

Gotland Integrated Land-to-Sea Restoration Demonstrator



Name of the Island managing authority and primary contacts

Region Gotland, SE-621 81 Visby, Sweden. 212000-0803. PIC: 884009404

Primary contacts 1: Mr. Jonas Nilsson, Community Planning Unit, Dept. of Regional Development, jonas.nilsson@gotland.se

Primary contacts 2: Mrs. Malena Bendelin, Head of Community Planning Unit, Dept. of Regional Development, malena.bendelin@gotland.se

A: Context

1. Current focus issues relating to Mission Ocean and Climate change of managing authority (Region Gotland)

Gotland, Sweden's largest island, faces significant and growing water-related challenges due to its unique geological, hydrological and climatic conditions. The island's fractured limestone bedrock and thin soil layers offer limited capacity to retain freshwater, making groundwater stores small and vulnerable to both contamination and saltwater intrusion. Seasonal rainfall patterns and increased evapotranspiration due to climate change further compound the issue, reducing natural groundwater recharge.

In addition to human needs, Gotland's ecosystems are under severe pressure from water scarcity. The island has lost about 65 percent of its natural wetlands since the 18th and 19th centuries due to drainage and land use changes. Today only 5 percent of the original area are unaffected by human influence. This has diminished the natural buffering capacity of the landscape, making it more susceptible to both floods and droughts. During dry summer months, small streams and brooks often dry out completely. This has a direct and devastating impact on aquatic biodiversity: fish populations, amphibians, and invertebrates lose vital habitats and breeding grounds. As documented in the regional water supply plan, both surface and subsurface ecosystems are dependent on a minimum baseflow and stable groundwater levels for ecological functionality, biodiversity and ecosystem services supporting socio-economic development.

Water scarcity also reduces the natural self-purification capacity of watercourses, leading to higher concentrations of nutrients and pollutants, especially during low-flow periods. This further endangers sensitive aquatic species and contributes to eutrophication risks in connected coastal waters.

Population growth, intensified agriculture, and a booming summer tourism season (bringing over 1 million visitors annually) place further stress on an already fragile water balance. Nearly 40 percent of Gotland's population relies on private wells, and much of the public water infrastructure was built in the mid-20th century and needs renewal.

To address these challenges, Region Gotland have developed and initiated several innovative projects:

- Region Gotland has constructed renewable-energy-powered desalination plants located on the eastern and southern parts of Gotland, producing freshwater for the public water grid.
- Together with IVL Swedish Environmental Institute, Region Gotland operated a testbed on the very south part of the island for several years for testing and evaluating sustainable water systems focused on increasing the ability to store groundwater. The project was even a part of a Horizon project called NextGen.
- Together with Stockholm University (MISU and DEEP), the Swedish Meteorological and Hydrological Institute (SMHI), Region Gotland is taking part in a research project aimed to develop a novel forecast framework for algae blooms and their impacts on management of water resources, both short term (early warning) and long term (climate scenarios). The project "A new forecast framework for algae bloom hazard to secure

future water supply and development of tourism on Gotland" runs 2022-2026 and is funded by the Swedish Research Foundation Formas.

- The newly adopted master spatial plan describes land and water use on Gotland in an integrated manner in five sub-areas. The planning also covers the coastal zone and extends out into the sea to the municipal and territorial border. The environmental quality standards for water, including the coastal sea, are guidelines for the type of land use that is possible at each location.
- Region Gotland have also launched an irrigation ban during the summer, supported other water-saving initiatives and have run information campaigns concerning water shortage aimed at residents and visitors.

Despite these actions, regional stakeholders express growing concern for the long-term resilience of both human and natural systems. Sustainable water management on Gotland must balance drinking water security with the vital water needs of ecosystems, especially as climate change exacerbates extremes. This reinforces the urgency of integrated, nature-based solutions—aligned with EU Mission Ocean objectives—that restore ecological flows and support biodiversity.

2. Any current/ recent actions relating to 1.

Gotland's regional implementation programme under the development strategy "Our Gotland 2040" outlines two strategic areas of focus related to water: one addressing research, governance and planning, and another addressing concrete technical solutions.

The governance-related action area focuses on strengthening the knowledge base, inter-agency coordination, and the integration of water availability into spatial planning and strategic decision-making. It includes climate impact assessments, protection of water bodies, and long-term security planning for water supply. These efforts aim to build regional resilience and ensure that water-related issues are considered across all sectors.

The technical action area supports investments in new infrastructure and innovation. This includes desalination, rainwater harvesting, reservoir construction, and rewetting drained wetlands to restore natural hydrological cycles. Several initiatives are already underway, including desalination plants and testbeds for sustainable water production.

A third, closely linked priority is biodiversity and ecosystem restoration, which promotes rewetting wetlands, restoring natural water flows, and protecting sensitive freshwater and coastal habitats. These efforts help safeguard the natural capacity to store and clean water—functions that are critical as climate change increases the frequency of droughts and extreme rainfall.

Through Region Gotland's guidelines in the master plan and the green plan, there is a responsibility to work to promote the wetlands with their socio-economic values for the people of Gotland, the climate and biodiversity. By investing in the wetlands, the region can inspire more landowners with wetlands to help reverse the negative status of the wetlands and strive towards fulfilling the national environmental goal of "Thriving Wetlands".

Altogether, these measures provide a strong regional foundation for Gotland to actively contribute to Horizon Europe's "Restore Our Ocean and Waters" mission, especially in island contexts.

3. Any funding set aside or earmarked for continued or new work related to 1

Region Gotland has limited financial resources for implementing large-scale ecosystem restoration or climate adaptation measures. As the body responsible for regional development, Region Gotland has a statutory mandate to produce a *Regional Development Strategy* (RDS), that interlinks with the S3-Smart Specialisation strategy, (*Strategi för smart specialisering i Gotlands län 2021-2027*). The Regional Development Strategy is complemented by three action plans covering economic, social, and environmental sustainability. However, both the strategy and its action plans are non-budgeted policy documents—they provide direction and mobilize stakeholders, but do not carry dedicated funding.

Each year, Region Gotland manages a share of state-provided development funds, which are intended to support initiatives aligned with the RDS and to co-finance externally funded projects that lack full coverage from other sources. While these funds are an important tool to stimulate regional development, they are modest in scale and have traditionally been used for other types of initiatives—such as business support, innovation, or skills development—rather than for direct environmental restoration or water system interventions. In fact, according to the existing regulations, it is not permitted to use these funds for such purposes.

As a result, there is a clear gap in available funding for implementing large-scale environmental or climate adaptation measures. This makes access to European funding, particularly through Horizon Europe, highly valuable. Horizon support would not only enable Gotland to undertake concrete restoration actions but also help build institutional capacity and generate transferable knowledge for other island and coastal regions facing similar challenges.

Several national funding programs could serve as additional sources of support, aligned with the project's challenges and for side initiatives that leverage the Demonstrator Gotland. Examples include the Swedish Sea and Water Research and Innovation Program, the Mission Impact program “Water Wise Society,” and upcoming initiatives in line with the new EU Water Resilience Strategy.

4. Current local stakeholders involved

Blue Centre Gotland, a collaboration between Uppsala University, Region Gotland and County Administrative Board of Gotland County, is in full accordance with the scope and objectives of the project. All three organisations within Blue Centre will participate. Uppsala University has extensive experience in administering EU-funded projects, and one of the researchers involved is the project coordinator for BioEcoOcean (nr 101136748), which focuses on advancing marine biodiversity observations. BioEcoOcean is founded in co-creation and has one of its living labs on Gotland. Further, Uppsala University has extensive experience of assessing ecosystem services and socio-economic values of natural and restored systems.

The Swedish Anglers Association, the national organisation which represents the interests of recreational anglers in Sweden with more than 70 000 members will join the project. The Anglers

Association, who has a regional office on Gotland, have a lot of experience in restoring streams and beach meadows.

The Swedish Environmental Research Institute, IVL, has broad portfolio of research and innovation projects in ecosystem restoration, water resilience, circular water management, Source to Sea modulation, nature-based solutions, climate adaptation supported labs, testbeds and international research networks.

B: Demo

1. Brief description with figure. Purpose, any innovations, Partners + roles, main Capex, any maintenance, location

The demonstrator **Gotland**, Sweden, covers the full water journey from land to sea: beginning in wetlands, flowing through streams and rivers, and ending in coastal marine ecosystems. The project will showcase how integrated, nature-based restoration actions along this continuum can strengthen ecosystem health, climate resilience, biodiversity and ecosystem services.

The physical interventions will include the **restoration of small wetlands, rehabilitation of small watercourses, and measures to improve coastal habitats**—with a focus on re-establishing natural hydrological dynamics, improving habitat connectivity, and securing biodiversity and ecosystem services.

Although not all parts of the demonstration can be located at a single site, the project will be presented as a **coherent model system** through an integrated **interpretive concept**, combining on-site signage, digital storytelling, and citizen engagement tools. The aim is to strengthen public engagement and demonstrate scalable approaches to integrated land-sea management on islands.

Purpose & Innovation

- To demonstrate a **functional, land-sea water corridor** as a climate, biodiversity and ecosystem services solution.
- To implement **physical, science-based ecosystem restoration** with public accessibility and visibility.
- To build a **modular and replicable model** for other European islands facing water stress and ecosystem degradation.

Partners and Roles

- **Region Gotland (RG)** (PIC 884009404): overall coordination, regional planning integration, communication, and importantly—as **landowner** of key project sites, it will also enable and facilitate restoration actions on municipal properties. Main responsible of WP 1, 2, 3 and 6.
- **Uppsala University (UU)** (Campus Gotland) (PIC 999985029): scientific coordination, monitoring and evaluating environmental effects of restoration actions, and stakeholder surveys. Main responsible of WP 5, part of WP 1, 2, 3, 4 and 6.
- **County Administrative Board of Gotland (CABG)** (PIC 889703886): land use planning, environmental permits, coordination of actions on **state-owned land** (e.g. nature reserves), and long-term stewardship assurance after project completion. Part of WP 1, 2, 3, 4, 5 and 6.
- **The Swedish Anglers Association (SAA)** (Sportfiskarna) (PIC 891759122): design and implementation of physical restoration actions in streams and beach meadows, ecological expertise. Main responsible of WP 4, part of WP 2, 3 and 5.
- **The Swedish Environmental Research Institute, IVL** (PIC: 999476361): Technical support, validation, research and innovation expertise. Part of WP 1, 2, 3 and 6.

Main Capex (Capital Expenditures)

- Wetland restoration and water retention structures
- Streambed rehabilitation and fish migration solutions
- Coastal zone habitat enhancement (e.g. seagrass and reed marsh restoration)
- Visitor infrastructure (trails, signage) and digital platforms

Demonstrator Model and Process

The demonstrator integrates multiple sites into an open, inclusive system of coordinated, monitored, and validated restoration actions, supported by interpretive tools and community engagement. It serves as a scalable example of integrated land–sea management for islands.

Key Components

- **Baseline Assessment & Data:** Builds on existing ecological, hydrological, and biodiversity surveys. Current conditions and data will be visualized and shared with stakeholders and citizens.
- **Monitoring and Validation:** A robust system will be developed with expertise from research and innovation partners.
- **Solution Identification:** Draws on knowledge from EU, Baltic, national, and local projects, including sources like Wavelinks.
- **Site-Based Solution Selection:** Conducted jointly by scientific experts and engaged stakeholders.
- **Co-Creation of Restoration Actions:** Developed through stakeholder workshops with citizen participation, supported by expert input.
- **Living Labs:** Site-based activities involving local stakeholders and citizens in testing and demonstrating solutions.
- **Site Monitoring and Training:** Specific monitoring set up for each site, with training for involved community members.
- **Continuous Evaluation:** Experts and stakeholders will evaluate progress and adjust actions as needed.
- **Digital Platform:** Visualizes baseline data, actions, and results, supports stakeholders and citizens, and facilitates knowledge sharing.
- **Open Access:** The demonstrator infrastructure and platform will be available to other projects and local initiatives, fostering wider impact and community ownership.

Maintenance

Long-term maintenance will be secured through existing mandates and programs of the involved public authorities and civil society actors. Region Gotland and the County Administrative Board, as landowners or responsible managers, ensure that restored areas will be maintained and used for demonstration and education also beyond the project lifetime. Uppsala University, Campus Gotland is also committed to long-term research in these areas, and to be used as field sites for university students.

Location

Gotland, Sweden – with demonstration sites distributed across representative inland, stream and coastal areas selected for high environmental and socio-economic values as well as restoration potential.

Work packages

The Work Package structure is build up by WP1-WP2, coordinating; and to uphold and facilitate the model and process this together with three thematic WP:s (WP3-5) targeting wetlands, rivers and streams and coastal habitats and, finally, WP6 Long-term impact.

WP 1: Demonstrator and LivingLab coordination

Lead: RG Contributors: UU, CABG and IVL

Objective: Uphold an efficient, attractive and interlinked demonstrator and LivingLab

Tasks:

- Project coordination and administration,
- Communication,
- Interlink with Island partners,
- Engagement and coordination with other public bodies concerned,
- Study and optimize the combined effect of land to sea solutions.

WP 2: Integrated Demonstrator Model and Process

Lead: RG Contributors: UU, IVL, CABG, SAA

Objective: Develop an inclusive demonstration system linking multiple restoration sites to showcase integrated land–sea management for islands.

Tasks:

1. **Baseline Assessment:** Compile and visualize existing ecological, hydrological, and biodiversity data at the digital platform; involve stakeholders and citizens to enrich local knowledge.
2. **Monitoring System:** Design a robust framework with R&I partners; define indicators and data protocols.
3. **Solution Identification and Selection:** Map relevant restoration solutions from EU, Baltic, and local projects (e.g. Wavelinks) and align with local conditions. Site-Specific Selection: Conduct expert and stakeholder workshops to select appropriate measures for each site.
4. **Co-Creation and Implementation:** Run participatory workshops to plan and implement restoration actions, supported by experts.
5. **Living Labs:** Establish site-based Living Labs for testing and demonstrating solutions with local communities.
6. **Monitoring and Capacity Building:** Deploy site monitoring, train involved stakeholders and validate results.
7. **Evaluation:** Carry out ongoing evaluations with experts and stakeholders; adapt actions based on findings.

8. **Digital Platform:** Develop a platform to share baseline data, actions, and results; support engagement and knowledge sharing.
9. **Open Access:** Communicate the demonstrator and platform accessibility for other projects and local initiatives to maximise impact and scalability.
10. **Demonstrate the combined effect of land to sea solutions.** By restoring a coastal wetland, adjacent stream systems, and nearby seagrass meadows, this project creates a unique opportunity to study ecological connectivity across land–sea boundaries. These three habitats—often treated in isolation—are tightly linked through water flow, species movement, and nutrient cycling. We aim to explore how restoring them together can enhance biodiversity at multiple scales, support migratory species, and strengthen ecosystem resilience and ecosystem services. The research will focus on identifying key interactions and dependencies among habitats, with the goal of informing more integrated and effective conservation strategies.
11. **Dissemination and Public Information.** Public communication will be a central component of the project. As mentioned above, a dedicated digital platform will be created to present project objectives, locations, and results in an accessible way. Restoration sites located near roads, small parking areas, or existing hiking trails will be prioritized for physical demonstration activities, as they are more easily accessible for organized study visits as well as spontaneous public encounters.

At these locations, informational signage will explain the purpose and process of the restoration efforts. Visitors will be able to access further content via QR codes, linking directly to the project's website, either on-site or later at home. Gotland's extensive network of marked hiking trails—many of which run along the coastline—supports accessibility and encourages integration of the demonstration sites into everyday outdoor recreation.

The initiatives that are being implemented will also be able to be utilized in connection with the activities carried out in the SAA's "School Stream" concept, where schoolchildren from an early age are educated in the field about the ecology of running water and also participate in various types of implementation measures.

Another potential communication channel is Fenomenalen Science Center in Visby, owned and operated by Region Gotland. The center hosts a thematic exhibition on water, which provides a natural and engaging context for presenting the project's concepts to school groups as well as the general public. Through this partnership, the project can help strengthen environmental education and inspire future generations.

Expected results: Visitor infrastructure: 6-10 signs depending on the number of sites. Organized study visits for 150 people. Number of school pupils participating in the "School Stream" concept: 600. Number of web site visitors: 800.

WP 3: Wetlands — A small Island with a big need for water

Lead: RG Contributors: UU, IVL, CABG, SAA

Focus challenge: Historic drainage and thin soils have reduced wetlands' capacity to retain and purify water, worsening runoff and nutrient flow to the Baltic Sea.

Objective: Solution demonstrated in prioritized wetlands on Gotland to increase natural water storage, improve water quality, and enhance biodiversity, supporting the national goal of "Thriving Wetlands."

Description: This WP will coordinate demonstration of solutions targeting restoration measures—damming, vegetation management, and excavation—on selected municipal properties with land containing wetlands in the demonstrator model and process (WP2).

Expected results: An area of 20 000 m² wetland restored. In the longer turn, increased water storage capacity, reduced nutrient runoff, improved local biodiversity and ecosystem services generation, and stronger community awareness of wetlands' role in sustainable water management and coastal health.

More details: Region Gotland owns several properties that include wetland environments. Based on the knowledge gained from the wetland inventory, made in 2023, it is clear that many of Region Gotlands wetlands are in need of restoration to be able to maintain or recapture their important function in the water regime. The Swedish Forestry Association has drawn up a forestry plan for the Gotland region's forest land. The plan contains a list of land use and states that 28 hectares consist of land with bog/marsh or peat.

WP 4: Streambed rehabilitation and fish migration solutions

Lead: SAA, UU Contributors: CABG

Focus challenge: A majority of rivers and streams on Gotland are heavily influenced by human activity, where dredged and straightened watercourses have drastically negatively affected the living conditions of, among other things, various fish species. In many cases, migration obstacles of various kinds also affect the ability of fish to complete their life cycle for positive population development.

Objective: Solutions demonstrated within Streambed rehabilitation and fish migration.

Description: This WP will coordinate demonstration of solutions targeting Streambed rehabilitation and fish migration in the demonstrator model and process (WP2)

Expected results: 2 000 meters of streams rehabilitated. If we also count stretches where free hiking paths are created after hiking obstacles have been demolished or adapted for fish migration, the stretch can be significantly longer. In the longer turn well anchored solutions demonstrated and implemented.

More details: Several species of various predatory fish that are dependent on both the coastal environment and coastal estuarine watercourses, such as sea trout, pike and perch, have been severely affected by human activity, which has resulted in population declines. Modern research now also shows a clear connection between the importance of healthy and strong predatory fish populations and a healthy coastal environment.

The work with “Streambed rehabilitation and fish migration solutions” will provide opportunities to show examples of rehabilitation of various stream water environments in the form of, for example, optimization of spawning and rearing environments for sea trout, removal of migration obstacles created by man or re-meandering of a straightened and channelled watercourse.

The initiatives that are being implemented will also be able to be utilized in connection with the activities carried out in the "School Stream" concept, where schoolchildren from an early age are educated in the field about the ecology of running water and also participate in various types of implementation measures.

WP 5: Boosting coastal habitats — Seagrass and reed marsh restoration

Lead: UU Contributors: CABG, SAA

Focus challenge: Eutrophication has resulted in loss of seagrass beds as well as coastal and estuarine areas becoming dominated by dense stands of reeds. Many fish species, for example pike and perch, use vegetation in coastal environments for food, protection and reproduction. However, loss of seagrass beds and too dense reed vegetation becomes an obstacle to fish recruitment and can also create migration barriers to coastal estuarine watercourses.

Objective: Solutions demonstrated within Boosting coastal habitats – seagrass and reed marsh restoration.

Description: There is no local precedent of seagrass restoration, and very limited efforts in the Baltic proper overall. Hence, this WP aims to explore and evaluate different seagrass restoration methods, such as transplants, seed dispersal and substrate enhancement. This WP will demonstrate a solution for the first seagrass restoration efforts around Gotland.

Restoration measures in heavily overgrown estuarine reed marshes and in connection with coastal watercourses will include reed control with machines and the introduction of grazing animals to create “blue borders” with sparse vegetation within the outer limits of reed distribution.

Expected results: At least 50 000 m² improved coastal habitat area. In the longer turn, coastal habitat restoration activities integrated with research to identify effective and scalable approaches. By generating locally relevant knowledge and building capacity, this will lay the groundwork for future restoration initiatives in the region to support biodiversity and ecosystem services. Apart from enhancing fish recruitment and migration these restoration measures also function as nutrient remediators, carbon sinks, etc.

WP 6: Long-term impact, and scaling

Lead: RG Contributors: UU, CABG, IVL

This work package secures the long-term maintenance, funding, and transfer of demonstrated restoration solutions to other islands and coastal areas. A practical management plan will be developed together with local stakeholders, landowners, and authorities to define responsibilities

and ensure ongoing monitoring and adaptation of the restored sites. Funding strategies will identify suitable EU, national, and regional sources, and support will be provided to local actors to prepare applications and build capacity for future funding. Lessons learned and successful methods will be documented and turned into clear guidelines and practical manuals to help other islands replicate the solutions. Exchange activities will be organised to share knowledge and build networks among Baltic and European islands facing similar challenges. The digital platform will be expanded as an open hub for sharing data, results, and guidance, strengthening the demonstrator's role as a model for integrated land–sea management and climate resilience on islands.

Role of Research Actors in the Demonstrator

Blue Centre Gotland—a collaboration between Uppsala University, Region Gotland, and the County Administrative Board—together with IVL, will actively support the demonstrator in line with its goals and regional climate needs. They will:

- **Support co-creation and quality assurance** of the digital platform.
- **Provide input** on end-user needs for practical climate adaptation and mitigation tools.
- **Use the Research Station Ar** to supply practical input (e.g., seagrass cultivation, fish fry rearing).
- **Use the testbed Storsudret** (see A2) for lab analyses and tests.
- **Contribute local knowledge** on climate impacts, vulnerabilities, and relevant plans or solutions.
- **Review, provide feedback and assess** project outputs to ensure local relevance.
- **Facilitate synergies** with related initiatives at local, national, EU, and international levels.
- **Support dissemination** and communication of project results.

This collaboration ensures the demonstrator is regionally relevant, scientifically robust, and effectively connected to wider initiatives.

2. What institutions must be contacted for the demo to proceed e.g. district, municipality, permitting, infrastructure, etc.

Region Gotland has, as a landowner, the rights to perform restoration activities on key project sites. Water activities, however, requires permits and those will be provided by The County Administrative Board. The project will not perform such large-scale changes that require reconsideration of water judgments.

During the project, where applicable, permits will be required from the Swedish Board of Agriculture (Jordbruksverket) for certain higher animal taxa (e.g., fish) if they are to be caught

and euthanised for research purposes (e.g., using fishing nets). Some types of interviews with stakeholders may also require ethical approval from the Swedish Ethical Review Authority (Etikprövningsmyndigheten).

3. Local stakeholders expected to be involved, not as partners but in the Living Lab to be formed

Water councils and associations, local landowners, local community associations, municipal representatives, nature conservation groups, university students (especially from the master's program in Sustainable development of coastal areas), local schools, tourism operators, and interested residents. Their participation will ensure that restoration actions reflect local needs and knowledge, foster acceptance, and create shared responsibility for maintaining wetlands, streams, and coastal areas. Stakeholders will contribute ideas, assist in on-site activities, and help monitor outcomes.

Many of the local stakeholders meet the County Administrative Board and Region Gotland twice a year for mutual information and discussions.

4. Challenges/ potential barriers and mitigation

The assessment of the environmental, social and economic effects and costs associated with different measures will allow the development of a simplified tool to support decision-making for defining effective policies and measures as well as long-term strategies in the land-use domain. It will allow to evaluate land use planning related decisions covering social, economic and environmental aspects based on the calculated indicators, encouraging us to look not just at solutions for today's problems but at future climate and SDGs objectives, also designing the strategies that will reveal how we can get there. The solutions will be holistically evaluated, and the users will be informed about their implications at different scales tailoring the results in the platform by identifying stakeholder needs and interests from multiple actors, i.e. co-benefits and synergies generated including social innovation techniques, thus increasing awareness and also fostering action by detecting the drivers and removing the barriers increasing acceptance of the measures before they are implemented.

5. Expected results from demo (KPIs/ targets).

Impact Area	Expected Impact	Key Performance Indicators (KPIs)
1. Environmental	Improved ecosystem health, increased biodiversity, restored water quality, and hydrological connectivity	- Wetland area restored (ha) - Length of streams rehabilitated (km) - Coastal habitat area improved (ha) - Number of native/indicator species increased - Improvement in water quality parameters - Sites with restored flow patterns
2. Climate Adaptation	Enhanced natural water retention, reduced flood risk, improved resilience of ecosystems and communities	- Volume of water retained in wetlands (m³) - Reduction in local flood incidents (if measurable) - Number of sites applying climate resilience measures - Monitoring data showing stable seasonal flows
3. Social & Community	Strengthened local stewardship, high community awareness and involvement, support for education and tourism	- Number of stakeholders engaged - Number of co-creation workshops and Living Lab activities - Site and digital platform visits
4. Policy & Institutional	Contribution to local/regional strategies, stronger cross-sector collaboration, scalable policy influence	- Number of policy briefs produced - Number of external projects adopting the model - Number of knowledge exchange events/network participations

C: Longer term

1. Potential Replication site related to the Demo if you have contact. It can be located outside your sea/ lighthouse basin

As mentioned above (WP5), Uppsala University Campus Gotland plans to engage in both international and national collaborations with seagrass restoration experts in the UK, Finland and on the Swedish west coast and in southern Sweden. A replication site in the UK would represent another sea/lighthouse basin.

2. Longer term potential impacts

The long-term impact of the project is a **resilient, restored land–sea water system on Gotland** that benefits both nature and people. Through wetland rehabilitation, stream restoration, and coastal habitat improvement, the project will strengthen biodiversity, secure vital ecosystem services, and increase climate adaptation capacity across the landscape.

Restoration efforts require investment—but the **cost of inaction is significantly higher**. Climate change is accelerating pressures on water systems, with prolonged droughts, biodiversity loss, and saltwater intrusion already affecting Gotland. If no action is taken, these challenges will only intensify. Moreover, under the **EU Nature Restoration Law**, member states are now legally obligated to restore degraded ecosystems. This project provides a proactive and cost-effective path toward compliance.

By demonstrating tangible improvements—from water retention to fish migration and coastal habitat recovery—the project will also generate **wider political and public support**. Through outreach, signage, and digital storytelling, it will inform and inspire decision-makers, landowners, and citizens alike.

Over time, this effort could serve as a **replicable model for other European islands**, showing how integrated, nature-based solutions can address water scarcity, biodiversity decline, and climate adaptation in harmony. The benefits—environmental, social, and economic—will extend well beyond the project period.