

Coalition Clean Baltic

SHADOW RESTORATION PLAN FOR THE BALTIC SEA

2026

Coalition Clean Baltic

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► INTRO AND AIM OF THIS DOCUMENT



Human pressures, compounded by climate change, drive the poor status of habitats and species in the Baltic Sea. With the EU Nature Restoration Regulation in place since 2024, and 2021-2030 having been declared the UN Decade for Ecosystem Restoration, international collaboration on restoration efforts is higher on the agenda than ever before. However, given the failure to reach good environmental status (GES) of EU marine ecosystems, it is widely recognised that further restoration efforts are needed to reach GES in the Baltic Sea and across Europe.

The Helsinki Commission Regional Action Plan for benthic habitat and biotope restoration (HELCOM RAP), together with the toolbox collated as part of the PROTECT BALTIC project, aims to provide HELCOM Contracting Parties with a plan for restoring Baltic Sea habitats, following established obligations under the EU Nature Restoration Regulation. This CCB shadow plan reflects on the measures proposed in the HELCOM Regional Action Plan and the HELCOM Regional Restoration Toolbox, and expands on concrete actions and priorities to form a more comprehensive plan for restoration efforts than the current RAP. Passive restoration measures as well as active measures which take a [source-to-sea approach](#) will be included in the CCB shadow restoration plan order to give a more complete overview of needed actions.

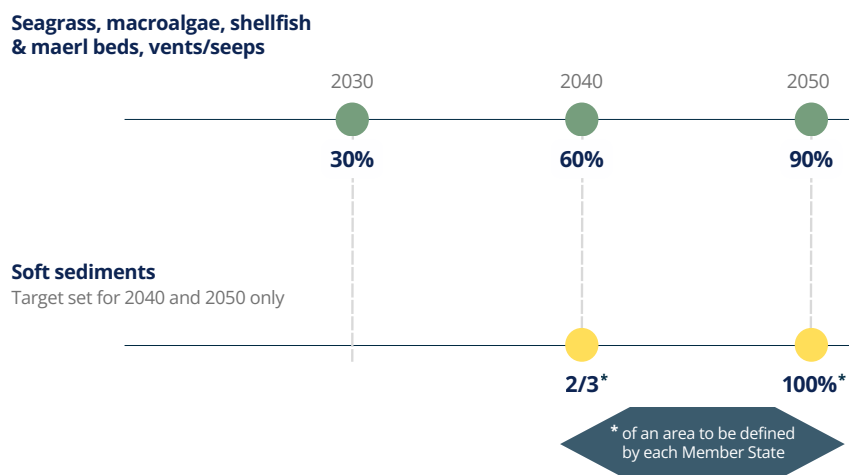
Credit: Maria Basova

► BRIEF BACKGROUND ON INTERNATIONAL, EU AND HELCOM GOALS

Ecosystem restoration is a policy objective across multiple levels of governance internationally, with restoration targets discussed in United Nations, European Union, and HELCOM legal and policy instruments. The Kunming-Montreal Global Biodiversity Framework mentions nature restoration in target 2, which reads: *Ensure that by 2030 at least 30 percent of areas of degraded terrestrial, inland water and coastal and marine ecosystems are under effective restoration, to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity*. The UN Sustainable Development Goal 14.2 also includes restoring coastal and marine ecosystems.

The EU Nature Restoration Regulation (NRR), which has prompted further action in HELCOM Contracting Parties that are also EU Members, requires restoration measures by 2030 on at least 30 % of the total favourable reference area of Annex II habitat types in Groups 1-6 that are not in good condition: degraded seagrass beds, macroalgal forests, shellfish beds, maerl beds, sponge, coral and coralligenous beds, and vents and seeps. By 2040, measures must cover at least 60 %, and by 2050 at least 90 %. For Group 7, soft sediments not deeper than 1000 m, restoration action should be in place on two thirds of habitats identified by the Member States by 2040, and 100 % by 2050.

EU Nature Restoration Regulation — restoration action in place on:



HELCOM Contracting Parties have agreed to restore the Baltic Sea, as expressed in the HELCOM vision for a healthy Baltic Sea environment. The updated HELCOM Baltic Sea Action Plan from 2021 (BSAP) includes Action B27, which explains that a HELCOM Action Plan for habitat and biotope restoration should be developed by 2025, and implementation should be started by 2026. The action plan should include qualitative and quantitative regional targets, a prioritized list of actions, and an associated implementation toolbox outlining the best practices and methods for restoration in the Baltic Sea region.

CCB would underline an important implementation risk in the NRR. While the Regulation includes requirements for monitoring ecological conditions and trends, its implementation remains strongly focused on putting restoration measures in place and meeting specified area-based targets. HELCOM should set higher ambitions by placing greater emphasis on identifying the specific measures needed to address ecological degradation and, crucially, on the ecological outcomes that restoration is intended to deliver. These outcomes should contribute directly to achieving the objectives and targets of relevant EU legislation, including the Marine Strategy Framework Directive and the Habitats Directive. The implementation of restoration measures and achievement of area-based targets should not, in themselves, be considered sufficient if they do not result in measurable improvements in ecological condition. Restoration planning should therefore also ensure that appropriate frameworks are in place to assess outcomes and to maintain and safeguard the ecological condition of Baltic Sea ecosystems over the long term.

This is particularly relevant for NRR Group 7 soft sediments. As Member States determine the relevant 2050 percentage, restoration planning should ensure an ambitious and representative coverage of muddy, sandy, coarse and mixed sediments. Ecological condition, biodiversity and seabed integrity should be the primary considerations. Carbon-rich sediments should additionally be prioritised where physical disturbance threatens sedimentary carbon-storage functions. This would also support the identification of synergies with climate-change mitigation and adaptation under Article 14(9). In CCB's view, appropriate favourable reference areas (FRAs) for sediments in Group 7 should be established collaboratively by the Member States, with HELCOM playing an important role in facilitating a coordinated approach among Contracting Parties.

The updated BSAP also lists the following actions on restoration:

Action B16: To strengthen native strains and to reinstate migratory fish species:

- By 2023 identify rivers where management measures for migratory fish species, including eel, would have the greatest positive impact.
 - Starting from 2023, in line with relevant international commitments, iteratively review and prioritize effective mitigation measures in the identified rivers and/or dams, including removal of dams and migration barriers where relevant and possible, especially in small waterways.
 - Develop and implement habitat restoration plans of spawning sites for anadromous species in relevant rivers by 2025.
-



Action B26: Protect key ecosystem components including habitat forming species by 2030, by:

- Assessing the state of, and threats to these key ecosystem components by 2023.
- Implement effective and relevant threat mitigation measures based on the threat and state assessments, including restricting human activities associated with causing physical loss or disturbance, by 2030.
- Identifying suitable measures and types of habitats, biotopes and key ecosystem components for passive or active restoration by 2025 and implementing programmes for restoration as outlined in the HELCOM Restoration.

Action S53: Implement measures to restore coastal fish communities, including establishment of no-take areas, seasonal closures and catch regulations, as appropriate by 2026 for the specific coastal area.

► ASSESSMENT OF THE HELCOM REGIONAL ACTION PLAN

Scope of the Regional Action Plan (RAP)

The HELCOM RAP for benthic habitat and biotope restoration, together with the toolbox collated as part of the PROTECT BALTIC project, is intended to fulfil Action B27 of the BSAP and to support HELCOM Contracting Parties in implementing restoration-related actions, to achieve the goals set within the different international frameworks and to avoid double work. However, the scope of the RAP is limited from the outset, as it focuses almost exclusively on enabling actions, while active restoration measures for benthic and coastal habitats and biotopes are laid out in the toolbox. As a result, measures regarding other habitats in the Baltic Sea are largely omitted. Further, passive restoration measures are only covered to a limited extent.

The strength of HELCOM, as both an intergovernmental organisation and a Regional Seas Convention, lies largely in bringing Contracting Parties together to collaborate and agree on joint strategies towards a healthy Baltic Sea. To maximise the impacts of the RAP and the toolbox, integration of active and passive restoration measures for all Baltic Sea habitats across the source-to-sea continuum into a comprehensive action plan are needed.



Emphasis on enabling actions rather than restoration

The measures proposed in the HELCOM RAP itself are relevant and necessary, but most cannot be regarded as restoration measures in themselves. Instead, they are enabling actions that support future restoration efforts. These include:

- knowledge exchange and capacity building;
- mapping, monitoring and data collection;
- analyses and assessments;
- development of guidance and decision-support tools;
- funding mechanisms;
- cooperation between countries and organisations; and
- policy implementation.

Such actions are important prerequisites for restoration, but they do not directly restore habitats or improve ecosystem condition. As a result, ***the HELCOM RAP functions primarily as a framework for preparing restoration rather than as a regional action plan for implementing restoration.***

The HELCOM RAP also includes a few important passive restoration measures, particularly those related to marine protected areas (MPAs) and the reduction of human pressures. However, **the plan itself contains virtually no concrete restoration actions**, which is the explicit aim of the document.

The toolbox developed under the PROTECT Baltic Project contains active restoration measures for five benthic habitats and two coastal habitats present in the Baltic Sea as well as key principles for marine restoration. While these principles and measures are relevant and are indeed central to the CCB recommendations below, **CCB recommends greater emphasis on passive measures and to include a wider variety of habitats.**

Alignment with the EU Nature Restoration Regulation

With the exception of Russia, all HELCOM Contracting Parties are EU Member States. The HELCOM RAP should therefore be explicitly aligned with the objectives and targets of the EU NRR and act as a clear roadmap for Member States to follow in their implementation of the NRR. One concrete pathway for this would be to harness the already well-established HELCOM Holistic Assessment of the Baltic Sea (HOLAS) as the assessment framework that could provide a regional mechanism for monitoring progress and evaluating restoration outcomes across the Baltic Sea.

The role of active and passive restoration

The implementation of active restoration measures, such as eelgrass transplantation or re-establishment of habitat-forming macrophytes like bladderwrack, play an important role in restoring marine nature. However, active restoration methods remain technically challenging, expensive and, in many cases, are highly dependent on financial support and limited by scale, scope, and access to sites. Additionally, the success rates vary based on environmental conditions and management of pressures.

Passive restoration, by contrast, focuses on removing or reducing pressures so that natural recovery processes can occur. In marine systems, recovery often depends on removal of pressures and subsequent re-colonisation through ecological connectivity, allowing larvae, propagules and zygotes to recolonise restored areas naturally. This is particularly important for soft-sediment habitats, where degradation is often caused by repeated physical disturbance and where active reconstruction of the habitat is neither feasible nor necessarily appropriate. Although passive restoration may require longer timeframes before ecological improvements become apparent, it is generally more cost-effective and, where pressures have been sufficiently reduced, passive restoration entails a higher probability of long-term success for active restoration methods. Passive restoration also offers increased climate resilience, as restoring natural processes and reducing pressures allows ecosystems to recover in ways that are better adapted to changing environmental conditions, whereas actively restoring habitats that are subsequently exposed to climate-related stressors without alleviation of other degradation will have limited long-term success. Both active and passive measures require setting clear objectives and a clear plan for effective removal of human pressures as well as monitoring after measures are put in place in order to have true and long-lasting positive impacts.

Hence a comprehensive restoration strategy for the Baltic Sea should combine passive restoration measures with targeted active restoration where natural recovery is unlikely or too slow.

► OUR PROPOSALS FOR RESTORATION ACTION

To achieve GES in Baltic Sea ecosystems, both active and passive restoration measures will be necessary across interconnected freshwater, coastal and marine ecosystems that together determine the environmental status of the Baltic Sea. Measures such as reducing pressures, removing invasive species, and strengthening habitat-building or ecosystem-structuring species will need to be implemented not only within benthic and other marine habitats, but across this entire source-to-sea continuum. Restoration needs to address degraded nature and disrupted ecological processes from sources in the catchment and freshwater systems, through coastal environments, and into the sea itself, recognising that pressures and ecological processes are connected throughout these ecosystems. After analysing the HELCOM RAP and the associated toolbox, CCB recommends a higher level of ambition and a wider scope in the proposed restoration actions which recognise this interconnectivity, in order to move towards a healthy and resilient Baltic Sea.



Restoring ecosystem functions and interactions

A few guiding principles that should be taken into account in freshwater, coastal and marine restoration are

- When setting goals for restoration measures, the “shifting baselines syndrome” needs to be considered. The Baltic Sea is already altered from its original state due to human pressures, and its current status is often perceived as the reference condition. As a result, losses in biodiversity and habitat structures are underestimated, resulting in unambitious goals for restoration efforts. Therefore, rather than focusing on a historical state of the Baltic, restoration goals should focus on ecosystem functioning in order to achieve a healthy Baltic Sea environment.

- Successful restoration requires more than restoring individual habitats or species in isolation. Restoration must take into account the wider ecological functions and interactions including trophic relationships within the food web. Restoring a single component may not deliver lasting ecological recovery if other key functions or trophic interactions remain degraded.
- A source-to-sea approach and ecological connectivity must be considered. Land-based restoration and minimising nutrient runoff, even hundreds of kilometres from the sea, will help recover marine and freshwater ecosystems.
- The designation of strictly protected areas requires the exclusion of various human activities and is probably the most efficient tool for passive restoration. This requires effective restrictions, management and enforcement rather than designation on paper alone.
- Creating pathways for stakeholder engagement and participatory processes in communities that will be affected by planned restoration measures is important to improve understanding, acceptance and ultimately success of restoration. Work with local fishers, tourism operators, and coastal residents from the start. Local knowledge can identify hidden pressures and build long-term care for the site.
- Restoration measures should be coordinated across national borders in the Baltic Sea region through common regional frameworks, including relevant HELCOM policies and action plans such as the HELCOM RAP. Such coordination should ensure that activities in one country do not undermine or counteract restoration efforts in neighbouring countries.

To achieve maximum effect in restoration efforts, some key principles should be taken into account when choosing areas for restoration:

- Restoration should primarily target areas where a target habitat or species has been present in the past, although projected future environmental and climate changes also have to be taken into account.
- Restoration action should be focused in areas where the restoration outcome can be protected from degradation over the long-term. For example, choose sites where the restored ecosystem will be able to survive future sea-level rise and warming water temperatures, and sites where human activities can be sufficiently managed, taking into account the legal status of the site as protected area or its designation in maritime spatial plans.
- Restoration only has lasting effect if the root causes of degradation are reduced or removed, and this must be taken into account when selecting sites.
- Choose sites linked to healthy neighbouring habitats to allow species to move naturally between areas and thus rebuild entire ecosystems.
- Avoid locations prone to invasive non-native species that might choke out native recovery.
- Ensure that hydrodynamics, water quality and substrate type are suitable for the habitat or species being restored.
- For more effective restoration and facilitation of protection after restoration, larger areas should as far as possible be selected for restoration.

- Prioritise areas where high ecological value and/or high sedimentary carbon storage coincide with manageable physical pressures.
- If possible, avoid displacement of bottom-contacting activities from restoration areas into neighbouring sensitive habitats.
- Establish reference areas of low disturbance in order to more effectively monitor restoration outcomes on benthic condition and sedimentary carbon functions.
- For Group 7, represent the full range of Baltic soft sediments – coarse, mixed, sand and mud – rather than selecting only small or already lightly used areas.

Geographic scope of the [Helsinki Convention](#)

The Helsinki convention extends inland up into internal waters on the landward side of the baseline, reaching **up to the specific landward limit designated by each member country** rather than a fixed geographic distance.

Given the large interaction and impacts from upstream ecosystems into the Baltic Sea, it is reasonable for a HELCOM restoration plan to include measures that extend beyond the marine environment.



Restoration measures

Below, we briefly present some examples of both active and passive restoration measures for different types of habitats.



DUNES

Active:

- Remove invasive plants such as *Rosa rugosa* and *Salix caspia* to favour and support native plant communities in coastal dunes. Ensure methods for removing invasive plants have low impact on soil integrity and are selective.
 - Following removal of invasive plant species, if natural recovery is insufficient, restore dune habitat by planting appropriate native species.
- Prevent excessive afforestation of grey dunes through the removal of woody vegetation. Where ecologically appropriate, create or restore patches of open sand to maintain characteristic habitat structure and ecological dynamics.
- Maintain sparseness of dune vegetation and inhibit afforestation, while also protecting soil integrity, with low-impact methods such as grazing or scything.
- Restore natural hydrological conditions in dune slacks and other wet dune habitats.

Passive:

- Expand the network of protected dune areas to allow natural succession processes to occur. Management should reflect the ecological requirements of individual dune habitat types, allowing natural succession and dynamics while maintaining open habitats such as grey dunes where excessive succession threatens their conservation status.
- Limit recreational use of sensitive areas to minimise damage.
- Allow natural sediment transport and processes of beach and dune formation, accumulation, erosion, and migration wherever possible. Avoid unnecessary stabilisation and interventions that disrupt natural beach-dune dynamics.
- Manage recreational pressure and access to sensitive dune habitats through designated paths, boardwalks, fencing, signage, and, where necessary, seasonal or permanent restrictions for both pedestrians and vehicles.



RIVERS AND STREAMS

Active:

- Remove bank reinforcements to allow natural fluvial processes, letting the river banks erode and the water to find its natural course.
- Restore floodplains by removing flood embankments and allowing for lateral connectivity.
- Remove dams and other transversal barriers to ensure longitudinal connectivity for sediments and living organisms.
- If removal of dams is not possible, establish a certain minimum flow of water at all times to avoid dry riverbeds and/or very low water levels.
- Ensure safe migration pathways for fish. Install fishways if dams cannot be removed, and screen away fish larger than 10 cm from hydropower turbines.
- Restore spawning and nursery grounds for relevant fish species, for example by reintroducing boulders, stone and gravel to areas where dredging or timber-floating has removed the natural bed.
 - o Planting deciduous trees along the river bank can provide shade and control water temperatures.
- Minimise both local and accumulated nutrient runoff by introducing buffer strips along rivers (especially those near logging operations or farms), reducing fertilising in nearby farmland and forests, restoring wetland ecosystems, ensuring proper handling of sewage and proper handling of fertiliser in ports or near waterways, and establishing an effective implementation of the EU Water Framework Directive.
- Enforce legal provisions to reduce the transfer of alien aquatic species by commercial and recreational vessels operating on inland waterways. Particular attention should be paid to biofouling and ship ballast water.

Passive:

- Do not introduce obstructions to natural fluvial processes.
- Allow natural vegetation to develop in the water and along riverbanks.
- Avoid dredging or removal of coarse woody debris.

- Allow continuous natural buffer zones of free vegetation to grow along rivers. The width of the buffer zone should be at least 10-20 m.
- Designate riverine protected areas.



COASTAL WETLANDS, FLADS AND LAGOONS

Active:

- Increase water retention to prolong flooding.
- Remove barriers so that fish can move unhindered between the wetland and the sea.
- Modify the depth and width of inlets to improve hydrological connectivity.
- Reconstruct previously present thresholds that have been removed by dredging, with attention to not suffocate mudflats or marsh grasses.
- Clear grasses and woody vegetation which arise on dried coastal wetlands and maintain environments that are open enough for native fauna like waterfowl.
- Clear dense reed beds (*Phragmites australis*) in order to maintain open environments and encourage circulation of nutrients and oxygen in shallow water.
- Facilitate re-meandering of rivers through for example excavating side-arms or placing large boulders in the streaming water so that the water can start creating its own natural path, which will in turn create micro-habitats and increase nutrient filtration.

Passive:

- Protect the natural water regime, including flooding.
- Preserve the natural connection between wetlands and the river/estuary by allowing channels flowing into the wetland to stay open.
- No straightening of rivers flowing into wetlands.



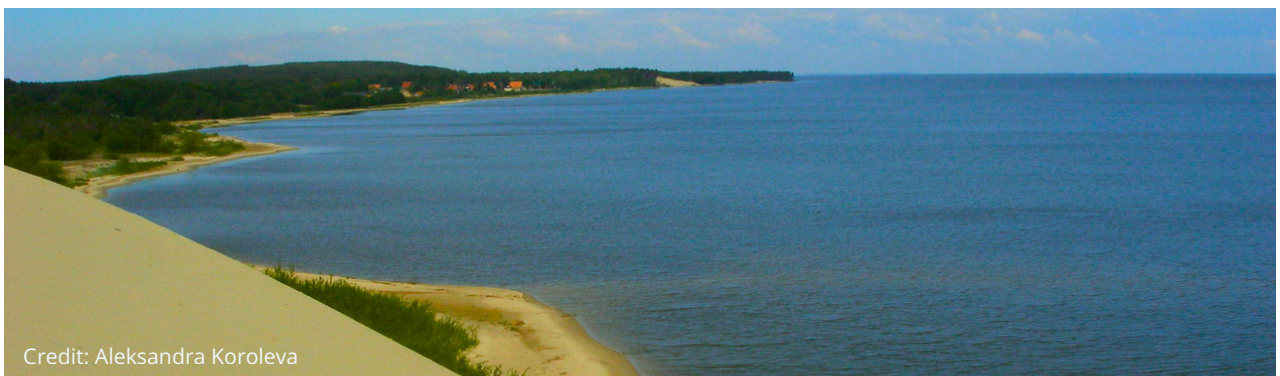
INLAND FLOODPLAINS AND WETLANDS

Active:

- Increase water retention to prolong flooding, for example by plugging or filling trenches and ditches.
- Re-wet peat soils for example through plugging trenches/ditches, to increase carbon storage and nutrient retention.
- Manage human activities to remove or decrease excess sedimentation.

Passive:

- Preserve the natural connection between wetlands and the river by allowing channels flowing into the wetland to stay open.
- No straightening of rivers flowing into wetlands.



COASTAL REALIGNMENT - GIVING RECLAIMED LAND BACK TO THE SEA

Active:

- Restore land that has been drained by removing dikes or embankments to re-establish natural coastal processes and allow wetland habitats to re-develop.
- Where full removal is not feasible, move back dikes or embankments and create controlled breaches or flood or storm-surge retention areas to restore hydrological connectivity.

- Secure accommodation space for landward habitat migration under sea-level rise through strategic land acquisition or spatial-planning instruments.

Passive:

- Prevent new development and new hard coastal defences in areas needed for future landward migration of coastal habitats, where compatible with human safety and existing legal obligations.
- Develop long-term managed-retreat pathways for low-lying reclaimed land where maintaining hard defences would lock in habitat loss or coastal squeeze.
- Allow natural flooding, storm-surge dynamics, erosion, sediment transport and shoreline migration wherever compatible with human safety and essential infrastructure.



ALGAL BEDS, BROWN AND RED ALGAE (FOR EXAMPLE FUCUS VESICULOUS)

Active:

- Restore macroalgal beds by transplantation of adult algae, propagules or young algae, ensuring that pressures that caused degradation have been removed or sufficiently decreased before planting. Water quality has been shown to be especially important.

Passive:

- Minimise both local and accumulated nutrient runoff by introducing buffer strips along rivers (especially those near logging operations or farms), reducing fertilising in nearby farmland and forests, restoring wetland ecosystems, ensuring proper handling of sewage and proper handling of fertiliser in ports or near waterways, and establishing an effective implementation of the EU Water Framework Directive.
- Ban anchoring or provide mooring buoys for recreational boats to minimise anchoring damage.
- Regulate boating in the area to minimise erosion and turbidity.
- Regulate fishing, particularly with mobile bottom-contacting gear, in the area, to minimize sediment disturbance and re-suspension.
 - o Regulating fishing can also potentially strengthen predatory fish populations, which can ultimately reduce filamentous algae growth on macroalgae.



Credit: Mats Westerborn

STONY REEFS

Active:

- Restore rocky reefs where substrate has been removed, by adding natural rocks previously found in the area, to re-establish native hard-bottom communities and provide shelter for fish.

Passive:

- Regulate fisheries in the area to allow the reef to function as a safe habitat for fish and to allow the ecosystem dynamics to recover.
- Ban bottom contacting gear in the area and in a buffer zone around the area to avoid further damage.



Credit: Juuso Haapaniemi

EEL GRASS BEDS

Active:

- Restore eel grass beds by re-planting, either through transplantation of vegetative shoots or seeding. Ensure that pressures that caused degradation have been removed or sufficiently decreased before planting and make sure that climatic conditions have not changed in ways that entail the area can no longer support eel grass beds.

Passive:

- Minimise both local and accumulated nutrient runoff by introducing buffer strips along rivers (especially those near logging operations or farms), reducing fertilising in nearby farmland and forests, restoring wetland ecosystems, ensuring proper handling of sewage and proper handling of fertiliser in ports or near waterways, and establishing an effective implementation of the EU Water Framework Directive.
- Ban anchoring or provide mooring buoys for recreational boats to minimise anchoring damage.
- Regulate boating to minimise sediment erosion and turbidity.
- Ban bottom-contacting fishing gear in the area and in a buffer zone around the area to allow the eel grass to grow and function as a safe spawning/nursery area.



OTHER MACROPHYTE BEDS (FOR EXAMPLE CHAROPHYTES AND POTAMOGETON SPP)

Active:

- Restore macrophyte beds through transplantation, seeding or use of overwintering propagules.
- Clear dense reed beds (*Phragmites australis*) in order to encourage circulation of nutrients and oxygen in shallow water.

Passive:

- Minimise both local and accumulated nutrient runoff by introducing buffer strips along rivers (especially those near logging operations or farms), reducing fertilising in nearby farmland and forests, restoring wetland ecosystems, ensuring proper handling of sewage and proper handling of fertiliser in ports or near waterways, and establishing an effective implementation of the EU Water Framework Directive.
- Ban anchoring or provide mooring buoys for recreational boats to minimise anchoring damage.
- Regulate boating in the area to minimise erosion and turbidity.
- Ban bottom-contacting gear in the area and in a buffer zone around the area to allow the vegetation to function as a safe spawning/nursery area.



MUSSEL BANKS

Active:

- Restore mussel beds by adding recruitment sites (e.g. shells), or transplanting native material post-recruitment or adult mussels.
- Be aware of the trophic levels above the restored species and make sure that the whole habitat is restored to prevent strong predation on restored species.

Passive:

- Ban bottom contacting gear in the area and in a buffer zone around the area to avoid further damage.



SOFT SEDIMENTS HABITATS (MUD, SAND, COARSE AND MIXED SEDIMENTS)

Active:

- Active intervention should generally be limited to cases where natural recovery following pressure removal is unlikely or where specific physical damage requires remediation. Where appropriate, restore altered seabed morphology or sediment conditions using material compatible with the natural substrate and hydrodynamic setting.

Passive:

- Exclude or substantially reduce the use of mobile bottom-contacting fishing gear in restoration areas, with buffers where needed to prevent edge effects and sediment plumes; give particular priority to areas exposed to repeated physical disturbance.
- Exclude or minimize other damaging bottom-contacting activities, including extraction, dredging, dumping and seabed infrastructure developments, where these prevent recovery or impair seabed integrity.
- Establish protected areas whose sediments span the full Group 7 gradient – mud, sand, coarse and mixed sediments – rather than concentrating restoration only on a limited subset of sediment habitats.
- For carbon-rich mud and other fine-grained sediments, include sedimentary organic carbon stocks and their vulnerability to disturbance as an additional criterion for prioritising restoration areas. Protection should focus primarily on avoiding remobilisation and degradation of existing carbon stores rather than assuming rapid creation of new sedimentary carbon sinks.
- Establish permanently secured low-disturbance and reference areas to assess natural recovery and the long-term effect of pressure reduction on benthic biodiversity, seabed integrity and sedimentary carbon-storage functions.
- Define restoration objectives and monitoring in relation to ecological recovery and MSFD Descriptor 6, including relevant indicators of physical disturbance and benthic habitat condition.
- For inshore sand habitats, create undisturbed areas closed to visitors, so-called “beach islands”, to ensure undisturbed habitat for birds breeding at beaches (e.g. *Charadrius hiaticula*) and to allow natural succession to take place.

► CONCLUSIONS

The restoration of the Baltic Sea requires a comprehensive, ecosystem-based approach that addresses not only individual habitats, but also the ecological processes, functions, species interactions and connectivity that underpin a healthy and resilient ecosystem. While the HELCOM RAP and the associated toolbox provides a useful framework for building knowledge, capacity and coordination, as well as some active measures, it lacks concrete restoration measures across the full source-to-sea continuum and gives insufficient attention to passive restoration, despite the importance of reducing human pressures and allowing natural recovery processes to take place. CCB therefore recommends that the implementation of the adopted HELCOM RAP, e.g. through the development of a work plan, takes a more ambitious approach: by identifying and prioritising concrete actions, including both active and passive measures, across freshwater, coastal and marine ecosystems, and by placing greater emphasis on the ecological outcomes that restoration is intended to achieve. Restoration – be it as an implementation of the HELCOM RAP, the NRR or the goal to achieve GES in the Baltic Sea – should ultimately be judged not by the area on which measures have been implemented, but by whether ecological functions, processes and ecosystem condition are demonstrably recovering and can be maintained over the long term.

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