Improving planning and coordination frameworks to harmonise various level water and climate policies

D.3.2.2. EU / MACRO-REGIONAL POLICY RECOMMENDATIONS

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1. Introduction

The purpose of this document is to provide transnationally relevant recommendations for improving and harmonizing adaptation to climate change (CC-A) and nature-based solutions (NbS) and natural water retention measures (NWRM) related policies across the Danube Basin in order to uptake and upscale NbS/NWRMs.

It firstly discusses the key transnational challenges at EU and Danube basin-wide level. The Recommendations section starts with providing three potential pathways of change to uptake and upscale NbS/NWRM solutions then it gives details of EU and Danube macro-regional level policy recommendations in general and based on specific policy instruments. Finally it gives good policy practice examples from the Danube region and from Europe.

This document is closely linked to and based on other project documents of the RESTORIVER project e.g. Gap and Comparative Analyses of macro-regional and EU policies (D.3.1.2), National Policy Recommendations (D.3.1.3) and Transnationally relevant Policy Scenarios (D.3.1.4) while supportive policy makers also provided advises and examples.

2. Key Transnational Challenges

Challenge	Scale (Danube / EU)	Description	Implications for NWRMs
Biodiversity is not considered as precondition for development, its objectives are not primary goals e.g. the principles of net gain for nature and do no significant harm	EU & Danube	Having economic development, competitiveness and prosperity the key objectives, natural values are considered as a resource free of charge and not as prerequisite for those aims.	NbS and NWRMs are not given priority, many times short term grey solutions are prioritized
There is no common definition / standard of NbS / NWRM used in policy documents, IUCN criteria is not used, its link to Green Infrastructure is unclear	EU & Danube	EU legislative acts and macro-regional agreements use different terminology and NbS /NWRM is not defined. Green Infrastructure is mentioned sometimes but its link to NbS /NWRM is not defined.	There is unclarity and misunderstanding around what NbS / NWRM solutions are and why they are important
Multifunctional advantages of NbS / NWRM and long-term disadvantages of grey development projects to ecosystem services are not widely known	EU & Danube	NbS / NWRM advantages to biodiversity, climate adaptation etc. are not taken into consideration when developing projects and only short-term advantages of grey solutions are calculated.	NbS and NWRMs are valued neither at the business side nor at the public, grey solutions are considered at least with the same weight as NbS/NWRMs.
NbS /NWRM is not prioritized over grey solutions in legislation, in permitting, in	EU & Danube	Traditional grey solutions are considered first or exclusively when a new development is	NbS and NWRM solutions are rarely considered at new

programmes and plans		planned	development projects
NbS is not integrated into the broader context of sustainable development and not aligned with SDGs	EU & Danube (& global)	SDGs are the driving force of sustainable development globally but NbS/NWRMs are not directly targeted	Long-term sustainability of measures is not a priority vs short-term gains
NbS is differently or not integrated into EU policies	EU	EU legislation and strategies does not always refer to NbS and where it does, it covers NbS differently	There is no common understanding of what NbS is and how it should be used
NbS related environmental, water and nature plans are not binding for other sectors, exemptions are widely used, systematic control of the related projects is not done	EU & Danube	EU and national environmental legislation (WFD, NRL, EIA etc. and their implementing acts) contains a lot of exemptions which are used too often when developments are planned and other sectoral players can ignore the actions described in those plans.	Where NbS/NWRM measures are planned, they are not used finally
There is no guidance how to implement NbS	EU & Danube	Some EU and macro-regional documents mention NbS but it is not detailed what it means and how it should be implemented	There is no common understanding of what NbS is and how it should be used is
There are no tools at macro-regional level to mainstream NbS	Danube	Macro-regional agreements, institutions have no means (e.g. own resources) to assist upscaling of NbS to the basin-wide level	Measures are missing to upscale NbS to the basin-wide level
There is no climate check of measures, investments	EU & Danube	Measures included in plans and programmes and investment projects are no checked about their long-term impacts related to climate change	NbS and NWRMs long-term positive impacts on climate change are not valued
NbS is not integrated into sectoral policies	EU & Danube	Other than environmental policies do not mention and consider NbS	Other than environmental stakeholders do not consider NbS as valid tools
Policies are not always aligned at different levels (EU, macro-regional, national, catchment, local)	EU & Danube	EU policies are not always correctly translated to lower level action while bottom-up NbS projects are not necessarily linked to EU and basin-wide strategies	Available finds are not always targeting local needs that could be solved by NbS
Coordination mechanisms	EU &	Not all institutions affected are	Important stakeholder

among implementing institutions are not established or not working in practice	Danube	involved in decision making	groups are left out of project planning and design and would ignore or oppose the project later on
Ecosystem connectivity and ecological corridors are not considered in project planning	EU & Danube	Binding tools are mostly missing to consider ecosystem connectivity in project planning	Ecosystem connectivity is rarely considered in project planning
Sectoral strategies and action plans are not aligned	EU & Danube	There are many sectoral strategies and plans in different levels but they do not consider NbS in a similar way	NbS is supported by some sectoral strategies but not supported or ignored by others
Sectoral strategies do not always contain action plans or concrete measures	EU & Danube	Objectives of strategies are general and without action plans concrete actions to achieve the objectives are missing	NbS is planned in some cases but there is no trigger and financing means to carry out concrete NbS projects
Biodiversity monitoring is not used to inform investment decisions	EU & Danube	Development projects cannot consider impacts on biodiversity if monitoring does not show what should be protected	Investment projects cannot consider the related biodiversity goals
Impacts of NbS solutions are not monitored, reported, adaptive management is not ensured	EU & Danube	There is no requirement to monitor and report on NbS solutions. Without assessment of the results of the action adaptive management is not feasible.	It cannot be shown if NbS solutions are useful in a long run or need to be finetuned to achieve the management objective
Dedicated financing through EU funds to NbS is not ensured	EU & Danube	EU financing does not target NbS directly, there are many different financing instruments but it is scattered how they finance NbS	There is unclarity about NbS financing and it is difficult to match NbS projects with existing funding opportunities
Blended financing solutions are rare	EU & Danube	NbS projects mainly count on EU funds and other financing solutions are not involved	NbS projects depend too much on EU financing
The ‘do no significant harm’ principle is not built in EU financing mechanisms	EU	Projects are not checked whether they do harm on biodiversity or nature	NbS project proposals compete with harmful project proposals for financing
There is very limited financing opportunities exist at macro-regional level	Danube	Agreements and institutions at the Danube macro-regional level have no own resources to finance NbS projects	There is limited financing exists for basin-wide NbS projects
When there is financing available, long-term maintenance costs are not	EU & Danube	Sustainability of NbS projects is hindered by the lack of financing for maintaining	NbS projects cannot achieve long-term sustainability

considered as well as trade-offs like costs of land use agreements and damage compensation		project results and for costs related to trade-offs	
Economic feasibility and financial viability of NbS solutions is not assessed, common methodologies for calculating them are not adopted	EU & Danube	There are no standard methodologies to assess economic aspects of NbS solutions	Lack of common economic methodologies hinders presenting NbS business cases
Knowledge on NbS is scattered and not sufficient in public administration, among engineers, higher education and other stakeholders	EU & Danube	NbS related education is not provided at public administration, universities and to relevant stakeholders	Lack of knowledge hinders common understanding and uptake of NbS measures
Participatory approaches, active involvement of stakeholders in procedures linked to NbS are not widespread	EU & Danube	Where there are procedures related to NbS projects, not all relevant stakeholders are involved or not in an active way	Lack of appropriate involvement of the relevant stakeholders can create conflicts
Conflict prevention and mitigation measures are not built in the NbS related procedures	EU & Danube	Conflicts among stakeholders based on trade-offs are not handled in NbS related procedures	Acceptance of NbS measures where conflicts are not handled is low and it hinders uptake of other similar measures

3. Recommendations

Effective policy for Nature-based Solutions (NbS) requires integrating ecosystem restoration into climate and development strategies, scaling up public-private financing, and ensuring local community involvement. Key recommendations include embedding NbS in urban planning, adopting strict biodiversity standards, reforming harmful subsidies, and strengthening monitoring to prove performance.

Chapter 3.1 draws up three pathways of change that would enable uptake and upscale of NbS/NWRMs in Europe and in the Danube basin. Chapter 3.1 is primarily informed by Restoriver National Policy Recommendations (D.3.1.3)

Chapter 3.2 and 3.3 gives EU and macro-regional level recommendations in general and specifically related to existing policy instruments at those levels. The main source of chapters 3.2 and 3.3 are the Gap and Comparative Analyses of macro-regional and EU policies (D.3.1.2).

Chapter 3.4 contains recommendations that were suggested by supportive policy makers to the RESTORIVER project and other stakeholders. Those recommendations were collected via interviews and in a questionnaire.

3.1 Pathways of change

The **Political Economy Analysis (PEA)** is an approach used to understand how power, politics, and incentives shape decisions and outcomes in a given context – such as a country, sector, or reform effort.

The PEA can draw **pathways of change** describe how change actually happens in real-world systems by looking at power, incentives, and relationships – not just formal plans or policies. Instead of assuming change is linear ("we pass a law → things improve"), PEA recognizes that change is often messy, political, and influenced by hidden dynamics.

In this chapter three thematic pathways are described on how inappropriate uptake and upscale of NbS measures could be changed. The pathways are self-standing but it is normally best to combine elements of the three pathways in order to achieve the foreseen objective and change the current situation.

I. Value adjustment pathway

The NbS/NWRM solutions are currently not known / valued enough by the society. Multifunctional NbS/NWRM advantages to biodiversity, ecosystem service and socio-economic benefits to public health, resilience to climate change impacts, disaster risk reduction etc. are not widely known.

Conservation of water resources and biodiversity cannot follow development; it must constitute its precondition. E.g. significant alteration of river hydromorphology cannot be considered acceptable as a collateral effect of development projects, it results in the permanent loss of natural river functions, increased flood risk, habitat degradation, and reduced ecosystem resilience to climate extremes, particularly droughts.

NbS such as integrity of nature and watercourses should be considered as a public interest of the highest order, and that any planned intervention may be approved only after demonstrating the absence of a sustainable alternative and after all avoidance, mitigation, and compensation measures have been undertaken. Infrastructure development must be adapted to natural characteristics, not vice versa. It should take no harm, rather net gain for nature. NbS/NWRM should be prioritized over grey solutions. A landscape approach should be used when planning and implementing NbS.

In order to give real values to NbS solutions in consideration of affected stakeholder groups, their awareness should be raised on NbS benefits, e.g. by including case studies or pilot examples where NbS have already delivered multiple societal benefits. NbS knowledge should be spread using practical examples.

Active involvement of stakeholders needs participatory approaches in NbS/NWRM planning and implementation. To build trust and to ensure fair distribution of benefits and burdens, trade-off analysis of NbS and grey interventions affecting different social groups (e.g. farmers, urban communities, industries) should be carried out. Potential conflicts should be prevented or mitigated via appropriate processes and fora based on mutual trust.

Recommendations in order to achieve value adjustment of NbS/NWRM measures:

Nr	Recommendation	Term	Level
I.1	Clearly define NbS /NWRM, make it a standard. Make use of IUCN global NbS criteria.	short	Best at EU level
I.2	Acknowledge and spread multifunctional advantages of NbS/NWRM	short	EU & macro-regional level
I.3	Make biodiversity objectives primary, aim for net gain for nature	mid	EU & macro-regional level
I.4	Check that projects do no significant harm to nature and climate resilience	short	EU & macro-regional
I.5	Ensure long-term sustainability of NbS measures instead of looking only at short-term gains	short	EU & macro-regional
I.6	Increase visibility of co-benefits by including case studies or pilot examples where NbS have already delivered multiple societal benefits	short	EU & macro-regional
I.7	Promote participatory approaches actively involving stakeholders (farmers, businesses, NGOs, vulnerable groups) in NbS/NWRM planning and implementation	short	EU & macro-regional
I.8	Carry out a trade-off analysis of NbS and grey interventions affecting different social groups (e.g., farmers, urban communities, industries) to ensuring fair distribution of benefits and burdens.	mid	EU & macro-regional
I.9	Establish appropriate conflict prevention and mitigation processes and fora based on mutual trust	mid	EU & macro-regional
I.10	NbS knowledge should be shared via	mid	EU & macro-regional

	higher education, trainings, knowledge centres etc. using practical examples		
I.11	Ensure that a landscape approach is used when planning and implementing NbS	short	EU & macro-regional

II. Policy integration and implementation pathway

NbS has been given a global criteria by IUCN however NbS/NWRM should be integrated into the broader context of sustainable development and aligned with international commitments, particularly the UN Sustainable Development Goals. Synergies between EU, macro-regional and global targets (IUCN NbS criteria, IPBES, SDGs, IPCC, GBF, NBSAPs, NAPs) could be improved.

At the European level, NbS is differently or not integrated into EU policies. Some environmental policies refer to NbS or green infrastructure but they have no definition and different understanding while other sectoral policies do not consider it. Common definition and understanding as well as guidance how to implement NbS would be needed.

Sectoral strategies and action plans are not always aligned, sectoral strategies do not even contain action plans or concrete measures in some cases. In cases where NbS is considered, it is rarely prioritized over traditional grey solutions.

NbS related environmental, water, nature and climate adaptation plans are not binding for other sectors, exemptions provided by EU legislation are widely used, systematic control or climate check of the related measures and projects is not carried out. Alignment of policies at different levels (EU, macro-regional, national, catchment, regional, local) should also be improved. Synergies between macro-regional targets and EU biodiversity policies, including the EU Biodiversity Strategy 2030 and the Natura 2000 network could be improved.

There is also need to improve cross-sectoral integration by embedding NbS into sectoral policies, adaptation strategies, connecting it with environmental, water, agriculture, forestry, biodiversity, energy, climate adaptation and urban and spatial policies and planning.

When implementing EU policies, coordination mechanisms among implementing institutions are not established or not working in practice. Coordination mechanisms should be institutionalized e.g. between basin directorates, municipalities, and sectoral agencies to ensure that NbS are implemented coherently at multiple levels. Inter-sectoral coordination should be carried out by a coordinating body or interdepartmental working group, with high level, responsible leaders.

In order to ensure accountability and progress tracking, clear quantitative targets and measurable indicators should be set. To be able to assess the results, monitoring should be developed and the results reported, verified. In line with adaptive management the measures should be adjusted if necessary.

At macro-regional and especially Danube level institutions are rather weak without own resources to promote NbS/NWRM uptake and upscaling into basin-wide level. Ecosystem connectivity and ecological corridors should be considered in transboundary project planning, priority zones for NbS could be pointed out.

Recommendations in order to achieve policy integration and implementation of NbS/NWRM measures:

Nr	Recommendation	Term	Level
II.1	Integrate NbS into the UN Sustainable Development Goals.	mid	Global
II.2	Integrate EU and macro-regional targets into global targets (IUCN NbS criteria, IPBES, SDGs, IPCC, GBF, NBSAPs, NAPs etc.)	short	EU & macro-regional level
II.3	Integrate NbS into all EU policies in a standard manner and provide guidance for implementing it	short	EU
II.4	Make sure that sectoral strategies and action plans are aligned and contain action plans or concrete measures where NbS is considered and prioritized over traditional grey solutions.	mid	EU & macro-regional
II.5	Ensure application of nature, environmental, water and climate adaptation plans (NRP, RBMP, FRMP, SEA, EIA, CC-A etc.) as binding cooperation tools in all sectoral policies and spatial planning	mid	Best at EU level
II.6	Make sure to limit and transparently justify any exemptions from the objectives of EU legislation and plans	short	EU
II.7	Establish systematic control of all measures' and projects' compliance with the EU legislation and plans' objectives related to NbS, adaptation to climate change and long-term health of ecosystems	short	EU
II.8	Use adaptive management of NbS by setting clear quantitative targets and measurable indicators and by establishing	short	EU & macro-regional

	monitoring, reporting, verification and assessment of results		
II.9	Improve alignment of policies at different levels (EU, macro-regional, national, catchment, regional, local) related to NbS	mid	EU & macro-regional
II.10	Improve cross-sectoral integration by embedding NbS into sectoral policies, adaptation strategies, connecting it with environmental, water, agriculture, forestry, biodiversity, energy, climate adaptation and urban and spatial policies and planning	mid	EU & macro-regional
II.11	Institutionalize coordination mechanisms to ensure that NbS are implemented coherently at multiple levels. Ensure that NbS related inter-sectoral coordination is carried out by a coordinating body or interdepartmental working group, with high level, responsible leaders	mid	EU
II.12	Strengthen Danube level institutions with own resources to be able to promote NbS/NWRM uptake and upscaling into basin-wide level.	mid	EU & macro-regional
II.13	Strengthen the multi-scale approach by explicitly linking site-level NbS projects to basin-wide and transboundary strategies.	mid	macro-regional
II.14	Consider ecosystem connectivity and ecological corridors in transboundary strategies and planning, identify NbS priority zones.	mid	macro-regional

III. Financing pathway

The main financing source of NbS/NWRM solutions in Europe is EU funding even though in the current EU financing period dedicated financing to NbS is not ensured.

Although EU financing does not target NbS directly, there are many different financing instruments that in principle are suitable for supporting NbS solutions given their multiple benefits (e.g. LIFE,

CAP eco-schemes, Cohesion Policy, Horizon Europe etc). However NbS is not in the focus of those financing instruments and in some cases it is difficult to match NbS projects with existing funding opportunities.

It would be important to mobilise EU funds, the Global Environment Facility (GEF) and the Green Climate Fund (GCF) for NbS/NWRM in the next MFF period and to ensure dedicated financing for NbS through EU funds.

If the new MFF structure will allocate less money for green investment, it is essential to use non-environmental financial resources to create the pathways for farmers and other land-based resource managers to support the mainstreaming of NbS.

Although public funding will remain the bulk of NbS funding, using private finance to meet the investment gap between available public funds and what is needed to mainstream restoration would be essential. However, there is very little material about how public-private funding might work to support NbS. Blended financing solutions like green bonds, public-private partnerships, international climate funds and donor programmes, insurance and risk sharing mechanisms could be used that are rarely used in practice yet.

It is also important that existing financing tools and projects do not harm the objectives related to environment, water, nature and adaptation to climate change. For the moment the 'do no significant harm' principle is not built in the EU financing mechanisms, projects are not checked whether they do harm on biodiversity or nature. It means that in some cases NbS project proposals compete with harmful project proposals for financing.[1]

Economic feasibility and financial viability of NbS solutions is not assessed, common methodologies for calculating them are not adopted. There are no standard methodologies to assess economic aspects of NbS solutions. Lack of common economic methodologies hinders presenting NbS business cases. Economic feasibility assessments and long-term economic evaluations should be carried out in order to help demonstrate NbS/NWRM financial viability. Cost-benefit analysis could be standardized for NbS and grey solutions considering short- and long-term as well as social aspects.

When there is financing available, long-term maintenance costs are not considered as well as trade-offs like costs of land use agreements and damage compensation. Sustainability of NbS projects is hindered by the lack of financing for maintaining project results and for costs related to trade-offs. This hinders achieving long-term sustainability of NbS projects.

Very limited financing opportunities exist at macro-regional level. Agreements and institutions at the Danube macro-regional level have no own resources to finance NbS projects. More financing would be needed for basin-wide NbS projects.

Recommendations in order to achieve appropriate financing of NbS/NWRM measures:

Nr	Recommendation	Term	Level
III.1	Increase investment, scale up public and private investment for NbS	short	EU & macro-regional

1 In the next MFF there is a proposal to make the "do no significant harm principle" mandatory, forbidding any EU investment on a project that does harm.

III.2	Ensure dedicated financing to NbS	short	EU & macro-regional
III.3	Mobilise EU funds (e.g. LIFE, CAP, climate adaptation fund, Cohesion Policy, Horizon Europe etc), the Global Environment Facility (GEF) and the Green Climate Fund (GCF) for NbS/NWRM in the next MFF period	short	EU
III.4	Create possibilities for blended financing solutions like green bonds, public-private partnerships, biodiversity credits, ecosystem service fees, international climate funds and donor programmes, insurance and risk sharing mechanisms	mid	EU & macro-regional
III.5	Shift financial incentives away from activities that damage nature toward those that support NbS, ensure that financing tools do not support investments that do harm to nature and climate resilience	short	EU & macro-regional
III.6	Finance long-term maintenance costs as well as trade-offs like costs of land use agreements and damage compensation in order to ensure sustainability of NbS projects	mid	EU & macro-regional
III.7	Standardize and carry out economic feasibility assessments and long-term economic evaluations for NbS and grey solutions in order to help demonstrate NbS/NWRM financial viability considering short- and long-term as well as social aspects.	mid	EU &macro-regional
III.8	Establish calls for multi- and large-scale restoration pilot projects in order to demonstrate their feasibility and replicability	short	EU & macro-regional
III.9	Ensure that institutions at the Danube macro-regional level have enough resources to finance basin-wide NbS projects	short	EU & macro-regional

3.2 EU level recommendations

The EU policy analysis of the MERLIN project reported that successful mainstreaming of NbS and freshwater restoration is often hindered in the EU by persistent policy silos, short-term funding, and fragmented responsibilities across economic sectors that leads to uneven implementation. Also, policy actors tend to interpret the NBS concept differently.

At the same time, Europe's sustainability transitions are occurring in a context of deregulation, fiscal constraint, and competing sectoral priorities. Weakening of the Green Deal's ambition is part of a broader trend of accelerated deregulation at EU level.

The integration principle of the EU Treaty and other core legal principles – precaution, polluter pays and no net biodiversity loss – still exist and could be reaffirmed as practical foundations for cross-sectoral decision-making.

It is important to use a coherent approach to the biodiversity, climate and economic crises. Mainstreaming NbS requires horizontal and vertical cooperation, collaboration and integration among the different institutes of the governmental structure. Cross-sectoral working needs institutionalised co-governance frameworks that have shared objectives and mutually recognised benefits; clear mandates with agreed roles and responsibilities; predictable resources, and inclusive representation/conflict resolution processes.

Policies should position freshwater restoration as part of the solution to societal challenges. More visibility for freshwater restoration as NbS could be created and the opposition between working with nature and economic sectors disrupted. There is a need to have cross-policy coherence to provide the appropriate institutional context for a cross-sectoral and catchment scale approach to freshwater NbS.

Policies need to promote NbS when appropriate with careful attention to the IUCN Global Standard for NbS addressing multiple challenges including the need to work in an integrated manner, at scale, with close attention to reconciling trade-offs and ensuring there is biodiversity net gain and harms are prevented.

In strategic policy planning processes there is a need for freshwater NbS to be visible in policy options and considered in the next planning phase. Policies should illustrate how economic sectors can prosper whilst working with nature, whilst not damaging biodiversity or ecosystem services.

Although public funding will remain the bulk of NbS funding, using private finance to meet the investment gap between available public funds and what is needed to mainstream restoration would be essential. However, there is very little material about how public-private funding might work to support NbS.

It is also problematic that policies often lack information regarding cost-effectiveness, cost-benefit, cost recovery and supplementing public funding with private investments; and there could be more attention to economic viability when promoting environmental measures. The lack of evidence to use NbS remains a barrier and can impede policy support for NbS.

Some cross-sectoral or cross-policy interactions are developed through projects but these processes would be needed over long time periods and to link up sites and interventions should be implemented at the appropriate catchment or landscape scale. It requires coherent spatial implementation between policies and addressing cross-sectoral linkages requires competent administrations with experience of multi-interest conflict resolution.

3.2.1 Recommendations related to the Water Framework Directive

- Mainstream WFD objectives in other policies
- Make River Basin Management Plans' decisions binding for all sectors involved in the implementation of the RBMP
- Fill data gaps, collect cost-recovery data to RBMP measures and their alternatives, apply the polluter pays principle
- Create synergies between WFD and biodiversity objectives (e.g. in the NRL)
- Nature and climate friendly farming practices should be promoted, not only for the benefit of society and future generations, but to protect the sustainability of water resources on which farming depends
- Make the use of WFD exemptions transparent
- Use the Water Dialogues with Member States to commit them to implement NbS through re-naturalization of the river systems
- Establish a Sponge Facility in order to build confidence and mainstream NbS, as announced in the European Water Resilience Strategy[2]
- Clarify NbS/NWRM synergies and complementarity with grey solutions and prioritise green solution
- Propose concrete measures to limit the increase in water demand
- Phase out harmful subsidies under the CAP, cohesion policy, or state aid schemes that contribute to over-abstraction and drainage
- Ensure that the European Water Resilience Strategy is matched with appropriate funding in the upcoming MFF, so that its flagship actions can be delivered
- Use CAP and climate change adaptation related finance to support relevant measures of WFD implementation
- Take actionable steps to mobilise investment in NbS, test potential new financing mechanisms

3.2.2 Recommendations related to the Common Agriculture Policy

- NbS/NWRM should be included among the core objectives of the CAP with a systemic approach
- Make CAP measures related to NbS/NWRM obligatory

2 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52025DC0280

- Phase out harmful subsidies provided by CAP, ensure that Farm Stewardship rules are compliant with the principle of 'do no significant harm' (DNSH)
- Increase those funding sources from CAP that are available to enhance and upscale NbS/NWRMs
- Consider biodiversity net gain in CAP
- Enhance stakeholders' involvement into CAP planning outside the farming sector
- The new CAP should support freshwater restoration through requirements for organic farming, soil cover and reduced tillage that support natural hydrological cycles
- Freshwater and biodiversity targets should be included in the CAP performance, monitoring and evaluation framework
- Make CAP spending transparent
- Introduce landscape scale measures in CAP
- Track biodiversity related spending in CAP
- Indicators, particularly those related to biodiversity and to measuring impacts, are needed to be introduced in CAP, including those that are part of the agriculture ecosystems provisions of the Nature Restoration Regulation
- Ensure landscape-scale coherence of eco-schemes
- Ensure financing for trade-offs like land use change needed for NbS/NWRM (e.g. floodplain reconnection) and for the maintenance of NbS/NWRM measures needed for the provision of long-term adaptation benefits

3.2.3 Recommendations related to the Nature Restoration Regulation

- Provide specific financing for the NRL implementation, specific funding instruments to finance NRP actions and projects and to upscale restoration should be created
- NRPs should be created with the involvement of all sectors and stakeholders using the cooperation requirements with other legislative acts.
- Links to other EU instruments dealing with adaptation to climate change should be created.
- Pay attention to halting harmful activities that hinder biodiversity, stop subsidising such activities
- Deliver nature and climate friendly farming practices, not only for the benefit of society and future generations, but to protect the sustainability of water resources on which farming depends
- Favour adaptive, process-based NbS solutions
- Provide solutions to solve conflicts with existing land use rights
- Support locally tailored NbS/NWRM solutions
- Scale NbS from pilots to systemic, legally required interventions.

3.2.4 Recommendations related to the Birds and Habitats Directives

- Maintain the legal force and integrity of Habitats Directive and Birds Directive
- Prioritize ecosystem process restoration
- Do not let Appropriate Assessment requirements delay or block NbS projects that alter hydrology or habitat structure if adaptation benefits are clear
- Create climate-adaptive interpretations of "favourable conservation status" and acceptance of ecosystem dynamics, migration, and transformation

3.2.5 Recommendations to the EU Climate Adaptation Strategy

- NbS/NWRM should be structurally integrated into the EU Climate Adaptation Strategy rather than as potential projects
- Include explicit performance metrics, binding targets and benchmarks for NbS/NWRM
- Favour NbS/NWRMs rather than grey infrastructure, create NbS/NWRM-first policy principles
- Establish governance bridges and enforcement mechanisms to the EU Climate Adaptation Strategy in relation to key NbS/NWRM-relevant sectors
- Link the EU Climate Adaptation Strategy with dedicated funding
- Address land use and governance conflicts, establish compensation instruments
- Establish cost-benefit and appraisal frameworks with requirements to compare NbS and grey alternatives
- Provide support with technical guidance and capacity building
- Integrate ecological integrity and biodiversity safeguards into adaptation planning and investment.

3.2.6 Recommendations to the European Climate Law

- Maintain the adaptation objective as a legally binding pillar of EU climate governance, the risk-based, systemic approach to climate impacts and the cross-sector policy coherence between climate, water, biodiversity, and land-use policies
- Create explicit recognition of NbS/NWRM and operational guidance linking adaptation planning to NbS/NWRM (e.g. standards, indicators, typologies) as well as performance metrics for adaptation outcomes (resilience, avoided damage, ecosystem functionality)
- Create explicit link between adaptation objectives and ecosystem restoration
- Disrupt grey, engineered solutions as default adaptation responses, sectoral silos (water, agriculture, urban planning) and short-term cost-benefit frameworks that undervalue co-benefits and long-term resilience
- Measure adaptation success

- Address trade-offs between grey and green solutions
- Address the risk of maladaptation where mitigation-focused land use undermines hydrological resilience
- Frame NbS/NWRMs as low-regret measures essential to climate resilience, cost-effective alternative to grey infrastructure and multi-benefit solutions aligned with EU Green Deal objectives
- Strengthen NbS/NWRM by stronger links between risk assessments and ecosystem-based responses
- Use the EU Climate Law as a lever for mainstreaming NbS in national adaptation plans, river basin and flood risk management plans and urban resilience strategies
- Back NbS/NWRMs by monitoring, finance, and governance frameworks

3.3 Recommendations at Danube macro-regional level

The number of legally binding instruments at Danube macro-regional level is much less than in European or national level. International multi- or bilateral agreements regulate the activities that are supported by secretariats in some cases but the institutions have very few own resources, they are mostly financed by their member countries that also provide the necessary expertise.

These institutions therefore have a soft role in coordinating Danube basin-wide action and work based on mutual trust of the member countries and make decisions by consensus. The institutions try to assist their members by looking for financing opportunities, assisting in project development and dissemination of results. They provide platform for knowledge exchange and harmonization of transboundary processes as far as member countries agree.

It is recommended that in the future these macro-regional organizations receive more support from the EU institutions and national governments. They should take the real leadership in the river basins / landscapes but for this they need strong capacities and dedicated macro-regional funding for realizing projects.

3.3.1 Recommendations related to the ICPDR

- Maintain the Danube countries' interest in the basin-wise implementation of the WFD and keep producing the Danube River Basin Management Plan (DRBMP) and Danube Flood Risk Management Plan (DFRMP) every six years
- Keep the well-established governance with thematic working groups involving sectoral players as observers and the respect based on mutual trust of the countries and stakeholders.
- Keep on working out documents where stakeholder interests are coordinated and good basin-wide examples are used
- Keep on awareness-raising and public involvement activities
- Keep on the adaptive management regarding the Joint Programme of Measures and make an assessment about those basin-wide measures can be done in the most cost-effective way

- Give priority and a more prominent and horizontal role to NbS/NWRM solutions, provide comprehensive practical tools supporting their application e.g. a comparison between grey and green measures.
- Enhance the choice of NbS/NWRM measures agreed with other sectors in the next update of the DRBMP and define a landscape approach which integrates NbS/NWRMs in various levels and sectors
- It is recommended to put more emphasis on the practical aspects of improving biodiversity in the next update of the DRBMP and DFRMP.
- It is recommended that NbS/NWRM as concrete tools/measures for adapting to climate change are further elaborated in the next update of the DRBMP and DFRMP along with checking the existing measures whether they are climate resilient in a long term. Coordination of the measures in the two documents are crucial
- Ecosystem connectivity and ecological corridors should be given a more prominent place in the next update of the DRBMP and DFRMP
- Quantitative targets and indicators for biodiversity should be defined in the plans
- Economic feasibility of the NbS/NWRM and other measures could be better compared / analysed in the next cycle of the DRBMP and DFRMP e.g. cost-benefit or cost-effectiveness analysis
- Continue addressing trade-offs between water, flood risk management, nature and other sectors in the next DRBMP and DFRMP and collect information on land management barriers related to NbS/NWRM
- Establish an NbS/NWRM strategy / action plan in the next cycle of the DRBMP and DFRMP collecting the steps needed for enhancing those measures and giving practical guidance
- Identify common policy, regulatory and legal obstacles to NbS/NWRM implementation in the Danube countries and propose effective responses or other enabling solutions with special regard to sustainability and mainstreaming of NbS/NWRM measures
- Identify specific funding sources for NbS/NWRMs in the next update of the DRBMP and DFRMP beyond EU funds and national resources
- Consider engaging in training programmes for personnel involved in water and flood management in relation to NbS/NWRM, climate change, biodiversity loss or integrated resource management
- Establish more operational measures in the next update of the DFRMP by combining floods and biodiversity related objectives and information
- Intensify further cooperation between flood risk management and nature protection and biodiversity to better align objectives as well as with the agricultural sector for identification of potential lands for river restoration and reconnection of wetlands/floodplains

3.3.2 Recommendations related to EUSDR

- Keep the integrated structure of EUSDR which provides a platform for NbS/NWRM mainstreaming in the Danube Region, including the environmental pillar of water quality,

environmental risks and biodiversity and the NbS/NWRMs included in their actions. Increase coordination, cooperation and mainstreaming among priority areas.

- Provide EUSDR with stronger structures and funds in the future to be able to coordinate and upscale macro-regional NbS/NWRM projects
- Continue assisting project development, facilitating direct financing support, assisting in project implementation and results dissemination
- Keep climate change as a horizontal frame for all priority areas and include practical actions related to adaptation to climate change into the EUSDR Action Plan with potential checking the existing actions whether they are climate resilient and sustainable in a long term
- NbS/NWRMs could have a more prominent and horizontal role in the EUSDR Action Plan
- NbS/NWRM synergies and complementarity with grey solutions should be clarified including prioritization of them
- At the future updates of the plan NbS/NWRM and their ecosystem services to be especially highlighted as multiple solutions that simultaneously support ecological resilience and a number of societal challenges including e.g. human health, water security, biodiversity conservation, climate change adaptation and disaster risk reduction
- Update the EUSDR Action Plan regularly and provide information on monitoring or achievements related to the actions
- The next update of the EUSDR Action Plan could go beyond project approach and help Danube Region countries identifying economic feasibility of NbS/NWRM measures e.g. by providing a cost-benefit or cost-effectiveness analysis considering longer-term economic and financial sustainability of those measures.
- EUSDR could strive for a more active involvement of stakeholders and giving feedback on stakeholders' comments and on achievements related to the actions of the EUSDR Action Plan.
- Describe trade-offs and compromises among different stakeholders and priority areas in the next EUSDR Action Plan.
- The EUSDR Action Plan should refer to financial resources needed for the implementation, maintenance and monitoring of the proposed actions including NbS/NWRM measures pointing out also the funding opportunities including market-based mechanisms.
- The EUSDR Action Plan could propose training programmes for all relevant priority areas on NbS/NWRM, climate change, biodiversity loss or integrated resource management.

3.3.3 Recommendations in relation to the Carpathian Convention

- Keep the objective of the Convention on international cooperation and joint policy related to the protection and sustainable development of the Carpathians, with a view to improving the quality of life, strengthening local economies and communities, and conserving natural values and cultural heritage, reference to sustainable development, integrated land and water management, flood and pollution prevention as well as the conservation of ecosystems and biodiversity.
- Update the Carpathian Convention, incorporate modern terminology and a conceptual framework that would align it with today's global and European policies. The document

could clearly identify NbS/NWRM as a tool for biodiversity conservation, climate change adaptation, mitigation and disaster risk reduction. In particular, the articles on water, land, agriculture and forestry management could highlight the role of wetland, floodplain, grassland and forest restoration as solutions that simultaneously support ecological resilience and social security.

- Although the Convention does not explicitly mention adaptation to climate change and loss of biodiversity, the inclusion of NbS/NWRM as a tool/measure would enable the existing measures to be more intensively conveyed in regional and national relevant strategic documents and legislation or to be harmonized with the existing terminology already represented in these documents.
- Point out the need for an obligation to assess the status and identify the drivers of degradation, define quantitative targets and indicators for biodiversity, ensure periodic evaluations, and define mechanisms for identifying and addressing unintended consequences to ensure evidence-based adaptive management.
- The Convention should introduce procedures for identifying compromises among different social groups, taking into account differences in interests and capacities.

3.4 Recommendations suggested by the supportive policy makers and other stakeholders

Around 40 organizations from global, European and macro-regional level were approached to take part in the RESTORIVER network of supportive policy makers and stakeholders and more than half of them replied positively. More than a third of the stakeholders were ready to an interview or provide information in the form of a questionnaire. The following topics were raised by those stakeholders. The full list of stakeholders can be found in Annex 5 of the RESTORIVER deliverable D.3.2.1 Network of supportive policy makers (https://drive.google.com/drive/folders/1ce-vuNWDkqDuUehxQWevddTB-99ZTq_t).

Among general recommendations stakeholders called the attention to look always at the overall picture because e.g. in the case of rivers the interventions upstream have significant effects downstream while municipalities downstream can benefit from good interventions upstream. Therefore, there is a need for a holistic approach considering the cascading effects. At the same time there is no ‘one-size-fits-all’ solution, local circumstances are different everywhere so we need a flexible framework that can be adapted to those local circumstances.

We also need a kind of shift in the approach, there is a need of changing mindset from technical structures into natural solutions. Definition of NbS and grey solutions should be clarified as well as their link to each other and on what is a small retention measure. We need to assess and prove benefits of NbS, consider NbS as good solution not only for small scale interventions but as a basin-wide, upscaled solution. We need to share NbS positive experience and translate it into policies.

It was recommended to highlight the contextual, highly specific, and ecosystem-dependent nature of NbS to ensure their successful integration and implementation, a systemic-thinking approach that supports the understanding of the multifaceted, holistic, and multi-stakeholder nature of NbS. These tools and approaches can be integrated throughout all phases of the project cycle.

NbS/NWRM actions could be given more weight by linking them to EU requirements and legislation. For example, the implementation of the Nature Restoration Plans is mandatory, which provides a significant incentive for upscaling NbS/NWRM. EU Member States and Danube

countries should implement the Nature Restoration Law for river connectivity, focus on the Nature Restoration Plans that bring an entry point and opportunity for NbS. At the same time we should not forget that restoration is important but conservation of our natural treasures is the key starting point for NbS/NWRM implementation.

The implementation of NbS solutions needs the involvement of a broad group of stakeholders, in case of urban action municipalities' and mayors' role is key, one need to communicate to them and to educate them if needed. The best is to plan based on the landscape approach with the use of spatial planning involving urban planners as well. Landscape approach needs better embedding in legislative acts because urban problems can many times be better resolved upstream in the rivers.

NbS solutions need space so it is important to solve problems related to land ownership. The financing aspect is also crucial here, especially for private-owned land.

As regards the financial aspects, it was recommended to further expand the discussion on NbS financial returns, including ecosystem services valuation and natural capital monetary assessment and to include the concepts of "natural capital" and "positive financial returns" as tools to support the upscaling and cost-effective understanding of NbS among policymakers. It was recommended to develop the concept of "well-designed funding schemes" and clarify how these mechanisms will support long-term sustainability and scalability.

It was also raised by some stakeholders that the necessary financing should be allocated to NbS/NWRM implementation and maintenance including personal capacities. But if you want to find good sponsors for your NbS project, you should also have a good business case for NbS!

Our stakeholders also called our attention to the importance of the adjustment of agricultural finances in order to support NbS and to eliminate subsidies impacting against NbS. A concrete example suggested was to consider opening the 1st CAP pillar direct payments and extending the 2nd CAP pillar compensation schemes for water retention and nature conservation measures and amending the land use regulations to support water retention in agriculture.

Regarding agricultural practices, it is recommended to strengthen training and capacity-building activities through Farmer Field Schools programmes, which are proving to be effective models for scaling up sustainable agricultural practices, including NbS, while generating strong social and inclusion impacts.

It was also suggested to create of a unique and common platform at European level that can provide implemented NBS project/case studies, a first financing and implementation guidance and eventually the companies/institute that have implemented such cases.

Greater emphasis could be placed on knowledge-sharing platforms and science-policy interfaces, where scientific knowledge can effectively reach and inform the policy sphere through the involvement of all relevant territorial stakeholders. E.x. Science-policy interface (https://openknowledge.fao.org/items/e0c85d48-22c2-4a34-9b61-1bb13c202bdf)

Concerning the participatory dimension, it was recommended to promote participatory approaches that actively involve stakeholders — including farmers, businesses, NGOs, and vulnerable groups — in NbS/NWRM processes throughout all phases, from planning and implementation to monitoring and evaluation of related projects.

Supportive policy makers and stakeholders shared with us a number of documents where we can find their recommendations:

- Recommendation to strengthen the EU Water Resilience Strategy https://europe.wetlands.org/recommendations-to-strengthen-the-eu-water-resilience-strategy/
- Guidance on Barrier Removal for River Restoration https://environment.ec.europa.eu/publications/guidance-barrier-removal-river-restoration_en
- NetworkNature policy brief on Nature-based Solutions for Urban and Regional Water Resilience: What to do with too much (dirty) water (with relevant policy recommendations) https://ieep.eu/wp-content/uploads/2025/10/Nature-based-Solutions-for-Urban-and-Regional-Water-Resilience.-What-to-do-with-too-much-dirty-water.pdf
- The Rhine 2040 programme https://www.iksr.org/en/icpr/rhine-2040
- IUCN: new global standard on NbS https://inbs.iucn.org/understand/global-standard-for-nature-based-solutions/
- SpongeScapes & SpongeWorks joint Policy Brief with other EU projects - Advancing the Water Resilience Strategy through Sponge Landscapes and Nature-Based Solutions for a Climate Resilient Europe: https://zenodo.org/records/18853448
- Biodiversity preservation, including supporting the implementation of NbS, is one of INBO's major stakes: https://www.inbo-news.org/our-iwrm-approach/iwrm-3-major-stakes/biodiversity-preservation/

4. Collection of Good Practices

4.1 Overview of exemplary policy instruments and approaches from partner countries or other transnational river basins

There are good examples available from some of the Danube countries that were provided by Restoriver project partners.

4.1.1 Water Policy Concept in Slovakia

The Water Policy Concept of the Slovak Republic until 2030 with a view to 2050 was processed from 2021 and approved in 2022 with the Government Resolution 372/2022. More than 200 experts worked on the Concept in an 8 + 1 expert groups. The result is a modern green policy which is currently used at the local and regional level and it is also an important tool for decision-making on project financing, including EU financing.

The aim of the Water Policy Concept is to ensure sustainable development and protection of water resources. The main objectives include, in particular, ensuring sufficient quantity and quality of surface and groundwater, protecting water-dependent ecosystems and mitigating the adverse impacts of floods and droughts. The concept strives for the efficient and rational use of water for various purposes, such as supplying the population with drinking water, industry, agriculture and energy.

An important part is also the implementation of European legislation, in particular the Water Framework Directive, with the aim of achieving good status of all waters.

The Concept clearly supports and promotes the use of nature-based solutions (NbS) as well as natural water retention measures (NWRM), in the context of climate change adaptation. This represents a paradigm shift from traditional, "grey" infrastructure (such as concrete channels and barriers) to integrated and more ecological solutions.

The Concept thus formally recognizes and legitimizes nature-based solutions as the main and preferred method for solving water-related problems, making them the cornerstone of Slovakia's climate change adaptation strategy.

Consistency with other sectors: One of the biggest opportunities lies in the linkages with other policy and sector documents. For example, agricultural policies that promote monocultures and large parcels of land may be in direct conflict with the objectives of NbS (water retention in the landscape, restoration of small water bodies).

Flood risk perception: Although NbS are effective in reducing the risk of minor and medium floods, public opinion and political pressures often prefer quick and visible "hard" solutions that are intended to create a sense of security. This leads to the financing of concrete structures at the expense of NbS/NWRM, especially after large floods.

Land use conflicts: The implementation of NbS often requires a change in land use, for example the restoration of wetlands or floodplains. This can lead to conflicts with landowners, farmers or developers, making these projects politically sensitive and difficult to implement (see also the text above on land use planning documentation).

Speed vs. sustainability: Traditional engineering solutions can be built quickly. NbS, like ecosystem restoration, requires a long-term horizon and patience. The controversy lies in the fact that political cycles and public expectations prefer quick results, which goes against the long-term nature of NbS.

The new connection of the Water Policy Concept with the EU Nature Restoration Law appears to be an opportunity. These two documents complement and reinforce each other.

While the Water Policy Concept of the Slovak Republic represents a strategic framework and declares the intention to support nature-based solutions (NbS/NWRM), the Nature Restoration Regulation comes with specific, legislatively binding objectives that are directly linked to the aquatic environment. The Nature Restoration Regulation is a tool that can accelerate and strengthen the implementation of the Water Policy Concept's objectives, especially in the area of ecosystem restoration and climate change adaptation. These two policies reinforce each other and represent an opportunity for the objectives to change from a declaration to concrete activities.

At the level of settlements, another opportunity is the creation of climate-resilient regions, cities and neighborhoods. Several Slovak regions have joined the EU mission "100 climate resilient regions", other cities are developing their adaptation strategies and action plans, which include and support sustainable stormwater management, i.e. NbS/NWRM. Several cities are already directly implementing such projects.

Regarding The Water Policy Concept of Slovakia - here is a webpage with materials, a list of experts, records of the meetings etc. https://www.minzp.sk/voda/koncepcne-dokumenty/koncepcia-vodnej-politiky-roky-2021-2030-vyhladom-do-roku-2050.html There is also a link to the SEA documentation.

4.1.2 Natural water retention in Hungary

The LIFE LOGOS 4 WATERS project in Hungary (https://lifelogos4waters.bm.hu/en/home/) aimed to make water conservation and a change in perspective part of everyday local government operations by transferring the knowledge necessary for effective adaptation to climate change and presenting working practices. According to the basic idea of the project, water is not a source of problem, but a value that, if provided with adequate space, contributes to increasing the resilience of the landscape, settlements and ecosystems. Within the framework of the program, local governments, professional partners and local communities implemented natural water conservation solutions in plain and hilly sample areas, in cooperation at the small water catchment level.

The overall objective of the LIFE LOGOS 4 WATERS project is to strengthen the adaptive capacity of Hungarian settlements to climate change, with a particular focus on addressing water management challenges. The central element of the project is to promote the application of Nature-based Solutions (NbS), which use the natural processes of ecosystems to mitigate the adverse effects of climate change.

The project worked out proposals for a regulatory and support system to promote the spread of small-scale, nature-based water conservation solutions especially reflecting to the current policy instruments. Besides NWRM, the proposals also touched upon the Common Agriculture Policy application is Hungary. In the previous years the State paid compensation for farmers for the 'harmful' waters in their lands. The new legislation supports water retention in farming land but it was rarely used in practice there the project formulated further proposals for improving the situation.

The project proposals were referred to as good practice and used by the OECD study 'Water Governance for Climate Resilience in Hungary' (https://www.oecd.org/content/dam/oecd/en/publications/reports/2026/01/water-governance-for-climate-resilience-in-hungary_e3751dd0/1d2657fc-en.pdf) and discussed at the Hungarian Governmental and Ministerial levels.

4.1.3 Floodplain restoration in Romania

International projects can bring significant policy results that can be used to influence NbS approach in Danube countries.

The Danube Floodplain Project 2018-2021 (https://dtp.interreg-danube.eu/approved-projects/danube-floodplain) aimed at reducing the flood risk through floodplain restoration along the Danube River and tributaries.

Some of the important results of the project are:

- The Danube River Basin Floodplain restoration and preservation manual;
- The Danube River Basin Floodplain Management Strategic Guidance;
- Floodplain restoration/preservation action plan;
- Brochure regarding Danube River Basin Floodplain Restoration Roadmap;

- Booklet for facilitating floodplain restoration and preservation approaches in the Danube River Basin.

Also, similarly to other Danube countries, Romania has with each neighbouring countries (MD, HU, RS, UA, BG) agreements related to water management for cooperation and common actions in various situations. The institutions in charge with agreements applications are the Ministry of Environment, Waters and Forests and National Administration ”Romanian Waters”.

4.2 EU-level and international cases relevant for the Danube Region

Beyond international agreements that include NbS/NWRM global platforms provide case studies, tools and training to strengthen policy design, indicator development and impact evaluation. For example

- the IUCN Global Standard for Nature-based Solutions™ is the world’s first comprehensive framework to ensure that NbS interventions deliver benefits for people and nature. Along with UNEP and FAO it leads the Decade on Ecosystem Restoration 2021-2030, which targets expanded use of agro-ecological farming practices, reforestation and afforestation, and more.

- the UN Framework Convention on Climate Change (UNFCCC) holds a ‘Database on ecosystem-based approaches to Adaptation’ within the Adaptation Knowledge Portal;

- the Nature-based Solutions Initiative (NbSI) is an international team dedicated to advancing impactful, interdisciplinary research that shapes policy and practice around nature-based solutions. They provide a global, searchable case study database, a platform with practical NbS case studies spanning urban climate adaptation, rural restoration and multimodal ecosystem management.

- The World Bank helps countries adopt NBS by sharing knowledge, providing technical assistance, mobilizing finance, and improving policies to support scalable, replicable results. While the World Bank Group has worked to advance the use of NBS for well over a decade, in 2020 it activated a new platform to advance NBS: the Global Program on NBS for Climate Resilience (GPNBS).

In the European Union the European Commission is taking the lead on NbS action, it launched a series of reports on different aspects of NbS including case study examples and platforms where case studies can be searched.

- EC Evaluating the Impact of Nature-Based Solutions Handbook – Comprehensive evaluation and governance guidance. This European Commission handbook provides a *NbS impact assessment framework* with practical indicators and governance assessment methodologies covering climate resilience to participatory governance.

- A factsheet lists and provide links to 105 EU-funded NBS research and innovation projects

https://op.europa.eu/en/publication-detail/-/publication/c956cec9-8f8f-11f0-bfe2-

01aa75ed71a1/language-en

- The CORDIS database is the European Commission’s primary portal on research project results

https://cordis.europa.eu/

There is also a thematic collection of innovative EU-funded nature-based solutions research results available from 2020

https://cordis.europa.eu/article/id/421853-nature-based-solutions

- The Oppla is an open platform repository of nature-based solution case studies. It also provides networking opportunities and marketplace to promote the outputs of the projects or networks.

https://oppla.eu/

- NetworkNature is another projects database of EU research and innovation projects on nature-based solutions as well as on NbS related knowledge. It is also a platform hosting the community of EU-funded nature-based solutions projects, providing resources, dissemination opportunities and avenues for collaboration.

https://networknature.eu/

- Urban Nature Atlas is an interactive map showing 1000 examples of nature-based solutions from across 100 European cities

https://una.city/

- Urban Governance Atlas is a collection of more than 250 good practice policy instruments supporting nature-based solutions and ecosystem restoration

https://interlace-hub.com/urban-governance-atlas

- The Horizon dashboard gives public access to real-time programme data of Horizon Europe research programme projects with the ability to filter by country, region, theme and more

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-dashboard

- In the Horizon Results Platform the Horizon Europe framework programme participants present their results for you to search, contact their owners, and form partnerships

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-results-platform

- The Connecting Nature Enterprise Platform is an online marketplace connecting potential buyers with suppliers of nature-based solutions who can help to design, deliver, manage and monitor nature-based solutions

https://naturebasedenterprise.com/

- The EU Futurium website provides information and publications of the EU Mission Adaptation Community including nature-based solutions

https://futurium.ec.europa.eu/en/eu-mission-adaptation-community/resources-and-outputs

- The **European NWRM+ platform** serves as a repository for measures, case-studies, and implementation guidance that practitioners and planners can use when designing water retention interventions.

www.nwrm.eu

- The European Climate Adaptation Platform Climate-ADAPT is a partnership between the European Commission and the European Environment Agency (EEA). Climate-ADAPT aims to support Europe in adapting to climate change helping users to access and share data and information on expected climate change in Europe, current and future vulnerability of regions and sectors, EU, national and transnational adaptation strategies and actions, adaptation case studies and potential adaptation options, tools that support adaptation planning.

https://climate-adapt.eea.europa.eu/en

- Knowledge4Policy (K4P) is the EU Commission's platform for evidence-based policymaking. This platform links to amongst others a handbook on the impact of NbS for practitioners and a State of Finance for Nature

- The European Platform for Urban Greening aims to increase the knowledge and skills required to address climate adaptation, biodiversity and well-being in the urban, green living environment, and to broaden the expertise among professionals in Europe.

https://platformurbangreening.eu/

- "Sponge City" Concept Projects provide practical documentation of urban NbS implementations such as rain gardens, bioswales and permeable surfaces that help integrate NbS into municipal policy and planning.

At macro-regional level the International Commission for the Protection of Danube River prepares the Danube River Basin Management Plan (DRBMP) and the Danube Flood Risk Management Plan (DFRMP).

Co-ordinated by the ICPDR with participating Danube countries, the DRBMP incorporates NbS such as *natural water retention measures (NWRM)* and *floodplain restoration* as policy tools to meet EU Water Framework Directive goals.

Danube Basin Case Examples include the Lower Danube Green Corridor (cross-border ecological restoration), a collaborative restoration of floodplains and wetlands aiming to reduce flood risks while improving biodiversity and ecosystem services and the Transboundary Biosphere Reserve (Mura-Drava-Danube), an example of integrated ecosystem governance restored under coordinated international management with sustainability objectives including economics, tourism and conservation.

The EU Strategy for the Danube Region is a macro-regional governance framework that brings together EU member states and neighboring countries to address shared challenges — including environment, water, and climate adaptation.

- Priority Area 4 (Water Quality) & 6 (Biodiversity) supports NbS through reports and assisting in financing international projects as well as by disseminating their results.
- In Priority Area 5 (Environmental Risks & Water Management), the EUSDR has established an NbS platform for flood risk reduction that brings together projects from multiple Danube countries and promotes sub-basin planning, knowledge sharing, and policy guidance.
- Good governance practices include multi-country workshops, joint policy recommendations for integrating NbS into official flood management plans, and linking practitioners with policymakers to adapt legal and funding frameworks regionally.

The Carpathian Convention and the Global Water Partnership Central and Eastern Europe (GWP-CEE) are also active on NbS/NWRMs in the Danube region.

For more examples please see the Restoriver project document D.3.1.4. Transnationally relevant policy scenarios.

5. Conclusion

5.1 Synthesis of the most important recommendations for the Danube Region

The recommendations concluded on three pathways of change in order to better uptake and upscale NbS/NWRM in the Danube Region.

The Value Adjustment pathway (I) recognizes the fact that multifunctional NbS/NWRM advantages are not widely known. NbS such as integrity of nature and watercourses should be considered as a public interest of the highest order, infrastructure development must be adapted to natural characteristics, not vice versa. It should take no harm, rather net gain for nature. NbS/NWRM should be prioritized over grey solutions. In order to give real values to NbS solutions in consideration of affected stakeholder groups, their awareness should be raised on NbS benefits, active involvement of stakeholders needs participatory approaches in NbS/NWRM planning and implementation. Trade-off analysis of NbS and grey interventions affecting different social groups should be carried out and potential conflicts should be prevented or mitigated via appropriate processes and fora based on mutual trust.

The Policy Integration and Implementation pathway (II) recognizes that some environmental policies refer to NbS or green infrastructure but they have no definition and different understanding while other sectoral policies do not consider it. Sectoral strategies and action plans are not always aligned, and NbS related environmental, water, nature and climate adaptation plans are not binding

for other sectors, exemptions are widely used, systematic control or climate check of the related measures and projects is not carried out. There is also need to improve cross-sectoral integration, coordination mechanisms should be institutionalized. Clear quantitative targets and measurable indicators should be set and evaluation and adjustment be based on adaptive management. Danube level institutions are rather weak without own resources to promote NbS/NWRM uptake and upscaling into basin-wide level therefore they should be reinforced. Ecosystem connectivity and ecological corridors should be considered in transboundary project planning, priority zones for NbS could be pointed out.

The Financing pathway (III) recognizes that dedicated financing to NbS is not ensured and NbS is not in the focus of EU financing instruments. It would be important to mobilise EU funds for NbS/NWRM in the next MFF period. Also, non-environmental financial resources should be used along with, as a complement, private finance, to meet the investment gap between available public funds and what is needed to mainstream restoration. The 'do no significant harm' principle should be built in the EU financing mechanisms, as proposed by the European Commission for the next MFF period. Economic feasibility and financial viability of NbS solutions should be assessed with common methodologies in order to present better NbS business cases. When there is financing available, long-term maintenance costs should be considered as well as trade-offs. Very limited financing opportunities exist at macro-regional level. Agreements and institutions at the Danube macro-regional level have no own resources to finance NbS projects. Stronger institutions and more financing would be needed for basin-wide NbS projects.

The number of legally binding instruments at Danube macro-regional level is much less than in European or national level. International multi- or bilateral agreements regulate the activities that are supported by secretariats in some cases but the institutions have very few own resources, they are mostly financed by their member countries that also provide the necessary expertise.

These institutions therefore have a soft role in coordinating Danube basin-wide action and work based on mutual trust of the member countries and make decisions by consensus. The institutions try to assist their members by looking for financing opportunities, assisting in project development and dissemination of results. They provide platform for knowledge exchange and harmonization of transboundary processes as far as member countries agree.

It is recommended that in the future these macro-regional organizations receive more support from the EU institutions and national governments. They should take the real leadership in the river basins / landscapes but for this they need strong capacities and dedicated macro-regional funding for realizing projects.

In Chapter 3.3 there are also specific recommendations to some of the macro-regional institutions dealing with NbS like the ICPDR, EUSDR and Carpathian Convention. In Chapter 3.4 important recommendations of the supportive policy makers and other stakeholders can be found.

5.2 Opportunities

Across the policy framework, key opportunities for NbS/NWRM and climate adaptation arise from:

- Restoration and conservation obligations that already allow NbS

- Landscape- and catchment-scale planning instruments
- Explicit climate–biodiversity linkages in newer strategies and laws
- Binding restoration targets and funding streams
- Internationally recognised NbS standards to guide implementation