

CCB´s Guiding recommendations for Source-to-Sea restoration in Riverine, Coastal and Marine ecosystems

Swedish Agency
for Marine and
Water Management



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IC WG SOURCE TO SEA 6-2025

Coalition Clean Baltic

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Development of CCB's restoration guidelines

- ▶ An effort of CCB's NGO network: Member Organisations (WA BIO, EUTRO and MARITIME), led by CCB Secretariat
- ▶ Bring key points for consideration for Member States for NRPs development (deadline: September 2026)
- ▶ Source-to-sea restoration (Baltic Sea catchment area) – various HELCOM WGs



Credit: Camille Fraizy, 2024



CCB's main guiding recommendations for source-to-sea restoration

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- 1 Source-to-sea approach and ecological connectivity must be considered.
 - 2 NRPs must include measures for all ecosystems and be site-, habitat-, and species-specific (multiple benefits prioritized)
 - 3 Restoration efforts should be linked and contribute to EU and Baltic Sea policy goals and legal obligations (BSAP, MSFD, etc.)
 - 4 Need for active and passive restoration with effective management, securing long-term outcomes (marine protection to be prioritized)
 - 5 Implement firm monitoring practices to follow the state of both passive and active restoration areas (incl. effects of wider stressors)



6

Implement continuous genetic and biome mapping and sampling, and refine restoration practices

7

Follow a coherent approach at the regional level and generate synergies among MS and NRPs.

8

Set ambitious, clear, and achievable targets, ensuring effective use of resources and coordination

9

Source-to-sea restoration to be seen as a climate-related policy (carbon stocks and sink capacity)

10

Secure long-term financing for NRR implementation at national and regional levels to support conservation and restoration actions.

11

Involve civil society through citizen science and engagement actions in monitoring and restoration practices.

Ecosystem-specific recommendations

CCB's Guiding Recommendations for Source-to-Sea Restoration



AI generated image

Riverine *	Coastal	Marine
<p>Natural water courses, incl. rivers, streams, floodplains*</p>	<p>Inlets, transitional waters, coastal beaches, dunes, wetlands*</p>	<p>Coastal water (low tide level), shelf, open ocean, column and seabed*</p>
<h3 style="text-align: center;">Passive Restoration</h3>		
<ul style="list-style-type: none"> ● No intervention, allow natural fluvial processes (e.g. river bank erosion, migration of riverbeds) ● Allow development of native vegetation in river bank zones, forming complex buffer zones ● Designate riverine protected areas 	<ul style="list-style-type: none"> ● Limit recreational use of threatened areas, to reduce beach / dune erosion, pollution ● Allow natural processes (e.g. beach and dune accumulation / erosion, natural cliff erosion) ● Protect vulnerable habitats, MPA designation & management 	<ul style="list-style-type: none"> ● Designate and effectively manage strictly protected areas, limit human intervention (see CCB's MPA position paper)²⁸ ● Regulate boating, anchoring and recreational fishing in restoration / sensitive areas (e.g. seagrass meadows, biogenic or stone reefs, blue mussel beds)
<h3 style="text-align: center;">Active Restoration</h3>		
<ul style="list-style-type: none"> ● Ensure river connectivity and continuity (longitudinal, lateral, and four-dimensional), with clear barrier removal goals (5-10 yrs) ● Remove bank reinforcements to allow fluvial processes (e.g. bank erosion) ● Restore woody debris, stones / gravel in riverbeds, incl. riffle-pool sequences in gravel rivers ● Ensure safe fish migration, and restore spawning / nursery grounds, and river morphology ● Establish continuous natural buffer zones along rivers, tributaries and water bodies ● Reduce nutrient input 	<ul style="list-style-type: none"> ● Reed and dune management (e.g. removal of invasive and overgrown species threatening native plant communities in Baltic coastal dunes) ● Restore or recreate coastal wetlands and lagoons by increasing water retention to prolong flooding ● Re-wet peat soils, necessary for carbon storage and for decreasing nutrients outflow towards the sea 	<ul style="list-style-type: none"> ● Increase CO₂ reservoirs, sequestration rates and biodiversity through restoration of macroalgae and seagrass meadows, incl. identifying suitable locations and methods ● Restore native stony reefs with natural rocks to re-establish native hard-bottom communities ● Restore biogenic reefs to improve habitat function and coverage & restoration of shellfish beds, particularly blue mussel reefs (<i>Mytilus edulis</i> / <i>trossulus</i>) by adding recruitment sites (e.g. shells), or transplanting material post-recruitment or adult mussels

* Appendix I. Complementary information for riverine restoration



Considerations for successful restoration

Challenges and solutions:

- Lack of financial support, best-available techniques, harmonised data, Member States ambitions and introduction of new ecosystems

Considerations for long-term restoration

- Coherence of NRPs and clear regional approach is key
- MSP to support securing long-term outcomes and reducing conflicts
- MPA and strictly protected areas (prevent degradation, maintain connectivity, improve adaptability, sustain restoration success)
- NRPs to address reporting needs and monitoring mechanisms
- Stakeholder engagement and long-term funding

Other appendixes

- NRR timeline matching with BSAP targets (2025-2050)
- List of NRR habitats and species in the Baltic Sea catchment area (riverine, coastal and marine ecosystems)

NRR TIMELINE			MATCHING BSAP TARGETS				
Date	Event, Target, or Deadline	NRR ref.	Actions	year	BSAP ref.		
1 st Sep., 2027	Final NRP submission (within 6 month of Commission's feedback)	Art. 17(6), p. 35	Specific protection by HELCOM MPAs for regionally / near threatened biotopes.	2030	B7, p. 15		
	Preventing significant habitat deterioration: MS to endeavour to have implemented measures aiming to prevent significant deterioration in NRR's Annexes 1 and 2* habitats that are in good condition, or areas needed to meet overall targets.	Art. 4(12), p. 22, Art. 5(10), p.24					
19 th Feb., 2028	Monitoring of habitats that have significantly deteriorated or are subject to compensatory measures	Art. 20(1.j, 5, 6), p.37					
30 th Jun., 2028	1st data reporting deadline on restoration progress (every 3 yrs)	Art. 21(1), p. 38					
2030	Effective and area-based restoration: overarching NRR target for measures to cover at least 20% of land and 20% of sea areas.	Art. 1(2), p. 18	<ul style="list-style-type: none"> Underwater noise (impulsive & ambient) through Regional Action Plan on Underwater Noise. MPA and conservation plan effectiveness through MPA management guidelines & plans being legally binding and enforced. Reducing eutrophication, emissions and air pollution. Sustainable boat / shipping practices (incentives to use port facilities, grey water assessment). Minimal seabed disturbance. Coastal fish restoration actions. Incentive correction (more beneficial and less harmful ones). Reduced introduction of Invasive spp. Reducing pollution (marine litter, biofouling, mercury, PFAs, chlorinated paraffins, offshore platforms) 	2025-2029	S55-58, 60, 62, p. 46		
	Restoration measures for habitats 'not in good condition': should cover 30% of total area of habitats in NRR Annexes 1 and 2* (specifically marine habitats 1-6). MS to implement these. Notably: from 2030, terrestrial, coastal, and freshwater Natura 2000 are no longer priority sites.	Art. 4(1 & 1.a), 5(1.a), p. 20, 21, 23				2025-2028	B3, 4, 23, 29, pp. 14, 16, 17 & S64, p. 47
	Reaching favourable habitat reference areas: restoration measures by MS should cover 30% of the total additional surface area needed per overarching habitat group (Annex 1 and 2 habitats* (only marine habitats 1-6)) to reach this target.	Art. 4(4), 5(2), p. 21, 23					
		2025, 27-29	S12, 14, 15, 17, 18, p. 42				
		2026	S65, p. 47				
				2026	S53, p. 45		
				2025, 2030	HT21, 22, p. 54		
				2026	S10, p. 42		
				2025-2028	HL12, 19-21, 29-32 & HT23-25, & S1, 10, 16, 22, pp. 34, 35, 41-43, 55		



The Session is invited to:

- ▶ Note CCB's Guiding Recommendations on source-to-sea restoration and reflect on their contribution to the development of a HELCOM Restoration Action Plan and HELCOM's role in aiding NRR implementation;
- ▶ Share progress on the development on NRPs, including considerations for source-to-sea restoration;
- ▶ Consider and discuss the need for collaboration with other relevant HELCOM WGs for riverine, coastal and marine restoration, as well as how a potential regional common understanding on restoration will consider the entire catchment area.

Thank you!

