



**REWRITE**

# D1.2 Data Management Plan

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Project acronym: **REWRITE**

Project title: **Rewilding and Restoration of Intertidal Sediment Ecosystems for Carbon Sequestration, Climate Adaptation and Biodiversity Support**

Call: **HORIZON-CL-2022-D1-02-05**



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## Executive Summary

This Data Management Plan (DMP) document outlines strategies and guidelines for the effective management of the data throughout the REWRITE project lifecycle. It encompasses various aspects including data storage, data access and sharing, metadata standards, documentation, preservation and protection, with a focus on adhering to FAIR (Findable, Accessible, Interoperable, and Reusable) principles. This document aims to promote transparency, reproducibility, and long-term sustainability of the REWRITE project's data.

Furthermore, the DMP addresses data storage, security measures, ethics and other issues. These measures are implemented to protect data from unauthorized access, loss, or corruption, thus ensuring both its integrity and confidentiality, all while upholding ethical standards.

The DMP includes provisions for data preservation and long-term archiving beyond the REWRITE project's duration. This involves selecting appropriate repositories and adhering to metadata standards to ensure the continued accessibility and usability of the data for future research and decision-making process.

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## List of abbreviations

**DCMI** – Dublin Core Metadata Initiative

**DM** – Demonstrator Site

**DMP** – Data Management Plan

**DOI** – Digital Object Identifier

**EU** – European Union

**FAIR** – Findable, Accessible, Interoperable, and Reusable

**GB** – Gigabytes

**GDPR** – General Data Protection Regulation

**GIS** – Geographic Information System

**LiDAR** – Laser imaging, Detection, and Ranging

**RDF** – Resource Description Framework

**RGB** – Red, Green, and Blue

**TB** – Terabytes

**TLS** – Transport Layer Security

**URL** – Uniform Resource Locator

**WP** – Work Package



# 1 Introduction

This DMP document serves as a foundational document outlining the strategies and procedures for the effective management, sharing, and preservation of data generated throughout the REWRITE project's duration. As outlined in the project's overarching goals, REWRITE aims to advance innovative approaches and nature-based solutions for rewilding intertidal soft sediment (ISS) seascapes, addressing both environmental needs and societal expectations. To achieve these goals, the project will reuse existing data and will generate a wealth of data spanning various disciplines, including ecological, social, and environmental sciences, as well as data related to stakeholder engagement and decision-making processes.

The primary objective of this DMP is to ensure that the data produced by the REWRITE project are Findable, Accessible, Interoperable, and Reusable (FAIR), in line with best practices and standards endorsed by the European Union (EU) and other relevant stakeholders. By adhering to FAIR principles, the project aims to maximize the scientific value and impact of its data, enabling broader access, collaboration, and knowledge exchange within the research community and beyond.

This introduction provides an overview of the critical role that data management plays in achieving the objectives of the REWRITE project. Subsequent sections of this initial DMP outlines the REWRITE project's plan on specific strategies and protocols for data storage, security, access, sharing, and metadata standards, ensuring that the data are managed effectively. Furthermore, the DMP will be updated throughout the project lifecycle in accordance with the consortium expectations and needs while maintaining the FAIR principles approach.

## 2 Data summary

### 2.1 Re-used data

Reused data comprises existing data acquired from prior experiments, research, literature reviews, and others publicly available datasets. This data will be retrieved from existing database along with corresponding metadata. However, in cases where data originates from institutions rather than official FAIR databases, regulatory standards will be strictly applied, which may involve the establishment of an agreement.

The data retrieval procedures are carried out within the framework of Work Package 2 (WP2). It will be organized by specific tasks, starting from Task 2.1 to Task 2.3. In instances where metadata is unavailable for certain datasets, a new set of metadata will be created. This approach ensures that data acquisition processes align with FAIR principles, fostering transparency, reusability, and interoperability across the project's data ecosystem.

The table provided below summarizes the reused data in its original format upon retrieval, which will be converted into formats that are both machine and human-readable. It will be gathered and stored in the most frequently utilized formats.

The total size of reused data is approximately 5 GB. This data will be reused for the purpose of further analysis, on-going research, evidential support, knowledge updates, and identification of gaps in knowledge.

TABLE 1. REUSED DATA SUMMARY

| Data type                          | Data names   | Formats                             |
|------------------------------------|--|-------------------------------------|
| GIS layers                         | Habitat types and area, conservation designated area   | .shp, .kml, .kmz, .gdb, .tif, .tiff |
| Map                                | Carbon stock data of habitat, profile of carbon stock sources, previous land use, biotypes, present habitat, past trajectory of habitat, evidence of restoration   | .png, .jpeg,                        |
| Remote Sensing                     | Multispectral, hyperspectral, RGB and LIDAR images from drone, airborne and satellite sensors  | .las, .tif, .tiff, .xyz             |
| Measurement of material parameters | Sediment characteristics, gradient impact (nutrient, salinity, pollutant/ecotox, sediment type, hydrology within DOM on C stocks and flows), water level, meiobenthos, sea level rise, tidal range, CO <sub>2</sub> and CH <sub>4</sub> fluxes | .csv                                |
| Modeling and forecasting           | Hourly-resolved IPCC atmospheric data (shortwave radiation, atmospheric pressure, wind speed, relative humidity)   | .csv                                |
| Quantitative interview             | Result of questionnaire  | .docx, .xlsx, .csv                  |
| Qualitative data                   | Narratives, videos, recordings   | .docx, .mp4, .mp3                   |
|                                    | Governance data  | .docx, .pdf, .csv                   |

Below an example of origins or provenance of the data presented in the table above:

- Link to gas fluxes, primary productivity & total organic carbon (2012-2016): <https://catalogue.ceh.ac.uk/documents/413dc2b2-f38b-4f8a-a198-f78b07534fb8>
- Habitat types and extents: <https://magic.defra.gov.uk/MagicMap.aspx>
- Macrophyte & macrofaunal abundance: <https://catalogue.ceh.ac.uk/documents/413dc2b2-f38b-4f8a-a198-f78b07534fb8>
- Wetland bird surveys (BTO) - past 32 years: <https://www.bto.org/our-science/projects/wetland-bird-survey/data>
- Phytoplankton & benthic invertebrates (1991-2018): <https://environment.data.gov.uk/ecology/explorer/>
- Governance data: <https://www.ons.gov.uk/methodology/geography/ukgeographies/administrativegeography>, [www.gov.uk](http://www.gov.uk).

## 2.2 Generated data

In cases where the data is not available, new data will be generated within the framework of the WP3. This generated data includes both quantitative data, such as the outcomes of experiments, data collection, sampling procedures, observations, simulations, modeling, and qualitative data, such as narratives, video and recording.

The total size of the generated data is estimated to be 10 TB. The generated data will be valuable for future researchers, decision-makers and policymakers across various domains, including Environmental Monitoring, Urban Planning and Infrastructure Development, Natural Resources Management, Disaster Risk Assessment, Wildlife and Habitat Conservation. As reused data, generated ones will be available for the WP4 and the co-design of rewilding or restoration scenario.

TABLE 2. GENERATED DATA SUMMARY

| Data type                          | Data names   | Formats                             |
|------------------------------------|--|-------------------------------------|
| GIS layers                         | Habitat types and area, conservation designated area   | .shp, .kml, .kmz, .gdb, .tif, .tiff |
| Map                                | Carbon stock data of habitat, profile of carbon stock sources, previous land use, biotypes, future distribution of habitats, future population density, future land cover, future projected species (cover, stem diameter, density), numerical hydrodynamic modeling                             | .pdf, .jpeg, .png                   |
| 3D visualization                   | Rendered videos, figures and other results of visualization  | .png, .jpeg, .csv, .AV1             |
| Remote Sensing                     | Multispectral, hyperspectral, RGB and LIDAR images from drone, airborne and satellite sensors  | .las, .tif, .tiff, .xyz             |
| Measurement of material parameters | Sedimentation rate, gradient impact (nutrient, salinity, pollutant/ecotox, sediment type, hydrology within DOM on C stocks and flows) hourly-resolved IPCC atmospheric data (shortwave radiation, atmospheric pressure, wind speed, relative humidity), water level, meiobenthos, sea level rise | .xls, .csv                          |
| Monitoring data                    | Mobile fauna (fish, bird) standard monitoring data   | .xls, .csv                          |
| Quantitative interview             | Result of questionnaire  | .doc, .xls, .csv                    |
| Qualitative data                   | Narratives, video, recordings  | .doc, .mp4, .mp3, .AV1              |
| Scenario of rewilding              | Narratives   | .doc, .pdf, .csv                    |

## 3 FAIR data

### 3.1 Making data findable

Ensuring the findability of data within the REWRITE project will be achieved through the application of FAIR principles by implementation of the following measures:

- a) Employ persistent identifiers, such as Digital Object Identifiers (DOI) and Uniform Resource Locator (URL).
- b) Create rich metadata to comprehensively describe the data using Dublin Core Metadata Initiative (DCMI) standard, including all relevant information such as title, description, creator, keywords, format, identifier and rights.
- c) Link metadata to the data.
- d) Embed metadata using standardized format such as .xml and .json, ensuring the metadata travels with the data and remains accessible to users regardless file format or file location.
- e) Employ descriptive keywords and tags.
- f) Store metadata records in metadata repository or catalogs to provide robust search capability.
- g) Provide the access of harvesting and indexing metadata for REWRITE project members.
- h) If necessary, a training session regarding metadata will be organized by the Data Steward.

### 3.2 Making data accessible

#### 3.2.1 Internal Access

In the REWRITE project, all data will be securely stored within the REWRITE cloud infrastructure throughout the duration of the project. This cloud-based storage provides a dependable and scalable platform for hosting datasets. Furthermore, the cloud infrastructure supports collaboration and data sharing among the REWRITE project members regardless of their geographical locations. A procedure to log in to the REWRITE project's cloud is provided in Annex 1.

All team members involved in the REWRITE project are granted complete access privileges, allowing them to read, edit, download, harvest, and manipulate both data and metadata as necessary. Accompanying the data is rich metadata that includes information about the creator or responsible personnel. This ensures accessibility and addresses any subsequent inquiries or concerns regarding the data.

An internal agreement concerning data access will also be established within the REWRITE project. This data access agreement will be integrated into the consortium agreement, serving as a foundational component to govern data sharing and usage among project members.

Furthermore, anonymized data or those devoid of sensitive content, such as personal data or confidential information, will be granted to members based on relevance such as Work Package (WP) Leaders, Task Leaders and Demonstrator Site (DM). Alternatively, permission may be obtained through request and subsequent review. A list of WP Leaders, Task Leaders and DM Leaders is available in Annex 2 for reference.

### 3.2.2 Open data

Upon the completion of the project, access to all of the data and metadata will be extended to authorized parties and deposited in trusted repositories. Natural sciences data obtained *in situ* at the laboratory and remote sensing data will be available on appropriate database such as Theia|Ozcar (<https://www.theia-land.fr/en/ces/ozcar-en/>) or ODATIS (<https://www.odatis-ocean.fr/en/>). Social sciences and humanities data will be made available on appropriate database such as Huma-Num (<https://www.humanum.fr/>) or Dariah (<https://www.dariah.eu/>).

While the data will be made openly available, whether with or without a permission request, all metadata will be retained in an open format, accessible to the public.

Additionally, source code enabling the data creation, reading, or manipulation of data will be made accessible, along with accompanying documentation from open-source software repositories. This ensures transparency and facilitates the reproducibility of data-related processes.

## 3.3 Making data interoperable

To ensure the interoperability of the data and facilitate data exchange and reuse within and across disciplines, the creation of data and metadata vocabularies, standards, formats, and methodologies will be endorsed by the FAIR principles. This includes utilizing widely recognized standards such as Dublin Core Metadata Initiative (DCMI) for metadata descriptions and Resource Description Framework (RDF) for data representation. Additionally, we will follow community-endorsed interoperability best practices, such as those recommended by domain-specific organizations or consortia relevant to our research area.

In instances where it becomes necessary to utilize uncommon or project-specific ontologies or vocabularies, mappings to more commonly used ontologies will be provided to facilitate interoperability and data integration. Furthermore, any generated ontologies or vocabularies will be made publicly accessible to enable their reuse, refinement, or extension by the wider research community, thereby promoting interoperability and collaboration across disciplines.

Qualified references to other relevant datasets will be incorporated into the data. These references will adhere to a standardized format, ensuring transparency and facilitating the reproducibility of REWRITE project's research findings. The inclusion of qualified references to other data sources aims to enhance the discoverability and contextuality of the datasets, fostering greater transparency and collaboration within the research community.

## 3.4 Making data reusable

The data will be structured and documented to enhance the reusability. By adhering to standardized formats and metadata vocabularies, the data is easily discovered, accessed and interpreted by other researchers.

Additionally, a rich metadata including the information on data provenance, quality, and usage rights will be provided to facilitate proper understanding and utilization of the data. Moreover, the data will be deposited in trusted repositories or catalogs with robust search and discovery functionalities, enabling researchers to locate and access it efficiently. Through these measures, REWRITE project aims to promote the reusability of the data, fostering collaboration, knowledge exchange, and innovation within the research community.

Generated data will be equipped with a readme file as extended metadata in order to provide further details regarding the data such as methodology, data preparation and cleaning, analyses, variable definitions and units of measurements.

Furthermore, the data will be licensed using standard open reuse licenses to clarify the terms of use and promote widespread access and reuse.

## 4 Other research outputs

Various other research outputs produced by REWRITE project, such as software, models, algorithms, workflows, protocols, samples and other materials are expected to be produced as part of the project. These outputs will be stored and shared following the [Chapter 3](#).

Furthermore, other research outputs will be linked to the corresponding datasets to provide proper contextualization and facilitate reuse. To enhance interoperability, these outputs will be made available in standardized formats, allowing them to integrate with other tools and systems, improving their usability and potential for reuse across disciplines.

## 5 Allocation of resources

The allocation of resources necessary to support the implementation of FAIR data management practice within REWRITE includes financial, human, and technological resources. Financial resources are allocated for procuring infrastructure, software tools, and training sessions. Human resources, including dedicated data steward, and other staffs, are essential for implementing data management practices and providing support to researchers. Technological resources, such as data storage solutions, management software, and security infrastructure, facilitate efficient data handling and protection.

The total budget to be allocated for REWRITE project data management is approximately 47,500€. This budget will cover various aspects of data management, including data collection, storage, analysis, and security measures throughout the project lifecycle.

The planning and oversight ensure that resources are utilized effectively and adapted to evolving project needs. By strategically allocating resources, projects can successfully implement data management plans and maximize the value of REWRITE project's research data.

## 6 Data security

In the REWRITE project, a comprehensive approach to data security is adopted to ensure the protection and integrity of project data while complying with Data Protection regulations and FAIR principles. The following strategies will be implemented:

- a) All data will be classified based on sensitivity and confidentiality levels to determine appropriate security measures. Data categories will be public, internal, confidential or restricted.
- b) Access to project data will be strictly controlled based on the data classification scheme. Role-based controls will be implemented to limit access to authorized personnel only, with permissions granted on a need-to-know basis. Access rights will be regularly reviewed based on personnel change and updated to reflect changes in project roles and responsibilities.
- c) All sensitive and confidential data will be encrypted both in transit utilizing Transport Layer Security (TLS) 1.2 or higher, and at rest with ZIP or BitLocker to protect against unauthorized access and data breaches. Strong encryption algorithms and secure communication protocols will be employed to ensure data confidentiality and integrity.
- d) Auth0 will be utilized within the REWRITE project's data security framework to bolster authentication processes. Through the integration of Auth0, robust authentication mechanism, including multi-factor authentication mechanisms can be implemented to verify the identity of users accessing project data. This may include a combination of passwords, text or SMS authentication, USB security key, smart card, or token-based authentication methods to enhance security and prevent unauthorized access.
- e) Regular data backups will be performed to ensure data integrity and availability in the event of data loss or corruption. Backup copies will be securely stored in geographically diverse locations, with documented procedures for data recovery and restoration in case of emergencies.
- f) Data retention policies will be established to define the duration for which project data will be retained, taking into account legal, regulatory, and contractual requirements. At the end of the retention period, data will be securely disposed to prevent unauthorized access or disclosure.
- g) Ongoing monitoring and auditing processes will be implemented to detect and respond to security incidents in a timely manner. Logs of data access and usage will be maintained and regularly reviewed to identify any unauthorized or suspicious activities, with appropriate action taken to mitigate risks and maintain data security.
- h) Regular audits and compliance assessments will be conducted to evaluate the effectiveness of data security measures and ensure ongoing compliance with FAIR principles and relevant data protection regulations. In REWRITE project, it will be conducted by Nantes Université Atelier de la Donnée OREADE (<https://bu.univ-nantes.fr/science-ouverte/les-donnees-de-la-recherche>) and Nantes Université Data Protection Officers. The data security plan will be reviewed and updated periodically to address emerging threats and evolving security requirements.

## 7 Ethics

### 7.1 Personal and sensitive data

In REWRITE, the General Data Protection Regulation (GDPR) will be adopted to ensure that all data handling practices align with the stringent privacy and security standards mandated by EU law.

All data collection activities related to personal or sensitive information will adhere to principles of informed consent, ensuring that participants are fully informed about the purpose, risks, and benefits of their participation in the research. Informed consent forms will be developed and obtained from all participants prior to data collection, detailing how their data will be used, stored, and shared.

Moreover, measures will be taken to anonymize and protect the confidentiality of research participants' data to prevent the identification of individuals. Data will be pseudonymized whenever possible, and access to identifiable data will be restricted to authorized personnel only. Confidentiality agreements will be established to safeguard sensitive information.

As mentioned in [Chapter 6](#), data security measures will be implemented to protect against unauthorized access, loss, or misuse of research data. This includes encryption of sensitive data, role-based access controls, regular data backups, and secure storage solutions. Data integrity checks will be conducted to ensure the accuracy and reliability of research findings.

### 7.2 Citation

Any reused or adopted data will be cited using persistent identifiers and proper attribution to the original creators or owners of the data. Citation metadata will be included with the data to facilitate proper citation and reuse by others.

## 8 Other issues

Training and support will be offered to REWRITE project team members and collaborators on effective data management practices. This will include online or offline meetings, workshops, user-friendly documentation, and online resources to promote awareness and adoption of the data management practices aligning with FAIR principles. Support services will be available to assist with data management planning, data cleaning and preparation, metadata creation, and repository submission.

Any developments in data management best practices and standards will be monitored to ensure ongoing compliance with FAIR principles. Any changes or updates to data management policies and procedures will be communicated to project stakeholders in a timely manner. Feedback and suggestions for improving data management practices will be actively solicited from the research community.



# Annexes

## Annex 1: Login procedure to the REWRITE cloud

- a) From a web browser, go to <https://cloud.rewrite-project.eu/>.
- b) A login page will be appeared as in the Figure below.

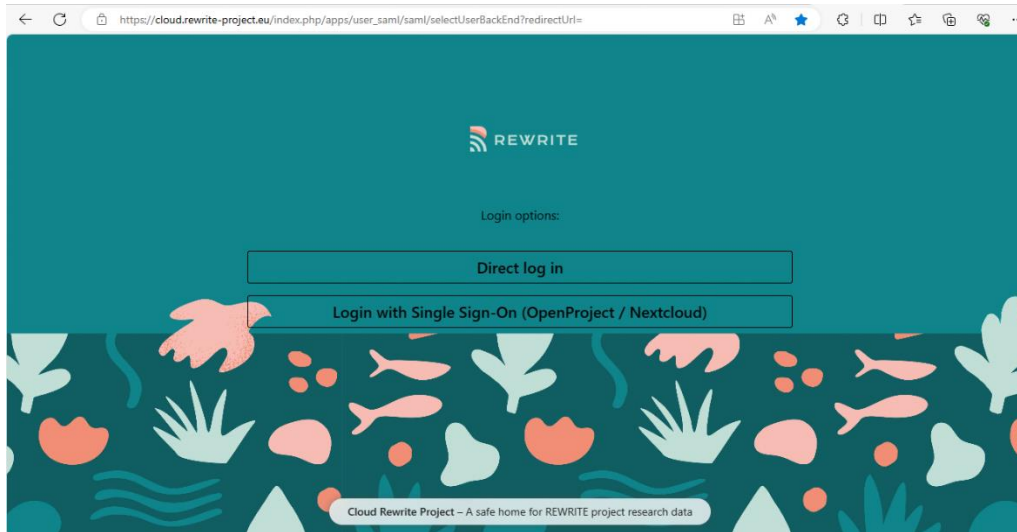


FIGURE 1. WELCOME PAGE OF REWRITE CLOUD

- c) Select the “Login with Single Sign-On (OpenProject/Nextcloud)” button.
- d) Insert email address and password to the login page, as seen in the Figure below.

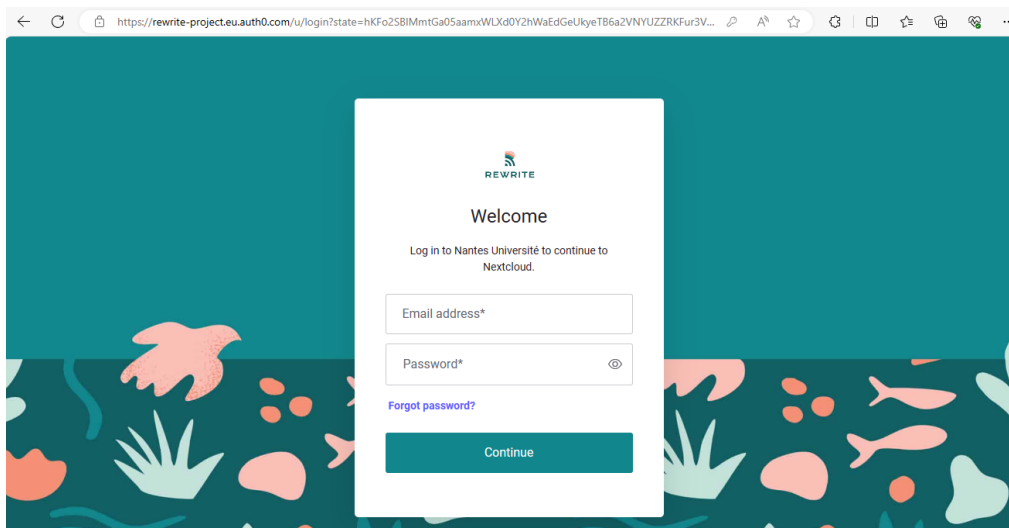


FIGURE 2. LOGIN PAGE OF REWRITE CLOUD

- e) Select “Continue” button.
- f) After logging in, all members can access, modify, upload and download all of the data.

## Annex 2: WP Leaders, Task Leaders and DM Leaders

### WP 1 - Project Management, Coordination & Stakeholder engagement Leader: NANTESU

| No.      | Task/Subtask Title  | Leader       | Lead BEN |
|----------|---|--------------|----------|
| Task 1.1 | Coordination and project management, stakeholder engagement | Vona Méléder | NANTESU  |
| Task 1.2 | Scientific and financial reporting                          | Vona Méléder | NANTESU  |
| Task 1.3 | Data management plan for the project                        | Vona Méléder | NANTESU  |
| Task 1.4 | Quality assurance and Impact of the project                 | Vona Méléder | NANTESU  |
| Task 1.5 | Clustering  | Vona Méléder | NANTESU  |

### WP 2 - Establishing the state-of-knowledge and current trajectories of rewilding intertidal soft sediment seascapes in Europe and beyond Co-Leaders: UESSEX , UM

| No.           | Task/Subtask Title  | Leader                   | Lead BEN |
|---------------|---|--------------------------|----------|
| Task 2.1      | Establishing state-of-existing knowledge on intertidal coastal soft sediment seascapes    | Graham Underwood         | UESSEX   |
| Subtask 2.1.1 | Carbon sequestration  | Eric Viollier            | CEA      |
| Subtask 2.1.2 | Biodiversity and conservation   | Katja Philippart         | NIOZ     |
| Subtask 2.1.3 | Mitigation and adaptation to climate change and protection from coastal flooding          | Iris Moeller             | TCD      |
| Subtask 2.1.4 | Cultural biotic and abiotic services provided by current social and cultural uses         | Valia Drakou             | HUA      |
| Subtask 2.1.5 | Identify current ecosystem structure in terms of landscape connectivity and fragmentation | Valia Drakou             | HUA      |
| Subtask 2.1.6 | Identify the current governance and political mechanisms and frameworks                   | Gina Yannitell Reinhardt | UE       |
| Task 2.2      | Trajectories of rewilding for the 10 DM   | Graham Underwood         | UESSEX   |

|                      |   |                              |              |
|----------------------|---|------------------------------|--------------|
| <b>Subtask 2.2.1</b> | Mapping local environmental histories and identifying timelines providing pathways for rewilding opportunities                              | Vincent Andreu Bousut        | UM           |
| <b>Subtask 2.2.2</b> | Investigating rewilding chronosequences to identify features leading to successful or failed ecosystem condition and ES supply trajectories | Graham Underwood             | UESSEX       |
| <b>Task 2.3</b>      | <b>Provision of success stories, and identifying causes of failure, in coastal rewilding</b>  | <b>Vincent Andreu Bousut</b> | <b>UM</b>    |
| <b>Subtask 2.3.1</b> | Collecting coastal rewilding experiences across Europe and beyond   | Vincent Andreu Bousut        | UM           |
| <b>Subtask 2.3.2</b> | Identifying and analyzing causes of failures or limited feedbacks of coastal rewilding projects   | Vincent Andreu Bousut        | UM           |
| <b>Subtask 2.3.3</b> | Identifying and analyzing determinants of success stories of coastal rewilding projects   | Vincent Andreu Bousut        | UM           |
| <b>Task 2.4</b>      | <b>Developing innovative tools and protocols to build new knowledge</b>   | <b>Rodney Forster</b>        | <b>UHULL</b> |

**WP 3 - Building new knowledge on intertidal soft sediment seascapes crossing natural, social sciences and humanities**  
**Co-Leaders: UT, UBREMEN**

| <b>No.</b>           | <b>Task/Subtask Title</b>  | <b>Leader</b>             | <b>Lead BEN</b> |
|----------------------|--|---------------------------|-----------------|
| <b>Task 3.1</b>      | <b>Investigation of the ISS communities in re-wilded vs non re-wilded sites along a climate gradient</b> | <b>Daphne van der Wal</b> | <b>UT</b>       |
| <b>Subtask 3.1.1</b> | Carbon sequestration   | Eric Viollier             | CEA             |
| <b>Subtask 3.1.2</b> | Biodiversity and conservation  | Katja Philippart          | NIOZ            |
| <b>Subtask 3.1.3</b> | Mitigation and adaptation to climate change and protection from coastal flooding                         | Iris Moeller              | TCD             |
| <b>Task 3.2</b>      | <b>Narratives of change</b>  | <b>Werner Krauss</b>      | <b>UBREMEN</b>  |
| <b>Subtask 3.2.1</b> | Mapping narratives of change in all demonstrator   | Werner Krauss             | UBREMEN         |
| <b>Subtask 3.2.2</b> | Mapping societal meanings and acceptance of rewilding  | Werner Krauss             | UBREMEN         |
| <b>Subtask 3.2.3</b> | Monitoring rewilding as practice and enhance systematic collaboration among sciences                     | Werner Krauss             | UBREMEN         |
| <b>Task 3.3</b>      | <b>Upscaling and projecting ES functions in re-wilding and climate change context</b>                    | <b>Daphne van der Wal</b> | <b>UT</b>       |
| <b>Subtask 3.3.1</b> | Remote sensing upscaling   | Daphne van der Wal        | UT              |

|                      |                   |              |         |
|----------------------|-------------------|--------------|---------|
| <b>Subtask 3.3.2</b> | Model projections | Carina Lopes | UAveiro |
|----------------------|-------------------|--------------|---------|

**WP 4 - Scenarios for rewilding intertidal soft sediment seascapes in Europe**  
Co-Leaders: SDU, PER

| No.                  | Task/Subtask Title   | Leader                       | Lead BEN       |
|----------------------|--|------------------------------|----------------|
| <b>Task 4.1</b>      | <b>Global multi-actor laboratories (G-MALs)</b>  | <b>Umberto Pernice</b>       | <b>PER</b>     |
| <b>Subtask 4.1.1</b> | First G-MAL  | Umberto Pernice              | PER            |
| <b>Subtask 4.1.2</b> | Second G-MAL   | Umberto Pernice              | PER            |
| <b>Subtask 4.1.3</b> | Third G-MAL  | Valia Drakou                 | HUA            |
| <b>Task 4.2</b>      | <b>Local multi-actor laboratories (L-MALs) for social engagement and innovation</b>  | <b>Umberto Pernice</b>       | <b>PER</b>     |
| <b>Subtask 4.2.1</b> | First L-MALs   | Umberto Pernice              | PER            |
| <b>Subtask 4.2.2</b> | Second L-MALs  | Umberto Pernice              | PER            |
| <b>Task 4.3</b>      | <b>Identification of obstacles and socio-economic, technical, and political drivers</b>                                      | <b>Vincent Andreu Bousut</b> | <b>UM</b>      |
| <b>Subtask 4.3.1</b> | Identification of technological obstacles and drivers  | Vincent Andreu Bousut        | UM             |
| <b>Subtask 4.3.2</b> | Identification of obstacles and drivers on regulation and political framework ecosystem condition and ES supply trajectories | Vincent Andreu Bousut        | UM             |
| <b>Subtask 4.3.3</b> | Identification of obstacles and drivers on the socio economic and cultural framework   | Vincent Andreu Bousut        | UM             |
| <b>Task 4.4</b>      | <b>Assessment of plural values of rewilding towards “low cost” options</b>   | <b>Valia Drakou</b>          | <b>HUA</b>     |
|                      |  | <b>Ana Sousa</b>             | <b>UAveiro</b> |
| <b>Subtask 4.4.1</b> | Quantification of multiple benefits of rewilding   | Valia Drakou                 | HUA            |
|                      |  | Ana Sousa                    | UAveiro        |
| <b>Subtask 4.4.2</b> | Quantification of multiple costs of rewilding  | Valia Drakou                 | HUA            |
|                      |  | Ana Sousa                    | UAveiro        |

|                      |  |                 |         |
|----------------------|--|-----------------|---------|
| <b>Subtask 4.4.3</b> | Identification of low-cost rewilding options and decision support tool | Valia Drakou    | HUA     |
|                      |  | Ana Sousa       | UAveiro |
| <b>Task 4.5</b>      | Synthesis and validation of scenarios of inter-tidal rewilding         | Cintia Quintana | SDU     |
|                      |  | Ana Sousa       | UAveiro |
|                      |  | Iris Moeller    | TCD     |

**WP 5 - Dissemination, Communication & Exploitation**  
Leader: GEO

| No.      | Task/Subtask Title   | Leader             | Lead BEN |
|----------|--|--------------------|----------|
| Task 5.1 | Plan for the dissemination and exploitation including communication activities | Dóra Leitner       | GEO      |
|          |  | Zsuzsanna Selmeczy | GEO      |
| Task 5.2 | Dissemination materials and actions  | Dóra Leitner       | GEO      |
|          |  | Zsuzsanna Selmeczy | GEO      |
| Task 5.3 | Communication activities and materials   | Dóra Leitner       | GEO      |
|          |  | Zsuzsanna Selmeczy | GEO      |
| Task 5.4 | REWRITE Final Conference   | Vona Méléder       | NANTESU  |
|          |  | Dóra Leitner       | GEO      |
|          |  | Zsuzsanna Selmeczy | GEO      |

**List of Demonstrator sites (DM) and Leaders**

| No | Demonstrator Site (DM)             | Country        | Leader(s)                        |
|----|------------------------------------|----------------|----------------------------------|
| 1  | Gyldensteen Coastal Lagoon         | Denmark        | Cintia Quintana                  |
| 2  | Wadden Sea                         | Netherlands    | Katja Philippart                 |
| 3  | Essex Estuaries Complex and Humber | United Kingdom | Graham Underwood, Rodney Forster |

|    |                   |                      |                                     |
|----|-------------------|----------------------|-------------------------------------|
| 4  | Dublin Bay        | Ireland              | Iris Moeller                        |
| 5  | Scheldt Estuary   | Netherlands, Belgium | Daphne van der Wal, Koen Sabbe      |
| 6  | Loire Estuary     | France               | Vona Méleder, Edouard Metzger       |
| 7  | Ria de Aveiro     | Portugal             | Ana Sousa                           |
| 8  | Cádiz Bay         | Spain                | Alfonso Corzo, Sokratis Papaspyrou  |
| 9  | Bay of Fundy      | Canada               | Jeff Ollerhead, Danika Van Proosdij |
| 10 | San Francisco Bay | United States        | Patty Oikawa                        |