Relevant outcomes of Biodiversa funded projects for the Global Biodiversity Framework targets

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What is Biodiversa+

Biodiversa+ is the new European co-funded biodiversity partnership supporting excellent research on biodiversity with an impact for policy and society. It was jointly developed by BiodivERsA and the European Commission (DG Research & Innovation and DG Environment) and was officially launched on 1 October 2021.

Biodiversa+ is part of the European Biodiversity Strategy for 2030 that aims to put Europe's biodiversity on a path to recovery by 2030.

The Partnership aims to connect science, policy and practise for transformative change. It currently gathers 80 research programmers and funders and environmental policy actors from 40 European and associated countries to work on 5 main objectives:

1. Plan and support research and innovation on biodiversity through a shared strategy, annual joint calls for research projects and capacity building activities
2. Set up a network of harmonised schemes to improve monitoring of biodiversity and ecosystem services across Europe
3. Contribute to high-end knowledge for deploying Nature-based Solutions and valuation of biodiversity in the private sector
4. Ensure efficient science-based support for policy-making and implementation in Europe
5. Strengthen the relevance and impact of pan-European research on biodiversity in a global context

More information at: https://www.biodiversa.eu/

Table of acronyms

APPEAL	Assessment and valuation of pest suppression potential through biological control in European agricultural landscapes
BiodivValues	BiodivERsA 2010-2011 research call for proposals on biodiversity and ecosystem services and their valuation
BUFFER	Partially protected areas as buffers to increase the linked social-ecological resilience
CoForTips	Congo basin forests: tipping points for biodiversity conservation and resilience of forested social and ecological systems
CONNECT	Linking biodiversity conservation and ecosystem services: Advancing insights in trade-offs and synergies between biodiversity, ecosystem functioning and ecosystem service values for improved integrated biodiversity policy
DIARS	Detection of invasive plant species and assessment of their impact on ecosystem properties through remote sensing
GBF	Global Biodiversity Framework
SalmoInvade	Causes and consequences of invasions of aquatic ecosystems by non-native salmonids

Executive Summary

This report addresses the ambitions of the Global Biodiversity Framework (GBF) and highlights the potential role of Biodiversa+, the European Biodiversity Partnership, in contributing to this effort by developing a catalogue of tools developed by Biodiversa+ research funded projects for supporting policy makers based. Biodiversa+ aims to facilitate transformative change in policy making to foster evidence-based decision-making processes that align with GBF Targets. The report introduces a roadmap for developing a catalogue of tools derived from past Biodiversa+ projects to enhance knowledge transfer and capacity building among member states, promoting best practices and aligning activities with GBF objectives.

The catalogue of tools will serve as an online inventory for knowledge transfer and capacity-building. The catalogue's development process comprises mapping of research project outcomes from past Biodiversa+ calls that were funded between 2010 and 2021. A pilot activity assessed projects from 2010 to 2013 already, which resulted with shortlisting six relevant tools that are accessible and applicable in various cases. These tools address diverse needs, from pest management and ecosystem services assessment to marine protected areas classification and decision support games. The catalogue aims to cluster tools by target groups and thematic areas that are in line with GBF targets.

The report outlines the next steps, including drafting a template for describing the main features of the catalogued tools and engaging with project coordinators for getting information about the current state of the identified tools. The ongoing assessment of Biodiversa+ calls (2014-2021) will expand the number of tools that will go into the inventory. Once critical mass is achieved, information about the identified tools will be uploaded to the Biodiversa+ website. Future plans involve organising online trainings on how to use the tools by their target groups.

www.biodiversa.eu

Context

Achieving the ambitious targets of the Global Biodiversity Framework (GBF) presents a formidable challenge due to constraints on resources and the necessity to navigate the trade-offs between biodiversity conservation scenarios. The GBF targets cover a range of areas mainly built around halting the biodiversity loss and supporting the protection, conservation and recovery of ecosystems on land and sea by 2030. With a call for mainstreaming biodiversity issues on global agenda, the framework encourages integrating biodiversity considerations into all sectors of society, from business and finance to government policies and development planning. The GBF further promotes sustainable practices in agriculture, forestry, fisheries, and other sectors to minimize negative impacts on biodiversity, while emphasizing the importance of collaboration and engagement with indigenous peoples, local communities, and various stakeholders to achieve its targets.

The drivers of biodiversity loss listed in the GBF vary spatially and exacerbated mostly by anthropogenic factors such as habitat destruction, pollution, mobility of invasive species, and climate change. Over the years Biodiversa has been funding academically excellent research projects with an impact of policy and society. Some of these projects address these drivers of biodiversity loss to expand the knowledge base that is needed for developing evidence-based decision making. It is not a rarity for research projects to produce outputs and solutions that are adaptable and reusable under different contexts. Although some of these research solutions may not age-well, restored or promoted properly, it is of utmost importance for Biodiversa+, the European Biodiversity Partnership to track and valorise the outputs of past projects to fulfil their use potential by practitioners and decision-makers.

In this context, **this report revisits and investigates the past projects of Biodiversa+ community to identify different tools, methods and approaches that can be used for decision-making by practitioners and policy makers when pursuing the targets of the GBF**. This activity will lead to formation of a **catalogue of tools** produced by Biodiversa+ research projects and recommendations on their use will be documented in an accessible format on the Biodiversa+ website. In the first part of the report, the rationale for developing such catalogue of tools to support the implementation of the GBF will be introduced. In the second part of the report, the methodology to develop this catalogue is presented. Finally, the steps to complete all this catalogue are listed in the third part of the report.

I) What does Biodiversa+ want to achieve with a catalogue of tools?

Biodiversa+ underscores the importance of the GBF and its role for mainstreaming biodiversity issues at global scale. In April 2023 the *Biodiversa+ Science-Policy Forum on Knowledge and capacity to facilitate the implementation of the Kunming-Montreal Global Biodiversity Framework*[1] has further retaliated the Partnership's dedication to promote and contribute to the implementation of the GBF (Figure 1. Biodiversa+ and the GBF: Role & Added Value).

The GBF process will require considerable amount of capacity building for transformative change in policy making and operations of biodiversity actors. This need is explicitly underlined in the GBF Targets 20 to 23. While the **knowledge development** through joint transnational research calls constitutes a key pillar and the first step for initiating the needed transformative change, strengthening the **uptake of research outputs** is as important. As mainly a member state driven initiative, Biodiversa+ aims to strengthen coherence between regional and national approaches to science-based activities in relation to the GBF targets.
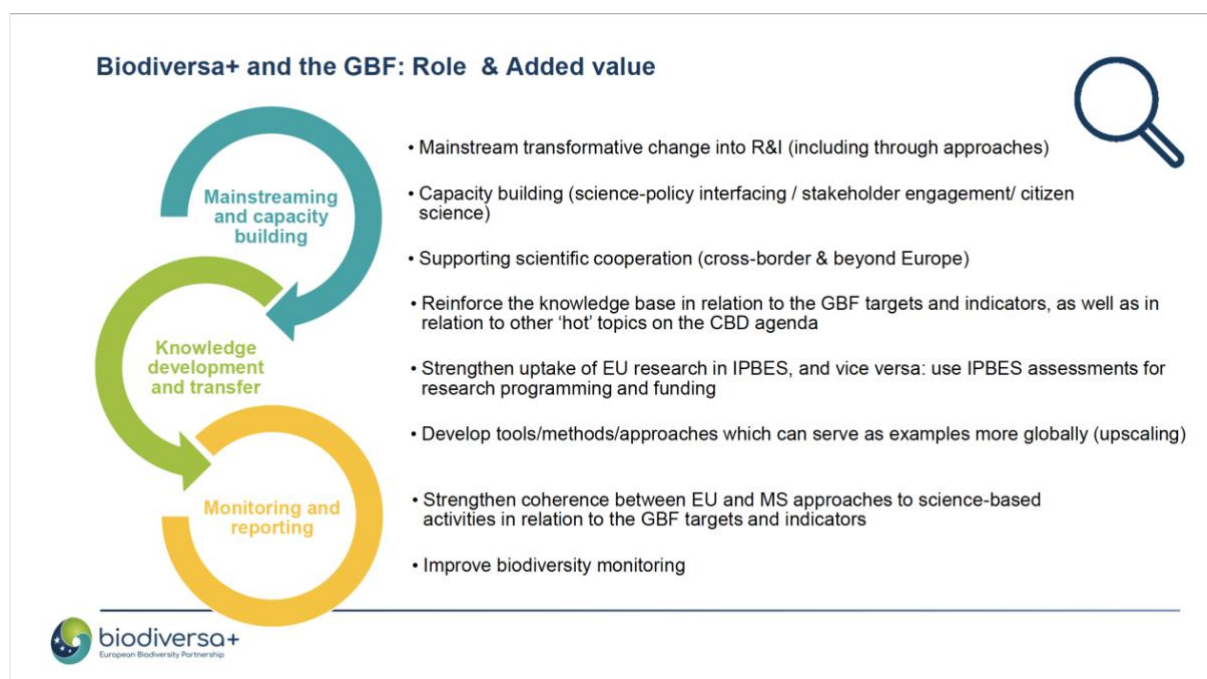

Fig 1: Biodiversa+ and the GBF: Role & Added Value

The catalogue of tools will serve as a key component of knowledge transfer and capacity building of member states by compiling relevant tools under an umbrella to set example of best practices and upscale their applicability in the GBF implementation process. More specifically the online catalogue can help the users in following ways:

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[1] Biodiversa website: https://www.biodiversa.eu/2023/04/21/science-policy-forum-on-knowledge-and-capacity-for-implementing-the-kunming-montreal-global-biodiversity-framework/

1. **Access to Information:** The catalogue will provide a centralized repository of tools and resources related to biodiversity conservation and management, making it easier for users to find relevant information quickly.

2. **Guidance on Decision-Making:** Decision support tools within the catalogue can offer guidance on various aspects of biodiversity conservation, such as ecosystem assessment, species protection, alien species, habitat restoration, and sustainable resource management. These tools can help practitioners and policymakers make informed decisions aligned with the framework's objectives.

3. **Data Management:** Some Biodiversa+ projects have produced large datasets related to biodiversity. Such datasets can be crucial for tracking progress, assessing the status of biodiversity, and evaluating the effectiveness of conservation efforts.

4. **Scenario Planning:** The scenarios and models developed by Biodiversa+ projects can help practitioners and policymakers explore various strategies and their potential outcomes, assisting in the development of robust biodiversity conservation plans.

5. **Policy Formulation:** Biodiversity practitioners and policymakers can use these tools to evaluate the potential impact of policies and regulations on biodiversity. This helps in designing policies that are in line with the Global Biodiversity Framework's targets.

6. **Spatial Planning:** Decision support tools can aid in spatial planning by identifying areas or species that require urgent attention or are of high conservation value.

7. **Stakeholder Engagement:** Some tools can offer features for stakeholder engagement and collaboration. This can facilitate communication, cooperation and conflict resolution among various stakeholders involved in biodiversity conservation efforts.

8. **Monitoring and Reporting:** Decision support tools can assist in monitoring progress towards the Global Biodiversity Framework's targets and generating reports to demonstrate achievements and areas that need improvement.

9. **Capacity Building:** Catalogues can include training resources and materials developed by Biodiversa+ projects, allowing practitioners and policymakers to enhance their skills and knowledge in biodiversity conservation.

10. **Standardization:** The catalogue can promote the use of standardized methodologies and approaches across different regions and organizations, ensuring consistency in data collection and reporting.

The catalogue will enable different solutions to be described by the solution providers themselves (i.e. the project coordinators) and tagged according to their relation to one or more of the 23 GBF targets. Practitioners and policy makers of biodiversity networks will have the opportunity to navigate, select and apply the tools that could serve best in line with their needs.

II)   Developing a catalogue of tools

The tools to be catalogued will be identified through mapping of finished projects that were funded under the previous calls of Biodiversa+, starting with the 2010-2011 BiodivValues Call on "biodiversity and ecosystem services and their valuation". This means revisiting the outcomes of 147 transnational projects to understand if they are still offering applicable and accessible tools for the use of biodiversity communities.

As a pilot activity, the work began by assessing projects funded under three calls between 2010 and 2013. This assessment follows up on the analysis of the outcomes of the 25 projects funded under these calls and made available on Biodiversa+ website. The report identified 126 unique project outputs ranging in their **nature**, including policy briefs, knowledge intensive tools, case studies, scientific & media articles, interviews and training sessions among others. The outputs are also categorised in terms of their **type** of impact. Accordingly:

- the first group of outputs are designed solely for *informative* purposes such as press & media articles or interviews,
- the second group are still rather informative, yet *targeting* certain end users via training activities and policy briefs,
- the third group is labelled as *proactive*, rather than informative that target specific groups and calls for action from the audience/user by offering them knowledge intensive tools, trainings and excursions, or targeted policy briefs.

Pie charts about the nature (Fig 2) and type (Fig 3) of 126 outputs generated by the 2010-2013 projects are presented below.
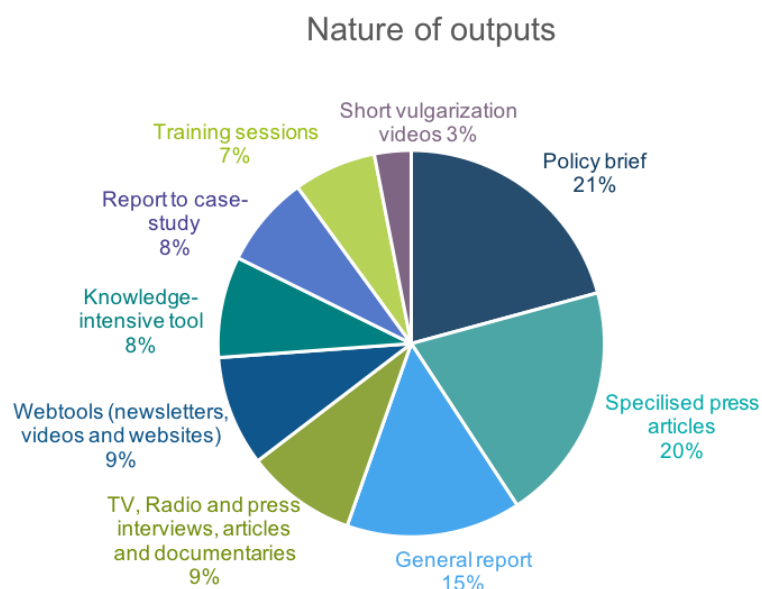

Fig 2: Nature of the outputs developed by the BiodivValues research projects
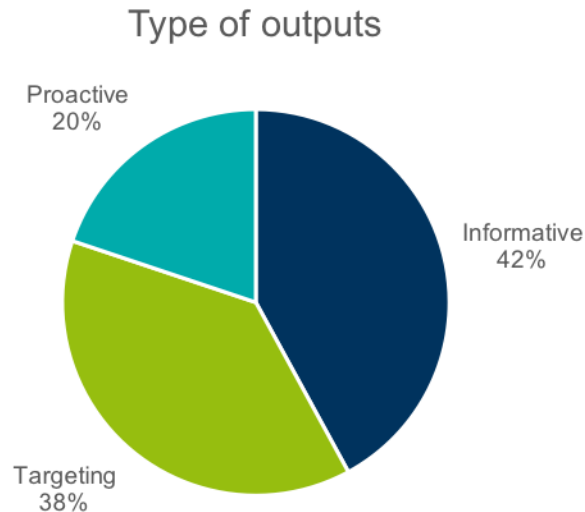
Type of outputs

Fig 2: Type of outputs generated by the BiodivValues research projects

A selective second reading of these 126 outputs to identify the tools that are suitable for the catalogue has led to selection of 6 outputs to be short-listed. These short-listed outputs include:

- **a modelling tool for pest management** (APPEAL), that can be used both by pest management practitioners (to design integrated pest management programs) and policy-makers (to explore the impact of land-use change on biocontrol services and crop production).
- **an operational toolbox to assess ecosystem services** (CONNECT), that can beused for mapping and simulation of ecosystem services changes under different No Net Loss policy scenarios by consultants.
- **a classification system for Marine Protected Areas** (BUFFER), which is based on the findings, with each MPA class related to different levels of ecological effectiveness.
- **a decision support game featuring usage conflicts and local stakeholder strategies** (CoForTips) to understand, learn and develop new strategies.
- **a toolbox for mapping invasive species** (DIARS) intended for engaging and educating stakeholders and end-users such as ecologists, nature conservation agencies and land managers. and
- **a management software for exploring the ecological effects of salmonid invasions in Europe** (SalmonInvade) to plan fisheries management actions was developed and made available to the general angling public.

Other 120 outputs were intentionally excluded, not because of their irrelevance to the GBF targets but because of their low levels of use value as a catalogue tool. When shortlisting the tools, two main criteria have been applied.

I. **Applicability**: Is it a concrete tool with technical recommendations that can be applicable in various cases? For instance, if it is a policy brief with generic recommendations, the output is not shortlisted. Another example, if the output is a data set/model/scenario that focuses on an endemic kind in a unique ecosystem with no possibility to be reused in other contexts, then it is dismissed too.

II.   **Accessibility**: Is there a clear reference to the tool to keep it accessible? If the output has been idle and not maintained for a long time, or not updated as needed, or the supposed link is not working, the output is not shortlisted.

III)   Next steps

The next steps will include drafting a "tool factsheet" template for describing the key features and guidelines for using the shortlisted tools. The templates will then be sent to the project coordinators to be filled in with necessary information. In parallel, the assessment of other Biodiversa+ calls between 2014 and 2021 will continue to identify more tools and communicate with project coordinators to fill in more tool factsheets. Once a critical mass of tool inventory is reached a special section on the Biodiversa+ website will be launched for the catalogue. During the second phase of Bidoiversa+ (2024 onwards) the tools will be clustered according to target groups and thematic areas to organise online seminars in the form of trainings.