



BiodivRestore Knowledge Hub

A pan-European Nature Restoration Knowledge Hub
to strengthen the knowledge base for the implementation of the Nature Restoration Law

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This note elaborates on the establishment of the BiodivRestore Knowledge Hub by Biodiversa+ and Water JPI/Water4All, as part of the ongoing BiodivRestore COFUND Action. It should be considered as a first building block towards a more sustainable and structural contribution by the European scientific community and knowledge holders in support of the implementation of the **EU Nature Restoration Law (NRL)**, building on existing initiatives and practices, and driven by country needs. For more details on the broader endeavor, see [here](#).

BiodivRestore Partners involved in the task :

- WaterJPI (Cofund)
- Water4All (cofund)
- TAGEM
- DLR
- TA CR(Lead partner)
- BELSPO
- ANR

1. Context

The healthier our ecosystems are, the healthier the planet - and its people. Taking this into account, the United Nations General Assembly proclaimed **2021–2030 the United Nations Decade on Ecosystem Restoration**¹ to call for the protection and revival of ecosystems all around the world, for the benefit of people and nature. It aims to halt the degradation of ecosystems and restore them as well as conserve the ecosystems that are still intact, with the overall aim to enhance people's livelihoods, counteract climate change, and stop the collapse of biodiversity.

Kunming-Montreal Global Biodiversity Framework (December - COP15, Montreal): In this framework cheered across the planet, 188 countries agreed to concrete measures to halt and reverse biodiversity loss. This includes putting 30% of the planet under protection, restoring 30% of degraded ecosystems on land and sea by 2030, and unlocking new finance streams for nature recovery by 2030.

In line with the Global Biodiversity Framework, the EU biodiversity strategy for 2030 aims to contribute to a continuous, long-term and sustained recovery of biodiverse and resilient nature across the EU land and sea areas through the restoration of ecosystems. With this aim, on 22 June

¹ Restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed (SER 2004 - [primer](#))



2022 the European Commission tabled a **proposal for a nature restoration regulation (i.e. a EU Nature Restoration Law)²**. The proposed regulation would set multiple binding restoration targets and obligations across a broad range of ecosystems, from forests and agricultural land to urban areas, rivers and marine habitats, complementing other existing legal instruments. Altogether, these nature restoration measures should cover at least 20 % of the EU's land and sea areas by 2030, and all ecosystems in need of restoration by 2050. When approved, Member States will be required to develop **nature restoration plans at national level³**. Given the global nature of the new biodiversity targets and the need to establish national biodiversity strategies and action plans, any concrete guidance on national restoration planning will be equally useful for other non-EU countries.

The proposal emphasizes the need for countries to use **robust scientific evidence** when creating national restoration plans. A wealth of scientific knowledge on nature restoration is now available - including from projects supported by the European Commission, individual countries and joint programme initiatives - which can now be harvested for this purpose. In addition, several pan-European **demonstration projects** are being implemented, which could help to identify success stories/best practices, as well as failures.

Information transfer and knowledge sharing among countries will be necessary for effective biodiversity restoration. This includes platforms/networks that promote the exchange of relevant scientific information to support assessments or identify risks; methods of passive, active and new restoration methods such as rewilding; restoration success stories, and best practices.

Such knowledge hubs would be needed at two-levels: (1) At the pan-European level, to allow for cross-border exchange of relevant scientific information and best practices; (2) as well as national counterparts/national hubs building on existing structures and mirroring the pan-European set up. The BiodivRestore knowledge hub elaborated on in this note, would be the first step (track 1) in this larger, collaborative endeavor that would need to be supported by a multitude of organizations and strongly hooked up to the official policy consultation bodies.

2. BiodivRestore Knowledge hub: a pan-European nature restoration knowledge hub to strengthen the knowledge base for the implementation of the Nature Restoration Law

2.1. Target projects and initiatives

Against this background, in 2020 Biodiversa (precursor of Biodiversa+, the European Biodiversity Partnership) together with Water JPI (precursor of the Water4All Partnership) launched the **'BiodivRestore' ERANET COFUND** to support research on ecosystem restoration. [A joint research call](#), co-funded by the European Commission, was launched leading to the funding of 22 research projects **on conservation and restoration of degraded ecosystems, including a focus on aquatic systems** (total funding amount, 21.3 M€). These projects focus on several themes:

² The Regulation is an essential piece of legislation that complements existing legislation, such as the Birds and Habitats Directives, the Water Framework Directive, the Marine Strategy Framework Directive, and policies such as the Climate, Common Agricultural and Fisheries Policies

³ The National Restoration Plans involve the quantification and description of the restoration measures, non-deteriorating measures and timing for implementation (2030, 2040, 2050); details on how to finance the implementation of restoration measures; and public/stakeholder participation in preparing the plans.



- Studying the biological and biophysical processes at stake for conservation/restoration, and their interactions
- Assessing trade-offs and synergies between targets, benefits and policies for conservation and restoration
- Knowledge for improving the effectiveness and upscaling of conservation and restoration actions

Building on these funded projects, BiodivRestore partners are herewith exploring the establishment of a pan-European Knowledge Hub on Nature Restoration under Task 6.3⁴. The present note aims to describe the objectives and roadmap to establish this Knowledge Hub. The Knowledge Hub should therefore be seen as a dynamic community of practice whose set up and objectives could change over time, in line with emerging needs.

Knowledge hubs can take several forms, but they are often focusing on facilitating the use of research activities' outputs, networking (including with stakeholders) and capacity building in a certain research area. In the BiodivRestore context - it will be a **thematic network** consisting of selected researchers with expertise on nature restoration, and actively engaging with, and reaching out to stakeholders (incl. policy and practice). This BiodivRestore knowledge hub will contribute to **the integration and sharing of knowledge, research and technological excellence to support countries in the development and implementation of their National Restoration Plans**, to help ensure they can reach the targets set out in the EU Biodiversity Strategy 2030 and Global Biodiversity Framework. It will also improve **communication and networking** between researchers and stakeholders to enhance **research impact and knowledge transfer** towards policy and society, and feed the European research & innovation strategy on this topic.

The Knowledge Hub will be **targeting BiodivRestore funded projects as well as the Green Deal projects** ([MERLIN](#), [REST-COAST](#), [SUPERB](#), [WATERLANDS](#)) and [ECOADVANCE](#) in first priority, but **other relevant projects** could also be invited – for example on-going projects funded under Biodiversa and JPI Water calls; the LIFE Programme; and Horizon2020/Horizon Europe (such as [NaturaConnect](#); [INTERLACE](#), [CONNEXUS](#), [REGREEN](#), [ClearingHouse](#), [ALFAwetlands](#), [RESTORE4cs](#), [WETHORIZONS](#), [AMBER](#), [MERCES](#), [IENE](#), and others).

The Knowledge Hub will seek **strong synergies** with the Biodiversa+ (including its BiodivClim Knowledge Hub on nature-based solutions for climate change adaptation and mitigation as well as with the Dialogue-events under Biodiversa+ WP4) and Water4All Partnership, as well as other possible Partnerships (such as the Agroecology Partnership, Driving Urban Transitions Partnership, Blue Economy Partnership, PARC etc.), LIFE (incl the thematic platforms), relevant organizations (such as the European Environment Agency; IUCN; environmental NGOs such as Rewilding Europe) and networks (such as EIONET; NetworkNature+; Alternet; Society of Ecological Restoration; EGU Biodiversity Task Force; IENE etc.). The outputs of the BiodivRestore Knowledge Hub could also contribute to the IPBES Work Programme (for example, a possible future assessment on ecological connectivity). Finally, the Knowledge Hub could provide direct inputs into requests from the [Science Service](#) (i.e. the scientific pillar of the Knowledge Centre on Biodiversity) in relation to issues dealing with nature restoration/nature-based solutions. It could also provide concrete inputs in relevant Missions (most notably the Soil Mission, Mission on Adaptation to Climate Change, and Mission on Oceans and Water) by supporting their enabling environment. The knowledge hub will be **closely coordinated with, and aligned with the needs** expressed by the MS level, through the European Biodiversity Platform.

⁴ Preparing and implementing one additional non co-funded joint call or additional activity



The Knowledge Hub will have its own **governance structure** aligned with the BiodivRestore COFUND Action, and including the funders of the projects involved. Experts will be recruited according to internally agreed procedures - see further

2.2. Functions of the BiodivRestore knowledge hub

The BiodivRestore Knowledge Hub could have two main functions at EU level:

- **Function 1 - Strengthening the knowledge base of the implementation of the NRL, based on a needs-driven approach**

This could include (non-exclusive list):

- **Development of science-based guidance/standards/good practices** to increase the efficiency and effectiveness of restoration measures by the countries. For example: to identify restoration needs and possibilities for ecosystem, species and climate change adaptation and mitigation and facilitate prioritization of restoration actions; to illustrate the importance of ecosystem mapping and understanding of ecosystem and landscape functioning to deliver high quality national restoration plans and a cost-effective implementation; to ensure application of certification schemes ensuring quality of restoration actions and maximize effectiveness (including of public and private investments); to identify synergies with national climate strategies (given that climate action can also result in destructive outcomes for both biodiversity and climate) and promote special attention of potential trade-offs between climate and biodiversity goals in the National Restoration Plans; to promote new techniques that account for and support dynamic, natural processes within restoration projects (e.g., rewilding efforts); ...
- **Increase general knowledge about the purpose and principles of ecological restoration**, factors driving to success, associated co-benefits of ecological restoration and how to manage conflicting interests
- **Forster inter-and multidisciplinary collaboration**, for example to help understand the consequences of actions on nearby or adjacent habitats
- **Provide guidance on the set up of national knowledge network hubs** to help countries reach their restoration targets, as well as **advice to advance cross-border coordination and capacity building (i.e., upgrade and further advancement of the European Hub)**. While the actual set-up of such national hubs and cross-border/cross-ecosystem group coordination would fall beyond the scope of the current action, the BiodivRestore knowledge hub could contribute to the broader endeavor, so the actual roll out could be immediately considered under the respective Partnerships (Biodiversa+, Water4All) and possibly others such as Driving Urban Transitions (cf. urban ecosystems), Blue Economy (cf. marine ecosystems) and Agroecology (cf. agroecosystems) – in strong collaboration with other key actors.



- **Function 2 - Advance the Research & Innovation Agenda**
 - **Exchange of ideas for future transnational research** (building of project proposals and consortia), including identification of knowledge gaps/research needs
 - **Identification of research-implementation gaps** (e.g., in close connection with LIFE projects) and ways to overcome these;
 - **Support the WaterJPI /Water4All work** with living labs and enabling innovation through experimentation spaces if possible
 - **Contributing to the improvement of policy making tools** building on the research led at the KH level, and contributing to informing policies at an EU level

2.3. Outputs and impacts

- **Possible outputs:** (1) Policy briefs, White Papers; Factsheets; Guidance documents; (2) Stakeholder mapping and mutualised engagement; (3) Contributions to a more sustainable and well-structured support embedded in the Member States for the implementation of the EU Nature Restoration, as part of the [broader and collaborative endeavor](#); (4) Co-organization of thematic nature restoration conference(s) such as those from the Society of Ecological Restoration; (5) Catalog of knowledge gaps/research needs; (6) A dissemination/ learning platform
- **Possible impacts :**
 - Support at national/site-level: planning and design; implementation; monitoring, documentation, evaluation and reporting; post-implementation maintenance; species protection plans
 - Promotion of links with, and optimal use of national/subnational biodiversity monitoring schemes and structures
 - More active engagement of research performing organizations/institutes in the processes of restoration planning, implementation monitoring and reporting
 - Strong link with practitioners, and broad range of stakeholders (soundboard + to raise awareness), including through the living labs
 - Boost citizen engagement through evidence-informed methods and with support of experts to ensure unintended negative outcomes
 - Easier access to information/ documentation/ success stories/ guidance
 - Other impacts can be decided when elaborating on the workplan with selected experts

Within the context of Biodiversa+, such an action could be cross-cutting across different [flagships programmes](#), most notably the ones on (1) Biodiversity protection; (2) Biodiversity monitoring; (3) Nature-based solutions; (4) Transformative Change. **Within the context of Water4All**, such an action would feed the R&I theme on water for ecosystems and biodiversity and governance. The work of the BiodivRestore knowledge hub could lay the foundation for sustainable science-policy-practice collaboration networks at national level (national knowledge hubs) as well as propose further advancement of the European knowledge hub.

2.4. Added value for different audiences



For researchers/ knowledge holders:

- Have tangible impact on the implementation of nature restoration measures (implementation of law);
- Foster knowledge exchange and transfer across research and policy domains, and between different type of knowledge holders;
- Allow researchers to inform Research & Innovation needs for future funding;
- Provide knowledge holders with opportunities for networking;
- For fellow / early career researcher: access to capacity building activities, and reinforce their integration in transnational networks;
- For researchers from small research communities: reinforce their integration in transnational networks and increase their chance to participate in future pan-European research projects (increase their chance of success under medium / large research funding schemes)
- Other added values can be decided when elaborating on the workplan with selected experts

For Research programmers/funders:

- Ensure that the solutions developed by research have a greater impact on, and greater relevance to stakeholders and society;
- Ensure impact of research on the ground;
- Bring together researchers in a more collaborative manner;
- Contribute to alignment at project-, researcher- and institution-level
- Other added values can be decided when elaborating on the workplan with selected experts and after the vote for the NRL in 2024

For stakeholders/ Member States:

- Access to success stories and knowledge-based information for their decision-making process (incl. infographics, policy briefs, etc.) ;
- Bridging the gap between science and stakeholders (ensuring uptake of scientific evidence by policy makers and practitioners);
- Provide a more holistic view for the implementation of policy frameworks based on multi-stakeholders' approach;
- Avoid duplication of efforts, but leverage existing work instead
- Other impacts can be decided when elaborating on the workplan with selected experts and relevant initiatives

For European Commission / EU institutions

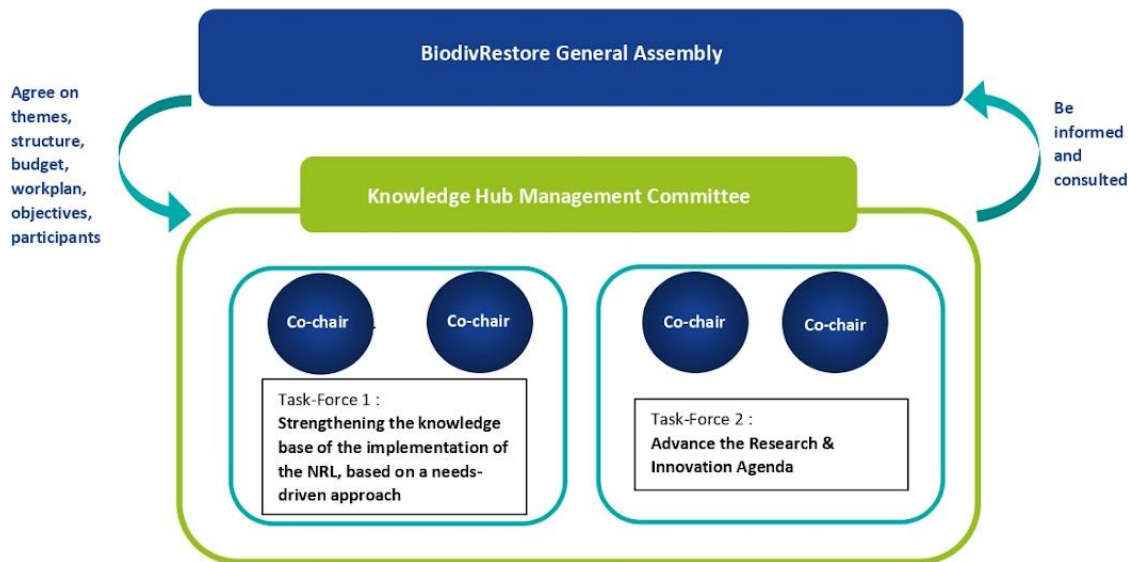
- The proposal aims to restore ecosystems, habitats and species across the EU's land and sea areas in order to
- enable the long-term and sustained recovery of biodiverse and resilient nature
- contribute to achieving the EU's climate mitigation and climate adaptation objectives
- meet international commitments
- Other added values can be decided when elaborating on the workplan with the European Commission



2.5. Governance



The below proposal is based on the general principles in the BiodivClim Knowledge Hub of Biodiversa+ (focus on nature-based solutions for climate change adaptation and mitigation), but adjusted to the specific aims of this BiodivRestore Knowledge Hub.



BiodivRestore General Assembly will :

- Agree on the theme(s), objectives and general functioning of the BiodivRestore Knowledge Hub
- Provide input for the selection, as well as decide on the selection of experts who will take part in the BiodivRestore Knowledge Hub, as well as the Co-Chairs
- Approve the Work Plan of the Knowledge Hub (prepared by hub in consultation with the Management Committee)
- Agree on the budget allocated to the Knowledge Hub and its different activities
- Be consulted and informed about the main progress made within the Knowledge Hub
- Closely consult with the European Commission and other relevant organisations

Knowledge Hub Management Committee: This committee will be composed of the partners identified under BiodivRestore Task 6.3. (list), supplemented with other interested Partners, the BiodivRestore Secretariat and respective Coordination Teams. This Committee will be responsible for:

- Preparing the documents required for the knowledge hub implementation (eg. ToR)
- Preparing a proposal for the BiodivRestore GA with regard to the selection of Knowledge Hub members, based on early feedbacks from the BiodivRestore GA (iterative process)
- Advising on the work plan of the Knowledge Hub
- Monitoring progress of its activities, and reporting back to the BiodivRestore GA
- Ensuring the complementarity and synergies between the Knowledge Hub activities and the Biodiversa+ and Water4All/Water JPI work plans



- Developing relevant communication documents on the knowledge hub

The Knowledge Hub Management Committee will be led by TACR, and supported by the BiodivRestore Secretariat and Coordinator.

The Secretariat

Responsibilities of the Secretariat include:

- Preparing, with the Management Committee the launch of the knowledge hub (prepare all documents to be published on the website, social networks and documents to be shared with the Co-Chairs and hub participants) and make sure the information is updated all along the knowledge hub process
- Contributing to all the activities of the Management Committee
- Informing applicants on their selection in the experts / Co-Chair positions
- Providing technical support for the organisation and follow-up of meetings and other outputs of the Knowledge Hub

2.6. Roles and Duties of the Knowledge hub members

A) For the Co-Chairs

The terms of the Co-Chairs for 2 years, renewable for one more term if the Knowledge hub lasts more than 2 years, include the following roles:

1. With input from the Taskforce members, prepare an annual work plan for the respective Knowledge Hub Task Force;
2. With support from the BiodivRestore Secretariat, organise Task Force and other meetings related to the implementation of the Task Force's workplan (physical and virtual). The Co-Chairs will set the agenda, lead and chair the meetings, and define and coordinate follow-up actions;
3. Provide feedback to the BiodivRestore General Assembly with regards to progress made by the knowledge hub task forces (every 6 months);
4. Provide guidance on the mobilisation of resources to support the Knowledge Hub implementation;
5. With support from the BiodivRestore Secretariat and Management Committee, contribute to timely follow up of the Knowledge Hub work plan and its deliverables;
6. Liaise with the Secretariat to ensure representation of the Knowledge Hub at external events of scientific and strategic importance, and upon request of the BiodivRestore GA;
7. If relevant, create synergies between the two task forces and the already existing KH under BiodivClim.

B) Guidelines for scientists involved in the task forces

1. Propose elements for the strategic/work plan of the knowledge hub task force;



2. Active participation in, and contribution to activities rolled out by the Task Force (including key milestones and deliverables);
3. Helping to showcase and communicate on the outcomes and impact of the Knowledge hub

C) Specific activities for fellows / early career scientists

Hands-on training and networking opportunities will be provided to early career researchers (i.e. researchers with less than 7 years of experience after obtaining their degree and under 40 years of age), in particular (i) to reinforce their capacity to engage with stakeholders, (ii) communicate on their research outputs to increase the impact of their research and (iii) their integration in the research community to be integrated in future research opportunities.

D) General working principles of the task forces

The TF Members will be able to work together and meet as needed for work, as needed for the work, at the invitation of the Co-Chairs. They will be expected to conduct their business by online meetings mostly, but one physical meeting is planned every year.

Minutes of the meeting will be prepared by the Secretariat, validated by the Co-Chairs and made available to the Task Forces and Management Committee. They should include a list of action points to be followed up on in a timely manner.

Every year, a progress report will be drafted for the BiodivRestore GA.

As needed, task forces may meet in (virtual) sub-groups to advance work on specific milestones and deliverables and depending on the specific interests of the participants.

2.7. Recruitment of the Knowledge hub members

To set-up the Knowledge Hub, two calls will be launched simultaneously:

- Call for the Task Force 1 - Strengthening the NRL implementation
- Call for the Task force 2 - Advance the R&I Agenda

For each call, candidates will be asked to indicate the project they represent, if they are applying as a fellow / early career scientist (i.e. researchers with less than 7 years of experience after obtaining their degree) and whether or not they would be interested to take up the role of a TF Co-Chair. Those who indicate yes, will need to submit supplementary materials to demonstrate that they have previous experience in chairing working groups or committees, as well as documented expertise on the topic (requirements adjusted for early career; see further)

The Calls will be communicated both through the usual Biodiversa/Biodiversa+ channels, as well as through the participating partners/countries especially for TACR (national level). Communication support from relevant Joint Programme Initiatives will also be explored.



Required expertise by Task Force members

All experts participating to the knowledge hub should have:

- a. documented and respected scientific expertise on the thematic of Restoration and Biodiversity
- b. have the capacity to work in English
- c. good networking skills, and ability to work across cultures and disciplines
- d. time available for engagement in the knowledge hub - at least 1,5 days a month
- e. recent/active participation in Biodiversa funded projects, specifically for participants applying as a Biodiversa current or past funded project
- f. interest and/ or experience for science policy and / or science society interface

Early career scientists should identify themselves as such. Early career researchers will correspond to researchers with less than 7 years of experience after obtaining their degree (and under 40 years of age).

Experts interested in the role of senior Co-Chair should meet an additional set of requirements:

- a. visionary senior expert with recognised leadership in the field of Restoration and Biodiversity and European policies
- b. have previous Board/chairing experience, preferably in a pan-European context
- c. proven strategic planning and organizational management skills
- d. good communicator
- e. time available for the full discharge of the Chair's duties

Experts interested in the role of early-career Co-Chair should meet an additional set of requirements:

- a. demonstrate a first leadership / chairing experience, preferably in a pan-European context
- b. proven strategic planning and organizational management skills
- c. good communicator
- d. time available for the full discharge of the Chair's duties

Modalities for application

Except for the cases of experts proposed by designated initiatives, all applicants will need to submit their candidacy using an online registration form. They will have to answer a few specific questions (name, organization, country, represented project, time they are ready to invest in the knowledge hub) and will have to submit a short CV, as well as a short motivation letter (1-page max) elaborating how participation to the knowledge hub will contribute to the researcher's career path and impact. Experts interested to be Chair or Co-Chair will have to submit supplementary information, as described above.

Evaluation and selection

The final composition of Task Forces, including the selection of the co-chairs, will follow the general principles as laid out under 'Governance'. It will be a decision of the BiodivRestore General Assembly, based on the proposal by the Knowledge Hub Management Committee which would



constitute the Evaluation Committee – with early inputs from the General Assembly (iterative process). Three criteria will be taken into account by the Management Committee:

- Eligibility: the researchers will come from one of the targeted Call or Programme;
- Excellence: the researchers will be selected according to the best fit with the call of the task force, using a grade from 1 (very low) to 5 (very high);
- Balance: The Management Committee will, as far as possible, ensure a triple balance between pluri-disciplinary, geographical and gender balance.

The Management Committee reserves the right to proactively reach out to researchers in case they identify a gap in balance (expertise, gender, discipline - other).

To validate the composition of the task forces and the selection of Co-Chairs, the GA will - as far as possible - work by consensus. If consensus cannot be reached in the whole consortium, the voting procedure foreseen in the BiodivRestore Consortium Agreement (double majority of the votes) will be applied.

2.8. Timeline, according to the DoW

November 2023 | Agree on topic and format for the additional activity (MS29, due November 2022)

February 2024 |

- Final description of the additional activity (D6.4)
- Send out the call for interest to experts

February - March 2024 | Recruitment of experts and co-chairs

May 2024 | Launch of the additional activity (MS34)

March 2025 | Results of the additional activity (MS35)

Activities foreseen under the Knowledge Hub would start Q1 2024, and run until the end of BiodivRestore for now foreseen in September 2025.

Activities of the Knowledge hub will likely continue under the Biodiversa+ partnership.