SEA OF OPPORTUNITIES

Collaborating Towards Effective Protection and Restoration of the Baltic Sea

Rewilding Oder Delta

This brochure presents insights from the international “Baltic Coast Dialog“-project (2023-2025), which was implemented by the German-Polish organisation Rewilding Oder Delta. It highlights the project‘s key outcomes. Through constructive dialogue, the project examined critical marine and coastal issues in various Baltic Sea countries, developing recommendations to promote marine conservation and sustainable fisheries management in the process.

Marine and coastal ecosystems across Europe and around the world are under immense pressure. The Baltic Sea stands out globally as one of the marine regions most heavily impacted. However, it is also a prime example of how cross-border cooperation can contribute to its protection. Existing legal frameworks in Europe are often not implemented sufficiently and there is a growing demand for robust, complementary, grassroots initiatives and civil society alliances to help keep Europe’s seas healthy and ecologically viable. A key part of this project was to establish an international, interactive network of individuals and organisations dedicated to promoting effective protection and restoration measures in the Baltic Sea region.

In September 2025, a final international conference was held in Stralsund to bring together this network and draw attention to the current state of Baltic Sea protection in Germany, Lithuania, Poland, and Sweden. While the key findings of the project‘s workshop series were presented, recommendations for the restoration of marine and coastal ecosystems in the southern Baltic Sea were also presented – a result of another project implemented by Rewilding Oder Delta. These results are summarised in this brochure. It also introduces the concept of rewilding as a vital approach to marine and coastal restoration in Europe.

Cover photo front & back: © Žymantas Morkvėnas

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Wolin National Park is a stunning protected area in northwestern Poland, along the Baltic Sea coast, renowned for its rich biodiversity.

Preface

Dear readers,

Marine and coastal ecosystems around the world are under increasing pressure due to climate change, pollution, habitat loss, and overuse. As these ecosystems cross national borders, transboundary cooperation is essential. The current UN Decade on Ecosystem Restoration (2021–2030) is a call to action, urging collective, large-scale efforts to halt and reverse the degradation of ecosystems worldwide. This initiative aims to restore nature for the benefit of biodiversity, climate resilience, food security, and human well-being.

In Europe, these global commitments are translated into action through ambitious policy frameworks. At the heart of these is the EU's 2030 Biodiversity Strategy, which aims to protect at least 30 % of EU land and sea areas, and to restore degraded habitats across the continent. The EU Nature Restoration Law (NRL) complements this vision by introducing the EU's first ever legally binding restoration targets for its member states. The law obliges member states to submit national restoration plans, monitor their progress, and ensure that restored ecosystems show measurable improvements over time. The NRL sets out enforceable targets for restoring degraded ecosystems, focusing particularly on those with the greatest potential to capture and store carbon and to prevent and reduce the impact of natural disasters.

These legislative efforts highlight a significant change in approach: designating protected areas alone is no longer considered sufficient. In the context of marine protected areas, for example, the EU is working to regulate harmful fishing activities such as bottom trawling. By alleviating the pressures that damage marine habitats and biodiversity, the EU aims to ensure that these areas facilitate genuine ecological recovery, rather than merely existing as symbolic designations.

Strong international collaboration is required to turn these frameworks into action, particularly in areas where marine ecosystems span several countries. The Baltic Sea, for instance, is shared by several EU member states whose policies, fishing practices, and restoration efforts are closely linked. No single country can protect migratory species in isolation. Regional collaboration through networks, shared monitoring, and coordinated restoration strategies is helpful to achieving meaningful improvements in ecological status.

At regional and international levels, two projects led by Rewilding Oder Delta have addressed major challenges in support of EU regulations on marine and coastal protection. Over the past two and a half years, Rewilding Oder Delta has organised two series of interactive workshops across Germany, Lithuania, Sweden and Poland, bringing together scientists, non-governmental organisations (NGOs), practitioners, fisheries as well as tourism representatives, and other stakeholders. Together, we examined pressing topics related to the conservation and restoration of the Baltic Sea.

We welcome further transnational initiatives that bring EU nature restoration law to life. In particular, rewilding can help to achieve the objectives of the NRL on a large landscape level.

Ulrich Stöcker
Managing Director &
Team Leader Germany
(retired)

Problem Description

The Baltic Sea is in a poor environmental condition due to severe overexploitation by humans. Overfishing, pollution, eutrophication and climate change are threatening marine ecosystems and their biodiversity.

Large river deltas flowing into the Baltic Sea, which serve as vital resting and breeding areas for migratory and protected bird species, are degrading due to unsustainable local land use practices. Nutrient runoff from intensive inland agriculture (eutrophication) is causing coastal habitats to deteriorate, rendering them unsuitable for these bird species. In addition, climate change is putting increasing pressure on marine ecosystems, resulting in a variety of negative ecological consequences. Furthermore, the expansion of non-native species in coastal waters, such as round gobies (*Neogobius melanostomus*), contributes to the decline of protected habitats, important fish spawning grounds and bird feeding areas. The development of industry, which requires the expansion of ports or the establishment of coastal and marine wind parks, causes conflicts with biodiversity conservation that need to be addressed at a transnational level.

Transnational cooperation is needed to solve conflicts that span borders.

Despite the existence of legal conservation instruments, the condition of the Baltic Sea environment has shown only minimal improvement, with many pressures and ecological issues continuing to affect marine and coastal ecosystems across the region.[1]

Lack of Legal Enforcement

Marine protected areas are the most common form of spatial protection in the Baltic Sea. Yet, only a few effective conservation measures are currently in place. Many EU Natura 2000 sites, which are intended to protect valuable species and habitats under the EU Birds and Habitats Directives, remain underdeveloped and in need of improvement. For example, Germany only published management plans for its Baltic Sea Natura 2000 marine sites in February 2022[2], which reflects a significant delay. Furthermore, these plans permit activities such as shipping and certain fishing practices that endanger marine ecosystems within the protected areas. Meanwhile, in Poland the expansion of marine sites are still in the regional coordination stage, and the establishment of several proposed marine reserves is on hold.

Maritime spatial planning is influenced by multiple conflicting interests. This makes it challenging to achieve a healthy, productive, and resilient condition for the marine environment that supports biodiversity and sustainable human activities. Achieving this so-called good environmental status is the objective of the EU Marine Strategy Framework Directive (MSFD)[3], which seeks to protect and preserve the marine environment in EU seas. However, no EU member state has yet achieved this status across all signatories in the Baltic Sea. While some progress has been made, EU seas overall, including the Baltic and North Seas, still fall short of the directive's comprehensive environmental targets.

Challenges in Restaurations

The effective conservation and restoration of marine and coastal habitats across the Baltic Sea region faces a variety of intricate and interconnected obstacles. The restoration of critical southern Baltic Sea habitats such as salt marshes, stone reefs, sandy areas, and seagrass meadows, is challenging due to combined environmental pressures, complex regulations, limited resources, knowledge gaps, and social factors. Salt marshes are primarily under threat from rising sea levels and social resistance from local landowners.

The restoration of marine and coastal habitats in the Baltic Sea region is hindered by a multitude of interconnected challenges.

Furthermore, the restoration of stone reefs is hindered by technical complexity, limited expertise, and ecological constraints such as reduced light conditions, which impede the growth of macrophytes. The restoration of sand habitats is restricted by conflicting legal frameworks in Germany and a lack of information on suitable restoration sites. Seagrass meadows are adversely affected by competing and conflicting interests in the use and management of the marine environment, and suitable restoration sites are limited. Long-term monitoring is often lacking across all habitats, and funding and planning are poorly coordinated. What is needed are integrated, habitat-specific strategies that are well communicated among relevant institutions and that address ecological, regulatory, technical, and social dimensions.

The restoration of coastal ecosystems enables numerous ecological functions to be restored, including habitat provision, shoreline protection, and nutrient cycling.

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The Critical Role of Collaboration in Restoring Marine and Coastal Ecosystems

Restoring marine and coastal ecosystems is crucial to preserving biodiversity, supporting climate resilience, and safeguarding human communities and livelihoods. Salt marshes, stone reefs, sand habitats and seagrass meadows are all examples of habitats that provide multiple services. These include providing natural flood protection, stabilising shorelines, sequestering carbon, cycling nutrients, and purifying water. They also serve as crucial breeding, feeding, and nursery grounds for fish, invertebrates, and birds, supporting both ecological integrity and economically important fisheries. Therefore, restoring these ecosystems helps to reverse the effects of human activities such as overfishing, coastal development, pollution, and habitat loss. This improves their capacity to sustain themselves and maintain their natural functions.

In addition to ecological benefits, restoration projects can foster social and economic advantages by engaging local communities, promoting ecotourism, and reducing the long-term costs of coastal protection infrastructure. It also provides a platform for integrating scientific knowledge with adaptive management and stakeholder collaboration, to create practical strategies that are presumably socially acceptable.

This brings us to the concept of rewilding. Throughout Europe, local and regional initiatives are working together to transform landscapes in ways that benefit people by enhancing ecosystem services and making the continent into a wilder place.

Rewilding is dedicated to promoting wilder nature and the return of wildlife.

Effective progress on these shared challenges and opportunities depends on strong collaboration among stakeholders across sectors, regions and levels of governance. International networks can showcase concrete conservation projects as best practices, inspiring authorities to adopt more ambitious measures at national level. It is clear that different stakeholders need to collaborate across borders to establish shared objectives and recommendations for the effective protection and restoration of the Baltic Sea.

1,750
species in the Baltic Sea have been evaluated for the IUCN Red List.

4%
are classified as vulnerable, endangered or critically endangered.

20.9%
of the Baltic Sea region is covered by marine protected areas.

18.4%
of these are marine areas.

2.5%
of these are coastal and terrestrial areas connected to marine ecosystems.

30%
of the EUNIS* marine habitat types (groups 1–6) listed in Annex II of the NRL that are not in good condition should be improved by 2030 by EU member states through restoration measures, among them are seagrass meadows.

*European Nature Information System

A common problem: fishing gear left behind at the coast of the Baltic Sea

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The Baltic Coast Dialog

Baltic Coast Dialog

The international Baltic Coast Dialog-project aimed to establish a network of stakeholders to contribute to the implementation of effective protection and restoration measures, and sustainable fisheries management, in the Baltic Sea's marine and coastal ecosystems. It brought together representatives from environmental organisations, fisheries, science, public authorities, agriculture, and tourism from across the region. The network's mission is to support the effective protection and restoration of these ecosystems, alongside sustainable fisheries management.

The network currently comprises over 70 members specialising in various fields of expertise, including six countries from the southern Baltic region. These include EU marine policy, policy advisory services, marine biology and research focusing on fish population dynamics and marine spatial planning. The network also includes campaigners who advocate for marine conservation and the sustainable management of marine resources.

Between 1 October 2023 and 31 December 2025, six partner organisations implemented the project by developing an interactive dialogue series comprising thematic workshops on jointly selected priority topics related to the protection of the Baltic Sea. The project's dialogue series aimed to raise awareness among stakeholders and civil society of the importance of transboundary protection and restoration. It sought to encourage the governments and administrations of Germany, Lithuania, Poland, and Sweden to implement effective measures to achieve good environmental status in the Baltic Sea's shared marine and coastal waters. Another objective was to establish a multilingual website that would enable network members and civil society to easily access the results of the workshops.

Join the Community

The network was set up on LinkedIn to bring together people from different professions and fields of work, enabling them to interact with each other and interact outside of the dialogue series. Scan this QR code to find the Baltic Coast Dialog Network.

Join the network and help shape solutions for the future of the Baltic Sea's marine and coastal ecosystems through active exchange, collaboration, and concrete action!

- share & discuss the latest scientific findings
- ask questions about projects & research
- find & promote relevant events
- establish connections across sectors

Partner Organisations

The project's partner consortium included six organisations from four Baltic Sea countries, each with different areas of expertise and experience.

Rewilding Oder Delta e.V. is a German-Polish organisation dedicated to promoting wilder nature and the return of wildlife in the Oder Delta region based on rewilding principles. As the project's lead partner, it operates at the intersection of nature conservation and ecologically oriented regional development. The organisation's activities focus on strengthening terrestrial, marine, and coastal restoration, supporting nature-based tourism and fostering economic approaches that align with ecological values. Through cross-border stakeholder engagement, the organisation promotes innovative conservation practices and collaborative efforts to create a thriving, biodiverse Oder Delta with a strong rewilding focus.

Deutsche Umwelthilfe e.V. (Environmental Action Germany) is a leading German environmental and consumer protection organisation that campaigns for the preservation of natural resources, biodiversity, and the climate. With extensive experience in policy work, it actively promotes marine conservation and sustainable fisheries at national and European levels. As part of the project, the organisation shared its expertise in advocacy and stakeholder engagement, as well as its long-standing efforts to strengthen environmental governance.

Baltic Environmental Forum is a Lithuanian organisation, dedicated to advancing biodiversity protection, sustainable development, and environmentally responsible land use. The organisation's work covers agri-environmental issues, eco-friendly tourism, and the management of hazardous chemicals. Its aim is to reduce environmental pressures and strengthen ecosystem resilience. As a project partner, the organisation contributed its extensive expertise in conservation, sustainability, and cross-sector cooperation. This knowledge was instrumental in facilitating collaborative efforts across the Baltic region.

The Fisheries Secretariat is a Swedish non-profit organisation dedicated to safeguarding and restoring marine ecosystem services. The organisation has a particular focus on fisheries and their sustainable management. It promotes ecosystem-based approaches that strike a balance between ecological integrity and responsible resource use. The Fisheries Secretariat supports science-based fisheries management and contributes to healthier marine environments across the Baltic Sea region and beyond through its policy expertise and advocacy.

Prof. Krzysztof Skóra Hel Marine Station, located at the University of Gdansk in Poland, is an academic and research institution specialising in marine biology and the conservation of living resources in the Baltic Sea. The station conducts extensive research on fish communities in coastal zones and monitors protected species and their habitats. It also engages in education and outreach activities to promote marine conservation, with a particular focus on marine mammals. The station's scientific expertise makes a significant contribution to our understanding of, and ability to protect, the biodiversity of the Baltic Sea.

OTOP (BirdLife Poland) is committed to protecting wild birds and their habitats by carrying out monitoring activities, taking an active role in conservation and engaging with policy. The organisation also promotes environmental education to raise public awareness. As part of the project, OTOP supported the dialogue series by shedding light on the current practices involved in implementing EU marine policies in Poland.

Workshops

Workshop results of the Baltic Coast Dialog-project were presented at the final conference on 22-24 September 2025 in Stralsund.

As part of the dialogue series, the partner organisations held five workshops, each contributing their expertise and creating an environment in which participants could openly and constructively discuss key issues related to marine conservation and fisheries management in the Baltic Sea. Participants shared insights on legal frameworks, scientific knowledge, best practices, and current initiatives. The hybrid workshops, which were held both online and in person, consisted of two main components: (a) presentations, including keynote speeches; and (b) group discussions, which were conducted in person for all workshops except the final one. These group sessions played a pivotal role in shaping the recommendations and guidelines, which reflect the collective input of all stakeholders. The workshops aimed to encourage mutual learning and exchange, and to build a shared understanding of what is needed for effective marine and coastal protection and restoration.

1 Coastal Biodiversity Management

Challenges and Opportunities of Non-indigenous Species in the Baltic Sea

This workshop examined the environmental impacts of invasive species in the Baltic Sea, with a focus on the ecological consequences of historical and recent invasions. Stakeholders from the fields of science, government agencies, environmental NGOs and industry came together to discuss the following: How can Baltic Sea countries collaborate across sectors to strengthen regulation, advance research, and mitigate the impacts of invasive species? Hosted by the Baltic Environmental Forum the workshop took place in Klaipeda, Lithuania, on 30-31 January 2025, with 98 participants in attendance.

2 Fisheries Management in Marine Protected Areas

Impact and Regulation of Bottom Trawling

During the workshop, the participants identified the key challenges and potential solutions to advance the development of transnational objectives and joint recommendations for prohibiting bottom trawling in protected areas in the Baltic Sea. They discussed ways to implement a ban on bottom trawling in marine protected areas. Participants also evaluated the main opportunities and challenges involved in improving the regulation of bottom trawling in these areas. Environmental Action Germany hosted the event on 29 November 2024 in Berlin, Germany, with 98 participants in attendance.

3 Ecosystem-Based Management and Fisheries

The workshop explored the principles, challenges, and opportunities of ecosystem-based management (EBM) in fisheries. This was illustrated with practical examples from Sweden, and regional aspirations for the Baltic Sea were discussed. Key questions included: How can EBM be applied to fisheries management at different levels, translating theory into practice? How can EBM be effectively implemented in the Baltic Sea region? What roles can local and regional stakeholders play? Hosted by the Fisheries Secretariat on 3 April 2025 in Stockholm, Sweden, the workshop brought together 73 participants.

The international conference also provided a unique opportunity for a diverse audience to network and exchange ideas.

The project team at the kick-off event in 2024 in Greifswald

The concept of EBM brings together ecosystems, sectors and local knowhow.

4 Marine Mammal and Bird Bycatch in the Baltic Sea

Turning Knowledge into Action

This workshop focused on another significant cause of biodiversity loss in the Baltic Sea: the bycatch of marine mammals and seabirds. It emphasised the need for a holistic approach to marine conservation and effective bycatch reduction measures in fisheries. Discussions highlighted existing knowledge gaps, shared best practices, and identified next steps to strengthen cross-sector collaboration for reducing bycatch in the Baltic Sea. Hosted by Hel Marine Station the event took place on 13-14 November 2025 in Hel, Poland, with 74 participants in attendance.

5 Blue Restoration

Opportunities for Restoring Marine and Coastal Ecosystems in the Baltic Sea

Blue restoration focuses on actively restoring degraded marine and coastal ecosystems to recover their ecological functions, enhance biodiversity, and restore the services they provide. The workshop showcased measures for habitats, including seagrass meadows, salt marshes, and coastal wetlands. It demonstrated how integrated restoration strategies can address multiple pressures simultaneously. Participants explored holistic solutions linking ecosystem-based fisheries management, species protection, and habitat restoration. The event took place on 19 September 2024 in Wolgast, Germany, with 53 participants in attendance.

Please find workshop presentations, more details and related links as well as more detailed results of the project on our multilingual website:

www.baltic-coast-dialog.org

Workshop Key Outcomes

Waves on the Polish Baltic Sea coast in **Wolin National Park.**

© Agata Rutin | Rewilding Oder Delta

The following content is based on the presentations and group work carried out during the project's workshops. We do not claim to be exhaustive in this context. The latest scientific findings may not have been considered.

1 Coastal Biodiversity Management

Challenges and Opportunities of Non-indigenous Species in the Baltic Sea

Scientific Insights & Challenges

The number of non-indigenous species (NIS) and invasive alien species (IAS) in the Baltic Sea is increasing due to climate change, global trade, and human mobility. Approximately three new species are arriving each year and around half of the 200 recorded NIS are known to have negative impacts.[4] At the same time, major knowledge gaps persist. These include a lack of quantitative data on the ecological effects and uncertainty about the origins of species. Stakeholders are concerned about biodiversity loss, ecosystem disruption, human health risks, and economic impacts. There is an increasing scientific debate moving away from a strict native versus alien distinction towards evaluating the species based on their individual ecological functions.

Workshop participants learned that the round goby (*Neogobius melanostomus*) is among the most impactful NIS, having spread across all Baltic Sea sub-basins. It has become dominant in many coastal areas, altering food webs through strong predation and competition with native species. On the Latvian coast, for instance, it competes with native species such as turbot (*Scophthalmus maximus*) and Baltic flounder (*Platichthys solemdali*) for prey. While its ecological impacts are clear, its classification as either a bio-pollutant or a naturalised species remains contested.

Regulatory & Policy Landscape

The EU Regulation 1143/2014 establishes a framework for preventing and managing the introduction and spread of IAS.[5] It emphasises that prevention is the most cost-effective management strategy. This approach is supported by the European Invasive Alien Species Rapid-Response Fund, which was launched by the International Union for Conservation of Nature (IUCN) in 2025, as well as by the actions to evaluate and identify effective measures to reach good environmental status in the Baltic Sea marine region (HELCOM ACTION). Both initiatives are co-funded by the European Union. However, despite the reduction in new introductions achieved through prevention, natural spread and fragmented governance make eradication in marine environments unlikely.

The management of invasive species is hindered by i.a. fragmented responsibilities and regulations.

These obstacles highlight the need for better coordination, monitoring, and early detection. The management of invasive species in maritime environments remains challenging due to fragmented responsibilities across sectors and differing national regulations. Although instruments such as the Ballast Water Management Convention (BWM) and biofouling guidelines help to reduce risks, significant gaps in monitoring and coordination persist. Collaborative efforts must be strengthened through citizen science, cross-sectoral cooperation and interdisciplinary research to improve early detection and develop more effective response strategies.

Community & Business Engagement

Invasive species are having an increasingly significant impact on fisheries and coastal communities, creating challenges as well as opportunities. The round goby has been considered as a potential commercial resource, particularly in Latvia, which is the only Baltic country to have a dedicated round goby fishery.[6] However, there are still barriers to overcome, such as the risk of bycatch, limited processing capacity, and market acceptance. Effective management requires interdisciplinary research, standardised monitoring, improved risk assessments, and regional cooperation across sectors and countries.

When used commercially, invasive species can also create opportunities.

The workshop discussions stressed the importance of raising awareness, learning from global best practices, engaging with local communities and businesses, and strengthening public participation through education and citizen science. Participants emphasised that shifting towards functional, ecosystem-based approaches, supporting sustainable fisheries for invasive species, and empowering local stakeholders were essential elements of a long-term, effective IAS-management in the Baltic Sea.

2 Fisheries Management in Marine Protected Areas

Impact and Regulation of Bottom Trawling

Scientific Insights & Challenges

Our scientific understanding of the impacts of bottom trawling is incomplete and inconsistent. While the severe damage caused to sensitive habitats such as reefs is well understood, the effects on softer seafloor types such as mud and sand are less well understood. This creates uncertainty when it comes to making management decisions. The lack of historical baseline data and suitable control areas further complicates the assessment of the true extent of trawling impacts, as many seabed ecosystems have already been altered over long periods.

The full impacts of trawling on soft seafloors remain incomplete and inconsistent.

The decline of Baltic fish populations and the widespread disturbance of the seabed suggest that fishing pressure remains unsustainable, even within marine protected areas. Bottom trawling releases stored seabed carbon, establishing a direct link between fisheries management and climate change mitigation concerns. According to HELCOM's 'State of the Baltic Sea'-report (2018), 40 % of the Baltic seabed is affected by maritime activities, with this figure rising to 80 - 100 % in parts of the southern Baltic Sea.[7] Conventional stock assessments fail to capture the cumulative impacts of fishing, recreational activities, and environmental change. This could result in poorly targeted or excessive quotas. Ecosystem-based assessment methods and clear indicators of long-term seabed disturbance are therefore required.

Regulatory & Policy Landscape

Despite clear legal prohibitions under the EU Habitats Directive, bottom trawling continues in Natura 2000 sites. This is primarily due to inadequate enforcement, limited monitoring capacity, and insufficient political prioritisation. In addition, gaps between EU legislation and implementation, the complex decision-making process under the Common Fisheries Policy (CFP), and limited cross-border cooperation among member states hinder effective regulation. At the same time, many designated marine protected areas either lack the legally required management plans or fail to implement them effectively. Consequently, these so-called 'paper parks' have no clear objectives, monitoring or enforcement. This makes them vulnerable to ongoing destructive activities such as bottom trawling.

Community & Business Engagement

Protecting the marine environment and supporting fishing communities must go hand in hand. Close collaboration with fisheries is required, recognising their expertise and assisting them in transitioning to more sustainable fishing practices. Trust can be built and compliance improved by limiting bottom trawling, particularly in coastal waters, identifying recovery areas together, and clearly explaining the long-term economic benefits of healthy ecosystems. Reducing the impacts of bottom trawling requires stronger enforcement, better management of marine protected areas and ecosystem-based fisheries policies.

Participants at the workshop agreed that effectively banning bottom trawling in Baltic Sea marine protected areas requires a combination of strong legal enforcement, transparent data, political commitment, and the active involvement of fishing communities. Consistent application of existing laws, maps of marine protected areas as well as trawling activities, and the consideration of real pressures such as bycatch are all essential. Co-management approaches, such as collaborating with small-scale fisheries to identify recovery areas, supporting alternative gear and recognising fishing heritage, help ensure that bans are socially fair.

While there is broad agreement among environmental organisations on the need to improve and exacerbate legal regulation of trawling, consensus is limited by the absence of industrial fisheries and key policymakers.

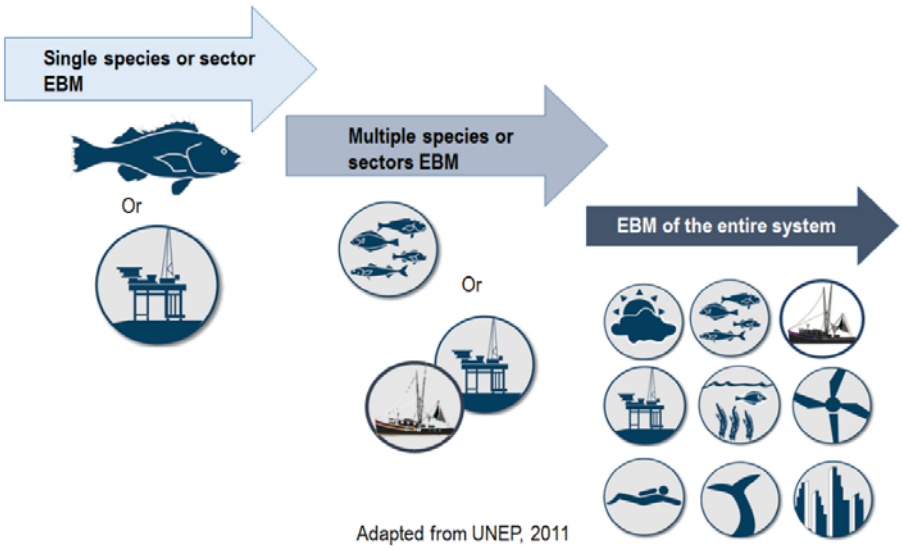
Close collaboration with fisheries is required to support more sustainable practices.

Potential opportunities include establishing a Baltic-wide multi-stakeholder forum, committing to strict protection of at least 10 % of waters, and capitalising on economic trends that may reduce the profitability of trawling.

3 Ecosystem-Based Management and Fisheries

Scientific Insights & Challenges

Ecosystem-based management (EBM) considers fisheries in the wider context of ecosystems and human activities. It emphasises integration across sectors, stakeholder participation, adaptive management, and the use of both scientific and local knowledge. Although EBM aims to maintain ecosystem health while supporting sustainable fisheries, its implementation in the Baltic Sea remains weak, despite strong international and EU-level support. Several different descriptions of ecosystem-oriented management are used, often in mixed or overlapping ways (see graphic).[8]



The concept of **Ecosystem-Based Management** ©NOAA

The scientific and practical challenges include defining the boundaries of ecosystems, integrating the impact of climate change, and addressing eutrophication. Climate change is altering fish distributions. For example, Atlantic cod (*Gadus morhua*) experience stress above 16°C, highlighting the need to redefine population boundaries.

Bottom trawling is highly destructive, causing severe habitat damage and significant biodiversity loss.

© Solvin Zankl | Rewilding Europe

The collapse of the eastern Baltic cod population, which remains below safe biological limits, demonstrates the importance of using ecosystem-based reference points rather than relying solely on single-species maximum sustainable yield (MSY) estimates.

The collapse of the eastern Baltic cod population highlights the need to consider broader ecosystem and human impacts.

Regulatory & Policy Landscape

Ecosystem-based fisheries management is an important part of European environmental and fisheries policies. The EU's Common Fisheries Policy promotes such approaches, as well as low-impact fishing, and alignment with the EU Marine Strategy Framework Directive. However, political compromises, short-term economic priorities, and slow decision-making processes can hinder effective action. Currently, 4 % of the taxa evaluated by HELCOM are becoming extinct in the Baltic Sea, highlighting the discrepancy between policy goals and outcomes.[9] Traditional tools such as MSY fail to account for the complexity of ecosystems, mixed fisheries, or climate-driven changes, such as cod stress from warming waters.

Community & Business Engagement

In the Baltic region, fisheries are closely tied to local livelihoods, and several initiatives demonstrate how ecological restoration and community interests can be aligned. In Sweden, for example, wetland restoration and cod release projects demonstrate that combining ecological restoration with community engagement can be successful, although costs and scalability remain issues. [10] [11] Co-management models, which involve local fisheries in decision-making processes, can strike a balance between ecological and economic needs.

In summary, the recommendations made by the workshop participants include the following:

- stronger political commitment and enforcement of existing legislation
- reducing of fishing pressure ecosystem-informed quota strategies and integrating scientific advice into policy
- protecting critical habitats, restoring ecosystems, creating buffer zones around protected areas to increase their resilience and maintenance of carbon storage
- regional, participatory approaches that combine science, policy, and local knowledge
- learning from positive examples, such as Swedish initiatives, to enhance resilience of coastal and marine ecosystems

4 Marine Mammal and Bird Bycatch in the Baltic Sea

Turning Knowledge into Action

Scientific Insights & Challenges

Bycatch is considered to be one of the leading causes of premature death in many marine mammal and seabird species.[12] [13] [14] Monitoring projects like the Static Acoustic Monitoring of the Baltic Sea Harbour Porpoise (SAMBAH) show Baltic harbour porpoise (*Phocoena phocoena*) mortality exceeds safe limits, with seabirds also threatened by bycatch, especially near Polish estuaries.[15] Partial mitigation measures such as pinger use, net closures, and alternative gears, have had limited adoption due to economic and regulatory challenges. Pingers, acoustic deterrents that keep marine mammals away from nets, were shown to be effective for harbour porpoises but less so for grey seals (*Halichoerus grypus*), and alternative approaches must balance conservation goals with fishers' livelihoods. HELCOM has developed a toolbox containing over 70 mitigation measures, including gear modifications, operational changes, and area closures. Seasonal closures during breeding or migration periods are effective for protecting seabirds, whereas year-round closures provide more comprehensive protection for harbour porpoises.

Challenges remain in convincing fishers to adopt new measures and in aligning mitigation strategies with existing regulations and economic constraints. Monitoring through remote electronic monitoring (REM) is currently insufficient for small vessels, and the data collected is still only indicative rather than comprehensive. The effectiveness of alternative fishing gear is uncertain, and cumulative impacts from offshore developments, such as wind farms, are adding further pressure. Country-specific recommendations to reduce bycatch are lacking for the most part, and the management of areas beyond territorial waters is limited.

At the workshop, the scientists agreed that immediate action was needed without waiting for more data. They made several recommendations to mitigate the bycatch of marine mammals and seabirds in the Baltic Sea. As for marine mammals in particular, fisheries should undergo a major change using EBM, which is flexible, adaptive, and considers all impacts on the ecosystem. Key measures include creating area closures for fishing or other activities are allowed, reducing fishing pressure, and ensuring each country monitors and enforces rules properly. The Baltic Sea Fisheries Forum (BALTFISH) joint recommendations should be fully used to support these actions.[16] Pingers should be used in certain offshore areas. Recommendations from the agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS) should be followed consistently. Finally, the recommendations of the International Council for the Exploration of the Sea (ICES) should also apply to waters outside protected areas, ensuring a coordinated approach to reduce marine mammal bycatch across the Baltic Sea.

Workshop participants explore alternative gear to reduce bycatch.

It remains a key challenge to convince fishers to adopt new measures.

As for seabird species, effective mitigation requires a targeted approach, as there is no single solution. Measures must reflect seasonal patterns, regional conditions and species-specific behaviour. Cumulative pressures, such as disturbance from tourism, can increase the risk of bycatch, so accurate data on bird distribution and fishing effort (measured by the size of the catch or the number of fishing gear issued) are essential for risk mapping. Seasonal closures in high-risk areas seem to be the most effective measure. Where closures are not possible, adapted fishing practices and gear can reduce bycatch for certain bird species. For example, night setting with predator-shaped kites has been shown to be effective for certain species (velvet scooter (*Melanitta fusca*), long-tailed duck (*Clangula hyemalis*), red-throated diver (*Gavia stellata*)), while others require more tailored approaches (greater scaup (*Aythya marila*), common eider (*Somateria mollissima*)). Electronic monitoring systems offer a cost-effective way to improve bycatch data.

Regulatory & Policy Landscape

EU legislation protects vulnerable marine mammals and birds. The Birds Directive (2009/147/EC) and the Habitats Directive (92/43/EEC) prohibit the deliberate killing or disturbance of listed species, such as harbour porpoises and all seabirds, as well as the destruction of their habitats. EU Regulation 2019/1241 also bans the catching, retention, transshipment or landing of these species, though when caught accidentally the above shall be permitted for the recovery of the animal or scientific research purposes. The conservation of small cetaceans in the Baltic Sea is coordinated by ASCOBANS, a platform comprising governments, NGOs, intergovernmental

organisations, fisheries and scientists. Although ASCOBANS provides action plans, reporting frameworks and mitigation measures, it lacks enforcement capabilities. Challenges include fragmented jurisdiction between environmental and fisheries authorities as well as practical issues such as the use of pingers and the regulation of gillnets.

Community & Business Engagement

Effective conservation of the Baltic Sea requires bridging the gap between humans and nature, improving data collection and monitoring, implementing a wider range of mitigation measures and fostering public and stakeholder engagement in fisheries and beyond. Bycatch remains a critical threat and long-term solutions depend on adopting holistic, mindful conservation approaches that integrate science as well as indigenous and local knowledge. Without such transformative action, the protection of harbour porpoises, seabirds, seals and the wider biodiversity of the Baltic Sea will remain inadequate.

While local initiatives and projects show promise, a coordinated, holistic transformation of fisheries with EBM, monitoring and education is urgently needed. Participants in the workshop agreed that trusted and influential advocates are needed to raise awareness of environmental issues and bring them into the mainstream. Furthermore, environmental education should be better integrated into society and schools with the support of relevant ministries and updated curricula. Communication must be two-way, combining expert knowledge with local experience, and relatable stories are needed to motivate people to engage. Local, on-the-ground involvement is crucial, as trust is built by spending time with communities, respecting local contexts, and finding common ground. Finally, lasting change requires adapting and moving beyond outdated approaches in order to recognise the power of the public.

Harbour purpoise (*Phocoena phocoena*) in the Baltic Sea

„This workshop truly revealed the power of effective collaboration, as we came together proactively to craft joint recommendations aimed at tackling bycatch in the Baltic Sea.“

– Laura Meinecke
Project Manager Marine & Coastal Ecosystems
Rewilding Oder Delta e.V.

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5 Blue Restoration

Opportunities for Restoring Marine and Coastal Ecosystems in the Baltic Sea

Scientific Insights & Challenges

Blue restoration is the active restoration of degraded marine and coastal ecosystems, including seagrass meadows, salt marshes, mangroves, reefs, shellfish beds and coastal wetlands. These are often collectively called 'blue ecosystems' and are crucial for biodiversity, carbon sequestration, and coastal protection.[17] The aim is to recover biodiversity, restore ecological functions and ensure that the benefits these ecosystems provide to humans are maintained. In the workshop, bureaucracy was identified as a major challenge to blue restoration in the Baltic Sea, hindering progress and participation of various relevant stakeholders in the restoration of marine and coastal areas. This highlights the need for simplified legislation. Furthermore, data gaps and limited public awareness were identified as hindering effective decision-making in the restoration of marine and coastal ecosystems, while conflicting economic and political interests further constrain action. Workshop participants emphasised that prioritising restoration areas requires tailored strategies. They also emphasised the importance of considering international waters, shared resources that require cooperative management for their protection, and transboundary issues that have cross-border effects, such as pollution and eutrophication. Additionally, they highlighted the crucial role of political action in addressing challenges related to blue restoration.

Restoration strategies should include active interventions to support the recovery of ecosystems.

Regulatory & Policy Landscape

While protected areas benefit from stronger regulations, unprotected areas, which are often more degraded, require careful study and planning. Restoration strategies should be tailored to local conditions and implemented across marine landscapes, with active interventions applied where ecosystems require assistance to return to a healthy state. Integrating restoration into marine spatial planning, while considering the potential impact of other activities such as

Young Atlantic cod (*Gadus morhua*) in seaweed

offshore wind energy, helps to ensure the long-term resilience of ecosystems. It was identified that protected areas, such as Natura 2000 sites, shall be prioritised for restoration measures. Integrating blue restoration into marine spatial planning can also strengthen EBM.

Community & Business Engagement

The discussions emphasised that top-down approaches to blue restoration often overlook local, cultural and ecological knowledge, and reduce stakeholder engagement. Change in human activities, such as tourism, are putting new pressures on coastal ecosystems. Further research is needed on migratory species, and decision makers must have a sufficient understanding of the effectiveness of passive and active restoration methods. Additionally, the impact of tourism on coastal ecosystems must be considered when planning restoration actions.

Blue restoration relies on the integration of science, policy and international stakeholder engagement.

Overall, as previously highlighted and summarised by participants of this workshop, blue restoration depends on combining science, policy and international stakeholder engagement. If we are to achieve meaningful and coastal ecosystems, holistic, ecosystem-based management approaches, local involvement, strategic prioritisation and adaptive management are all essential. Participants made it clear that without strong political commitment, meaningful progress cannot be achieved.

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Recommendations

for Restoring Marine and Coastal Ecosystems in the Baltic Sea

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Rewilding Oder Delta carried out another project titled 'Advantages of restoring marine ecosystems and their services in the German Baltic Sea', which was funded by the German Federal Agency for Nature Conservation (BfN). The project identified the main challenges and opportunities involved in restoring marine ecosystems in the German Baltic Sea. Various communication materials were developed to raise public awareness of marine ecosystem services and encourage acceptance of their restoration. Four main habitat types were identified through a series of workshops with experts: salt marshes, stone reefs, sand habitats and seagrass meadows. The following recommendations were developed with stakeholders from federal and state authorities, academia, NGOs, tourism, agriculture and fisheries. They do not necessarily reflect the views of the funding institution.

Four habitat types were identified: salt marshes, stone reefs, sand habitats and seagrass meadows.

While the subsequent section primarily focuses on Germany, some of its content can also be applied to the southern Baltic Sea countries.

General Recommendations for all Four Habitat Types

Promoting Participation and Networking

It is crucial to promote acceptance and awareness by involving all stakeholders, including critics, early and comprehensively. Equally important is establishing an exchange and knowledge platform that functions as a communication and networking tool, enabling regular expert dialogue.

Implementing Effective Monitoring, Sufficient Funding, and Innovative Pilot Projects

Effective implementation depends on standardised, long-term monitoring of species, habitats, and ecological processes. This ensures that the results are comparable, and that lessons can be learned from previous projects and measures. Additionally, secure, flexible, and long-term funding is required to support large-scale projects over extended periods. Pilot projects should act as practical trials that pave the way for broader implementation.

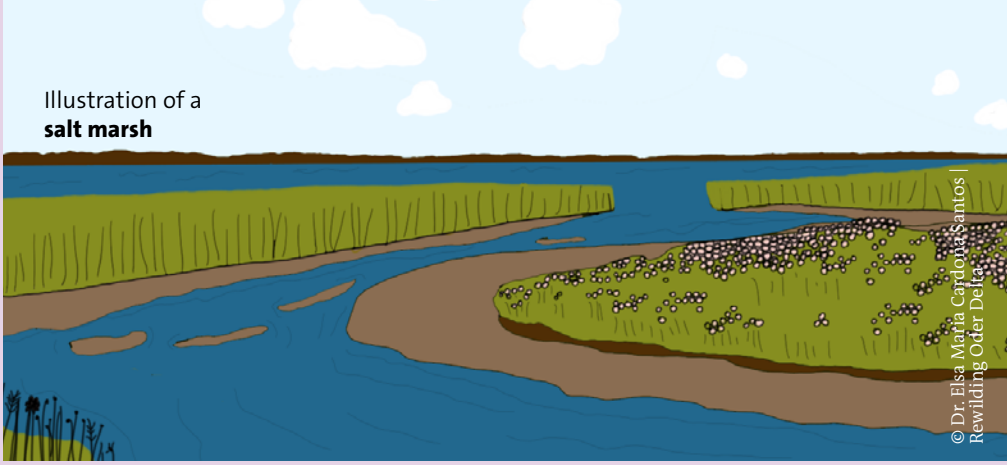
Enhancing Habitat Connectivity and Restoration Conditions

To promote interconnected habitats and rebuild biotope networks, a diverse set of complementary restoration measures should be implemented, supported by stepping-stone habitats. Additionally, indirect measures, such as reducing nutrient inputs, are required to establish favourable conditions for successful restoration.

Launching Public Awareness Campaigns and Educational Programmes

Public outreach and educational opportunities should be strengthened. Narratives on the protection of marine and coastal ecosystems should appeal to young people by associating them with positive attributes and experiences.

Illustration of a **salt marsh**



Salt Marshes

Determining Clear Definitions and Providing Practical Planning Guidance

To ensure reliable planning and legal certainty in the restoration of salt marshes, key terms such as 'restoration', 'rewilding' and 'recultivation' must be defined uniformly for all stakeholders. Furthermore, project developers should be provided with a comprehensive catalogue of measures outlining clear guidelines, target definitions and compensation requirements should be provided to support the efficient implementation of legal and technical standards.

Promoting Feasibility Testing including Flexible Conditions for Farmers

Small-scale pilot projects and feasibility studies help to prioritise agricultural land for salt marsh restoration, identify potential issues early on, and trial innovative methods that can be scaled up over time. Meanwhile, farmers need a less bureaucratic framework and a more flexible framework, that allows them to adapt to local conditions and support natural landscape dynamics and development.

Allowing Natural Habitat Dynamics while Developing Standardised CO_2-Assessment

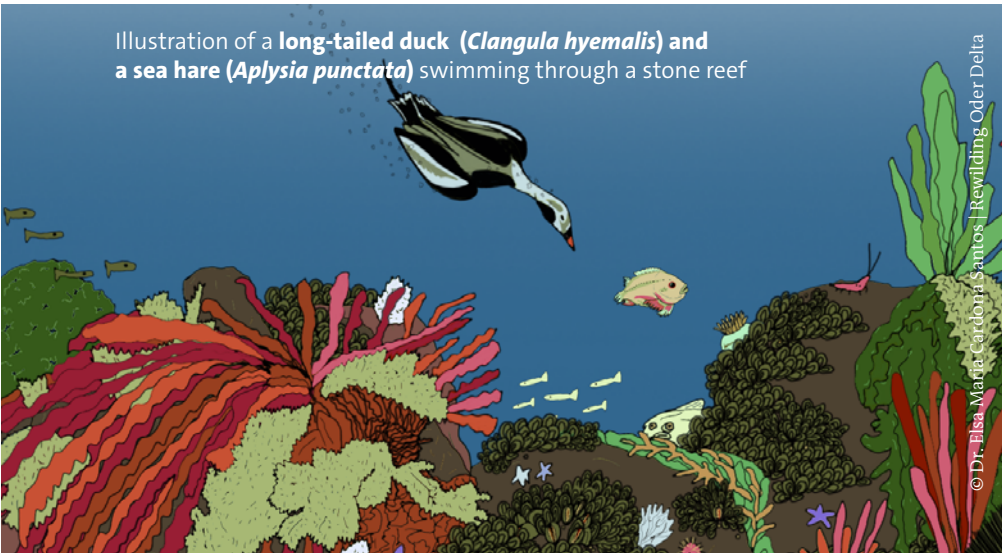
Rigid distinctions between habitat types, such as salt marshes and brackish reed beds, should be avoided in favour of evaluating entire projects based on hydrological processes and natural dynamics. At the same time, reliable climate protection data requires uniform methods for measuring CO_2 storage and avoided emissions. This makes the development and application of standardised CO_2 assessment methods essential for robust verification.

Stone Reefs

Generating Joint Guidelines, Protection Standards and Integrated Spatial Planning

Nationally coordinated restoration guidelines should be developed jointly by the federal government and coastal state authorities. These guidelines should take into account local conditions, suitable stone sizes and densities as well as lessons learnt from existing artificial reefs. In order to ensure long-term ecological functionality, the protection status must be clearly defined, covering aspects such as minimum reef size and appropriate stone dimensions as well as the respective roles of natural and artificial materials. Additionally, stone reef restoration should be incorporated into maritime spatial planning. Stakeholders and specialist planners should be involved from the outset to ensure a well-coordinated, integrated approach.

Illustration of a **long-tailed duck (*Clangula hyemalis*) and a sea hare (*Aplysia punctata*)** swimming through a stone reef



Developing Technical Planning Standards including Thorough Seabed Mapping

Clear criteria are needed to determine the origin, size and composition of the stones to be used in the restoration process. Any ammunition discovered during the planning stage must be removed promptly, and the funding responsibilities of the relevant federal and state bodies must be clarified. High-resolution seabed mapping and verified monitoring data are also essential for evaluating the success of the restoration process. This should be supported by a jointly maintained 'stone data base' documenting suitable materials and areas for restoration.

Sand Habitats

Facilitating Passive Restoration, Temporary Habitats and Clear Ecological Targets

Protecting undisturbed areas, such as 'beach islands' (temporarily closed sections of a beach) and 'no-take zones' (areas where no resources may be taken), supports passive restoration and preserves natural processes. Similarly, actively created sand habitats can serve as temporary stepping stones, offsetting habitat loss caused by erosion and facilitating the dispersal of keystone species. To effectively guide these efforts, clear target states must be defined, including objectives relating to species and habitat size, as well as long-term development. This must be done while accounting for natural dynamics and the challenges related to shifting baselines.

Supporting Natural Dynamics through Flexible Approval Processes

Promoting natural coastal processes, reducing disturbances and eliminating human barriers can enhance natural regeneration and succession. Planning and approval procedures should be adapted to these dynamic conditions, enabling a flexible response to environmental change and explicitly permitting sand habitat restoration measures within the relevant area regulations.

Encouraging Visitor Management and Environmental Education

Both tourists and locals should be given engaging, easy-to-follow behavioural guidelines to help them enjoy coastal areas responsibly. Guided tours can offer valuable insights into nature and demonstrate how these habitats can be protected. Using the beach-island-concept as an example, these tours highlight the importance of intact ecosystems for wildlife and people alike. Raising awareness and providing environmental education should go hand in hand in fostering long-term appreciation of, and stewardship for, these unique environments.

A so-called **'beach island' on the German coast of the Baltic Sea** (Markgrafenheide)

Restoration of seagrass is vital for biodiversity support, carbon storage, and coastal protection.

Seagrass Meadows

Promoting Integrated Land-Sea Management including Strategic Seagrass Restoration

In order to address eutrophication, it is crucial to reduce the amount of nutrients entering the environment from agricultural activities. Measures under the EU Water Framework Directive (WFD) should prioritise improving the quality of coastal waters. Maritime spatial planning should identify priority areas for seagrass restoration to ensure efforts are focused strategically. A combination of active and passive restoration approaches is required for long-term success, including protective measures such as the restriction of bottom trawling, which has already been implemented in some coastal regions.

Developing Common Standards, Joint Strategies and Coordinated Planning

Collaborative development of methodological standards with authorities, including mapping guidelines, strategic frameworks, action plans, and monitoring concepts, is essential to ensure coherent and effective restoration processes. At the same time, national targets for seagrass restoration, compensation and certification targets need to be clearly defined and coordinated. Where necessary, these targets should be aligned with international standards to streamline planning and approval procedures.

Improving Restoration Methods and Monitoring Restoration Success

For seagrass restoration to be effective, the current and target ecosystem states must be clearly defined, including realistic timeframes, appropriate area sizes, and desired densities. Pilot projects and feasibility studies should be used to test scalable seagrass restoration techniques, while research should focus on innovative methods integrating climate change projections and adaptive strategies to ensure the ecosystem's long-term resilience.

Supporting Citizen Engagement and Sustainable Economic Opportunities

Public engagement initiatives, such as community seagrass planting and educational programmes, should be actively supported to raise awareness of conservation efforts and encourage participation. Meanwhile, innovative uses of seagrass-related materials, such as producing cushions or soft toys from wrack, can generate sustainable economic opportunities to support ecological restoration.

The full position paper* containing recommendations for the restoration of these marine ecosystems in the German Baltic Sea can be found here:

*only available in German

Rewilding as a Strategic Approach

Rewilding is commonly defined as an approach to restoration that focuses on rebuilding self-sustaining, complex ecosystems by enabling natural processes, such as trophic interactions, stochastic disturbances, and species dispersal, to function again, while minimising human intervention.[18] [19] It requires space in which natural processes and rhythms can unfold, creating the conditions necessary for biodiversity to recover. These efforts must be considered in the context of the landscape, which is often on a large spatial scale. Therefore, rewilding measures can vary widely, ranging from locally driven adaptations within managed cultural landscapes to the development of more extensive wilderness areas.[19] [20]

Furthermore, the rewilding approach must consider the needs and expectations of stakeholders. Structured restoration planning, based on participatory processes involving researchers, managers and stakeholders, supported by monitoring and adaptive management, can help to achieve this. Rewilding projects require a systematic approach that considers the benefits that nature provides to society, as well as the social and ecological limitations affecting restoration.[19]

The rewilding approach must take stakeholders' needs and expectations into account.

Rewilding in coastal and marine ecosystems is a powerful way to restore natural processes. Marine-coastal rewilding is as vital as terrestrial rewilding. It supports climate resilience and the recovery of biodiversity, while creating new economic opportunities. Rewilding strengthens resilience and safeguards ecosystem services such as oxygen production, carbon storage, and water purification by reinstating ecological connectivity at the land-sea interface. Healthy seagrass meadows, tidal marshes, estuaries, lagoons, and deltas store vast amounts of blue carbon. Keystone species play a key role in animating and sustaining the carbon cycle, making marine rewilding a cost-effective, nature-based climate solution.

From an economic perspective, rewilding offers significant advantages. For example, Rewilding Europe's component 'Nature for People' can generate jobs and revenue through nature-based enterprises, or cost-effective climate change mitigation. However, for many people, the benefits of wilder nature extend well beyond the purely economic, encompassing aspects such as mental and physical health, recreation, culture, and artistic expression.

Rewilding the connections between land and sea, is central to the 2030 strategy of Rewilding Europe and its network, which aims to achieve a wilder nature in Europe.[20] This approach encompasses interventions in coastal wetlands, salt marshes, estuaries, intertidal zones, islands, and nearshore waters. It is aligned with the major EU and global policy frameworks, that collectively provide robust legal, financial, and ecological incentives. Coastal-marine rewilding can help transform Europe's seascapes by restoring degraded habitats, reintroducing key species, and enhancing ecosystem protection. This will secure a wilder, more resilient future for both nature and people.

Rewilding restores natural habitats and processes, promoting healthy population developments of species. (goosander (*Mergus merganser*))

Functional Seascapes

These ecological processes are relevant to the Baltic Sea within the context of Rewilding Europe's strategic approach to marine-coastal rewilding.[21]

Sediment Transport and Habitat Formation

Healthy sediment dynamics help build and maintain important habitats that support biodiversity. The movement of sand, mud, organic material and sediments by water currents, waves, tides and rivers into the sea is essential for habitat creation in estuarine, coastal and marine areas such as sandbanks, mudflats, and rocky reefs.

Reproductive Success and Population Recovery

The ability of marine and coastal species to reproduce and replenish their populations is a cornerstone of ecosystem health, which requires adequate breeding and feeding grounds.

Nutrient Cycling

The movement of nutrients (nitrogen, phosphorus, carbon) through marine and coastal ecosystems supports primary producers such as phytoplankton, seagrass and kelp forests, supporting higher trophic levels. Seagrass meadows and kelp forests enhance nutrient cycling, maintain food webs, and act as filters, by trapping excess nutrients and preventing eutrophication and algal blooms.

Migratory Processes and Connectivity

Many fresh and saltwater-based species with migratory patterns rely on habitat connectivity to move freely between feeding, breeding, and resting areas. Habitat corridors and connectivity between key marine ecosystems are vital for the migration of species and the health of their populations.

Carbon Sequestration

Carbon absorption and storage in blue carbon habitats that act as sinks such as seagrass meadows and salt marshes is a critical process to contribute to reducing atmospheric CO_2-levels and climate change mitigation.

Coastal Protection and Resilience

Coastal ecosystems such as wetlands, salt marshes and seagrass meadows help buffer coastlines against storm surges, erosion, and flooding, which enhances resilience to climate change and natural disasters.

Marine and Coastal Keystone Species

Species that support critical ecological processes and healthy trophic interactions, including benthic and pelagic communities.

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Closing Remarks

As in previous years, conservation efforts have been limited by political and administrative borders. However, despite – or perhaps because of – the current difficult geopolitical situation, marine conservation cannot be sidelined. Climate change, environmental pollution and biodiversity loss are intensifying, placing severe pressure on marine environments. The current environmental crisis requires urgent action. Therefore, we need a change in perspective. Marine protected areas should be managed as part of a connected, transboundary network, rather than as isolated units. The focus should shift from measures that protect individual species to measures that protect entire ecosystems – including their functions, dynamics and complex species interactions. In addition, the impact of nutrient inputs from agriculture on marine and coastal ecosystems must be prevented by considering land and sea catchment areas together.

Rewilding and ecological restoration lie at the heart of the new initiatives set out in the EU Nature Restoration Law (NRL), forming the basis of a comprehensive approach that marks a historic milestone. To achieve its goals, cooperation among diverse stakeholders and efforts to strengthen ecosystem resilience on land and at sea are essential. Civil society alliances such as the Baltic Coast Dialog can contribute invaluable expertise, promote transparency, and encourage public participation. Such collaborative initiatives strengthen participation and build broad public acceptance, laying the groundwork for ambitious and lasting restoration outcomes.

If the goals set out in the NRL are implemented ambitiously, coherently and inclusively, the restoration of the Baltic Sea's marine and coastal ecosystems could provide a model for the rest of Europe to follow.

Today, different projects in the Baltic Sea focus on restoring marine and coastal habitats, such as seagrass meadows, salt marshes and marine sediments, which store blue carbon and provide crucial ecosystem services.[22] [23] [24] Nature-based solutions are considered essential for addressing the interconnected challenges of the climate and biodiversity crises. However, due to the rapid growth of the renewable energy sector, policymakers must ensure that offshore wind development is compatible with species conservation and environmental safeguards. Clearly, meaningful protection requires us to look beyond short-term economic interests and focus on the long-term integrity of ecosystems. In Germany, for example, offshore wind farm operators are increasingly making financial contributions towards habitat restoration measures, including to the newly founded Marine Nature Conservation Fund, established by the the German Federal Environmental Foundation (DBU) in 2024.

As it is one of the regions most severely affected by marine issues worldwide, the Baltic Sea could set an example for successful cross-border cooperation.

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