrecks, having been underwater for at least 100 years, were selected for an inventory, carried out by VLIZ and the Flanders Heritage Agency. Based on this inventory with technical information, historical background, and current state including biodiversity recordings and the recommendations for protection, a consultation round was organized with the members of relevant authorities: Marine Environment Service,

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FPS Health, FPS Mobility and transport, Flemish Hydrography MOW, Flanders Heritage Agency Onroerend Erfgoed, Flemish service of the governor and Flanders Marine Institute VLIZ.

In addition, recreational divers have been involved in the research activities around the sites as well as in the consultation on defining appropriate protection measures. After this phase, protection measures were implemented for 29 sites through Royal Decrees.

2.3.3.2. Vlaamse Banken (Living lab) offshore windfarm area

The Vlaamse Banken MPA is a Natura 2000 site under Habitat Directive in the Belgian part of the North Sea. It is regulated under the national Belgian authority and the site management falls under the jurisdiction of the federal state. MPA was established by national law in 2005 (AR, 2005) and then extended to cover 30% of the Belgian part of the North Sea in 2012, with a second national law (AR, 2012). The position and the size of the area were decided based on recommendations from the scientific community (Degraer *et al.*, 2009; Health Belgium, 2016).

In 2014, Belgium had its first Maritime Spatial Plan (MSP) including MPAs, which is both a law (AR, 2014) and an administrative planning tool. Following the stakeholder consultation process required by the European Habitat Directive, the MSP has been submitted to public consultation during its making, as well as all the aspects that concern Natura 2000 areas, including the Vlaamse Banken MPA (Etat belge, 2022).

As part of the second and most recent Belgian MSP 2020-2026 (AR, 2019), the area for offshore windfarm (OWF) development was designated inside the Vlaamse Banken MPA. Ideally, MPAs should remain as undisturbed as possible; but as space is a scarce resource in this area, and to achieve the Green Deal, while continuing to accommodate sectors of the blue economy, installing OWFs in the MPA was required. Environmental NGOs and the OWF sector came together to discuss and co-design the area to benefit conservation objectives and the offshore renewable energy sector (WWF Belgium, 2021). An agreement was set on where and how the wind farms could operate, as well as which other activities may or may not be combined with the OWF, inside or near the Natura 2000 areas in the future (BOP and 4Sea, 2021).

Now that the area has been allocated in the Belgian MSP 2020-2026, an extensive participation process (Blue Cluster, 2022; FSP Economy, 2023) has been set up to co-design the OWF area to accommodate both the marine conservation and the renewable energy sector. Participating organizations were FPS Health, Food chain safety and Environment – the administrative organization responsible for the MSP. The objective of the process was to encourage the local community and stakeholders to take part in plans and decisions for the OWF concession. Scientific community, environmental NGOs, offshore wind sector and the general public are involved in a public discussion about design, construction and operation of the turbines, as well as an artificial energy island that would be nearby the MPA. Different options with various degrees of nature-inclusive design are being considered and debated by the aforementioned stakeholders.

While the implementation of the MPA was done with a consultation of a broad range of stakeholders, the more recent developments in the area have been co-designed with the core stakeholders. This resulted in some successes: acceptable area allocation, and a compromise regarding future multi-use for NGOs and OWF stakeholders. Recommendations for the future are to promote nature-inclusive design, even if expensive, and to apply co-creation process to more aspects of MSP and MPA management. OWFs are a very visible use of the North Sea and have been heavily debated in the last decades, therefore the public attention is high, which likely encouraged relevant authorities to have advanced and transparent stakeholder engagement process. Sectors with less visible and more diffused environmental impact, such as fishing and sand extraction, should be the subject of a similar process of stakeholder engagement and co-creation of plans

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and solutions, especially when these activities affect the conservation status of MPAs and their focus species and habitats.

2.3.4. Netherlands

2.3.4.1. Borssele OWF

The Borssele offshore wind farm (OWF) area is a zone in the Netherlands dedicated to offshore wind energy development, with a multi-use in mind. The area is divided into zones for different types of activities: passive fisheries, aquaculture, floating solar panels, innovation and conservation. **The area could qualify as an OECM** because the parts of the wind farm would be also dedicated to conservation, and because other activities, such as aquaculture and floating offshore panels, might have a positive impact on biodiversity by providing artificial hard substrates, shelter and habitat to various marine species.

For the stakeholders to apply for a permit to conduct their activities in this area, there is an application process to be addressed to a Dutch administrative entity for marine activities at sea – the Rijkwaterstraat organization. This application must include an environmental impact assessment. The novelty in this case study is that the decision to allow stakeholders to conduct their activities is not dependent on the windfarm operator, but on the administration (Noordzeeloket, 2023). This makes for a smoother and more inclusive process for stakeholder engagement and participation in the project. This type of process should be prioritized in the future for multi-use projects, especially when there is a potential for conservation to be a direct or indirect objective.

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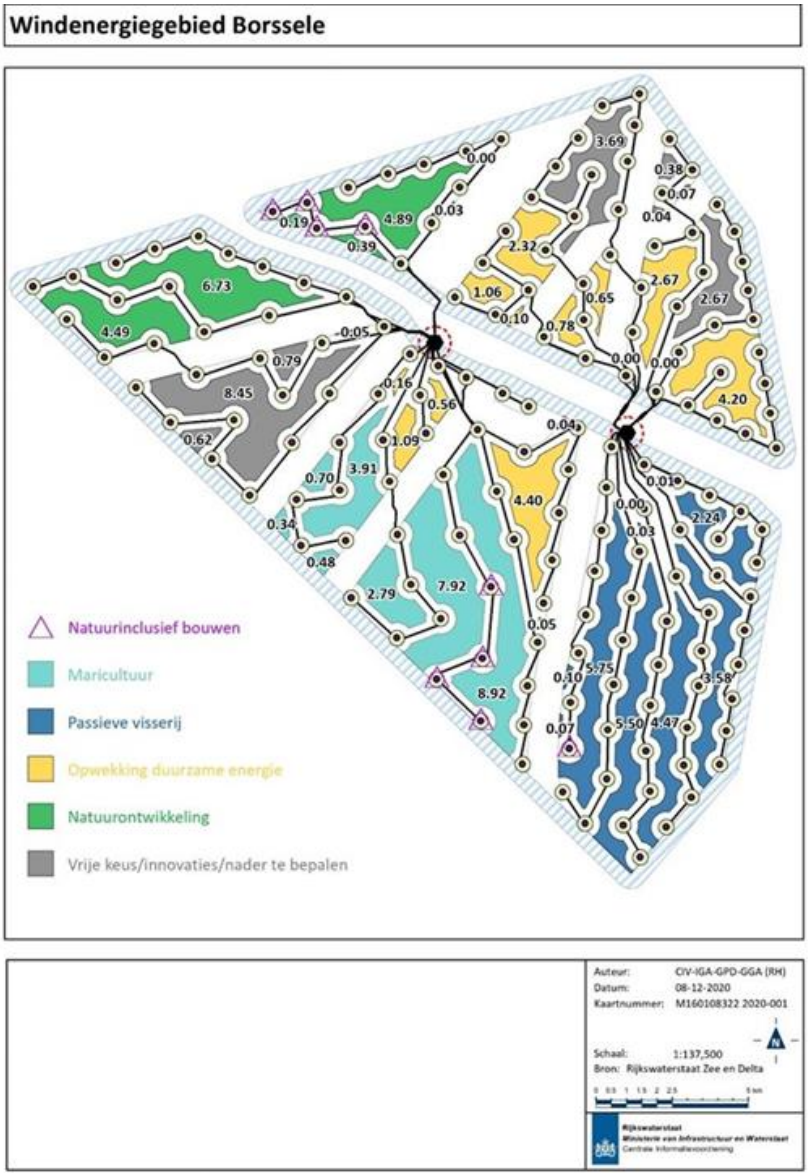

Fig 4: Borssele wind energy area: Rijkwaterstraat Zee and Delta. Legend translation from top to bottom: “Nature-inclusive design”, “Mariculture”; “Passive fisheries”, “Sustainable energy production”, “Nature conservation”, “Free choice/innovation/to be determined” (Noordzeeloket, 2023).

2.3.5 Portugal

2.3.5.1. Avencas Biophysical Interest Zone (ZIBA) in Cascais

The Avencas Biophysical Interest Zone (ZIBA) classified as such in 1998, is composed by rocky platforms and the sandy beach of Praia das Avencas in Cascais, Portugal. It is a unique habitat in an extremely urbanized coastal zone, characterized by its high marine biodiversity. Despite its classification, the regulations created in 1998 were not fully implemented because of a lack of compliance from the local population. This resulted in increasing human pressure from visitors and persistent illegal fishing activities, continuing the biodiversity decline that had started since the 1980’s.

In 2016, trying to revert the situation, the Cascais Municipality reclassified the ZIBA as Marine Protected Area with local management, implementing measures to recover the local flora and fauna biodiversity, and increase the obedience to regulations becoming the country's first locally managed marine protected area.

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This reclassification process used a bottom-up approach with strong engagement with the public, and a strong component of awareness-raising and communication with the general public. As a result, several changes were made to the regulation in order to approach the population's usage of the area closer to the conservation objectives for rocky shores, considering suggestions from local fisherman, inhabitants, sports practitioners, and beach restaurants (Serra, 2017). Furthermore, numerous outreach activities were carried out with the scholar and general public, including an exhibition in the nearby environmental interpretation centre, and a visitation pathway with information spots placed at the entrance of the beach.

Between 2010 and 2013, a research study was carried out in the area to evaluate, from a social perspective, the new bottom-up approach from the Municipality at a local level for Avencas Biophysical Interest Zone, and to measure the success of this approach in a short-term scale (Ferreira *et al.,* 2015).

The research analysed in a short term the user's behaviour under the new bottom-up management measures and the ecological condition of the area. Data was collected through visual census, interviews with visitors, and public participation assemblies. The study examined visitor demographics, motivations for visiting the area, preferred activities, and knowledge and compliance with the protected area regulations.

Key findings of the study included a decrease in visitor numbers within the protected area, but a positive response from recreational fishers who changed their fishing spots to areas outside the protected zone. Trampling by visitors was identified as a major negative impact on the rocky intertidal communities.

The study emphasized the importance of community involvement, public awareness, and effective communication in achieving successful management of marine protected areas. It suggested the need for extensive environmental education programs, participatory processes, coordination among stakeholders, integration of scientific and traditional knowledge, and clear communication of rules and regulations.

In 2017, Serra carried out a study to test if correct planning, systematic surveillance, and strong local support resulted in a recuperation of a distressed rocky shore habitat, essential to the ecosystem equilibrium at a regional level. Her short-term results indicated greater compliance with the regulations as the local population is informed and values the several ecosystem services provided by this MPA. However, the results from the biological surveys didn't show a direct recovery from the biological communities due to these changes in behaviour, suggesting the need for a study with long-series data to verify the true biological impact of this recently created Marine Protected Area (Serra, 2017).

2.3.6. Transboundary MPAs

2.3.6.1. Wadden Sea (Living lab)

Wadden sea is a Marine World Heritage site and a transboundary site under Trilateral Wadden Sea Cooperation between Germany, Denmark and Netherlands. Since 1978, Denmark, Germany and the Netherlands have been cooperating to protect the Wadden Sea as an ecological entity. The Common Wadden Sea Secretariat (CWSS) supports, facilitates and coordinates the Trilateral Wadden Sea Cooperation. The site is legally regulated through "Joint Declaration on the Protection of the Wadden Sea" in 1982, 2010, Trilateral Wadden Sea Plan in 2010, and a Single Integrated Management Plan (CWSS, 2023).

The Trilateral Wadden Sea Cooperation comprises two levels of decision-making (Governance Arrangements, 2010; CWSS, 2023):

I. The Trilateral Wadden Sea Governmental Council, composed of the responsible ministers of the participating governments to oversee the Trilateral Wadden Sea Cooperation, provides political leadership

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and strategic guidance, and assures international policy development, harmonization, and decision-making between the three governments. Every three to four years, the three countries alternate presidency of the Cooperation, during the Trilateral Governmental Conferences.

II. The Wadden Sea Board is the governing body composed of delegations appointed by each participating government. The Board oversees the operational and advisory bodies and secures relations with key stakeholders and receives further support from relevant advisors outside the governmental Cooperation. Appointed advisors are the Wadden Sea Forum, representing stakeholders from the different sectors of society (a variety of economic sectors, nature protection, tourism, local and regional authorities, NGOs and other stakeholder groups), and the Trilateral Wadden Sea Team of environmental NGOs.

The CWSS is responsible for supporting the Board and the Council. The operational bodies of the Cooperation are four types of groups with specific functions and composition: Task Groups, Expert Groups, Network Groups and (ad hoc) Working Groups (WG).

Feedback as part of the management cycle takes place at all levels of the Cooperation structure. During the Wadden Sea Conferences (including the International Scientific Wadden Sea Symposium, the Youth Conference, the Wadden Sea Day, and additional thematic workshops), the research community, site managers, environmental NGOs, stakeholders, and the younger generation, give their views and advice on management and political decisions addressing the Trilateral Governmental Council.

Part 3. Consideration of the gender aspects in stakeholder engagement processes and bottom-up approach to management in creation and running of MPAs/OECMs and marine resource management

3.1. Understanding gender and intersectionality

The management of protected areas and natural resources is closely linked to the promotion of gender equality and human rights. Gender refers to the **different roles, qualities, and responsibilities attributed to men and women in society**. Whereas sex denotes biological differences between men and women, gender refers to socially constructed characteristics that produce gender roles based on supposed differences that arise from sexuality and physiology. It is a key concept in feminism and feminist geography, with research revealing how gender relations are produced and vary over time, place, and culture (Castree, *et al.,* 2013).

To elaborate on this definition, intersectionality is an important concept that can be used to understand how identity is tied to one's relationship with the natural environment. Broadly speaking, intersectionality is a way of understanding and explaining complexity in the world and in human experiences. First coined by Black feminist legal scholar Kimberlé Williams Crenshaw (Crenshaw, 1989; 1991), the concept was first used as a metaphor to illustrate how different forms of discrimination (racial, ethnic, gendered) overlap with one another in a complex, structural form of inequality. From a legal point of view in the US, Crenshaw argued that to truly address inequality and injustice, one must unravel these different components of discrimination and identify how they intersect with one another. Much of this discussion was coming from the view that mainstream feminist thought often ignored the presence of race and ethnicity, thus de-facto addressing feminist issues as purely those relating to white women. Whereas, regarding racial discrimination, cases were

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represented from the point of view of Black men. The consequence being an acute silencing of the experiences of women of colour.

Since the 90s, the theory of intersectionality has developed further. For Blue4All, intersectionality can be defined as a lens that **critically examines how interweaved relations of power influence everyday social relations across diverse societies. As an analytic tool, intersectionality views categories of race, class, gender, sexuality, nation, ability, ethnicity, and age as interrelated and mutually shaping one another (Collins and Bilge, 2020).** Thus, through this perspective, everyone is shown to harbour their own unique life experience that is largely shaped by these aforementioned structural identifiers. As such, intersectionality demands that one must seriously consider how situated and temporal structures of power affect 'everyday' life. This is important for the Blue4All project, which directly works with stakeholder groups from a variety of different nation-states, with vastly different geo-political contexts.

However, it is important to note that gender so far has been discussed in binary terms (I.e., women/men). Whilst most people in the world tend to identify as either male or female, the complex and non-dualistic reality of gender identity in contemporary times must be acknowledged. Moreover, in many cultural contexts, different gender identities exist which further complicates this reading of gender. In regard to Europe, the European Union works to combat discrimination based on sexual orientation and gender identity. This includes actions combating discrimination against lesbian, gay, bisexual, transgender, intersex and queer (LGBTIQ) people in EU countries (European Commission, 2023).

3.2. Gender in resource access and management

As discussed, it is important to stress that gender is highly relative and is subject to continuous change and political contention over space, place and time (Massey, 1994). Gender and other intersectional aspects like race, ethnicity, sexuality and indigeneity **have huge implications for the organisation of how decisions are made in relation to resources access, control and management** (Crenshaw, 1991; Collins and Bilge, 2020; Plumwood, 1993). Therefore, it is crucial to ensure equal participation in decision-making processes related to remedial measures as well as sustainable development programs and projects. This is not only a question of equal rights but also a matter of ensuring that environmental priorities are defined, and environmentally sustainable development solutions are developed in a gender-sensitive manner.

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3.2.1. Case study: fisheries and maritime fishing cultures

Cultural and feminist geography as well as anthropology has shown how certain spaces and natural resources are accessed differently by certain social groups. With regards to fisheries and ocean conservation, there are some general patterns as to the ways in which women and men tend to occupy and use different spaces of the sea/landscape. Regarding fisheries, in many cultural contexts, men are generally the primary fishers out at sea, with higher control of marine resources and associated greater decision-making power, whereas women tend to be more present in the post-harvesting sector, through processing and selling (UN Women, 2020). Historically, women have also often engaged in mariculture and fishing activities inland, such as the harvesting of small fish and invertebrates on foot in intertidal areas (UN Women, 2020; Thorpe, 2014). Furthermore, women have also had a key role within the management of fishing households as well as the continual repair and maintenance of fishing equipment (Munro, 1996; Nadal-Klein, 2003; Gustavsson and Riley, 2018). Whilst this work is sometimes appreciated, more commonly, these jobs come with low wages and associated low social status, leaving women and other discriminated groups in vulnerable positions.

Despite this, there are multiple contexts where these general patterns in livelihood and employment are reversed. Moreover, it is important to note that a dominant discourse persists which pertains to the stereotypical image of the 'fisherman' as male and 'at sea' with a wife and/or family 'at home' (Gerrard and Kleiber, 2019; Munro, 1996). Whilst this gendered division of labour may well be upheld in many contexts, it is important to acknowledge the alternative histories and livelihoods which thrive across the world, as well as those narratives which may be hidden (Gustavsson and Riley, 2018; Wilson, 2016; Allison*, et al.,* 1993). Academics have worked with female fishers in various contexts (for a few examples, see: Fiji: Thomas, *et al.,* 2021; Norway: Gerrard and Kleiber, 2019; Zimbabwe: Tamuka and Matanzima, 2023; Iceland: Wilson, 2016; Turkey: Göncüoğlu and Üna, 2011) exploring countless issues relating to their livelihoods. Moreover, the presence of I/TEK (indigenous and traditional ecological knowledge) is another thematic lens used through which the unique cultural contributions of marine practices and livelihoods can be properly framed, as the knowledge held by women and men often differ.

Due to a historic tendency to ignore alternative narratives, it is essential to consider the effects of gender within environmental projects as they shed important insights into stakeholder interaction, interest and conflict within a given area. Furthermore, by utilising an intersectional approach, the diverse situations where women interact with marine environments can be critically analysed alongside other overlapping components such as class, ethnicity, age, culture, and so on. Despite focusing on fisheries here, a similar case study could be compiled for various other maritime and marine sectors, such as tourism and shipping.

3.3. Tools for mainstreaming gender in environmental projects

There are different tools available on gender mainstreaming and gender perspective. The European institute for gender equality has published a "Gender Impact Assessment". This is the basic method for the governmental structures to use for gender mainstreaming that should be used in the very early stage of any policymaking, i.e., when designing it. UNDP published a toolkit "Gender mainstreaming in practice". The

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toolkit is intended for use in implementation of any development projects, which, according to the principles of the UN, should have an equal impact on men and women – beneficiaries of the project.

WWF Adria's "Guidelines for gender mainstreaming in nature protection and conservation projects" (unpublished version, available for viewing on Blue4All SharePoint) provides information, instructions and directions on how to recognize, understand and integrate a gender perspective within the national, regional and/or local (community-based) projects directed towards nature protection and PA management. Steps to integrate gender equality into the nature protection and conservation projects include (Popovicki, 2022):

1. Gender Analysis: a key step in integrating gender perspectives into projects, activities, policies and programs within all fields. Gender analyses involve a detailed consideration of the relationships between women and men so to identify and understand gender-based differences; inequalities; gender roles, and subsequent gendered constraints within policy domains and decision-making processes. It is recommended that a gender analysis is performed throughout the mapping or pre/planning phase or during the project design so to ensure gender sensitive data collection for the preparation of the project proposal. I.e., ensuring that planned activities and initiatives are designed in a way to address the different needs of gendered and other marginalised groups.

2**. Project planning and preparation:** this helps to define the changes that may be expected within the project and what the specific results, outputs and indicators are (this is usually momentum to develop a project result framework). If the previously performed analysis identified that there *are* gendered constraints - or differences in needs and views - those should be explicitly reflected in the project framework. I.e., within the project's objectives, risk analysis, and impact of the intervention. If the gender analysis has been conducted during the preparatory project phase, it is highly recommended to perform the additional assessment during the inception phase of project implementation to further ensure gender mainstreaming and the inclusion of a gendered dimension in all project activities and initiatives.

3. Project implementation. It is important to ensure that gender related issues are considered within projects activities and interventions. In particular, it is essential to consider those that are most relevant, and which occur in projects dealing with nature protection and conservation. Projects that are site-based and involve local communities usually have a stronger focus on gender mainstreaming. In these cases, it is important to focus on the mobilization of women (or the 'gender impact' of the project) and, whenever necessary, to include incentives for their participation whilst keeping in mind that men and women often have different interests and therefore respond to different incentives. The project must recognize these differences if it is to consider a community as a whole.

4. Monitoring, evaluation and reporting: the monitoring system, including gender disaggregated indicators, needs to be set up for the projects. Indicators must be clearly linked with project objectives, outcomes, and activities. Developing a set of gender disaggregated performance indicators, with gender disaggregated data, is essential to allow for proper monitoring and evaluation. To evaluate the outputs, results and impacts of the projects, key questions on gender need to be integrated to the ToR's of all evaluations taking place (external, or self-evaluations, mid-term and end of phase etc.). During the evaluations, different analyses - like stakeholder surveys or case studies - can be used for a comparison to a baseline assessment. In order for a project to be gender sensitive, gender mainstreaming actions should be integrated in all stages of a project cycle: from design up to evaluation.

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3.4. Gender considerations in MPA planning and management

Marine protected areas are often seen as a management tool for male fishers, applying to offshore areas (Kleiber et al., 2018). The planning of MPAs needs to consider gendered uses of space to be equitable and effective, as the restriction of access to marine spaces and resources that may follow can disproportionately affect women and other minorities. Moreover, MPA planning, and management could highly benefit from the knowledge and experience that women and other marginalised groups hold of marine spaces. Indeed, due to the gendered used of the marine environment mentioned prior, knowledge of female and male groups differs. However, when establishing protected areas, inputs and knowledge tend to come from male groups since most offshore fishers and fisheries researchers are men (Giakoumi, 2021, Barreto, 2020). This creates a bias towards male needs and priorities whilst ignoring women's needs. Similarly, MPA staff tend to be male as in many cultures, women are not encouraged to swim or have experience at sea (WIOMSA).

Therefore, gender must be considered throughout all aspects of the MPA process so to ensure the equity and effectiveness of marine protection. This should be done through three key dimensions (based on Saunders et al., 2020). It is important to note that, through these three dimensions, the needs of ***all* minority and marginalised people** aim to be accounted for. This **intersectional view** allows for the further identification of affected groups, such as minority-ethnic and religious groups:

- **Recognition:** the experiences, needs and points of views of women and other minorities are taken into account from the planning phase and information should be communicated in a clear way to ensure common understanding. The baseline data underpinning site designation and management should come also from such groups and be validated by them.
- **Representation**: marginalised minority groups are equally engaged during the process. They should be explicitly included in the decision-making process and have an equal opportunity to contribute. This is an ongoing process throughout the project.
- **Distribution:** risks, costs, capacities and resources are distributed equally amongst people with different genders and backgrounds. More specifically, the implications of newly created MPAs on women and gender minorities should be evaluated. **A great deal of care should be taken to not deepen or promote further marginalisation and/or discrimination to those groups who may already face challenging life circumstances!** Additional care should be taken to prevent the erosion of cultural identities and social capital.

The Blue4All project will consider in the process the most accurate methods for gender mainstreaming in the interactions with the project stakeholders, which would be adapted to specific Living labs.

Part 4. Recommendations for enhancing stakeholder engagement in the project Living labs

4.1 Initiation and Planning Phase

- Engage stakeholders from the start.

When the certain studies in the designation process of the Bothnian Sea MPA (FIN, BALT) were forced to be done quickly and without consulting the local stakeholders, multiple levels of resistance and protests among the stakeholders had raised. In that situation, the Ministries needed a lot of resources and effort to address these protests. This has taught us that the designation process of the MPA should guarantee inclusiveness from the beginning, as it is very hard to gain trust and

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cooperation with the stakeholders if they were not involved from the start. The solution would be to involve all relevant and interested parties at an early stage of the planning process and provide them with consultation opportunities and a platform to express their views.

- Ensure transparent processes.

For effective stakeholder engagement, implement transparent processes, be it through formal agreements, action plans, or MoUs. This approach is illustrated by the Vlaamse Banken MPA (BE, N-E ATL) and the project's Living lab. When designating the offshore windfarm (OWF) within the MPA, thorough studies and stakeholder participation were necessary. While OWFs in the North Sea are highly visible, transparent engagement was required. However, it is crucial to apply the same clarity to less visible sectors like fishing and sand extraction. Despite their lower public visibility, they can have important influence on MPA conservation. Therefore, across all sectors, transparent stakeholder engagement and co-created management plans are crucial for comprehensive conservation.

- Foster co-creation with stakeholders in developing management tools in the designation of new sites.

The project Information site Baie de Seine Occidentale (FR, N-E ATL) shows an example of direct stakeholder participation in site designation. All relevant stakeholders (local and State authorities, local actors and NGOs) took part in workshops and meetings and were actively involved in determining MPA objectives and management measures for several years. Stakeholders were involved in steering committee meetings and working groups and their involvement resulted in the management document which was adopted by the MPA.

- Facilitate early consultations with members of relevant authorities and those with first-hand experiential knowledge of the site.

Before the fisheries restrictions in the shipwreck sites (BE, N-E ATL) were established, consultations with members of relevant authorities were facilitated, including research institutes, marine environment organizations, health, transportation, hydrography, heritage agencies, etc. Fishers and recreational divers were involved in consultations, to make sure to include stakeholders who have the first-hand experiential knowledge of the sites. Stakeholders were engaged in discussions and gave input on the appropriate protection measures. This approach of preparation of fisheries measures is excellent example of a potential OECM.

- Establish an overall supervising body for stakeholder engagement

Finland's protected areas in state-owned land and water are managed by Metsähallitus Parks and Wildlife state authority (BALT). Metsähallitus has a well-established public participation processes

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which are described on their website. Having one organization that oversees stakeholder engagement ensures effective communication and collaboration between different stakeholders and authorities.

- Inform and engage the general public

Organize public events to provide opportunities for the public to learn about the (newly established) MPA, voice their concerns, and contribute their perspectives. These events can help build awareness, trust, and understanding.

- Ensure provision of funding for implementing new practices

Access to funding for fisheries organizations can be achieved through local or regional fisheries cooperatives (such as EMMA organization in Torre Guaceto MPA, IT, MED) that allow local fishers to participate in projects and receive funds for practices and adaptations that improve the sustainability of their fishing.

- Understand local conditions for stakeholder engagement

Each MPA is shaped by local conditions and the willingness of local parties to be engaged. These predispositions should be taken into account when choosing the approach and levels of stakeholder involvement.

4.2 Ongoing Engagement:

- Set up working groups and steering committees to ensure continuous stakeholder involvement in decision-making processes.

Stakeholder engagement is shown to be effective through establishing and implementing focus groups (or stakeholder engagement groups – SEGs) and involving them in important MPA processes, such as testing of new management tools or taking decisions. Group consists of the representatives of all stakeholder groups that depend on the resource and have the unique administrative, scientific, practical, local, or indigenous knowledge, experience or skills with which they could contribute to the group. The group is non-profit, meaning that participants will not receive any profit from the participation in the group, and non-partisan, meaning that participants are not affiliated with, biased towards, or supportive of any political party or its views. The actions of the group are based on transparency. Number of members is not limited; each individual becomes a member by signing the group Charter (Memorandum of Understanding or Letter of Intent – this is a non-binding document in which the members agree on the purpose of the group and actions).

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E.g., as part of the designation of the Bothnian Sea National Park (FIN, BALT), the state authority Metsähallitus established a regional collaboration group to support preparation and implementation of the MPA management plan. Working group consists of representatives of relevant authorities, NGOs, and economic actors together with representatives of the region's municipalities. Participatory arrangements have evolved during the years, and are diverse: from communication activities to establishment of temporary and permanent working groups.

- Recognize what activities are relevant for which stakeholder group.

Larger MPAs often span over several regions in the country and therefore it is important to distinguish local, regional, and even transnational working groups, to address different concerns and engage stakeholders who are the most relevant on various levels (local, regional, national and international).

Establish also thematic working groups that focus on key topics related to the MPA, such as fisheries, hunting, bird and nature protection, tourism, etc. However, it would be important to invite a wide range of stakeholders to these groups to ensure representation and input from various perspectives.

- Schedule engagement sessions at times when stakeholders are available and can fully participate.

Be aware of the timing of stakeholder participation. The meetings and consultations with the local stakeholders should be organized in periods of the year when they are available have the time to dedicate to the process. Consult the fishers of times when they are not at sea, try to target off-season for activities, etc. It is key to adapt to stakeholders whose primary activities are seasonal.

- Understand the obstacles for stakeholder engagement in decision-making processes in public vs. private waters (**BALT**)

Even if there is a well-established collaboration between the government and stakeholders and a will to include stakeholders in decision-making, the government may not have the means to enforce necessary regulations in the areas such as privately-owned waters, which could make a large part of the area that stakeholders want to protect. In Åland Sea Plan, stakeholder consultations in decision-making were very limited because the government did not have the means to enforce the regulations in the privately-owned waters.

- Maintain momentum and ensure feedback loops after the public consultations.

In management of trilateral transboundary site Wadden Sea (N-E ATL), feedback is a part of the management cycle and takes place at all levels of the Cooperation structure. During the Wadden Sea Conferences, the research community, site managers, environmental NGOs, stakeholders, and the younger generation, give their views and advice on management and political decisions addressing the Trilateral Governmental Council.

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4.3 Public Participation and Communication:

- Organize events dedicated to build awareness and understanding among public.

When an innovative tool, the Environmental Contract was tested, implemented and adapted in the Nature Park Cabo de Gata-Níjar (ESP, MED), different sessions of participatory events were implemented by the Andalusian Federation of Towns and Provinces (FAMP). These events, called “territorial laboratories” involved various stakeholders with the aim of establishing a participatory governance arrangement for the Environmental Contract. The participants were the representatives and technicians from three different city councils, the manager of the Natural Park, the Andalusian Government (agriculture, livestock, fishing and sustainable development departments), stakeholders from the fishing and tourism sector, civil society organizations, etc.

- Promote public participation platforms.

In Croatia (MED), proposed legal regulations are open for public consultations through the official online platform “e-Savjetovanja” (translated as "e-Consultations"). Through this platform, a substantial number of fishers and scientists have emphasized the need for updated or new regulations. The public has actively called for certain fisheries management measures and no-take fishing zones, backed by scientific evidence benefiting biodiversity conservation, to become legally binding. Facilitate public surveys to gauge social acceptance and the perceived impacts of MPAs on local communities. While final decisions are top-down, public comments must be considered and justified in any new regulations.

- Facilitate public surveys about social acceptance and the perceived impacts of MPAs on local communities.

Public surveys have proven instrumental in evaluating and refining stakeholder engagement activities in marine protected areas like Torre Guaceto (IT, MED) and Parc Marin de la Côte Bleue (FR, MED). These surveys can assess stakeholders' satisfaction, their involvement in decision-making processes, their awareness of the MPA's environmental benefits, and areas where they'd like more participation. Such feedback was invaluable for tailoring more effective conservation strategies and stakeholder interactions in the abovementioned MPAs.

4.4 Collaboration Across Sectors:

- Encourage collaboration across sectors, from renewable energy to fisheries.

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The Vlaamse Banken MPA (BE, N-E ATL) shows cross-sector collaboration. Initially founded on scientific recommendations and enlarged to occupy 30% of the Belgian North Sea sector, it featured in Belgium's first Maritime Spatial Plan (MSP) in 2014. The 2020-2026 MSP designated an area within the MPA for offshore windfarm (OWF) development, balancing conservation with the demands of the blue economy. Collaborative efforts between environmental NGOs and the OWF sector ensured that the area was co-designed to benefit conservation and renewable energy. The extensive participation process actively involved the local community, the scientific community, NGOs, the OWF sector, and the general public, focusing on both marine conservation and the renewable energy sector's needs. The shared approach achieved an agreeable area allocation and proposed future multi-uses. This co-creation model, focusing on nature-inclusive designs, could be expanded to other sectors like fishing and sand extraction, ensuring broader, and more holistic stakeholder engagement in marine conservation efforts.

4.5 Data Collection and Research:

- Foster collaboration between researchers, institutions, stakeholders and citizens in data gathering and shared knowledge.

Collaborative data collection methods, as presented in cases like in the North-east Atlantic cases ZIBA (PT) and SSMO Closed Area (SCO, N-E ATL), foster trust among various sectors and stakeholders, facilitating enhanced knowledge exchange. The fusion of scientific research with traditional knowledge systems provides deeper insights into area intricacies, paving the way for informed decision-making.

- Involve researchers from multi-disciplinary backgrounds

Including social sciences and environmental disciplines to collaborate and frame the core issues within the MPA, as well as provide a firm background for policy implementation and inclusive stakeholder engagement. This was done in Åland Sea Plan and Pan Baltic Scope project (BALT). In doing so, stakeholders with less power (e.g., local communities and indigenous groups) were allowed to be heard at a more formal level within research and planning.

4.6 Monitoring and Adaptive Management:

- Implement regular monitoring and review processes, adapting strategies based on new findings and stakeholder inputs.

Many successful MPAs rely on monitoring of MPA effectiveness by both fishers, scientists and monitoring organizations. Monitoring in Ile du Grand Rouveau (FR, MED) has been conducted by

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scientific monitoring and management Petites Iles de Méditerranée, while fishers in Torre Guaceto MPA play a key role in wider monitoring of the MPA by reporting illegal fishing, injured turtles, etc.

4.7 Transboundary Cooperation:

- Coordinate with other management institutions at both local, regional and transnational levels.

If the crucial fishing grounds are transboundary – stretching beyond the jurisdiction of a single nation, this necessitates international cooperation for their effective management and protection. Establishing the transboundary Fisheries Restrictive Area (FRA) Jabuka/Pomo Pit between Italy (IT) and Croatia (CRO) was a lengthy and challenging endeavour that combined bottom-up and top-down approaches. Success was achieved through coordinated efforts at scientific, sectorial, and administrative levels. For establishing transboundary fishing regulations, it is crucial to include relevant International Bodies. Fisheries Focused International Bodies: GFCM (General Fisheries Commission for the Mediterranean), NEAFC (North East Atlantic Fisheries Commission), ICES (International Council for the Exploration of the Sea), NASCO (North Atlantic Salmon Conservation Organization), and NAMMCO (North Atlantic Marine Mammal Commission) provide invaluable expertise on fisheries. Environmental Conservation Focused: OSPAR (Commission for the Protection of the Marine Environment of the North-East Atlantic) and HELCOM (Baltic Marine Environment Protection Commission) play crucial roles in guiding transnational conservation initiatives. Their involvement adds credibility and ensures that measures are not just fisheries-centred but also consider the broader marine environment.

- Involve stakeholders in large-scale or transboundary Marine Spatial Planning (MSP) collaboration

In Pan Baltic Scope project, cross-border Marine Spatial Planning (MSP) collaboration was examined at strategic, regional, and local levels through two subcases. The first, focusing on the Gulf of Bothnia, sought cross-border planning solutions by engaging sector representatives and researchers. Public meetings and workshops used tools like mapping exercises converted to GIS layers, the traffic-light method for discussions, the Baltic Explorer tool, panel discussions, and the World Café technique which incorporated a Mentimeter questionnaire. The emphasis was on identifying and involving stakeholders from all levels, sharing data and research. The second, centered on local fisheries stakeholders in the Åland Islands and Satakunta region of Finland, aimed to study and build social trust. Stakeholders filled online questionnaires about trust and motivations to engage in MSP and then contributed to a web-based map survey to identify important and potentially conflicting areas. After the survey, local meetings were conducted to inform and engage the public in the MSP process, emphasizing open dialogue.

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Take-home messages for transboundary MSP stakeholder involvement were:

1. Identify and categorize stakeholders across all levels.
2. Use varied engagement tools together with existing platforms (i.e. GIS mapping).
3. Conduct public meetings and workshops for direct stakeholder participation.
4. Ensure two-way communication: inform stakeholders and gather feedback.
5. Prioritize building trust by incorporating local insights and ensuring transparency.

4.8 Fisheries restricted areas and OECMs

Long-standing fisheries restrictions (fisheries restricted areas – FRAs) can also have important contribution to the protection of global biodiversity. If FRAs include tailored conservation objectives and measures and meet the criteria set out for OECMs, they can be formally recognized as such. This offers a way for these zones to contribute to the broader biodiversity conservation targets without necessarily being designated as traditional protected areas.

Important factors that ensure effective stakeholder engagement in the process of establishing such FRAs are taken from Jabuka/Pomo Pit case (IT- CRO):

- Phased Implementation: Instead of implementing permanent restrictions outright, starting with temporary ones can allow for assessment of their impact. Scientific studies can evaluate how the closures influence species populations and habitat recovery.

- Effective Communication: Once these studies produce positive outcomes, these need to be effectively communicated to all stakeholders to garner support. The goal is to showcase the benefits of permanent restrictions not just from a conservation perspective but potentially from an economic and social one as well.

- Involvement of Relevant International Bodies: In Jabuka Pit, the involvement of GFCM in the process was crucial in establishing, implementing and monitoring the FRA on a transnational level.

4.9 Conflict Resolution:

- Address conflicts through co-management, finding solutions that cater to the interests of diverse stakeholders.

Identify conflicting interests and areas and find solutions through public meetings/workshops. Use tested tools and methods to engage participants in the MSP process such as mapping exercises, GIS layers, traffic-light methods, panel discussions, and interactive questionnaires. Such tools can help facilitate discussions, data sharing, and the identification of meaningful areas and potential conflicts. Having a smaller formal or informal meetings before larger meetings helps to be better prepared for a discussion.

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- In case of restrictions or prohibitions that prevent daily work of affected stakeholders, such as fishers, to provide alternatives or incentives.

When implementing restrictions or prohibitions, it is essential to collaborate with impacted stakeholders like fishers, offering alternatives or incentives. Addressing potential conflicts involves establishing cooperative relationships with these groups. Involvement is crucial, as restrictions without stakeholder inclusion can exacerbate tensions.

For instance, fishers in the Torre Guaceto MPA were vocal in their opposition to a four-year fishing ban. To alleviate these tensions, the MPA initiated a co-management approach with fishers. Benefitting from Italy's "Territorial Use Rights for Fishing" (TURF) program, this approach allowed fishers exclusive access to certain MPA sections for fishing once a week. Additionally, fishers were involved in drafting a fisheries protocol to regulate effort and prevent overfishing within the MPA. Violators faced severe consequences, including sanctions, criminal penalties, and the seizure of boats and equipment.

This collaborative approach transformed the fishers' perspective. They now view the MPA positively, take pride in their association with it, and actively participate in broader MPA monitoring efforts, reporting issues like illegal fishing and injured turtles.

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