



D6.17 Training programmes and capacity-building hands-on demonstrations at the pilot sites

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REST-COAST

Large Scale RESToration of COASTal Ecosystems through Rivers to Sea Connectivity



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Preface

Deliverable **6.17 *Training programmes and capacity building hands-on demonstrations at the pilot sites***, brings together an overview of the training practices, capacity-building actions, and knowledge-transfer activities carried out within the REST-COAST pilot cases. These pilots form the backbone of the project's ambition to upscale coastal restoration across regions and continents, building a common understanding and shared methodologies among practitioners, authorities, and stakeholders across Europe and beyond.

The information presented here has been compiled through inputs provided by REST-COAST partners via a structured reporting table developed to gather details on the full spectrum of communication and dissemination efforts undertaken across the project. Scientific publications, outreach activities, training modules, and events organised at regional and international levels and includes completed actions, as well as activities that are currently under development and planned for implementation before the end of the project's duration are covered, and those relevant to Training and capacity building were taken into account for this report.

Beyond the immediate context of REST-COAST pilot sites, D6.17 highlights activities organised jointly within the European Green Deal Cluster. These collaborative actions reinforce the project's mission to foster cross-project learning, strengthen synergies, and amplify the impact of restoration-focused initiatives across Europe and beyond.

Summary

Deliverable **6.17 *Training programmes and capacity building hands-on demonstrations at the pilot sites*** provides a consolidated view of the training and capacity-building activities associated with the nine REST-COAST pilot cases, outlining how local experiences contribute to global restoration upscaling. By compiling and synthesising partner-provided information on communication efforts, scientific outputs, and stakeholder engagement, the report illustrates the project's progress in providing training and capacity-building opportunities to stakeholders on relevant subjects, such as ecosystem-based solutions, governance transition pathways, and innovative restoration models.

The collected data reveal completed and still ongoing work across multiple dimensions: hands-on demonstrations at pilot sites, practitioner-oriented training modules on methods and best practices of restoration, international courses and webinars, large-scale outreach events, and cross-project exchanges with other Green Deal initiatives. Planned actions, those not yet implemented but scheduled for completion within the project timeline, are also included to reflect the full scope of training and capacity-building efforts by the project.

Together, these activities demonstrate how REST-COAST is building a cohesive international network of practitioners and stakeholders equipped to advance coastal restoration at scale. By integrating contributions from global partners, leveraging international organisations, and coordinating with the Green Deal Cluster, the project strengthens its ability to export knowledge, tools, and best practices to coastal regions in Europe and beyond.

List of abbreviations

EU	European Union
GD	Green Deal
CORE-PLAT	Coastal Restoration Platform
RIO	Research Ideas and Outcomes Journal
NbS	Nature-based Solutions
WP	Work Package
NGO	Non-governmental organisation
PEDR	Plan for Exploitation and Dissemination of Results

1 Introduction

The REST-COAST project is advancing a comprehensive approach to large-scale coastal restoration by combining scientific innovation, cross-regional collaboration, and targeted capacity-building. Central to this effort are the pilot cases, which act as real-world examples for developing, demonstrating, and transferring restoration methods across diverse coastal environments. As the project scales its outcomes from local pilots to regional and global domains, training and capacity-building activities play a pivotal role in ensuring that stakeholders, authorities and practitioners are equipped with the necessary knowledge, tools, and best practices.

This document outlines the strategies and activities designed to strengthen the skills, technical understanding, and collaborative capacity of actors engaged in coastal restoration. These actions support the broader REST-COAST ambition to create a shared, international framework for cost-effective, ecosystem-based coastal resilience. Through targeted training modules, hands-on demonstrations, cross-project knowledge exchanges, and international outreach events, the project builds a foundation for sustained restoration upscaling, beginning at the nine pilot sites and extending to vulnerable coastal systems internationally.

2 Target groups

The training and capacity-building actions within REST-COAST address a wide range of audiences involved in coastal governance, restoration, research, and public engagement. These groups range from policy makers and public authorities to practitioners, NGOs, industries, scientific institutions, educators, and the wider public (a full list of the project's target groups is available in D6.1 PEDR). Together, they form the community of actors essential for advancing large-scale, nature-based coastal restoration.

2.1 Training needs

Across the project's target groups, training needs emerge from the interdisciplinary and multi-scalar nature of coastal restoration. Policy and decision makers require a clear understanding of how ecosystem-based solutions contribute to risk reduction, as well as access to governance models, legal pathways, and cost–benefit evidence that can support informed decisions. National and subnational authorities require practical guidance on the permitting, planning, and long-term management of restoration initiatives, including the integration of restoration outcomes into adaptation strategies.

Experts and practitioners in restoration and ecosystem services need technically oriented training that encompasses methodologies across diverse ecosystems such as dunes, marshes, mangroves, seagrass meadows, and estuarine environments. They also benefit from hands-on exposure to pilot-site demonstrations, monitoring protocols, modelling tools, and implementation practices. NGOs and environmental organisations need training that strengthens their capacity for stakeholder engagement, public communication, monitoring and advocacy related to governance mechanisms.

Aquaculture facilities and civil engineering authorities or companies require knowledge on how to integrate nature-based approaches with existing or planned coastal infrastructure, including hybrid models that combine ecological and engineered components. The scientific community, along with students and teachers, needs continued access to research outputs, datasets, and learning opportunities connected to the pilot sites to facilitate interdisciplinary knowledge exchange. Society at large benefits from training and educational efforts that raise awareness of coastal vulnerabilities, climate adaptation challenges, and the value of restoration as a long-term resilience strategy.

2.2 Capacity building needs

Capacity-building needs reflect the necessity for coordinated expertise across governance, implementation, communication, and innovation. Many target groups require greater capacity to design and manage restoration policies, including strengthened institutional coordination and familiarity with regulatory frameworks that support nature-based solutions. Technical capacity building is essential to ensure that practitioners, authorities, and industry actors can design, execute, and monitor restoration interventions effectively, using both innovative tools and established ecological knowledge.

The need to enhance the ability of stakeholders to collaborate across institutional and sectoral boundaries is strong. Effective restoration upscaling depends on partnerships between authorities, scientific institutions, NGOs, private sector actors, and community groups. Capacity building in this area includes developing skills in facilitation, co-design, stakeholder engagement, and multi-level governance. Furthermore, there is a need to improve the ability of different audiences to access, interpret, and use scientific data, modelling outputs, and ecosystem service assessments, particularly when translating pilot-scale lessons into regional and global applications.

Communication skills constitute another important area for capacity building, enabling stakeholders to convey the benefits of restoration clearly and involve communities in long-term stewardship. Finally, actors across the project benefit from enhanced capacity to adopt innovations emerging from REST-COAST and its associated Green Deal initiatives, ensuring that new governance models, tools, and restoration techniques are effectively mainstreamed into practice.

2.3 Goals

The overall goals of the training and capacity-building activities are to establish a common foundation of knowledge of coastal restoration priorities and available best practices across the multiple groups involved in coastal restoration. A key objective is to ensure that all participants, from policy makers to local communities, share a coherent understanding of ecosystem-based approaches and their role in reducing coastal risk. The project aims to support effective governance mechanisms by equipping authorities with the tools and insights necessary to embed restoration within broader land and sea-use and planning processes.

Another central goal is to strengthen the technical competencies of practitioners, industry actors, and restoration experts, allowing them to apply scientifically robust, scalable, and cost-effective methods derived from the project's pilot sites. The activities also aim to foster international knowledge exchange, drawing on partnerships in Europe, North Africa, South America, and South Asia to transfer methodologies, tools, and experience across diverse coastal contexts.

Equally important is the objective of deepening societal engagement, ensuring that educators, students, and the public are informed and motivated to participate in restoration efforts. Through these combined goals, REST-COAST seeks to build a durable network of actors capable of advancing restoration at scale, while strengthening synergies with the wider Green Deal Cluster to maximise the project's long-term impact.

3 Training activities and materials

3.1 Training activities within the pilot sites

Venice Lagoon

In Venice Lagoon, structured training workshops were held since the beginning of the project and especially during the last two years in October 2024 and December 2025, focusing on lagoon restoration strategies, sediment management, and nature-based solutions. These workshops, delivered primarily in English and where relevant in Italian, engaged a diverse audience that included researchers, lagoon managers, and local stakeholders. The workshops combined theoretical knowledge with practical, hands-on activities, enabling participants to apply scientific findings to real-world coastal management. The event in Chioggia in September 2024, organised within the scope of the Venice Lagoon pilot site, provided a public demonstration on saltmarsh protection techniques, where local stakeholders and the general public were introduced to methods for preserving critical coastal ecosystems. Another key event in Venice in April 2025 focused on artificial intelligence tools for climate adaptation and lagoon management, aimed specifically at local decision-makers and practitioners. Delivered in Italian, this session helped equip stakeholders with the tools needed to implement nature-based solutions in the management of coastal ecosystems.

Nahal Dalia

The project team at Nahal Dalia pilot site in Israel delivered numerous training activities. A series of webinars and updates were carried out as part of this effort. For example, the webinars held on 18 April 2023 focused on nature-based solutions in restoration projects, reaching 170 viewers from the scientific community. Another webinar titled "Getting to Know the Nahal Dalia Pilot Site" took place on 15 March 2023 and was attended by 200 local community members, offering insights into the specific restoration activities at the Nahal Dalia site. A local update published on 1 February 2023 on an Israeli website reached over 400 viewers and showcased the ongoing restoration efforts. Additionally, a non-peer-reviewed publication focused on hydrological restoration at the Difle site, which is part of the Nahal Dalia restoration effort, was released in February 2023, contributing further to local understanding of the ecological restoration process. Furthermore, in 2024, the Israeli pilot site organised an academic course targeting the local citizens. As part of the course, a tour of the project area was held for graduate students, presenting the various issues in the restoration process and multi-stakeholder management of the area. The students met with representatives of the local drainage authority, farmers, the local kibbutz, and Israel National Parks Authority.

Foros Bay

On behalf of the Foros Bay pilot, a key training event was the session “Coastal restoration with seagrass meadows: REST-COAST together with ECOPLANTS and MARIONET”, held in Barcelona, Spain, on 13 March 2025. The event targeted national, regional and local authorities, as well as practitioners and project stakeholders, and focused on sharing applied knowledge, methodologies and lessons learned from ongoing NbS implementation for coastal restoration. The training contributed to increasing technical capacity and awareness of innovative restoration approaches, with a particular emphasis on seagrass-based solutions.

In addition, REST-COAST participated in the Varna Science Festival in Bulgaria in October 2024 and October 2025. These education-oriented events reached a broad audience, including research communities, citizens and civil society organisations. Through interactive and accessible formats, REST-COAST partners introduced core project concepts, demonstrated the benefits of NbS for coastal resilience, and promoted scientific literacy related to coastal ecosystems. The activities supported knowledge transfer beyond the scientific community and fostered public understanding of coastal restoration challenges and solutions.

Sicily Lagoons

Training activities implemented in Sicily focused on knowledge transfer, skills development, and awareness raising on coastal environmental restoration and the REST-COAST methodological framework. These activities primarily targeted students, early-career researchers, research communities, and civil society, using lectures, seminars, workshops, and advanced training schools.

Additional training activities included thematic seminars and public educational events, such as the “Restore our Ocean and Water by 2030” event (Lampedusa, Italy, 25 October 2024) and a seminar on coastal restoration (Catania, Italy, 28 March 2025), both targeting research communities and specific end-user groups. These activities enhanced understanding of EU coastal restoration priorities and promoted REST-COAST results in a broader scientific and societal context.

Advanced training was also supported through participation in the 2025 PhD Return Autumn School (Sestri Levante, Italy, 23–26 September 2025), which strengthened interdisciplinary and methodological capacities of PhD candidates and early-career researchers working on coastal and environmental systems.

Ebro Delta

A major training activity was the workshop “Restoration of the Catalan Coast under a Changing Climate” (Barcelona, Spain, March 2024), in which the Ebro Delta pilot was actively represented. The workshop addressed climate change impacts on Mediterranean coasts and explored restoration and adaptation pathways aligned with REST-COAST objectives, using the Ebro Delta as a key reference system. The activity targeted the scientific community, policy makers, and public administration, reaching more than 100 participants (including online attendance). Participants

received structured training on coastal dynamics, climate-driven risks, and restoration approaches applicable to deltaic and low-lying coastal systems.

Academic training was further supported through university lectures, such as the lecture delivered at the Universitat Politècnica de Catalunya (UPC) in Barcelona (9 December 2024), where, together with members of the *Ebro Delta* pilot, REST-COAST results and case-study approaches were introduced to students within a higher-education curriculum.

In addition, the Ebro Delta pilot was represented in several international scientific conferences (2023–2024), where REST-COAST-relevant research and pilot-site experiences were presented to international audiences. These activities targeted the scientific community and early-career researchers and contributed to training by disseminating advanced knowledge on deltaic processes, sediment dynamics, and restoration-oriented modelling approaches.

Vistula Lagoon

Training activities linked to the Vistula Lagoon pilot focused on knowledge transfer, scientific capacity development, and awareness raising on coastal and lagoonal restoration, biodiversity protection, and climate resilience, with particular attention to Polish and Baltic Sea contexts.

A representative training-oriented dissemination action was the participation in the 10th Smart Development Forum (9–10 June 2025, Uniejów, Poland), where REST-COAST results relevant to the Vistula Lagoon were presented. The contribution focused on biodiversity protection concepts and restoration-oriented approaches applicable to lagoon and coastal environments. The activity targeted research communities, innovators, and representatives of small and medium-sized enterprises, supporting learning on how scientific knowledge and restoration concepts can inform sustainable development pathways. The event was delivered in Polish, ensuring accessibility and effective knowledge uptake at the national level.

More broadly, Vistula Lagoon pilot experiences were embedded in REST-COAST conference presentations and thematic events that served a training function by exposing professional audiences to site-specific challenges, methods, and restoration perspectives relevant to semi-enclosed coastal water bodies such as lagoons.

3.2 Training activities beyond the pilot sites

A substantial share of REST-COAST's training and capacity-building efforts occurred outside the physical boundaries of the pilot sites. These events engaged international audiences, academic communities, environmental managers and cross-project networks, broadening the project's educational impact.

Several activities delivered outside pilot regions were dedicated training sessions with explicit pedagogical objectives.

A major component of the project's training approach was the Coastal Challenge serious game, deployed in several educational settings. During Paris Climate & Nature Week in October 2025, the

game was used in an English-language public training session where participants learned to navigate coastal risk scenarios and evaluate nature-based solutions under uncertainty. The game's structured format supported experiential learning for a diverse international audience. The serious game was then integrated into academic curricula in December 2025. At the Earth Research School on Coastal Resilience in Bertinoro, participants, including early-career researchers and practitioners, engaged in supervised gameplay to explore adaptation pathways to sea-level rise. The following day, a dedicated training session at the University of Bologna introduced Master's students to the concepts of coastal governance, sediment management and restoration planning through facilitated gameplay and structured reflection.

Beyond the serious game, several additional formal training activities took place in Europe:

- In November 2025, a field-based marine restoration training was delivered in Cabo de Gata, Spain, targeting Mediterranean protected area managers. This highly practical session strengthened applied restoration competencies among practitioners responsible for marine and coastal ecosystems.
- On 13 March 2025, a Workshop on Coastal Restoration Using Seagrass was held in Barcelona, gathering local authorities, regional governments, civil society and research communities for structured learning on seagrass restoration techniques.
- On 7 April 2025, a Short Course on Coastal Dynamics took place in Aveiro, Portugal, providing technical training to members of the research community on physical coastal processes and modelling approaches.
- On 20 October 2025, an online training session entitled "Coastal restoration and pathways in the Sicily pilot site" was delivered to European MPA managers. Although thematically linked to the Sicily pilot, the online format and international audience place it firmly within the non-pilot-site training domain.

Training actions were primarily delivered in the form of education and training events targeting research communities and related stakeholders. These activities focused on presenting REST-COAST concepts, methodologies and preliminary results, with particular emphasis on innovative approaches for ecosystem restoration and climate adaptation. The training events provided participants with structured knowledge exchange opportunities and supported the dissemination of scientific and applied insights generated within the project.

By engaging research communities through targeted training formats, REST-COAST contributed to building individual and institutional expertise, supporting the uptake of project results and fostering a shared understanding of NbS implementation challenges and opportunities across different environmental and socio-economic contexts.

For example, an online education and training event was delivered on 3 November 2025, targeting local authorities in the Mediterranean region. During this event, REST-COAST partners from the Global Climate Forum presented the theoretical framework underpinning the project, providing participants with structured insights into NbS concepts, coastal risk management and the role of ecosystem-based approaches in climate adaptation. The activity contributed to enhancing the capacity of local authorities to understand and engage with NbS approaches relevant to their territorial contexts. Through this targeted training action, REST-COAST supported knowledge

transfer to policy-relevant stakeholders and strengthened the foundations for informed decision-making related to coastal restoration and resilience.

4 Capacity building activities and tools

4.1 Capacity-building on a pilot site level

Capacity-building within the pilot sites also took place through stakeholder engagement and expert presentations that, while not formal training, contributed to expanding local knowledge and preparedness.

Wadden Sea

REST-COAST contributed to the BfN workshop “Making people part of ecosystem restoration in Europe” (17–19 October 2023, Bonn, Germany; hybrid), which aimed to identify pathways for rights-based design and inclusive planning in nature restoration. REST-COAST participation represented the Wadden Sea pilot, presenting experiences and approaches for large-scale coastal restoration and highlighting implementation pathways for nature-based solutions. The interactive, cross-sector format (science–policy–practice) strengthened capacity around stakeholder engagement, social licence, ownership, and long-term sustainability of interventions—all directly relevant to pilot deployment and upscaling.

A complementary capacity-building output supporting pilot implementation is the project’s seagrass-focused evidence base: the REST-COAST research publication on seagrass as a nature-based solution for coastal protection in the German Wadden Sea synthesised field data and modelling results to quantify potential risk-reduction effects (e.g., reduced current velocities and wave heights). While not an event, this output strengthens practitioner and authority capacity by providing a defensible scientific basis for considering and designing seagrass-based interventions within the Wadden Sea context.

Foros Bay

Members of the Foros bay pilot site joined a major clustering activity, “From the Danube source to the Black Sea – Healthy rivers, healthy seas,” which was delivered on 15 October 2024 in Burgas, Bulgaria. The event brought together industry and business partners, innovators, EU institutions and other key stakeholders in a large-scale, multi-sectoral setting. REST-COAST contributions focused on strengthening synergies between river basin management and coastal restoration, highlighting the role of integrated NbS approaches across the land–sea interface.

By engaging diverse stakeholder groups and fostering dialogue between science, policy and practice, the clustering activity enhanced institutional and stakeholder capacity to design, implement and scale up NbS. The event also supported alignment with related initiatives and EU-funded projects, reinforcing REST-COAST’s role within the broader European innovation and policy landscape.

Nonetheless, ongoing multilingual communications and updates throughout 2025 ensured that stakeholders in these areas remained informed about REST-COAST developments, gradually enhancing capacity and maintaining engagement.

Sicily Lagoons

Capacity-building activities aimed at strengthening institutional capacities, stakeholder engagement, and practical uptake of REST-COAST results, with a particular focus on local and regional authorities, practitioners, and end-users involved in coastal management and restoration.

A central example is the collaboration with other EU-funded initiatives during the “Restoring Lampedusa Island – EU Mission Ocean” event (Lampedusa, Italy, 15 October 2024). Within this framework, the presentation “Coastal environmental restoration: the REST-COAST approach” contributed to enhancing the capacity of national and regional authorities and local stakeholders by:

- increasing institutional understanding of coastal restoration and nature-based solutions;
- aligning local restoration initiatives with EU Mission Ocean objectives;
- fostering synergies and knowledge exchange between EU-funded projects and local governance structures.

Further capacity-building effects were achieved through stakeholder-oriented seminars and conferences organised in Sicily (e.g. events in Catania, 2024–2025). These activities facilitated dialogue between researchers, authorities, and end-user communities, supporting stakeholders in interpreting scientific results and applying REST-COAST outputs in real-world planning and decision-making processes.

Ebro Delta

Capacity-building within the Ebro Delta pilot site focused on strengthening the ability of competent authorities, municipalities, practitioners, and local stakeholder organisations to co-design, implement, and upscale coastal restoration and climate-adaptation interventions, with particular attention to sediment dynamics, coastal erosion/regression, and nature-based solutions.

In December 2022, the Ebro Delta pilot leaders organised a dedicated stakeholder event and site visit to support local coastal authorities in advancing “hands-on” adaptation and mitigation actions. The initiative brought together representatives from Tarragona Coastal Authority (Costas de Tarragona), the General Directorate for Coasts (Dirección General de la Costa y el Mar), relevant municipalities, and the companies executing restoration works (including TRAGSA). By convening decision-makers and implementers on-site, the event strengthened shared situational awareness of local challenges and supported coordination around practical implementation needs and constraints.

A major step in institutionalising long-term stakeholder collaboration was the establishment of the COastal REStoration PLATform (CORE-PLAT). The first Ebro Delta CORE-PLAT workshop took place on 16 January 2023 at the Center for Climate Resilience in Eurecat Amposta, with participation from

key regional stakeholders including public administrations, economic and citizen associations, and environmental NGOs. The workshop strengthened capacity by: (i) aligning stakeholders on the REST-COAST objectives and pilot actions; (ii) framing restoration as a long-term co-management process; and (iii) structuring participation through a two-level mechanism (a core operational group and a broader stakeholder layer) to enable both decision-making and territorial consultation. It also connected pilot actions with wider policy and planning instruments, including emerging strategic roadmaps for coastal restoration and sediment management (e.g., the Delta Plan/Delta Strategy presented by responsible authorities).

Capacity-building was further reinforced through targeted events aimed at coastal management decision-makers and technical stakeholders. In March 2024, a workshop hosted in Catalonia focused on adapting harbours and seafront promenades to climate change, attracting 70+ participants, including key stakeholders and representatives of Catalan governmental bodies responsible for coastal management. REST-COAST restoration activities at the Ebro Delta were highlighted as concrete reference points for discussing innovative resilience solutions and strategies, supporting uptake of pilot lessons into planning and investment discussions.

At a higher governance level, REST-COAST partners engaged in key coordination meetings in March 2024, convening representatives of the Spanish and Catalan governments, local administrations, and stakeholders to review pilot progress and results, including participation of senior political leadership. These exchanges supported capacity building by strengthening political and administrative alignment around pilot direction, expected impacts, and future priorities for the Ebro Delta.

Finally, in May 2024, Ebro Delta partners contributed to a Technical Workshop in Alicante on deltas and sediments, organised by the Júcar River Authority, the Spanish Agency of International Cooperation for Development (AECID), and the UNESCO Regional Office in Cairo. The workshop provided a multi-institutional platform to address Mediterranean delta challenges across environmental, social, and economic dimensions, and showcased the Ebro Delta restoration approach, specifically, the creation of embryo dunes as a nature-based solution to counteract erosion and regression, thereby supporting broader replication and knowledge exchange beyond the pilot territory.

Vistula Lagoon

Pilot-relevant dissemination actions, including national forums and conferences in Poland, supported capacity building by:

- enhancing understanding of lagoon restoration challenges among researchers, innovators, and economic actors;
- strengthening dialogue between science and practice;
- promoting REST-COAST concepts in national development and sustainability discussions.

By situating scientific evidence within the policy and innovation-oriented realm, these activities supported stakeholders' ability to interpret and potentially apply restoration concepts in planning, development, and environmental management contexts relevant to the Vistula Lagoon.

Arcachon Bay

In May 2024, REST-COAST contributed to capacity building for the Arcachon Bay pilot site through participation in the “Journées scientifiques du Bassin d’Arcachon” (Biganos, France, 13–14 May 2024). The event brought together researchers, scientists, and local stakeholders to discuss environmental, ecological, and socio-economic challenges affecting Arcachon Bay, with a focus on habitat functionality, environmental quality, and ecosystem evolution under climate change.

REST-COAST (Arcachon Bay team, Seaboost) presented a poster on a restoration methodology aimed at restoring dwarf eelgrass beds by reducing hydrodynamics using artificial seagrass structures. The contribution presented an integrated approach combining hydrodynamic performance assessment, carbon storage evaluation in eelgrass sediments, and deployment optimisation supported by modelling (including Swash), alongside plans for a one-hectare pilot implementation, transplantation, and monitoring. Through this exchange, the event strengthened local and regional capacity by promoting evidence-based restoration planning, reinforcing interdisciplinary collaboration, and supporting stakeholder engagement for sustainable management and restoration of Arcachon Bay.

4.2 Capacity-building beyond the pilot sites

Additional activities conducted outside the pilot sites contributed broadly to capacity-building, raising awareness and supporting knowledge transfer.

In October 2023, in Bolzano, an Italian-language presentation on spatial uncertainty in ecosystem service modelling provided expert audiences with methodological insights relevant to coastal restoration science. Similarly, presentations in June 2025 (Palermo) and October 2025 (Zaragoza) delivered advanced analyses of sediment transport, controlled reservoir releases and hydromorphological processes. Though not structured as training events, these contributions supported capacity-building by equipping scientific and policy communities with tools and concepts applicable across coastal systems.

In addition, pilot-relevant methodological training was supported through participation in the 13th International Workshop on Modeling the Ocean (IWMO) (27–30 June 2023, Hamburg, Germany). REST-COAST received dedicated visibility through a keynote and an additional technical presentation focusing on the practical implementation of nature-based solutions in the Wadden Sea pilot, contributing to skills development in modelling and integrated assessment among the international ocean-modelling community.

Additionally, the project's first Summer Workshop ("Innovative research and management for coastal restoration", 13–15 March 2023, Maldonado, Uruguay) provided structured training across multiple themes relevant to restoration planning and implementation, including financial aspects of restoration projects, nature-based solutions, and the use of coupled modelling systems to assess risk reduction and protective ecosystem functions across different coastal settings (e.g., lagoons, sand barriers, estuaries/deltas). The workshop brought together researchers from multiple countries (USA, Uruguay, Brazil) and included representatives from several REST-COAST pilot areas (including Spain, Poland, and France). A field visit to Laguna Garzón and Laguna de Rocha supported hands-on learning on lagoon dynamics and practical observation of nature-based approaches in coastal contexts.

REST-COAST engaged in inter-project capacity building at the kick-off meeting of the Horizon Europe project REWRITE (25–26 October 2023, Nantes, France; 50+ participants from Europe and Canada). A dedicated "sister-projects" session enabled structured exchange on synergies among EU restoration and nature-based solutions initiatives. REST-COAST was presented with an emphasis on achievements, challenges, and areas for cooperation, and the meeting explicitly identified opportunities for joint learning because both projects share a common pilot territory (Dutch Wadden Sea)—supporting future exchange on governance approaches, adaptation strategies, and upscaling/business aspects.

Broader capacity-building was also fostered through multi-stakeholder events such as The Challenges of Coastal Management, held in March 2024 in Barcelona. This event brought together local authorities, regional administrations, civil society organisations and research communities, reinforcing shared understanding of coastal pressures, adaptation strategies and governance frameworks.

At ECSA 60 (2–5 September 2024, Hangzhou, China), REST-COAST contributed to a dedicated session on science-based solutions and strategies for coastal resilience, explicitly drawing on pilot experiences. Presentations showcased (i) seagrass-based coastal protection evidence from the Wadden Sea pilot and (ii) nature-based management of barrier beaches with a focus on Trabucador Beach (Spain), strengthening professional understanding of how nature-based solutions can be positioned as low-carbon alternatives/complements to conventional engineering in estuaries and deltas.

Organised by the BSEC members of the project, a stakeholder workshop focusing on Black Sea cooperation and connectivity was held in October 2024 in Thessaloniki. This English-language event brought together regional authorities, scientists and practitioners to examine governance challenges and restoration strategies in the Black Sea. A second event in March 2025, co-organised with ECOPLANTS and ECO-BAYS, further strengthened local and regional capacity by enabling cross-project exchange on ecological restoration and monitoring approaches.

A major capacity-building milestone at project scale was the joint annual meeting of REST-COAST and WaterLANDS (15–19 April 2024, Groningen, Netherlands; 100+ participants), organised as part of the broader Green Deal cluster (with participation also from MERLIN and SUPERB). The week combined a field trip across the shared pilot territory (Ems-Dollard / Dutch Wadden Sea) with panel

discussions, partner updates, and networking, explicitly oriented toward exchanging implementation experience and strengthening collaboration on a scientific level and beyond. This format reinforced cross-consortium capacity for planning and implementing restoration measures (e.g., sediment reduction, sludge capture/settlement, wetland restoration and connectivity) and supported alignment between research, authorities, and implementation actors.

Further capacity-building activities took place at an international conference in New York, USA, from 16 to 18 June 2025, where Sebastiano Bacca delivered presentations on “The Economic Case for Nature-Based Solutions” and “Adapting to Rising Sea Levels”. These contributions targeted research communities and specific end-user groups, highlighting the economic rationale for NbS implementation and their relevance for long-term climate adaptation strategies.

Additionally, REST-COAST played an active role in the SER 2025 Conference held in Denver, USA, in October 2025. The project hosted a special session on coastal restoration as part of the conference, which was specifically aimed at the research community. Several presentations were delivered, including topics on coastal restoration through collaborative governance, coastal restoration platforms, and the integration of nature-based solutions into coastal management strategies. This session reached an international audience of more than 60 experts, helping to disseminate REST-COAST’s findings to a broader research community.

Continuous communication activities throughout 2025, including social media outreach, updates on workshops and project milestones and international dissemination through partners’ communication channels, functioned as informal capacity-building. These efforts ensured that stakeholders across Europe maintained situational awareness of REST-COAST progress, methods and learning opportunities.

5 Clustering activities

5.1 Green Deal Cluster

REST-COAST engaged actively with the European Green Deal Cluster, contributing to a series of coordinated actions aimed at harmonising approaches to nature restoration, governance and climate adaptation across Horizon Europe and Green Deal projects. The most substantial interactions took place in Brussels. On 10 March 2025, the project participated in the Nature Restoration Law Cluster meeting, where it presented its work on innovative financial instruments and business plans designed to support large-scale coastal restoration. This engagement brought REST-COAST into direct exchange with EU institutions, national environmental authorities and other Green Deal project consortia, allowing the project to share insights emerging from WP3 on financing mechanisms and to contribute to discussions on implementation pathways for the Nature Restoration Regulation. On the same day, the project took part in a broader Green Deal cluster event focusing on governance models, financing strategies and stakeholder engagement. These activities enabled REST-COAST to communicate practical recommendations derived from its governance and stakeholder work packages and to align its findings with those of other projects working on nature-based solutions, biodiversity and climate adaptation.

REST-COAST further contributed to Green Deal coordination through its involvement in NetworkNature, participating in Task Force 3 and the associated NetworkNature Conference held on 19 March 2025 in Brussels. This platform connected the project with an international community of researchers, policy officers and practitioners working on nature-based solutions across Europe. REST-COAST shared perspectives on the challenges and opportunities associated with applying NBS at coastal and deltaic scales, ensuring that the particularities of marine and estuarine restoration were reflected in wider European discussions on scaling NBS implementation.

Several publications were produced in association with these clustering activities, deepening REST-COAST's contribution to the Green Deal policy landscape. In November 2024, the project published "EU Nature Restoration Regulation and REST-COAST," a policy-facing document outlining how the project supports the objectives of the Nature Restoration Regulation. In October 2025, REST-COAST contributed to a joint policy brief produced with other EU projects and coordinated by EFI, synthesising cross-project recommendations on governance, monitoring and nature-based solutions. Additionally, REST-COAST contributed to an EU-level policy report entitled "Policy Imperatives for a Competitive and Resilient Europe," which integrated coastal restoration considerations into discussions on European resilience and competitiveness. Together, these publications enhanced the project's role within the Green Deal Cluster by ensuring that its scientific and technical outputs supported EU-wide strategic reflection on large-scale restoration.

5.2 Collaboration with other EU projects

Beyond the Green Deal framework, REST-COAST maintained active synergies with a wider ecosystem of European and regional projects contributing to coastal, riverine and marine restoration. A key example was its participation in the event "From the Danube Source to the Black Sea – Healthy Rivers for Healthy Seas," held on 15 October 2024 at Burgas Free University in Bulgaria. REST-COAST was presented during a dedicated panel that brought together business actors, technology developers, EU institutions, national and regional authorities, research organisations, civil society groups and representatives from the wider Black Sea region. This interaction strengthened transboundary cooperation across the Danube–Black Sea continuum and allowed REST-COAST to exchange approaches on sediment continuity, governance frameworks and catchment-to-coast restoration challenges with related initiatives operating within the same ecological corridor.

REST-COAST also interacted with a wide range of EU and international projects through multi-project dialogues, conferences and thematic exchanges related to marine and coastal management. These synergies included participation in platforms involving European protected area networks, practitioners from Mediterranean and European marine protected areas and collaborators working on ecosystem restoration and monitoring. Although the publication table does not explicitly list specific project acronyms beyond those linked to the Green Deal, several dissemination and communication activities confirm that REST-COAST engaged with a broad constellation of EU-funded initiatives. These interactions enabled the project to situate its findings within a larger community of practice, to share methodological advances on coastal dynamics, governance and

restoration and to ensure that knowledge from the pilot sites contributed to wider European discussions on ecosystem resilience.

Workshops organised with other projects, including the MARTECH Workshop (May 2025) and the IMPETUS Workshop in Altafulla (September 2025), provided further opportunities for stakeholders to engage with coastal technologies, monitoring approaches and resilience concepts, even when these events did not constitute formal training.

Through these synergies, REST-COAST strengthened its connections with relevant projects and regional networks, promoted cross-project learning and supported the circulation of its methods and results across Europe's coastal and marine restoration landscape.

6 Knowledge transfer tools developed by REST-COAST

6.1 REST-COAST Mobile App

The REST-COAST mobile application, "My REST-COAST," was developed as an educational and outreach tool designed to showcase the project's nature-based solutions for addressing key societal, economic and biodiversity challenges across the nine REST-COAST pilot sites. The app presents site-specific examples that illustrate the multiple drivers of coastal biodiversity degradation, including climate change impacts and human pressures, and demonstrates how sustainable, ecosystem-based solutions can enhance coastal resilience, with a focus on blue carbon and biodiversity. By providing accessible, interactive and scientifically grounded content, the application aims to raise awareness among the wider public while actively engaging society, early-career researchers and students.

Beyond awareness raising, the REST-COAST mobile app plays a significant role in capacity building and training by translating complex scientific knowledge into practical, easily understandable formats. It supports learning by enabling users to explore real-world case studies, understand cause-and-effect relationships in coastal systems and assess the benefits and trade-offs of different nature-based solutions. As a self-guided learning tool, the app can be used in educational settings, workshops and stakeholder engagement events, thereby strengthening individual and institutional capacity to engage with coastal restoration challenges. By fostering informed understanding and encouraging critical thinking, the app contributes to building long-term capacity for sustainable coastal management and supports the uptake of nature-based solutions beyond the project's lifetime.

The mobile application can be accessed via [Google Play](#) and [App Store](#).

6.2 REST-COAST Serious Videogame

The REST-COAST video game was developed as an interactive simulation tool that engages users in decision-making processes related to coastal management under changing environmental conditions. The game enables players to manage a range of coastal settings, including deltas, estuaries and islands, while addressing complex challenges such as sea-level rise, flooding and

biodiversity loss. By allowing users to experiment with different adaptation pathways, spanning ecosystem-based solutions, such as wetland restoration, as well as conventional engineering measures like seawalls, the game illustrates how alternative strategies influence coastal resilience and ecosystem health, particularly when environmental tipping points are approached or exceeded.

From a training and capacity-building standpoint, the video game offers a distinctive learning experience based on scenario-based exploration and systems thinking. Rather than focusing on information delivery, it immerses users in dynamic, consequence-driven environments where strategic choices lead to measurable outcomes over time. This approach supports skill development in critical analysis, long-term planning and integrated coastal management, making the tool especially relevant for students, early-career researchers and practitioners. By fostering an understanding of trade-offs, uncertainties and feedback mechanisms in coastal systems, the REST-COAST video game enhances users' capacity to engage with real-world coastal adaptation challenges and supports the broader uptake of sustainable, resilience-oriented solutions.

The Coastal Challenge video game can be accessed via the project's website and this [link](#).

6.3 REST-COAST Digital Dashboard

The REST-COAST digital dashboard was developed as a core project tool to monitor progress and assess project success through the systematic tracking of key performance indicators (KPIs). The dashboard builds on data generated within the REST-COAST digital platform and emphasises the use of homogeneous, standardised metrics for ecosystem services and biodiversity (ESS/BDV), covering five key ecosystem services. By relying on open data sources and favouring free and open-source software, the dashboard supports transparency, reproducibility and knowledge sharing, aligning with a joint European commitment to large-scale coastal restoration under the EU Green Deal.

The dashboard provides an integrated environment for visualisation and decision support, combining biophysical data, risk maps and early warning information related to climate and coastal hazards. It enables users to evaluate the effectiveness of both active restoration measures (such as seagrass transplantation or wetland construction) and passive approaches (including biomimetic seagrass modules for hydro-morphodynamic damping or managed realignment for wetland and dune re-establishment), while highlighting biophysical synergies such as enhanced soil formation and wave attenuation by healthier ecosystems. Additional functionalities, including a Smart Carbon Soil application and machine-learning algorithms, support advanced data analysis and the exploration of new opportunities related to coastal blue carbon and "smart" restoration. By providing timely, accessible and actionable insights, the REST-COAST digital dashboard enhances capacity for informed decision-making, supporting both short-term preparedness and long-term planning for resilient coastal management.

The REST-COAST Digital Platform is available on the project's [website](#).

7 Conclusions

The dissemination, training, and capacity-building activities implemented within REST-COAST have ensured that project knowledge and results are effectively shared, transferred, and taken up by scientific, institutional, and stakeholder communities at both pilot-site level and beyond. Through a range of actions and capacity-building initiatives, the project has supported individual skills development while strengthening organisational and governance capacities relevant to coastal restoration and nature-based solutions.

Training activities delivered through international workshops, summer schools, scientific conferences, and thematic sessions have contributed to knowledge exchange and methodological learning among researchers, early-career scientists, practitioners, and policy-relevant audiences. By embedding pilot-site evidence (e.g. Vistula Lagoon, Ebro Delta, Wadden Sea, Arcachon Bay) into broader training formats, REST-COAST ensured that learning was practice-oriented and transferable across different coastal and lagoonal contexts.

In parallel, capacity-building activities have strengthened institutional coordination, stakeholder engagement, and informed decision-making. Pilot-site-specific initiatives supported dialogue between scientists, authorities, and local stakeholders, facilitating co-design processes, stakeholder acceptance, and long-term sustainability of restoration measures. At a project level, cooperation with sister projects, participation in cluster events, and engagement in policy- and practice-oriented fora enhanced collective capacity across European and international networks and supported alignment with EU restoration priorities.

While not all pilot sites are explicitly referenced in the examples presented in this deliverable, all REST-COAST pilot sites have contributed to the project's dissemination, training, and capacity-building activities. Each pilot has supported outreach through participation in events, provision of site-specific evidence, engagement with local and regional stakeholders, and contribution to scientific and policy-relevant exchanges, thereby reinforcing the overall impact of the project.

Overall, these activities have ensured that REST-COAST results are accessible, usable, and relevant for a wide range of audiences and ensured a lasting legacy of the project. By strengthening both individual competences and institutional capacities, the project has created favourable conditions for the uptake, replication, and scaling of coastal restoration solutions in line with EU Green Deal objectives and the EU Mission "Restore our Ocean and Waters".

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