European Commission

Supporting the Development of National Restoration Plans:

Insights from EU Green Deal Projects

Report and resources

High-Level Workshop

10 March 2025 | Brussels

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Supporting the Development of National Restoration Plans: Insights from EU Green Deal Projects

Workshop report and resources

High-Level Workshop | 10 March 2025 | Brussels

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Acknowledgments

The event, co-organised by the European Research Executive Agency and the Green Deal Projects Support Office, in close collaboration with the four EU-funded Green Deal restoration projects **MERLIN**, **REST-COAST**, **SUPERB**, and **WaterLANDS**, was hosted at the European Commission Building in Brussels (Belgium) on 10 March 2025.

The organisers thank all participants for their valuable contributions and commitment to advancing ecosystem restoration across Europe. We particularly thank the two panellists of the afternoon session: Barbora Chmelova (Ministry of the Environment of the Czech Republic), and Javier Inogés García (Ministerio para la Transición Ecológica y el Reto Demográfico, Spain) for their reflections and national insights.

This report aims to capture the key messages and reflections from the event, including the rich exchanges that took place throughout the day among policymakers, project representatives, and other stakeholders.

The organisers acknowledge the support of Prospex Institute (PI), who designed the event's process and moderated its sessions, creating a dynamic and participatory setting for exchange between Member State representatives and the projects. PI is the consortium partner in charge of stakeholder engagement and community engagement in the **SUPERB** and **WATERLANDS** projects.

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Contents

1 Introduction and Context

Nature restoration is vital for reversing ecosystem decline and ensuring both environmental and economic resilience across Europe. The **Nature Restoration Regulation (NRR)** entered into force on the 18 August 2024, setting a bold and necessary framework for restoring Europe's degraded ecosystems. Its goal is to reverse biodiversity loss, strengthen climate resilience, and ensure long-term environmental and economic sustainability. Key targets include restoring at least 20% of degraded ecosystems by 2030 and all degraded ecosystems by 2050. In line with the NRR, each EU Member State must submit a draft National Restoration Plan (NRP) by 1st September 2026, outlining their approach to meeting the requirements of the NRR.

Key Milestones for National Restoration Plans (NRPs)

Date	Milestone
11 March 2025	Committee vote on the uniform format for NRPs
1 September 2026	Member States submit draft NRPs, including a strategic overview beyond 2032
1 March 2027	The European Commission assesses draft NRPs
1 September 2027	Member States submit and publish final NRPs
July 2032	Member States revise NRPs, incorporating a strategic outlook beyond 2042.

1.1 Support from EU Green Deal Projects

Under the Horizon 2020 Green Deal Call, four major nature restoration projects are being funded – **MERLIN**, **REST-COAST**, **SUPERB**, and **WaterLANDS**. Collectively, these initiatives have received €82 million in direct grants, support 71 restoration sites and collaborate with 149 partner organisations across Europe and beyond, covering coastal, wetland, river, floodplain and forest ecosystems. These four projects develop, implement and demonstrate systemic solutions for ecosystem restoration that enhance impact while adopting a large, landscapescale approach. Commencing in 2021 and continuing through to 2025 and 2026, the projects are also already generating and disseminating evidence-based insights to inform policy development and guide implementation of nature restoration efforts.

On 10 March 2025, the four projects held a **high-level meeting** at the European Commission in Brussels to present and discuss evidence-based recommendations and scalable solutions to help Member States design effective NRPs. The event gathered over 100 key restoration stakeholders, including representatives from Member States and the European Commission.

The workshop focussed on three core interconnected topics: *Financing Restoration and Ensuring Long-Term Viability*; *Monitoring, Indicators, Prioritisation and Trade-offs*; and *Stakeholder Engagement and Governance*. Plenary sessions explored synergies between these topics, as well as overarching recommendations for drafting and implementating NRPs. This report summarises the key insights and actions from the workshop and provides additional resources and information from the projects. The lessons shared in this report can serve as a resource for national authorities when developing NRPs and inform decision-making and evidence-based policymaking.

Summary of the Four EU Green Deal Nature Restoration Upscaling Projects

Logo	Project	Brief summary
MERLiN	**MERLIN** (Mainstreaming Ecological Restoration of freshwater-related ecosystems in a Landscape context: INnovation, upscaling and transformation)	MERLIN is driving the mainstreaming of ecological restoration for **freshwater-related ecosystems** (small streams, large rivers and their floodplains, peatlands and wetlands) within a landscape context through innovation, upscaling and transformation. It takes a dual approach: bottom-up, by learning from best practices and enabling regional upscaling, and top-down, through sectoral cooperation, a European scalability plan, and financial planning.
REST-COAST	**REST-COAST** (Large scale RESToration of COASTal ecosystems through rivers to sea connectivity)	REST-COAST enhances **coastal resilience** to climate change by integrating nature-based solutions (NbS) for risk reduction. It focuses on controlled connectivity between rivers and coasts, promoting natural dynamics and strengthening ecosystem services. Through co-designed adaptation strategies and pilot tests, REST-COAST provides actionable insights for National Restoration Plans, ensuring sustainable large-scale coastal restoration.
SUPERB Upscaling Forest Restoration	**SUPERB** (Systemic solutions for upscaling of urgent ecosystem restoration for forest related biodiversity and ecosystem services)	SUPERB restores **forest landscapes** across Europe by fostering an enabling environment for innovative, sciencebased forest restoration and management at multiple scales. It operates across 12 large-scale demonstration areas, generating evidence-based knowledge, building societal support and developing online knowledge-sharing platforms to drive impactful and sustainable restoration efforts.
WaterLANDS	**WaterLANDS** (Water-based solutions for carbon storage, people and wilderness)	WaterLANDS aims to upscale **wetland restoration** through a holistic, co-creation approach that integrates ecological, community, policy/governance and financial objectives. It proposes a new paradigm for wetland restoration, fostering scalability beyond its network and catalysing blended finance to support long-term restoration efforts.

71 Restoration & Knowledge Sites: Scaling Up Nature Restoration

Learn from the expertise and experiences of four EU-funded ecosystem restoration projects

EU-funded ecosystem restoration projects:

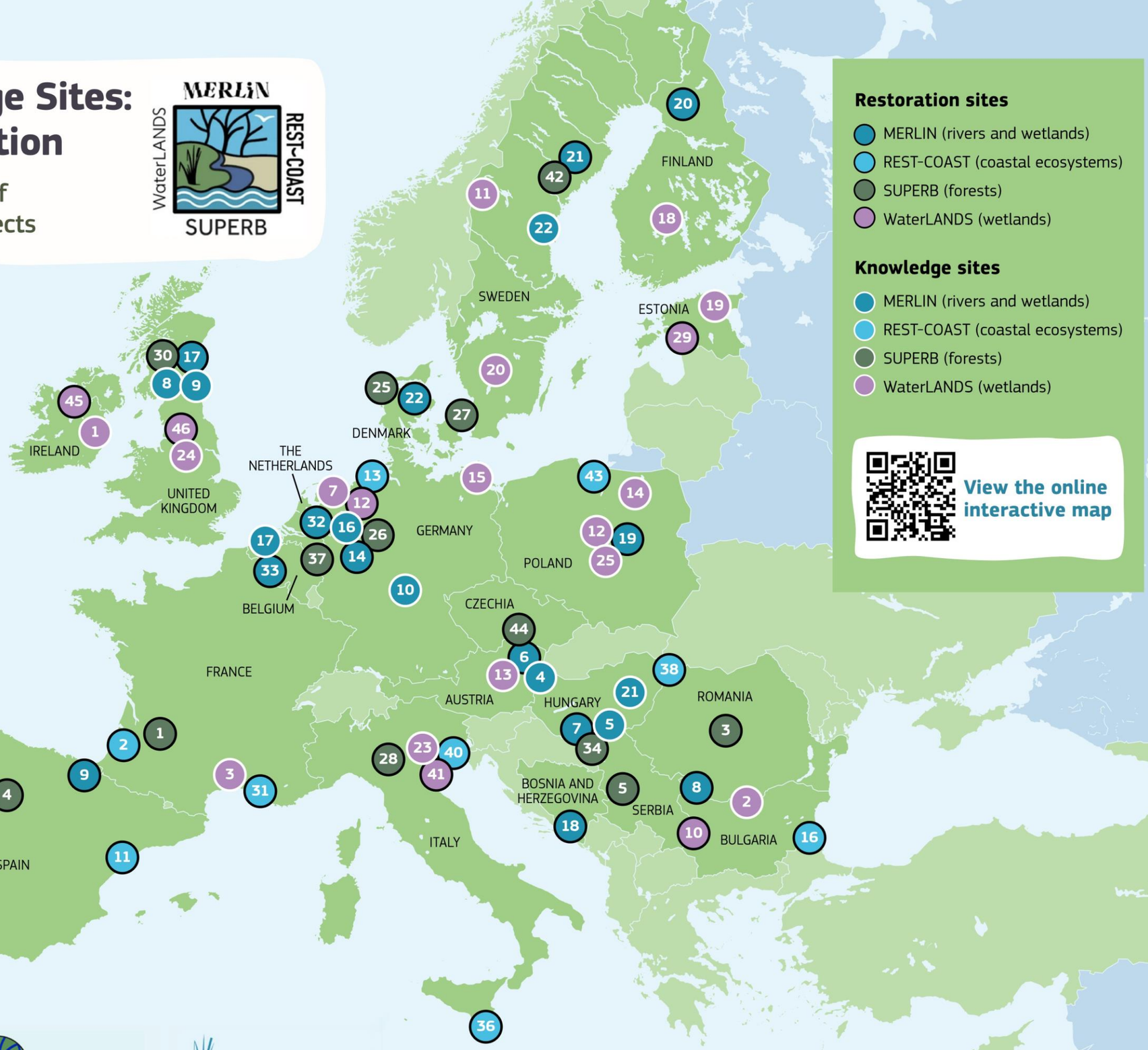
- These four projects have joined forces to maximise their impact and support the implementation of the Nature Restoration Regulation (NRR).
- The cluster is delivering technical and ecological solutions, highlighting their socioeconomic benefits and addressing major barriers to restoration.
- Robust evidence-based science, as demonstrated through their work, is key for the effective implementation of NRR in Member States.

Expert insights into:

- Effective restoration and upscaling
- Financing and monitoring restoration
- Synergies and trade-offs regarding different policy objectives
- Synergies among ecosystems and prioritisation
- Engagement of stakeholders to support National Restoration Plans (NRPs)
- Tools and platforms to support restoration

Taking action:

- Consider how these insights can concretely support the NRPs in your Member State



Restoration sites

- MERLIN (rivers and wetlands)
- REST-COAST (coastal ecosystems)
- SUPERB (forests)
- WaterLANDS (wetlands)

Knowledge sites

- MERLIN (rivers and wetlands)
- REST-COAST (coastal ecosystems)
- SUPERB (forests)
- WaterLANDS (wetlands)

View the online interactive map

These projects have received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreements No 101036337, 101037097, 101368849 and 10103648.
Supported by the European Research Executive Agency and Directorate General for Research and Innovation's Green Deal Projects Support Office.

2 Best Practice Takeaways for NRP design

2.1 Financing Restoration and Ensuring Long-Term Viability

A key challenge in the design and implementation of NRPs is securing adequate financing. While there is no single dedicated EU funding stream for NRPs, they can be supported through synergies with existing national and EU programmes, for example the Common Agricultural Policy. They can also be funded through innovative private sector investments, including carbon farming and payments for ecosystem services (PES). In addition, restoration activities can help create new economic opportunities that can complement these financial instruments. However, the four projects have found that translating these opportunities into scalable financial solutions comes with several challenges: • There are challenges inherent in the accurate measurement of biodiversity and, albeit to a lesser extent, carbon. The metrics used should serve as reliable proxies for desired ecological outcomes, and decisionmakers must consider metric complexity-monitoring cost trade-offs.

- Due to these challenges, companies can be hesitant about potential green washing and reputational risks related to investing in nature restoration.

- Nature/biodiversity credit schemes can be challenging to establish owing to wide habitat divergence, difficulties around standardisation and because monetising biodiversity often fails to capture its cultural and intrinsic values. Effective regulation of nature markets is crucial to achieving ecological gains and avoiding negative outcomes.

- Awareness of innovative financing instruments amongst local and national authorities is often low, and financing options poorly understood and lack evidence. A keener knowledge and awareness of nature-based solutions (NbS) business models, as well as capabilities for co-developing business plans for NbS restoration, is needed to stimulate private stakeholders to be involved in financing the upscaling of NbS.

- In-depth assessment of financial barriers and opportunities is required on a case-by-case basis to account for site-specificity of assets.

Collectively, the four projects offer valuable lessons for overcoming these barriers and moving towards more sustainable financing models. **WaterLANDS**, for example, identified three key steps for mobilising sustainable finance for large-scale wetland restoration and its associated ecosystem services: 1) build knowledge by defining potential financial and business models to incentivise sustained wetland restoration; 2) take action by designing and testing business models and financial instruments at wetland restoration sites; and 3) create a legacy by identifying pathways to upscale existing and innovative financial instruments.

Likewise, **REST-COAST** has pioneered efforts at business planning at demonstrator sites, proposing investible propositions for potential funding from public and private financing. **MERLIN** has built a financial workflow for

restoration activities and provides "off-the-shelf instruments" for selected financial solutions for restoration. Moreover, research from **SUPERB** underscores the pivotal role of governments in creating the necessary incentive structures to drive investment in nature markets.

Using these and other innovative pathways, some of the projects found that, while immediate revenue generation should not be seen as the priority, successful nature restoration can and should deliver not only environmental benefits but also economic and social co-benefits. Furthermore, a holistic approach that considers both monetary and non-monetary values is required to encourage the long-term support of landowners and the economic viability of restoration.

Links to key project outputs[1]:

MERLIN (freshwater ecosystems):

- **Diversifying funding sources for freshwater restoration, related learning from 20 European cases**
- **Off the shelf financial instruments REST-COAST (coastal ecosystems):**
- **Innovations in financing nature-based solutions for coastal adaptation**
- **A systems perspective on funding and financing barriers to nature-based solutions**
- **Co-developing business plans with stakeholders for upscaled coastal restoration that take into account multiple NBS benefits and co-benefits in the value proposition**
- **Framework for developing funding and finance arrangements for coastal restoration**

SUPERB (forest ecosystems):

- **Why it matters how biodiversity is measured in environmental valuation studies compared to conservation science**
- **Achieving biodiversity net gain by addressing governance gaps underpinning ecological compensation policies**
- **Biodiversity credits: learning lessons from other approaches to incentivize conservation**
- **The current state, opportunities and challenges for upscaling private investment in biodiversity in Europe**

WaterLANDS (wetland ecosystems):

- **Review of Business and Finance Models and Market Demand**
- **Investing in Peatlands – Adopting a landscape approach to investing in peatlands**

[1] Further project outputs are expected by project completion in 2025/26

- **Assessment and recommendations for economic incentives at Action Sites**

2.1.1 Private sector engagement through public-private partnerships

To attract private sector investment into nature restoration, it is essential to demonstrate that revenue generation and business opportunities around nature protection are viable. To achieve this, it is necessary to develop and/ or apply methods and tools that empower economic valuation of ecosystem services, allowing for monetisation of the benefits and co-benefits of nature restoration. When developing or applying such tools, it is important to consider both innovative business models of revenue generation and the financial criteria used by potential investors to secure funding. Private actors will invest based on risk frameworks that make the generation of monetary or non-monetary benefits explicit and reliable. Therefore, presenting favourable risk frameworks is key for attracting investment into nature restoration.

Risks associated with investing in nature restoration include, the fact that the return on investment can be low and slow, that there are ongoing challenges in accurate quantification of outcomes, that site-specificity of assets is often high, and that political risk can create instability in the markets. One way to reduce these reputational, financial and transitional risks for private investors is to use blended finance models or 'publicprivate partnerships', where public funding has the role of de-risking private investments, often by taking the first-loss or by setting base prices.

Beyond these financial mechanisms, there is also a critical need to shift the societal narrative away from viewing nature restoration as 'spending' and recognising it as an 'investment' – one that not only generates revenue but also helps to avoid future costs and risks. Calculations on the profitability of investments are determined by whether cost savings and cost avoidance are included, so mechanisms are needed to include both these types of costs in financial investments.

For example, the economic impact of climate change-related disasters is becoming so large that the cost avoidance of investing in NbS and improving ecosystem services are becoming increasingly attractive. Compliance can also play a role here. If costs (e.g. fines) for non-compliance are high, and there is an opportunity for revenue generation based on the co-benefits of nature restoration, then compliance can be a win-win.

SUPERB riparian forest restoration site "Croatian & Serbian border river floodplain", covering sections of the Danube river floodplains. Actions include converting intensive poplar plantations to natural oak floodplain forests.

From a public-private partnerships point of view, **SUPERB** found that governments are essential in establishing institutions and regulations that ensure these markets effectively contribute to environmental goals. While the private sector is primarily driven by financial profitability and regulatory compliance, governments can make restoration and conservation initiatives more attractive to investors by implementing policies that incorporate the value of nature into market actions.

Similarly, **WaterLANDS** found that government 'ground floor' investments or base-price guarantees helped to de-risk the entry of non-state investors, and provide confidence in the emergent markets for ecosystem services.

Governments must also tackle barriers that hinder the upscaling of investments into nature restoration. These challenges include, the mismatch between the risk-return profiles of biodiversity projects and investor preferences, as well as the long-term ecological benefits that often conflict with the short-term focus of traditional investments. Regulatory instability can create uncertainty about the value and longevity of investments, while policy incoherence can lead to competition among funding sources, undermining private investment.

SUPERB's findings also highlight the importance of robust institutions and regulations to provide appropriate incentives, verify outcomes and enforce compliance. Markets should be designed to incentivise ecological outcomes that are additional to a pre-intervention baseline and a robust counterfactual, with provisions to ensure their permanence and prevent leakage. Governments must have the capacity to monitor outcomes, detect non-compliance and enforce legislation when necessary.

2.1.2 Innovative financial instruments to support large-scale implementation

To support public-private partnerships and facilitate large-scale financing of nature restoration, it is necessary to make use of innovative financial instruments.

For example, **REST-COAST** investigated the application of ten financial instruments (green bonds; environmental impact bonds; project bunding; smart contracts; blockchain tokens; public private partnerships; carbon credits; eco-labels; ecotourism user fees; and betterment levies) used to overcome specific financial barriers at their pilot sites, such as high performance risks; low measurability of impacts; site-specificity of NbS assets; long lead time; insufficient project size; jointness of NbS benefits and low revenues. This work highlighted the challenges to assessing, transferring and replicating innovative solutions across projects due to specific interconnected barriers. Addressing these challenges requires innovative business models grounded in a thorough assessment of financial barriers, with solutions tailored on a case-by-case basis.

MERLIN, for example, provided "off-the-shelf" instruments tailored to expedite investment in critical areas (e.g. donation-based crowdfunding, corporate donations, tourism and agriculture activities, debt instruments). However, when attempting to apply these innovative financial instruments, a common challenge was calculating costs and revenue per hectare.

WaterLANDS, conducted assessments on restoration costs and benefits for peatlands and found that while some benefits could be quantified, others were harder to measure. Estimating potential revenue requires a clear understanding of how restoration improves conditions, such as water quality, and translating these improvements into measurable impacts or avoided costs, for instance reduced fish mortality or lower flood damage expenses. Nevertheless, the inclusion of 'co-benefits' has been shown to improve the willingness to pay for emissions reduction actions, despite not having a tangible market of their own. As such, 'bundled ecosystem certificates' should be preferred over singular services.

While it is difficult to establish a universal revenue per hectare that captures all benefits, **SUPERB** found that forest restoration typically costs between EUR 3,000 and EUR 10,000 per hectare. Notably, protection measures, such as fencing to prevent deer browsing, accounted for up to one-third of the total costs of forest restoration. **MERLIN** is expected to soon provide cost-benefit analyses for various restoration options across four freshwater case studies, while **REST-COAST** has observed a wide range of costs per hectare, depending on the restoration intervention and the pilot being analysed.

This highlights a broader challenge in nature restoration: some ecosystems not only incur high upfront capital costs but also have a low IRR (internal rate of return) or long return timeline, which can make them less attractive to investors. One approach recommended by **WaterLANDS**, is to 'bundle' ecosystem benefits for investors – combine high-demand services with less commercially-valued but essential benefits – for example, combine lower value biodiversity credits with higher revenue-generating benefits, such as emissions reduction and water retention services.

Moreover, **REST-COAST** highlighted that the multifunctional co-benefits of NbS are shared among various stakeholders, many of whom may not bear the costs of the restoration interventions. This underscores the need for governance strategies that enable suitable financial mechanisms to capture value and secure revenues. These mechanisms should ensure sustainable funding for restoration efforts, even when the financial benefits accrue to stakeholders who are not directly involved in the interventions but still derive value from them.

To support this and to make the most of innovative financial mechanisms, the four projects agreed that there is a need for governance strategies or special purpose vehicles (SPVs) that enable effective financial mechanisms by allowing public funding to be combined with private sources, capturing value and securing revenue while addressing the challenges identified.

REST-COAST coastal restoration site "Ebro Delta" (Catalonia, Spain). Actions include coastal erosion reduction, and coastal and river-to-coast connectivity, focusing on wetlands, beaches, dunes and seagrass meadows.

2.2 Monitoring, Indicators, Prioritisation and Trade-offs

All four projects have developed tools for monitoring, assessment of indicators, prioritisation of sites, and synergies and trade-offs in upscaling nature restoration.

Links to key project outputs[2]:

MERLIN (freshwater ecosystems):

- **Handbook for monitoring systematic impacts of freshwater and wetland restoration actions**
- **Sectoral strategies for mainstreaming freshwater restoration**

REST-COAST (coastal ecosystems):

- **Technical report on barriers and enablers for coastal restoration upscaling: A multi-level perspective**

[2] Further project outputs are expected by project completion in 2025/26

- **Guidelines for building adaptation-through-restoration pathways SUPERB (forest ecosystems):**
- **How to measure outcomes in forest restoration? A European review of success and failure indicators**
- **Initial situation assessment**

WaterLANDS (wetland ecosystems):

- **SMART Indicators for Quantifying Wetland Resilience and Services**
- **Wetland Restoration Database - Figshare repository**

2.2.1 Monitoring and indicators

Monitoring is crucial for understanding the impacts of restoration actions and ensuring progress is measurable. As ecosystems serve multiple functions, restoration measures will influence various aspects, and these complexities must be reflected in the goals, monitoring frameworks, and assessment tools used. Likewise, some ecosystems, such as peatlands and forests, take a very long time to restore, but monitoring remains essential to track the trajectory of change.

SUPERB has developed comprehensive restoration work plans that address site selection, monitoring strategies, stakeholder involvement, novel techniques and cost considerations. Similarly, the Flexible Indicator System developed by **MERLIN** offers a set of adaptable metrics to assess the environmental, social and economic impacts of restoration projects in alignment with the European Green Deal. This system provides a standardised yet flexible approach to monitoring, ensuring consistency across projects, while allowing for site-specific or national adjustments to support evidence-based policy and decision-making.

REST-COAST has proposed a place-based list of indicators to the Coastal Restoration Platforms at each of its nine pilot sites, distinguishing between biophysical and socioeconomic factors, and derived from observations and numerical simulations of 'what if' scenarios (Quick Scan tool for potential of systemic restoration, NBS packages, resulting ESS and BDV gains).

Furthermore, all four projects highlight the usefulness of eDNA, acoustic monitoring, AI, citizen science, satellite imagery and other remote sensing sources for large-scale data collection, and projection tools – modelling and analytical methods – for predicting the long-term outcomes of nature restoration. For example, **WaterLANDS** has developed SMART indicators to measure wetland functions and the provision of fundamental ecosystem services affected by climate change. However, challenges remain to standardise typologies for measures and ecosystem types, and further refinement is needed in the reporting format for NRPs.

Effective monitoring also goes beyond data collection and reporting. Strategic planning is crucial to ensure meaningful insights. Since it is not feasible to monitor all sites, a targeted approach focusing on representative samples is essential. One strategy to facilitate prioritisation is to select a limited number of projects, potentially at random, and allocate resources for thorough, long-term monitoring.

SUPERB suggested the development of a network of references – measuring what is expected by restoration actions – and counterfactuals – measuring how the ecosystems naturally recover themselves – to support the

evidence provided by monitoring restoration actions throughout Europe. Data collection methods should be designed to capture changes within the necessary timeframe, beginning with baseline assessments, identify key needs and leverage existing information. **MERLIN** has created a handbook on indicators relevant to the Green Deal. These can be applied to monitor how an upscaling of NbS is meeting the objectives of the Green Deal, including transformational change in social and economic decision-making.

Cost-effectiveness is also critical, for instance, **REST-COAST** optimises spatial analysis of coastal ecosystems by integrating satellite imagery with more time-consuming field surveys. **SUPERB** compares the improvements in the certainty of estimated indicators when incorporating additional data sources, such as remote sensing, to evaluate how the cost of acquiring the data can be integrated into the financial systems. Combining these methods with other methods, such as bioacoustics, citizen science or DNA metabarcoding also allows for costeffective synergies.

When considering data sources, it is crucial to make use of existing data, for example datasets collected under the Water Framework Directive and Habitats Directive. To achieve this, there is a need to develop tools that make large, complex datasets more accessible, and to design data flows for multiple purposes, while ensuring alignment with EU reporting requirements. Servers are already collecting significant amounts of data from diverse private and public actors, so prioritising interoperability and enhancing data sharing is essential. Useful methods for incentivising data sharing, include emphasising the mandatory nature of implementation, highlighting **FAIR data management principles**, or leveraging competitiveness by demonstrating how other authorities are already sharing their data.

2.2.2 Prioritisation and trade-offs

Upscaling nature restoration requires regional scalability strategies and clear prioritisation frameworks. When developing NRPs, prioritisation can focus either on feasibility, ease of implementation, landscape connectivity and actions that deliver multiple benefits, or on the protection of rare and highly threatened habitats. It may be beneficial to begin with ecosystems that respond more quickly, to demonstrate success and enhance buy-in, before moving onto sites where restoration has longer lead times. Cost-benefit analysis (CBA) provides a practical tool for assessing trade-offs, and both CBA and cost-effectiveness analysis (CEA) can ensure investments are directed toward the most impactful sites. Each Member State will need to carry out analyses and make informed decisions accordingly.

Legal frameworks can further support prioritisation by guiding resource allocation for maximum ecological and socio-economic returns. For example, **MERLIN** has supported 18 regional case studies that demonstrate how site-level restoration can be expanded into larger landscape planning through spatial forecasting.

Effective nature restoration also requires targets and monitoring systems that address multiple goals simultaneously. Climate adaptation and biodiversity restoration share many common benefits. For example, in Komppasuo, Finland, the **MERLIN** project is restoring a vast former peat mining site, which has enhanced biodiversity, carbon storage and water retention. Likewise, in Germany's Emscher River, restoration efforts over the past two decades have improved water quality, habitats and recreational spaces. Similarly, in the Great North Bog, UK, **WaterLANDS** is restoring upland peatlands for increased biodiversity and carbon storage, while simultaneously providing downstream benefits in terms of water quality and flood mitigation.

However, as demonstrated by **SUPERB**, restoration also involves a wide variety of trade-offs. For example, in the Danube floodplains, intensive poplar plantations are being converted to natural oak forests to enhance habitat diversity but temporarily reduces carbon storage and timber yield. More subtle measures, such as

allowing aspen to grow old in northern Sweden, incur only minor costs and cause little reduction in income, and can be compatible with reindeer husbandry. Conversely, in areas of the Czech Republic, where large swathes of Norway spruce forest have been decimated by bark beetles, more costly restoration measures are needed. Immediate restoration costs can be high (up to EUR 11,000/ha) and may involve a prolonged period of no income or foregone income for timber producers. Furthermore, these restored forests will likely continue to lose carbon to the atmosphere for the next five to 10 years, and may never reach the same above-ground carbon stocks as pre-disturbed plantation forests. However, biodiversity can be significantly enhanced over the medium to long term. Forest restoration strategies must also balance trade-offs between carbon stock retention and fire risk management.

To navigate these complexities, **SUPERB** has developed interactive maps that highlight actual and perceived policy (in)coherences between national forest laws and NRL indicators across EU Member States. The European Environment Agency is also assisting in integrating NRPs with other policies to enhance their synergistic impact.

MERLIN large floodplain river restoration site "Room for the Rhine", covering 300km of the Rhine river's floodplains and tributaries (the Netherlands/Germany). Actions include flood risk reduction, floodplain reconnection, and changes in river management to improve biodiversity.

Examples of green policies offering synergies with NRPs
Common Agricultural Policy (CAP) Strategic Plans
National biodiversity strategies and action plans
Marine strategies, Maritime Spatial Planning and the Common Fisheries Policy (CFP)
Integrated national energy and climate plans and national adaptation strategies
River Basin Management Plans (Water Framework Directive) and Flood Risk Management Plans (Floods Directive)
National air pollution control programmes
Global Biodiversity Framework (GBF)
Future Soil Health and Forest Monitoring Laws

2.3 Stakeholder Engagement and Governance Challenges

Designing and implementing NRPs demands more than financing and monitoring expertise—it requires effective governance, inclusive social planning, and impactful stakeholder engagement. There is a range of governance challenges that the EU Member States will need to tackle while designing and enacting the NRPs. These include addressing conflicting interests and policies, ensuring the acceptance/uptake of restoration measures on the ground, and mobilising sufficient community and public support. Such support is critical not only for ensuring the long-term success of restoration efforts, but also for maximising their social, economic and ecological benefits.

The work conducted by the four projects has shown that stakeholder engagement, collaborative decision-making and holistic thinking are central to addressing these challenges, as outlined in the subsections below.

By integrating both top-down and bottom-up approaches for developing restoration pathways, and by evaluating not only ecological outcomes but also the economic and social implications of restoration measures, NRPs can align with existing policies while fostering national level commitment and local buy-in. The process of drafting and implementing the NRPs is also an opportunity to foster a process of trust building and increased integration among all stakeholders around nature restoration.

The advice provided by the four projects takes into account their research into restoration governance and stakeholder engagement and builds, crucially, on the extensive local- to European-level stakeholder engagement activities underpinning their work. As part of this research and engagement, the projects have developed a range of processes, tools and methods that can inspire Member States' approaches.

For instance, **REST-COAST**'s nine pilot test sites feature **Coastal Restoration Platforms** (**CORE-PLATS**), which facilitate an iterative, living-lab process with multi-stakeholder perspectives, combining institutional and local participation to enable co-creation. **SUPERB** developed and implemented a strategy for transformative stakeholder engagement from its 12 demonstration areas up to pan-European level, building on a multitude

of inclusive engagement events guiding research and restoration actions. This was accompanied by the creation of a toolkit, guidelines and templates for, for example, upscaling restoration plans. **WaterLANDS** has developed detailed guidelines on the deliberative process and on integrating socioeconomic considerations with ecological assessments, as well as strategies for local stakeholder engagement informed by action and knowledge sites across Europe. **MERLIN** has developed regional scalability plans for each of its 18 case studies, which were presented to national governments and engaged stakeholders across various economic sectors.

The four projects welcome requests for more information about these and other governance and stakeholder engagement processes, tools and methods that can be helpful for preparing NRPs.

Links to key project tools and advice on governance and engagement[3]:

MERLIN (freshwater ecosystems):

- Regional Scalability Plans
- Mainstreaming stakeholder involvement
- Policy Opportunities

REST-COAST (coastal ecosystems):

- Governance roadmap for effective restoration
- Contribution of restoration activities to NDCs

SUPERB (forest ecosystems):

- Forest storytelling and engagement for change
- Forest restoration paradigms and conflicts
- On the role of CAP funding for forestry measures
- European restoration policies map: Restoration policy and governance framework

WaterLANDS (wetland ecosystems):

- Deliberative process and stakeholder values
- Assessment of socio-economic options
- Characterising supportive governance and policy
- Strategy for engagement and citizen science

[3] Further project outputs are expected by project completion in 2025/26

WaterLANDS blanket bog restoration site "LIFE IP Wild Atlantic Nature" (Ireland). Actions include an agri-environment payment scheme where local farmers are funded to improve habitat quality and biodiversity.

2.3.1 Strategies for addressing governance barriers and policy incoherences

Ecological restoration efforts face several governance challenges that can hinder effective implementation. These challenges include, reconciling diverse stakeholder interests, values and power imbalances, including across sectors and political levels, navigating policies and regulations at various levels, and clarifying ambiguous and conflicting administrative competencies. A major obstacle is the difficulty of aligning differing sectoral priorities, such as biodiversity conservation, water management, agriculture, forestry and urban development, which are often conflictual in in parts. This can be reflected in diverging priorities and disagreement between different parts of government. Additionally, the fragmented nature of policies across different sectors and levels of governance – at EU, national and local levels – often complicates coordination and slows down progress.

An additional challenge is the short political cycles of governments, which typically operate over four- or five-year timescales, whereas ecological restoration requires long-term planning and implementation. Overcoming these governance challenges requires, on the one hand, open-minded and effective stakeholder engagement (see next section). On the other hand, it may demand continuous advocacy of the economic and social benefits of nature restoration, in addition to addressing its environmental importance, to ensure that nature restoration remains a priority through political transitions and receives widespread societal acceptance. This can be illustrated through best-practice examples of nature restoration activities where ecological, societal, and especially economic interests align – ideally reinforcing one another (win-win).

Other possibilities, include identifying trade-offs (win-lose, lose-lose) between nature restoration and land uses (e.g., agriculture, forestry, water management, energy, urban and industrial development) and working with different sets of policy instruments, including public and private funding, spatial/sectoral planning and public engagement, to avoid, minimise, resolve, or compensate for regulatory tensions. This is highly relevant for the NRR, as there is a need for assessment and management of cross-sectoral coherence between nature restoration on the one side, and national plans (on, for example, climate mitigation and adaptation and renewable energy) and funding for agriculture, forestry and rural development, on the other side.

To surmount challenges of restoration policy incoherence, it is essential to develop integrated policies that accommodate and ideally mutually reinforce multiple sectoral interests, such as from climate policy, water policy, bioeconomy and environmental policy. This approach should be adopted both at the EU and national levels as well as across political levels to ensure consistency and alignment of policies. A holistic perspective, such as the landscape approach or ecosystem-based approach, can help integrate nature restoration goals with broader objectives, such as sustainable land use and ecosystem services. Adopting a proactive approach rather than relying on common reactive interventions can better support cross-cutting policies.

2.3.2 Effective stakeholder engagement

Effective stakeholder engagement at all levels is essential for building lasting commitment for successful restoration outcomes and for strengthening its social and economic benefits. Stakeholder engagement is different from communication. It fosters open dialogue, trust building and co-creation. Engagement strategies should ensure that all interests and values are considered and integrated into plans in a meaningful way. This requires careful mapping of stakeholders and inclusion of diverse stakeholder groups, from formal interest groups at European and national level to local communities. Importantly, engagement strategies should be tailored to the different stakeholder groups. The four projects highlight that taking a nexus approach – identifying opportunities for collaboration across sectors and scales – can help address trade-offs and lead to more holistic management and governance.

From a communications and advocacy viewpoint, it can be useful for government officials, for example, to emphasise how restoration can help tackle climate challenges, such as how wetlands or forests can both mitigate climate emissions by sequestering carbon and enhance climate adaptation by moderating the effect of extreme events such as storms or flooding. For farmers, attention can be drawn to how restoration enhances soil health, supports carbon farming and reduces soil erosion. For the general public, including local communities, it can be useful to draw attention to benefits, such as improved water quality, flood protection, recreation, well-being, maintenance of existing jobs (e.g. artisanal fishing), creation of new jobs (e.g. tourism) and a stronger sense of place. The four projects also highlight that taking a nexus approach – identifying opportunities for collaboration across sectors and scales – can lead to more holistic management and governance while also help to address trade-offs.

The value of stakeholder engagement is in enabling commitment for restoration. In engagement processes, diverse stakeholders bring in additional and often new ideas, knowledge and partnerships that can strengthen restoration efforts. Input from stakeholders who are to be involved in enacting the restoration plans and guidelines is key for ensuring relevance and uptake. At the same time, the diversity of stakeholders across sectors and political levels with diverse interests and values incorporates the possibility of conflict. For example, forest restoration can lead to conflicts about balancing timber production and biodiversity, changes to recreation and forest aesthetic, and competition with other land-use types. It is important that conflicts are openly discussed and constructively addressed. Dedicated conflict resolution workshops, including in informal settings, can help to bring stakeholders together to develop solutions and discuss a joint way forward.

Recognising and acknowledging the interests of different stakeholders and creating a safe space for open discussion is vital. It requires an appreciation of other motivations such as values, sense of place and tradition. Understanding local and historical contexts and the prevailing challenges of an area is key. For farmers and foresters, for instance, it is essential to acknowledge the heritage of land stewardship, openly address past grievances and, where possible, embed solutions into existing practices.

Furthermore, it is important to explore and gain a deeper understanding of how an unusual or unexpected mix of stakeholders may connect and interact, both online and in real-world settings. Understanding stakeholder engagement and understanding communication – also in underexplored spaces, such as social media – is therefore beneficial for policymakers at all levels. This includes recognising the roles and patterns of misinformation and disinformation.

Trust is a fundamental pillar of effective participatory processes and engagement at all levels. Insights from the four projects highlight the value of initiating open dialogue with stakeholders and communities to foster relationships, build credibility, and support impactful involvement. Maintaining this trust through continuous and iterative engagement is essential to ensuring long-term success of restoration activities. Stakeholders must eventually feel a sense of ownership over the process and outcome. A deliberative process, undertaken for example through group workshops with expert facilitation at local and national levels, can capture stakeholders' perceptions, knowledge and visions for the future, ensuring restoration plans reflect the values, expertise and priorities of all involved. To support this, transparency is key, ensuring participants fully understand what to expect and how their input is treated at every stage of the process.

Finally, it is important to remember that the key to stakeholder engagement is less to reach consensus, than to ensure that all views, including those of the general public, are heard and considered. Otherwise, deep-rooted biases and power relations may hinder progress. Insights gained through the deliberative process should be integrated with scientific evidence to inform NRPs.

Additional engagement approaches for consideration:

- Allowing regulated resource use, such as access to state-owned forests, can enhance public benefits.
- Engaging highly motivated stakeholders can strengthen outreach and mobilisation efforts, while directly involving those responsible for implementation can help to ensure strategies are practical and widely adopted.
- Ensuring inclusion of diverse voices, including the opinions of the general public and of vulnerable groups, can foster broader social benefits and long-term support for restoration initiatives.
- Engaging artists-in-residence in restoration activities can effectively challenge scientists, practitioners and communities to 'see in a different way' and attract a sector of the population that is not reachable through other channels. This can increase public awareness, support acceptance of restoration activities and help to build more holistic restoration plans.

Additional communication approaches for consideration:

- A public database of implemented projects, searchable by country, ecosystem, or species, can serve as a valuable resource for sharing success stories.
- Highlighting the benefits of restoration during extreme weather events can be impactful, as the impact of storms or droughts can demonstrate the resilience of restored sites in comparison to neighbouring degraded sites.

- Providing capacity-building opportunities for journalists through field visits can nurture a better understanding of restoration efforts and offer a platform for different stakeholders to voice their opinions.

- Showcasing both successful and unsuccessful restoration stories from one place has the potential to shape the narrative in another.

2.4 Additional overarching recommendations for NRPs

- As Member State representatives begin drafting NRPs, it is essential to keep in mind the ambitious goals of the NRR and the short timescale in which NRPs must be implemented. Immediate restoration opportunities should be targeted, for example in areas where agriculture is naturally retreating, and where restoration benefits can be quickly demonstrated. At the same time, it is necessary to adopt a long-term vision that extends beyond 2050 and to focus on future-proofing plans through synergies, adaptive management, removal of conflicting financial incentives and effective monitoring.

- Effective ecosystem restoration requires drawing on best practices and lessons learned from various ecosystems. For instance, in forest restoration, addressing the widespread issue of over-browsing is critical because it increases the natural adaptation potential of forests (browsing means selective consumption of tree species by herbivores, particularly broadleaved species) and decreases restoration costs (protective measures, such as fences often make up 25% to 50% of initial forest restoration costs). In both wetland and forest restoration, it is important to recognise that while offering some quick wins, meaningful change takes time to achieve and may not always be initially popular with all stakeholders.

- For freshwater systems, a combined top-down and bottom-up approach is essential, where efforts can be upscaled based on lessons learned from pilot sites and regional best practices. In coastal ecosystems, proactive adaptation is crucial to address risks from storms and sea-level rise before these impacts occur, combining constructed wetlands, transplanted seagrass meadows and natural dune fields. Collaboration across ecosystems at a landscape scale is equally important, as synergies – such as upstream-downstream trade-offs and the varying financial appeal of certain ecosystems – can present opportunities to work together in 'packages' that deliver multiple benefits.

- Successful restoration requires a flexible, forward-looking approach that incorporates the changing pressures of a shifting climate and thus shifting targets for restoration. In forest restoration, for example, 'native' tree species mixtures may not be viable under altered climatic conditions. Planting only these mixtures may weaken resilience and carbon storage capacity under predicted climate scenarios. As such, it is best to be cautious when considering the optional forest indicator 12.3(f) 'share of forests dominated by native tree species'.

- Effective restoration often requires cooperation across regions and governance levels. For example, the restoration work in the Ebro Basin spans four autonomous communities with different competencies, while overall management falls under the Ebro River Basin Authority, overseen by the national government. The coastal fringe is managed by a different department within the same central government ministry, while land-use planning falls under the jurisdiction of the regional government. To navigate these complexities, multi-stakeholder platforms are essential, bringing together key institutional actors and stakeholders to

ensure coordinated and effective restoration efforts. These platforms, could serve as a stable forum for scaling up restoration, combining nature-based solutions for rivers and the coast into building blocks for large-scale plans to enhance synergies and limit trade-offs.

Removal of exotic invasive plants at MERLIN's "Sorraia floodplain" restoration site
© MERLIN

Using fascine (bundles of locally sourced branches) to promote sediment accumulation and vegetation growth at WaterLANDS' "Venice Lagoon" restoration site
© WaterLANDS

Piling technique to protect the edges of salt marsh at REST-COAST's "Venice Lagoon" restoration site
© REST-COAST

Covering forest sandy soil with rock dust at SUPERB's "Southern Netherlands" restoration site to introduce nutrients and neutralise acidity by introducing minerals
© SUPERB

3 Concluding remarks

As Europe embarks on the ambitious task of implementing the NRR, a coordinated, science-driven, and stakeholderinclusive approach will be essential. Lessons from the Horizon 2020 Green Deal Call-funded **MERLIN**, **RESTCOAST**, **SUPERB**, and **WaterLANDS** projects highlight the need for robust financing, effective monitoring and cross-sectoral collaboration to ensure restoration efforts are both impactful and enduring.

By integrating ecological restoration with economic and social priorities, Member States can create NRPs that not only reverse biodiversity loss but also improve ecosystem services, enhance climate resilience, support sustainable livelihoods and secure long-term environmental and socio-economic benefits.

Project coordinators [left to right] of SUPERB (Elisabeth Schatzdorfer), MERLIN (Daniel Hering), WaterLANDS (Shane McGuinness), and REST-COAST (Augustin Sánchez-Arcilla), and event lead moderator (Marc Gramberger – Prospex Institute) at the Supporting National Restoration Plan Development event on 10th March 2025.

4 Additional resources

4.1 Useful resources for NRP development

MERLIN (freshwater ecosystems):

- MERLIN Academy learning modules
- Recorded webinars
- MERLIN podcasts
- The Freshwater Blog • MERLIN storymaps
- MERLIN infographics
- MERLIN deliverables

REST-COAST (coastal ecosystems):

- REST-COAST policy briefs
- Barriers and enablers for upscaling coastal restoration
- REST-COAST open Library
- The Route to Coastal Restoration

SUPERB (forest ecosystems):

- Policy brief: How to strengthen the European forest carbon sink through prestoration: integrating active restoration and adaptation
- Decision Support Tool for tree species selection, species composition planning, and seed sourcing
- Forest Knowledge Gateway (stakeholder-targeted platform to share synthesised and original practical and scientific knowledge on forest restoration and integrative forest management across all relevant disciplines, full launch fall 2025, www.forestknowledge.eu)
- Marketplace (match-making platform for high-quality forest restoration initiatives and potential funders, full launch fall 2025, www.forestknowledge.eu)

- Representatives survey in all 12 SUPERB countries and 5 demo regions on public perspectives on forest restoration (will be published on the Forest Knowledge Gateway)
- **Monthly forest restoration talks**, including recordings of past webinars

WaterLANDS (wetland ecosystems):

- **WaterLANDS results and resources**
- **Drivers and thresholds of change for European wetlands**
- **Upscaling Wetland Restoration: Barriers and Best Practice**
- **Podcast: Exploring Restoration with WaterLANDS – Biodiversity in Europe and EU Nature Restoration Law**
- **WaterLANDS deliverables**

4.2 How to contact the four projects

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Under the Horizon 2020 Green Deal Call, four major nature restoration projects are being funded – MERLIN, REST-COAST, SUPERB, and WaterLANDS. On 10 March 2025, the four projects held a high-level meeting at the European Commission in Brussels to present and discuss evidence-based recommendations and scalable solutions to help Member States design effective National Restoration Plans, a requirement of the Nature Restoration Regulation. The event gathered key restoration stakeholders, including representatives from Member States and the European Commission. This report summarises the key insights and actions from the workshop and provides additional resources and information from the projects. The lessons shared in this report can serve as a resource for national authorities when developing NRPs and inform decision-making and evidence-based policymaking.

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