



Biodiversity Roadmap

Setting the path with a collaborative strategy for biodiversity restoration in the North Sea Region

WORK PACKAGE 1





















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Introduction

The Biodiversity Roadmap is a key initiative of the EXPBIO project under Work Package 1 (WP1), aiming to establish a strategic framework for biodiversity restoration across the North Sea Region (NSR). It serves a dual role throughout the project lifecycle: first, as a guiding framework for project implementation, and ultimately, as a final adoptable strategy to inform future restoration efforts in the region.

This strategy will synthesise the knowledge, insights, and lessons learned during the EXPBIO project and translate them into actionable guidance. As a jointly developed strategy, it will set a general direction for strengthening plant biodiversity and restoration across borders, helping stakeholders—policymakers, researchers, landowners, SMEs, and NGOs—align efforts and coordinate actions toward long-term ecological resilience in the NSR.

Biodiversity restoration is crucial for maintaining resilient ecosystems, supporting pollinators, and ensuring long-term environmental sustainability. In the North Sea Region (NSR), habitat degradation, climate change, and human activities have led to significant biodiversity loss, threatening native plant species and ecosystem functions. Restoring biodiversity not only enhances ecosystem stability but also contributes to carbon sequestration, soil health, and water retention. By developing a strategic roadmap, EXPBIO aims to provide structured guidance to address these challenges, ensuring that restoration efforts are science-based, effective, and adaptable to regional conditions.

This first version of the roadmap builds on early discussions within the consortium, including insights from the initial partner workshop, which helped surface differing regional perspectives and practical challenges (See appendix 3).

Further, the development of the Partner Pilots in WP2 and WP3 as well the Transnational Action Plan has also served as input to this document.

Identified Challenges in Transnational Collaboration

From the outset of the EXPBIO project, it has been evident that biodiversity and climate challenges transcend administrative boundaries. The North Sea Region (NSR) is ecologically diverse, facing a wide array of pressures—from habitat fragmentation and invasive species to the escalating impacts of climate change. Each country and region bring its own regulatory systems, land-use priorities, stakeholders and restoration strategies, which complicates the development and implementation of shared solutions.

However, these differences are not viewed solely as barriers. They are also sources of insight, offering opportunities for mutual learning and the development of adaptive solutions. By fostering transnational collaboration among policymakers, researchers, practitioners, and landowners, EXPBIO aims to bridge these gaps.





The roadmap is a central tool in this collaborative process. Its development is grounded in a methodology that embraces both shared challenges and regional diversity. While one region may face limited access to native seed varieties, another might struggle with community engagement or regulatory complexity. Through structured knowledge exchange such as webinars, local and transnational stakeholder meetings, the transnational learning programme, and pilot demonstrations partners can share insights and adapt practical solutions to fit their specific contexts.

Ultimately, this approach is not only about addressing existing challenges but about building collective capacity to face future ones. As climate change and biodiversity degradation continue to intensify, collaboration becomes a necessity. The EXPBIO roadmap will when finalized lay the foundation for this by promoting joint learning, policy alignment, and coordinated action, equipping stakeholders across the NSR with the tools needed for sustainable biodiversity restoration.

Objectives of the Roadmap and Strategic ambitions

A collaboration framework for the Road Map have been established that should provide a common direction while allowing for regional adaptation, ensuring relevance across different ecological, social, and political contexts. The development shall promote collaboration and knowledge transfer among a diverse group of stakeholders, ranging from public authorities to grassroots organizations, and sets the foundation for joint action that can address both local challenges and transnational goals.

The first version of this Road Map sets out a structured development process guided by four strategic ambitions. These reflect the shared values and collaborative ambition of the project partners and provide a flexible direction for shaping the roadmap's final content.

These process objectives guide the development of a jointly adopted strategy and are based on transnational dialogue, knowledge sharing, and stakeholder input. The specific end goals of the roadmap, such as restoration principles and advice, policy recommendations, or native seed mix development strategies, communication and pedagogical approaches will be co-designed during the implementation period.

Four strategic ambitions:

<u>Develop a Shared Framework for Biodiversity Restoration</u>

- Inform biodiversity-related strategies and initiatives across the NSR.
- Create adaptable methodologies for use in diverse ecological contexts.

Enhance Transnational Collaboration

- Facilitate ongoing knowledge exchange across borders.
- Encourage joint efforts to address biodiversity loss at scale.







Address Regional Differences While Promoting Common Goals

- Identify challenges unique to specific regions (e.g., seed availability, stakeholder engagement).
- Co-develop regionally adaptable solutions.

Foster Stakeholder Engagement

- Encourage participation through workshops, stakeholder meetings, learning events, and policy forums.
- Build a lasting community of practice for biodiversity restoration.

Overview of Strategy intervention areas: from EXPBIO topics to roadmap content

The final version of the EXPBIO roadmap will reflect the project's core thematic areas—restoration, seed mixes, and biodiversity communication—each of which is addressed in a dedicated work package (WP2–WP4). These themes represent the main areas of intervention and learning within the project and will guide the roadmap's recommendations and strategic focus.

Insights gathered during the initial partner workshop and early project activities confirm that each topic raises specific challenges, requires tailored approaches, and offers opportunities for transnational learning and exchange. These three topics will continue to shape the roadmap's direction as pilots are implemented and evaluated.

Restoration

Led under WP2, this area focuses on demonstrating practical approaches to restoring degraded ecosystems and supporting the regional soil seed bank. Challenges include selecting appropriate restoration methods, ensuring access to wild plant material, and fostering stakeholder buy-in. The roadmap will offer guidance on restoration and regionally adaptable approaches based on pilot outcomes and partner experience.

Seed mixes

Under WP3, the project aims to design, test, and evaluate native seed mixes and compare results between regions, gathering knowledge on native seeds performance across the regions with different ecological and land-use conditions. Key issues include lack of suppliers, limited regulatory coherence, and the need for quality standards. The roadmap will outline practical and policy recommendations for improving access and quality, including lessons from the regional demonstrations.

Reducing plant blindness and promoting action

WP4 addresses public awareness, stakeholder education, and communication barriers around plant biodiversity. Through the Transnational Action Plan and citizen science activities, this area seeks to activate a wide range of







stakeholders—from schools and municipalities to NGOs and healthcare settings. The roadmap will synthesize effective practices in biodiversity communication and engagement, highlighting methods suited for different audiences and regional settings.

Road Map development Methodology

The Road Map is developed in four phases where each phase has a specific focus. The process ensures that activities in all WPs will be fed into the Road Map and ensure that lessons learned, and insight gathered through these activities, including communication and pilot implementation, is collected, documented and later disseminated.

In summary the four phases are:

1. Development and design of data-collection and Road Map versions.

This phase utilizes the application activities to highlight opportunities and suitable interfaces for gathering information from stakeholders. It sets a time-frame and objectives for each phase. The key result of this phase is a detailed time-table aligned with important WP1-4 activities to guide the process towards an adoptable strategy

2. Data-collection and EXPBIO topic exploration

During this phase of the project the aim is to ensure that each specific EXPBIO Topic gathers information to inform the future strategy. The result of this process is an over-view of stakeholders needs and challenges as well as a knowledge transfer between both regional contexts as well as between sectors.

3. Policy alignment and local stakeholder engagement

Phase 3 focus on engaging with local and regional stakeholders through presentation of second version of the Road Map in all regions. The result of this process is the identification of relevant policy recommendations based on preliminary findings from pilots, demonstrations, action plan and other project activities to formulate the proposed strategy.

4. Final version of the Road Map

This phase includes a policy forum during the project final conference. The main result of the process is an adopted strategy for Biodiversity Restoration including the project key results and outputs.

Connecting roadmap development to project activities

The development of the EXPBIO roadmap is not a standalone process—it is embedded in and shaped by a wide range of planned activities across all work packages. These activities provide key data, insights, and feedback loops that





inform the different roadmap versions and ensure that the final strategy is grounded in practical experience and transnational dialogue.

Below is an overview of how specific activities contribute to the roadmap process.

WP1 activities

Activity 1.1 – Needs and challenges

This activity ensures that findings from evaluations, questionnaires, stakeholder meetings, and other relevant efforts—both within WP1 and in other work packages—are systematically connected to the roadmap development process.

Activity 1.3 – Transnational stakeholder meetings (TSMs)

These meetings provide an interface for engaging a transnational audience, including regional and local stakeholders. Each meeting addresses specific challenges identified through pilots and other project activities, serving as a platform for sharing experiences and fostering collaboration across sectors and regions.

Activity 1.4 – Local stakeholder meetings (LSM)

These meetings are focused on testing and refining version 2 of the roadmap. By involving regional stakeholders directly, they help ensure the strategy is adoptable and grounded in real needs.

Activity 1.6 - Policy forum

The final conference will include a presentation of the roadmap to a broad international audience, offering an opportunity for validation, feedback, and increased visibility of the strategy.

Activity 1.7 - Transnational learning programme

This activity supports internal knowledge transfer between partners. It provides opportunities for targeted peer-to-peer learning based on identified needs, further strengthening the relevance and usability of the roadmap.

Activities in other work packages

Stakeholder meetings (WPs 2-4)

Each work package conducts local stakeholder meetings to explore project-relevant topics. These meetings contribute to identifying regional challenges, practical solutions, and policy needs, which feed into the roadmap process.

Webinars and communication activities

Each WP organises topic-specific webinars aimed at a transnational audience. These serve both as knowledge-sharing events and data collection points through structured feedback mechanisms.

Work package-specific outputs

Each WP will deliver final reports, evaluations, and documented outcomes from tested practices and pilots. These results—including findings from seed mix trials, restoration activities, and communication efforts—will inform the final version of



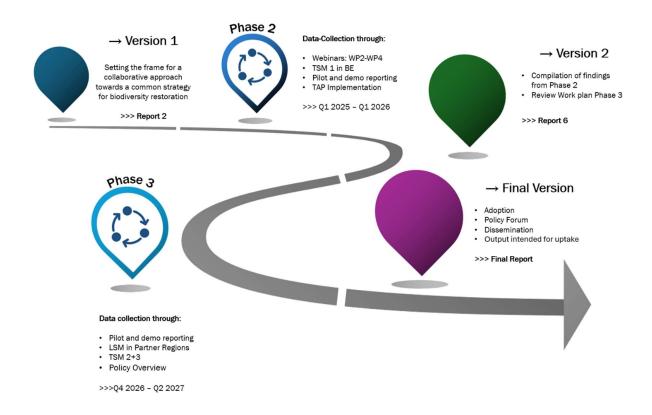


the roadmap, ensuring that it reflects both tested solutions and implementation experience.

Looking ahead: refining the roadmap through partner and stakeholder input

This first version of the roadmap marks the beginning of a structured and participatory development process.

In the coming phases, data will be gathered through targeted webinars, regional and transnational stakeholder meetings, and learning programmes. These inputs will guide the refinement of future roadmap versions, ensuring that the strategy reflects both local contexts and shared regional priorities. The final roadmap will emerge through this iterative process, translating shared insights, partner experiences, and pilot outcomes into a practical, policy-relevant guide for biodiversity restoration across the North Sea Region.





Appendix 1: Detailed work plan

Deliverable	Focus	Timeframe	Key Activities	Direction	Phases
Initial Roadmap Draft - Version 1	Methodology and workplan	Q1 2025	 Establish a structured approach on Road Map development and strategy aim. Methodology for data-collection and stakeholder engagement Detailed work plan 	Development	Phase 1
	Webinars WP3 – Seed Mixes	Q4 2024 - Q2 2025	 Data collection through evaluations with participants and speakers. Use of structured evaluation forms, distributed to all participants. Summary of webinars and key findings compiled for further analysis. 	Communication/Data- collection	Phase2
	WP1 TSM 1	Q3 2025	 Transnational stakeholder meeting in Flanders. 	Meeting/Data-collection	
	Webinars WP2 – Restoration	Q3 - Q4 2025	 Data collection through evaluations with participants and speakers. Use of structured evaluation forms, distributed to all participants. Summary of webinars and key findings compiled for further analysis. 	Communication/Data- collection	





	Webinars WP4 – Communication	Q1 - 2026	 Data collection through evaluations with participants and speakers. Use of structured evaluation forms, distributed to all participants. Summary of webinars and key findings compiled for further analysis. 	Communication/Data-collection	
Version 2	Compilation of findings	Q2-Q3 2026	Compilation of findings,Additional gathering of informationReview of timeplan Phase 3	Design and development	
	Policy Brief Development	Q4 2026 - Q1 2027	 Identification of necessary policies, strategies, and incentives to enhance biodiversity restoration efforts across the NSR. 	Desk-research and data-collection	Phase 3
	Stakeholder Meetings with Policymakers	Q2 2026 - Q2 2027	 Facilitating discussions on policy recommendations and transnational collaboration. 	Communication/Data- Collection	
Final Version		Q2 2027 - Q3 2027	Final version prepared and developed	Design and development	
	Policy Forum & Roadmap Validation	Q3 2027	 Presenting the finalized roadmap to stakeholders for validation and endorsement. 	Adoption and dissemination	Phase 4
	Final Roadmap Publication & Dissemination	Q3 2027	 Ensuring widespread distribution and accessibility for relevant stakeholders. 	Dissemination	





Appendix 2: Project Structure

Project Structure

EXPBIO





Restoration

Demonstrate restoration practices to strengthen the regional soil seed bank and plant biodiversity.



Trollhättan VLM

Gelderland

Hjörring

Seed Mixes

Design, implement, and evaluate the performance of various seed mixes in different NSR's ecosystems and conditions.



Gelderland

Clusters

Development

CvO

VLM

GBG

Plant Blindness

Transnational action plan to raise awareness on the importance of the local plant biodiversity with Citizens Science



Meise

Gelderland Trollhättan

CvO Hjörring

8 Demonstration and Pilots

Restoring NSR Ecosystems

4 Pilots for demonstrating solutions to stimulate soil seed banks in Grasslands

Demonstrate NSR Seed Mixes

Native plants that provide pollination in farmlands, grasslands, and private and public gardens, for education & Training, Rehabilitation,

Transnational Action Plan

Activating NSR Stakeholders In biodiversity promotion and monitoring

Citizens, Rehabilitation, Students in Primary, Secondary schools, Teachers

Citizens science, Training and education material, Communication Methodology

Strategic Road Map

Facilitating

- · Stakeholders understanding of needs and challenges on utilising native seeds:
 - · In restoration projects,
 - Seed industry conditions and market regulation
 - Policy making
- · Transnational collaboration
- Cross-sectoral understandning
- · Increased transnational capacities
- · Mutual direction for increasing restoration effectiveness and success

Giving access to

- Validated practices for restoration projects
- Adaptable seed mixes and guidelines
- · Communication and engagement methodologies
- · Educated and informed stakeholders
- · Education and training resources
- · Citizens science methodology

Utilised by and develop with Stakeholders

- · Business sector: Seed companies, Nurseries, Industry Associations.
- Educational Sector: Primary/Secondary schools, Vocational
- Research and Academic, including test centers
- · NGOs and Civil Society including citizens
- **Botanical Gardens**
- · Regional and Local Authorities







Appendix 3: Initial partner perspectives on restoration, seed mixes, and communication

In the early stages of EXPBIO (March 2024), a transnational partner workshop was held to explore the three core thematic areas of the project: restoration (WP2), seed mixes (WP3), and biodiversity communication (WP4).

This workshop served as a platform for partners to share their experiences, expectations, and regional approaches. The aim was not to define a joint strategy, but to highlight key differences, raise practical concerns, and surface knowledge gaps. These early dialogues laid the groundwork for collaborative development of the roadmap and future project activities.

WP2 - Restoration: different understandings of practice

- Partners identified practical hurdles related to nurseries, equipment, and permitting.
- There were diverse views on ecological baselines—some questioned how far restoration should go.
- Levels of stakeholder engagement varied significantly by region.
- Communication about *why* restoration is needed was seen as essential to building support.

WP3 - Seed mixes: fragmented supply chains and unclear definitions

- Some partners had access to local databases or suppliers; others faced complete lack of access.
- There was no shared definition of "native" seeds, nor agreement on standards or certification.
- Regulatory and administrative mismatches were common, complicating scaling efforts.
- Interest was expressed in business models and the role of SMEs.

WP4 - Communication and action: activating different audiences

- There were stark differences in target groups, from schools and gardeners to municipalities and farmers.
- Barriers included budget constraints, resistance to change, and conflicting interests.
- Several methods were seen as promising: citizen science, apps, TV shows, farm walks, and ambassador-based outreach.







These initial insights do not represent consensus positions but rather reflect the diversity of perspectives within the partnership. By surfacing key differences early in the project, the workshop supported mutual understanding and helped identify areas where further coordination, learning, and clarification are needed. This diversity will continue to shape the development of the roadmap, ensuring it remains responsive to varied regional contexts while fostering shared ambitions for biodiversity restoration across the North Sea Region.