

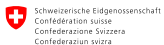
Biodiversity Meets Data

Scaling up on biodiversity monitoring and biodiversity analyses for better conservation across Europe



Co-funded by
the European Union

Project funded by



Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

BMD (Biodiversity Meets Data) receives funding from the European Union's Horizon Europe Research and Innovation Programme and the Swiss State Secretariat for Education, Research and Innovation (SERI) (ID No 101181294). Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union, the European Research Executive Agency (REA) or SERI. The EU, REA and SERI cannot be held responsible for them.

A large, dark, eel-like fish is resting on a rock in a green, grassy environment. The fish is positioned horizontally, facing right, and is resting on a large, dark rock. The background is filled with dense, green grass. The word "Contributions" is written in white, bold, sans-serif font across the middle of the image.

Contributions

Partners



Swiss Institute of
Bioinformatics



Royal
Botanic Garden
Edinburgh



INTERNATIONAL
HELLENIC
UNIVERSITY



Represented Biodiversity RIs and Projects through BMD partners



Consortium members at BMD's kick-off meeting

Leiden, Netherlands

Project duration: March 2025 – February 2029



BMD in support of the EU biodiversity strategy for 2030



- **Plan, manage and expand** protected areas and **improve the conservation status** of species and habitats based on up-to-date knowledge and solutions.
- **Understand and address drivers of biodiversity decline**
- **Mainstream biodiversity, ecosystem services**, including through the development of nature-based solutions.

A blue-tinted photograph of a beaver sitting in a field of tall grass. The beaver is the central focus, looking slightly upwards and to the right. The background is a dense field of grass, also tinted blue. The overall mood is calm and natural.

Expected outcomes

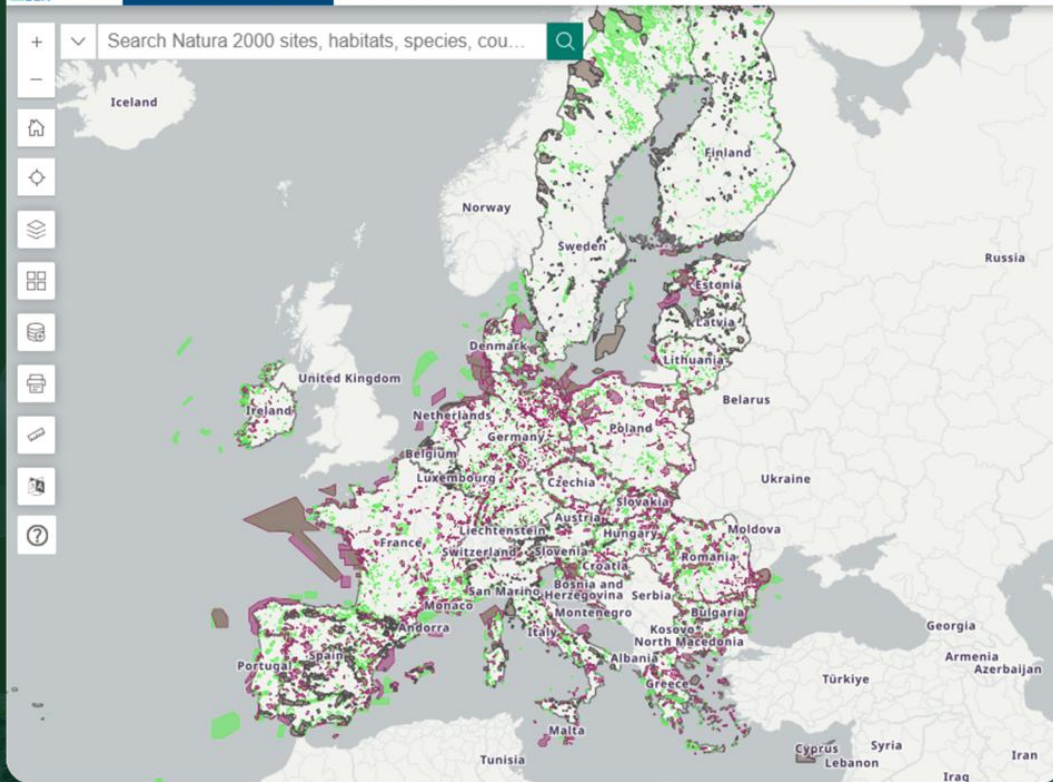
BMD's expected outcomes

- **Better monitoring** of biodiversity in the EU by high-throughput methods leading to a better implementation of the Nature Directives.



NATURA 2000 EXPERT VIEWER

Disclaimer and note for dataset year 2024



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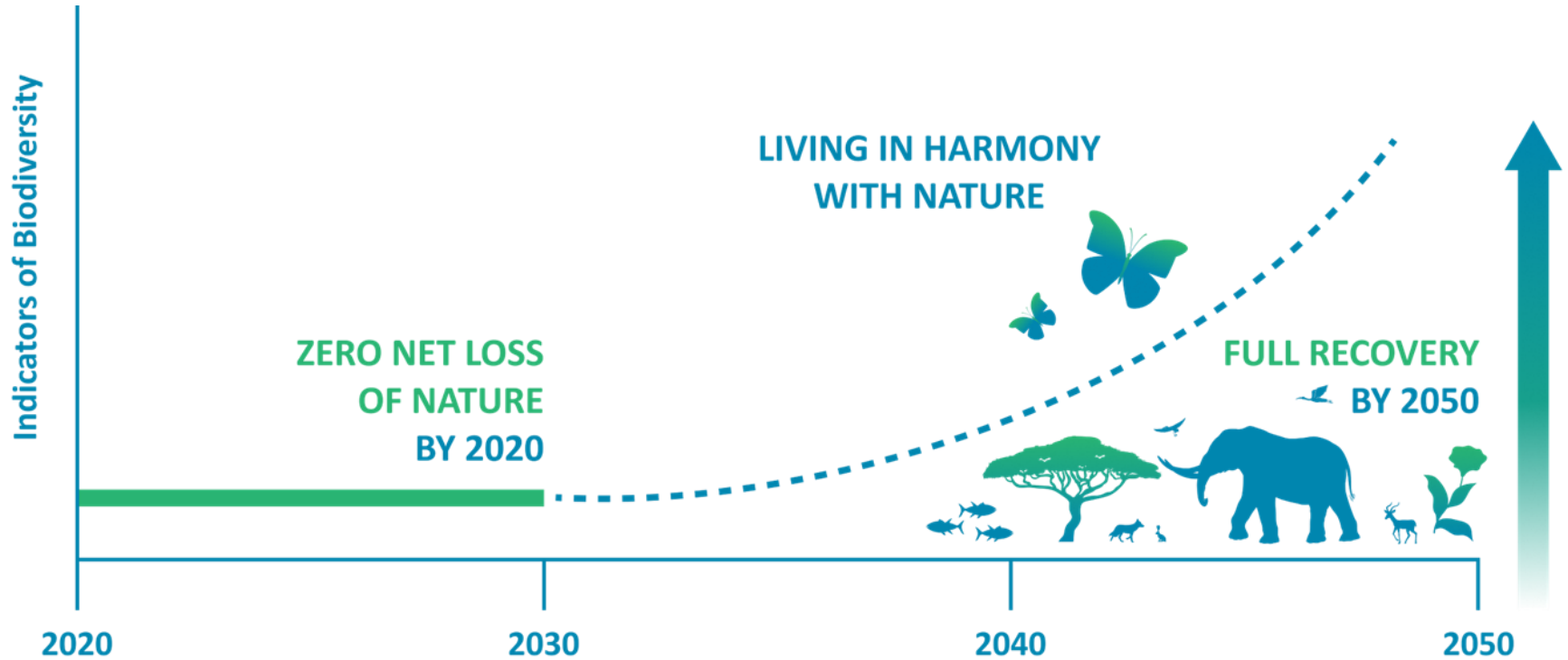


BMD's expected outcomes

- **Better monitoring** of biodiversity in the EU by high-throughput methods leading to a better implementation of the Nature Directives.
- **Better understanding** of the state of nature and of the drivers of biodiversity loss, a better usage of existing data.
- **More complete view** of the state of nature and its evolution.

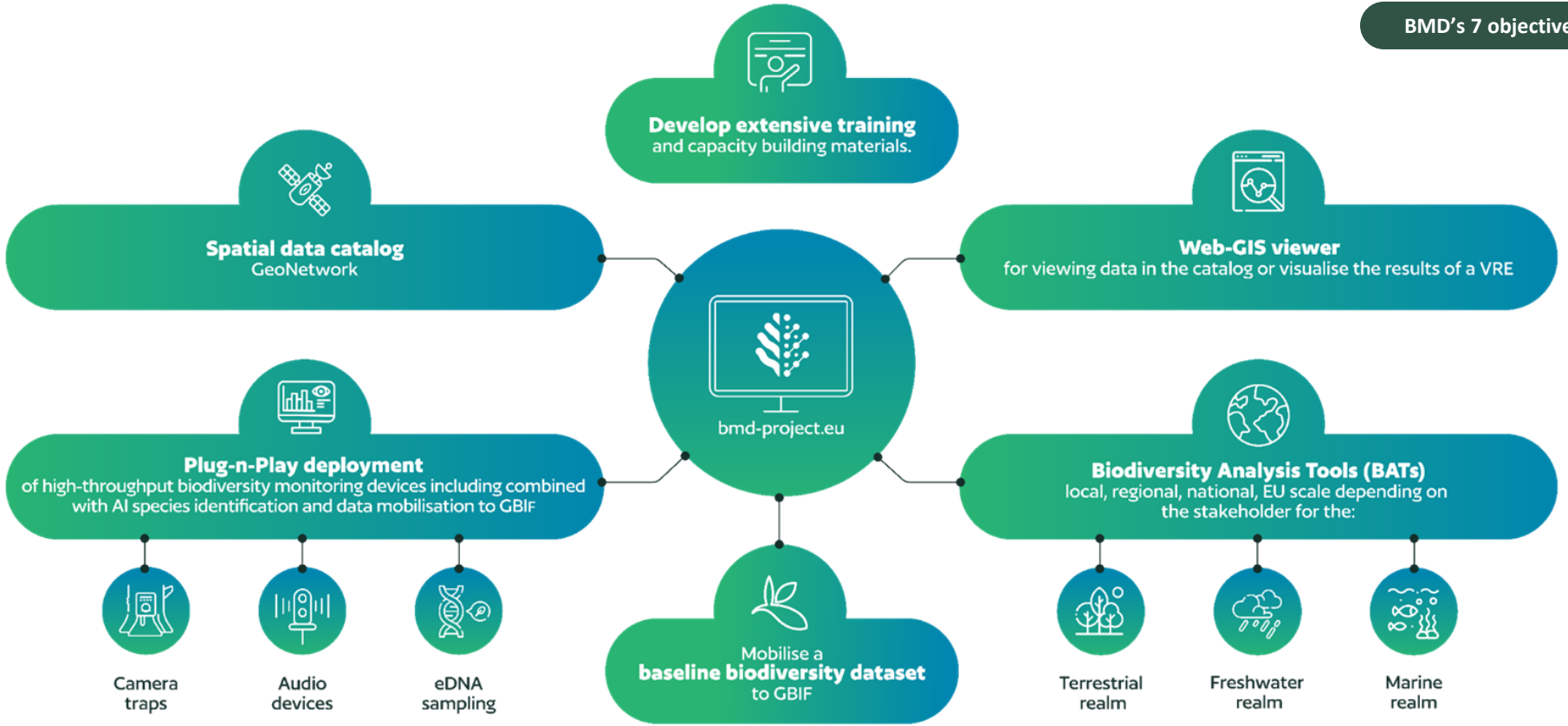
Figure 23: Nature Positive by 2023

A measurable global goal for nature.
Source: Locke et. al (2021).



A bison is shown in profile, facing right, in a grassy field. The entire image is covered with a teal-to-green gradient overlay. The text "Seven objectives" is centered in white, bold font.

Seven objectives



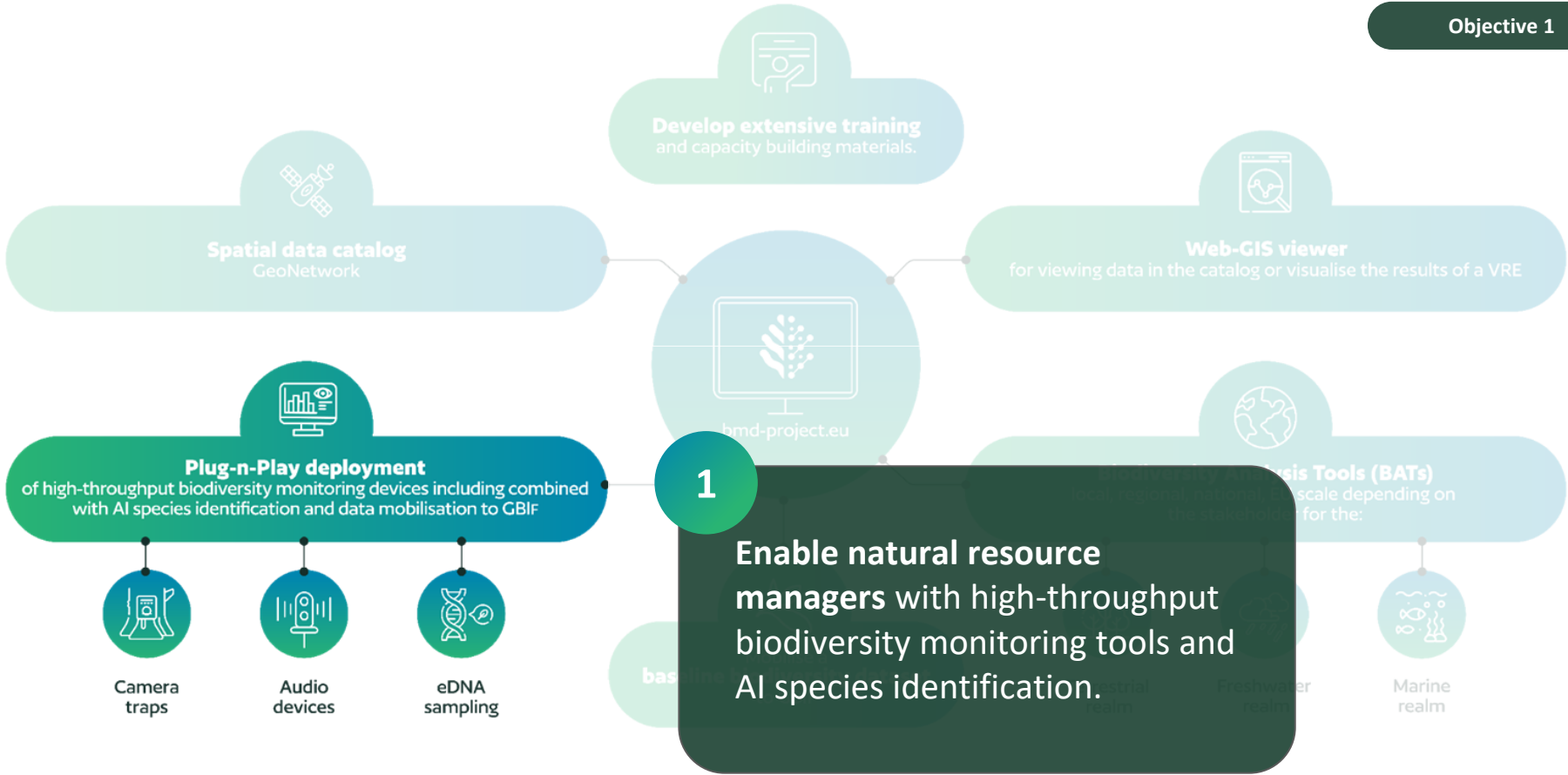
Year 1

Year 2

Year 3

Year 4

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48



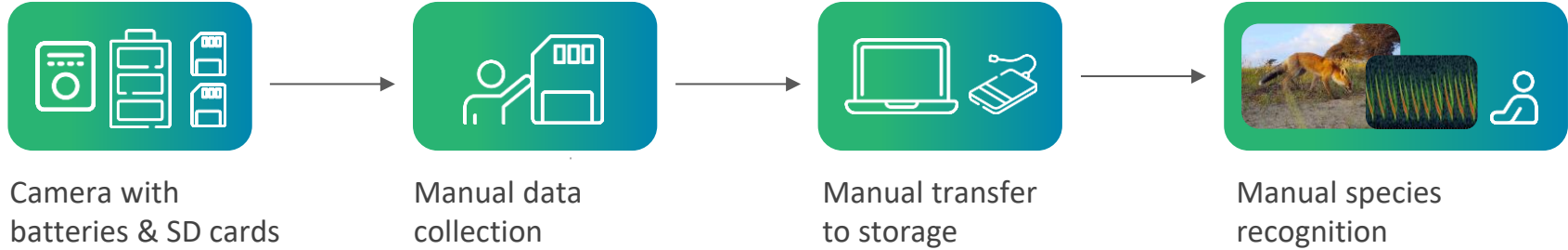


1

Enable natural resource managers with high-throughput biodiversity monitoring tools and AI species identification.



Traditional monitoring with cameras and audio devices

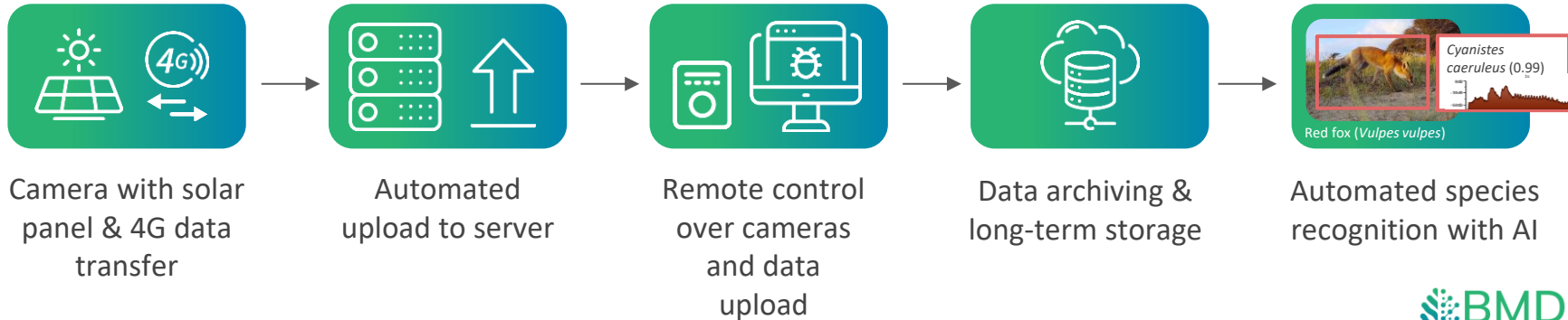




Traditional monitoring with cameras and audio devices



Autonomous monitoring with cameras and audio devices

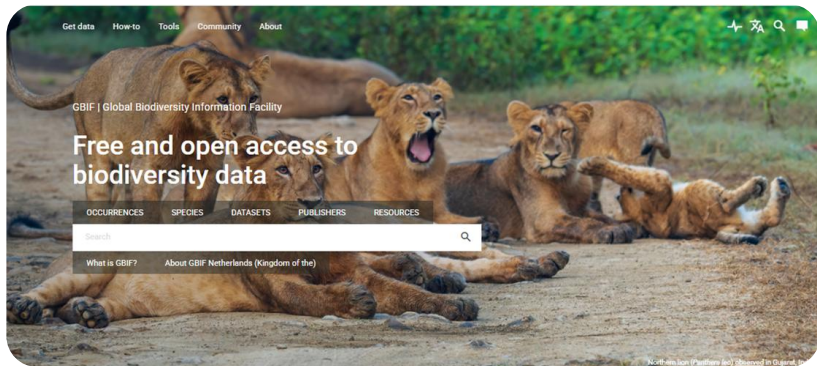


Mobilisation of biodiversity data to the Global Biodiversity Information Facility – GBIF.org from:

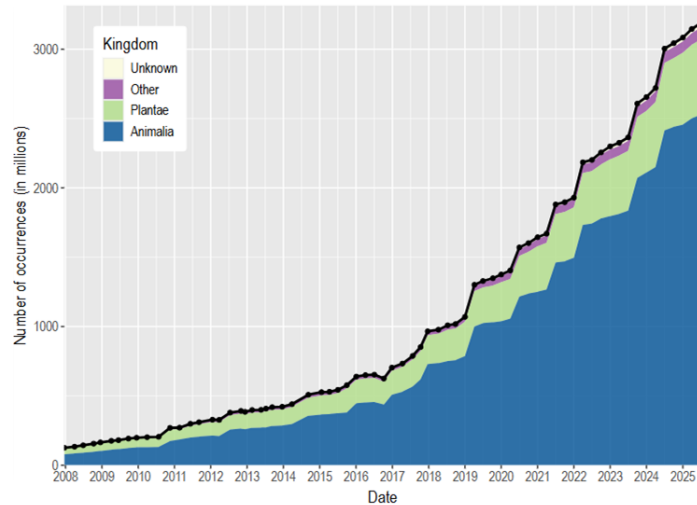
1. Historical baseline assessments
2. Environmental Impact Assessments (EIAs)
3. N2000 Standard Data Forms (SDFs)
4. National checklists via CoL ChecklistBank
5. Etc.

2

Support FAIR sharing of
baseline and legacy
biodiversity data.



Species occurrence records accessible through GBIF over time



3,509,418,243

Occurrence records



117,538

Datasets



2,563

Publishing institutions



13,583

Peer-reviewed papers using data



Kunming - Montreal

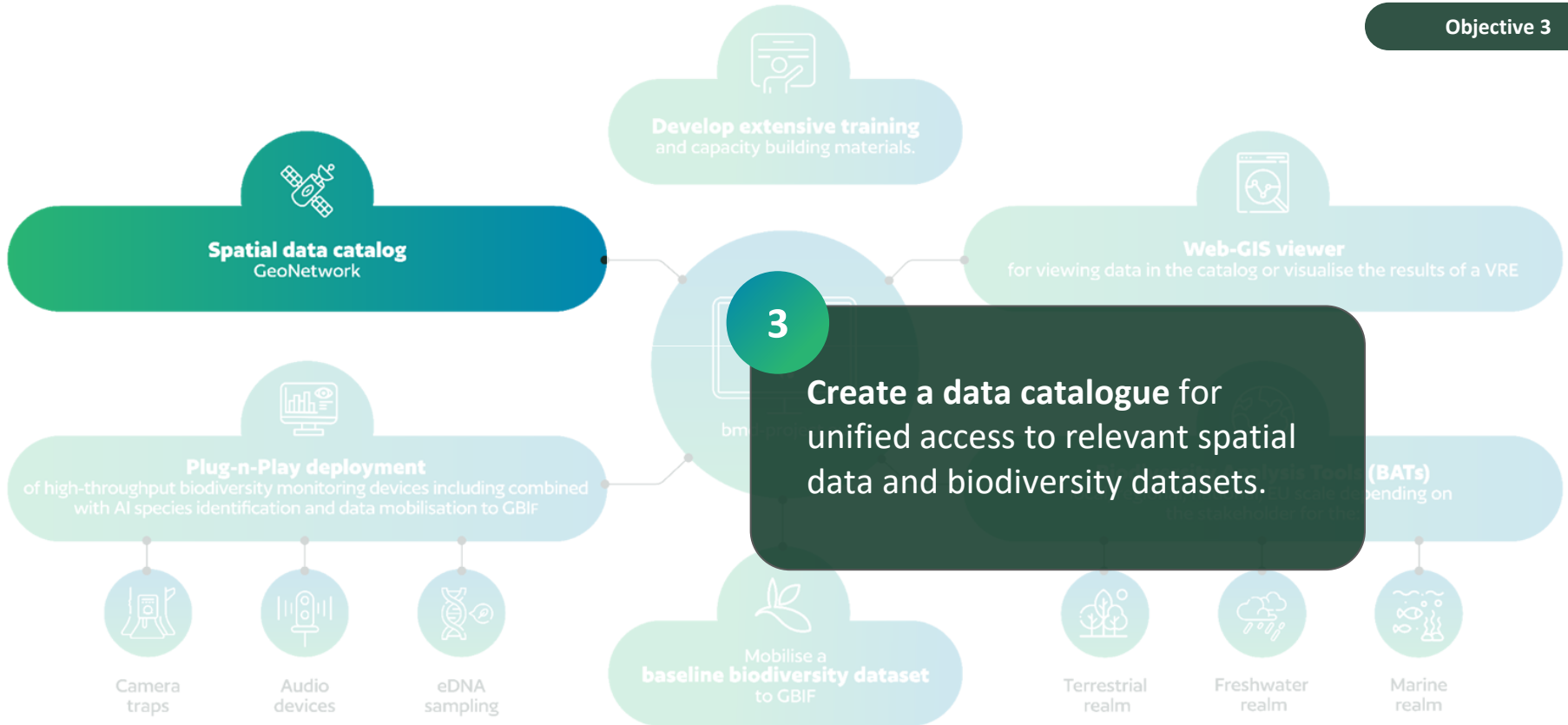
GLOBAL BIODIVERSITY FRAMEWORK

Objective 2

21

Ensure That Data and Knowledge are Available and Accessible to Guide Biodiversity Action

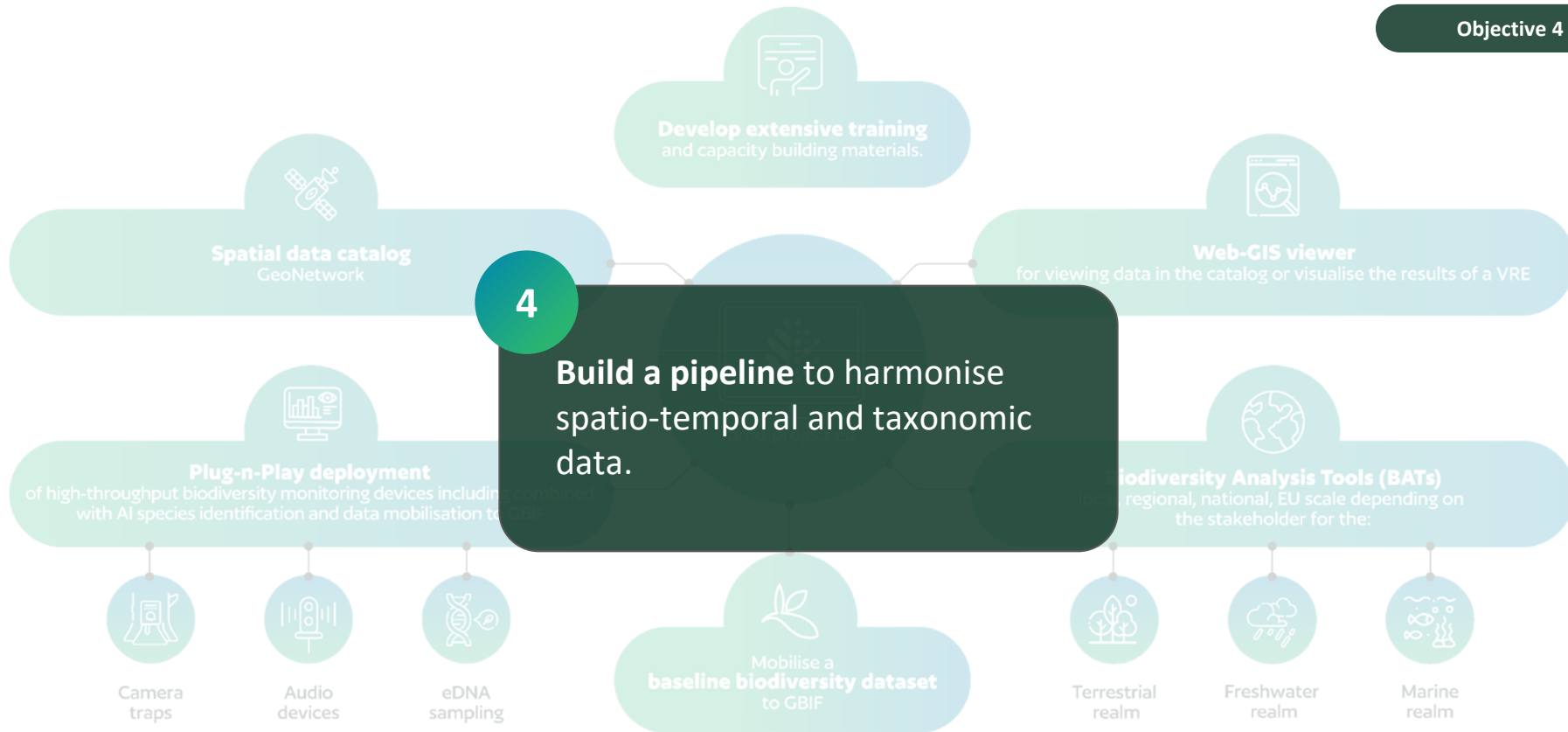


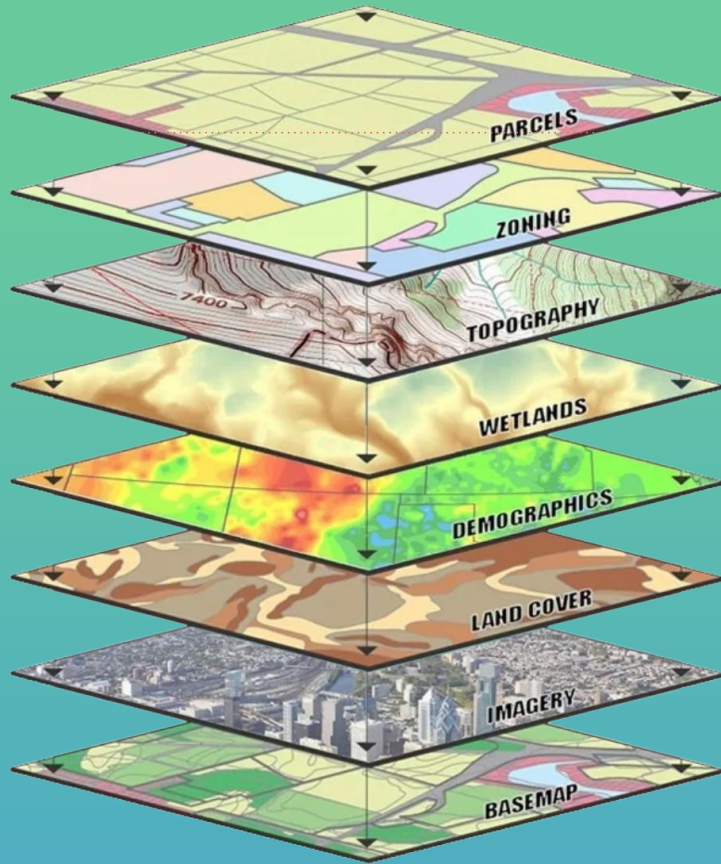


<p>Sentinel-3 OLCI Water Reduced Resolution (NTC)</p> <p>This collection provides Sentinel-3 OLCI Level-2 Water Reduced Resolution products containing data on water-leaving reflectance, ocean color, and more.</p> <p>3 links</p>	Category: Datasets	
<p>Sentinel-5P Level 2 Cloud (RPRO)</p> <p>This Collection provides Sentinel-5P Level-2 Cloud products, which contains high-resolution imagery of cloud parameters.</p> <p>3 links</p>	Category: Datasets	
<p>Sentinel-3 OLCI Land Full Resolution (NRT)</p> <p>This collection provides Sentinel-3 OLCI Level-2 Land Full Resolution products containing data on global vegetation, chlorophyll, and water vapor.</p> <p>3 links</p>	Category: Datasets	
<p>Sentinel-3 SRAL Land Radar Altimetry - Sea Ice (NTC)</p> <p>This Collection provides Sentinel-3 SRAL Level-2 Land Altimetry Sea Ice products, which contains estimations of the radar freeboard over the Arctic and Antarctic sea ice.</p> <p>3 links</p>	Category: Datasets	
<p>Global surface water 1984 - 2021</p> <p>This dataset is intended to show different facets of the spatial and temporal distribution of surface water over the last 38 years. The European Commission's Joint Research Centre developed this new water dataset in the framework of the Copernicus Programme. This maps the location and temporal distribution of water surfaces at the global scale over... more</p> <p>3 links</p>	Category: Datasets	
<p>Sentinel-3 SYNERGY Aerosol Optical Depth (NTC)</p> <p>This Collection provides the Sentinel-3 Synergy Level-2 Aerosol Optical Depth product, which is a downstream development of the Sentinel-2 Level-1 OLCI FR and SLSTR Radiances and Brightness Temperatures products. The dataset provides both retrieved and diagnostic global aerosol parameters at super-pixel (4.5 km x 4.5 km) resolution in a single Net... more</p> <p>3 links</p>	Category: Datasets	
<p>Natura 2000 - version end 2023</p> <p>Natura 2000 is an ecological network of protected areas, set up to ensure the survival of Europe's most valuable species and habitats. Natura 2000 is based on the 1979 Birds Directive and the 1992 Habitats Directive. Natura 2000 is the key instrument to protect biodiversity in the European Union. The European database of Natura 2000 sites consists... more</p> <p>2 links</p>	Category: Datasets	
<p>Bio-ORACLE</p> <p>This dataset provides 26 physical, chemical, biological, and topographic data layers with global coverage, uniform grid system, at a spatial resolution of 0.05 degrees, and a temporal resolution of 10 decadal steps, from 2000 to 2100, of which: 19 essential physical, chemical and biological variables, are presented as 6 statistics* for surface and... more</p> <p>4 links</p>	Category: Datasets	

3

Create a data catalogue for unified access to relevant spatial data and biodiversity datasets.





4

Build a pipeline to harmonise spatio-temporal and taxonomic data.



ChecklistBank

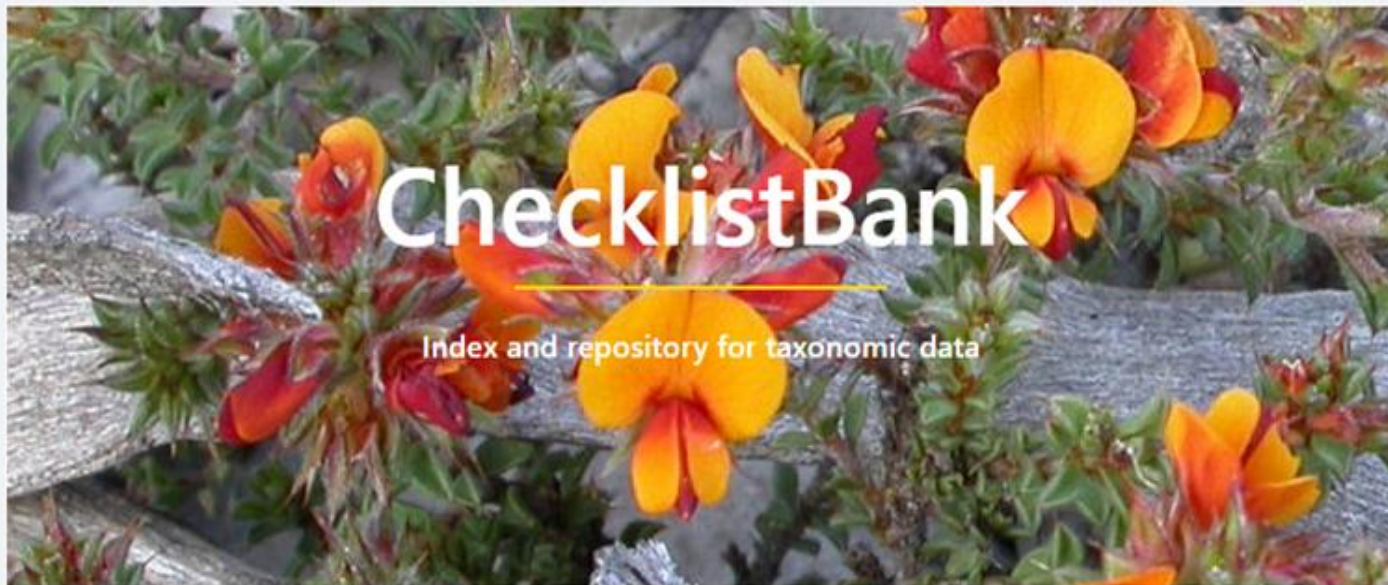


About

Datasets

Tools

Dataset: 2014



Species in Catalogue of Life

2,232,257

Name Usages in ChecklistBank

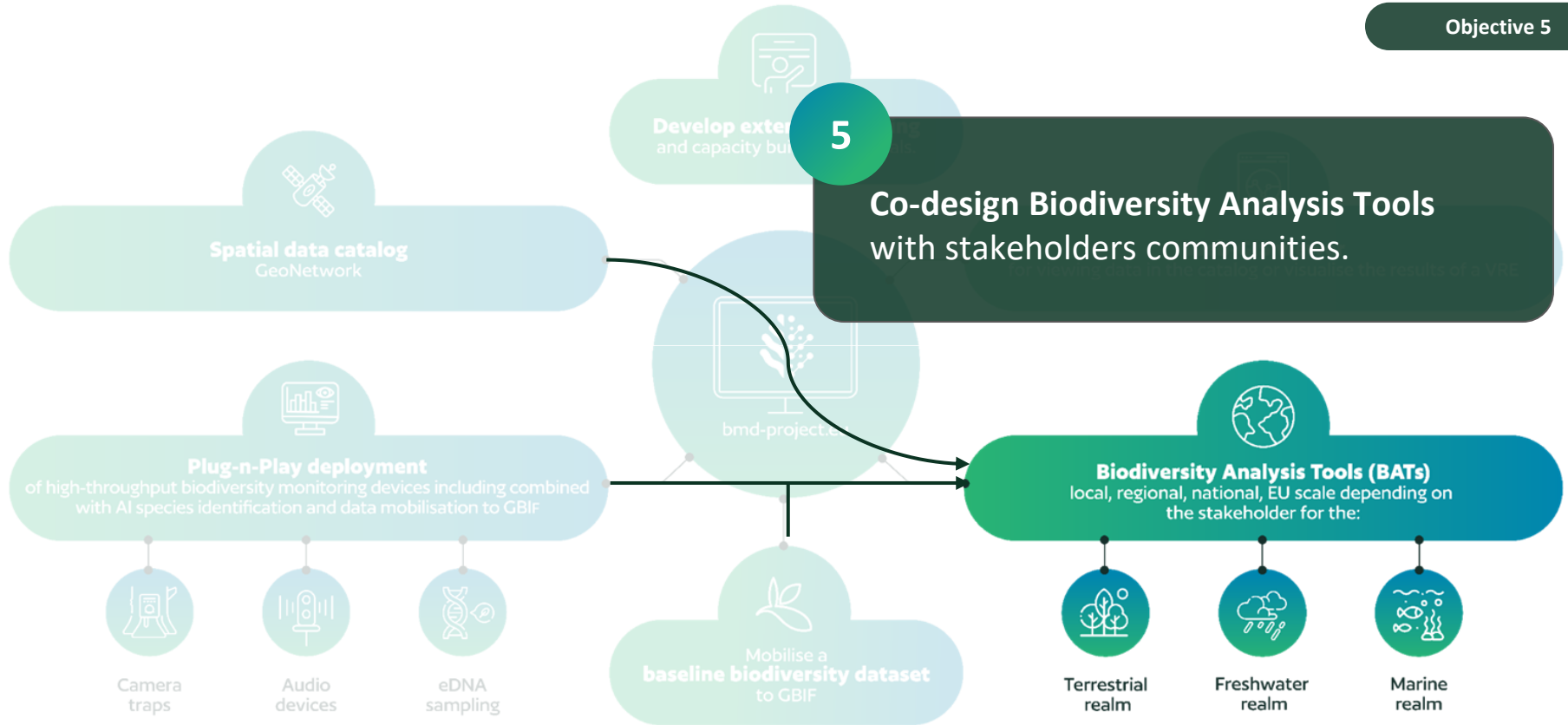
280,798,612

Datasets in ChecklistBank

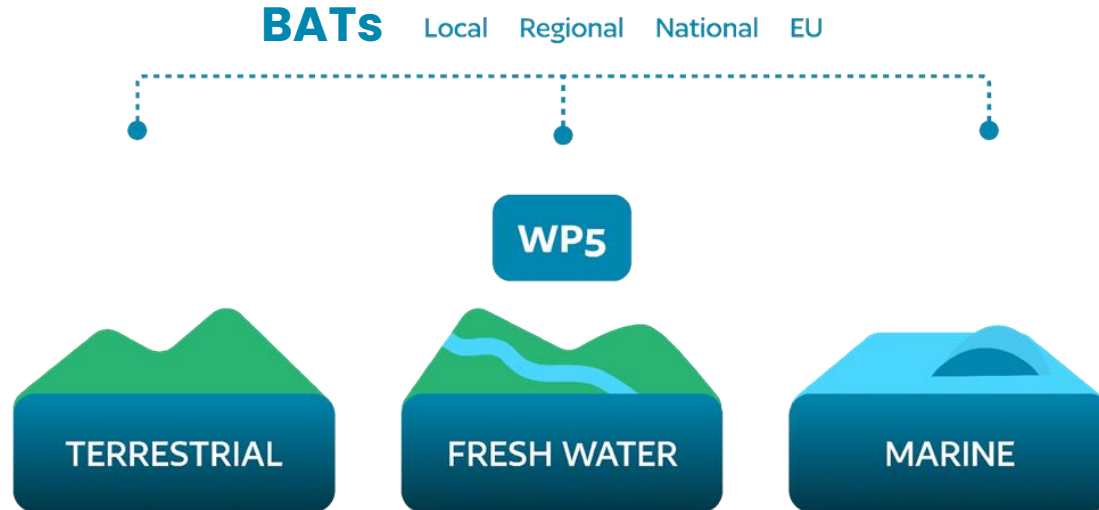
61,533

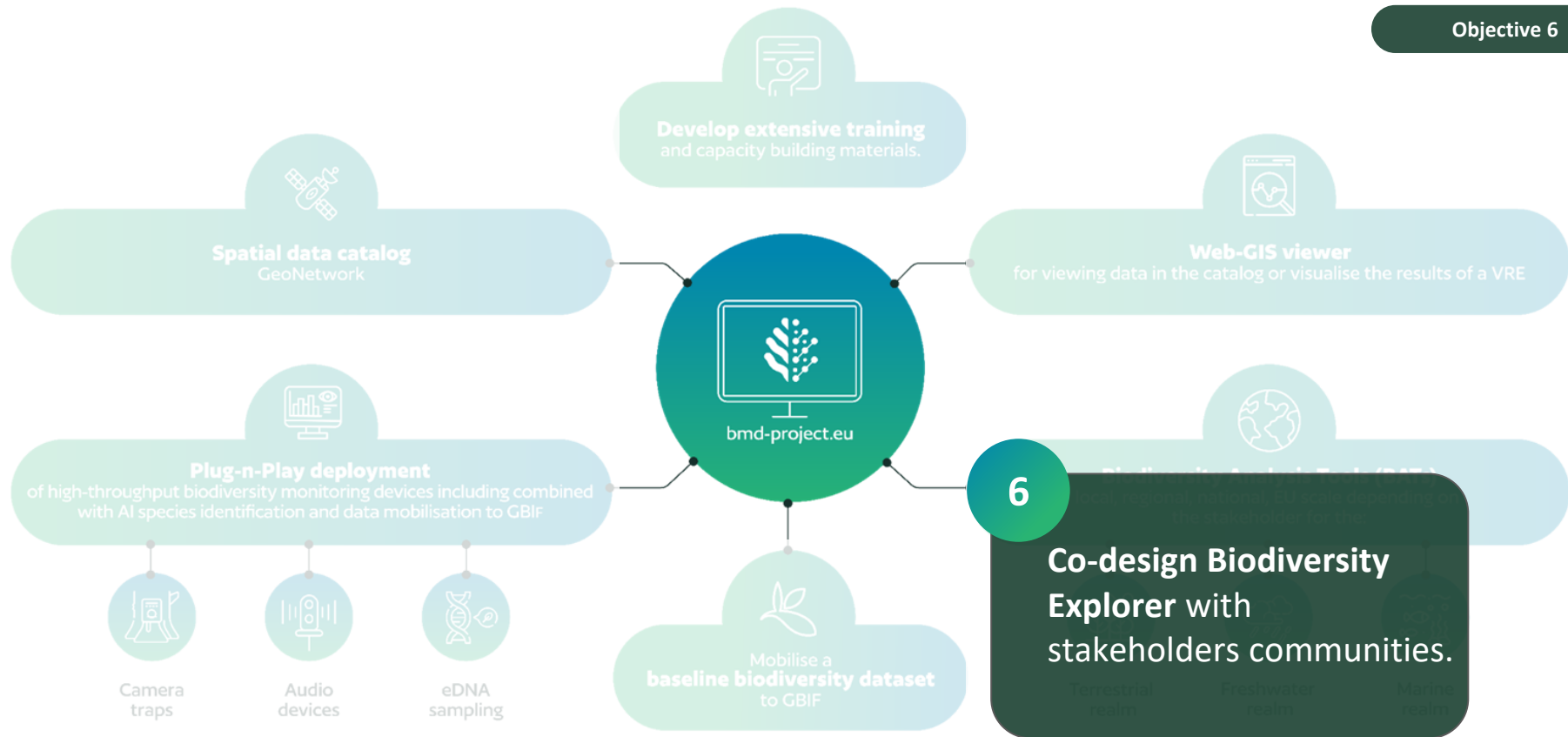
Latest COL Checklist

2025-09-11



Co-designed with stakeholders, these on-demand tools enable analysis of biodiversity trends, drivers of change, and impacts across all realms to support targeted action and policy.





BMD stakeholders



Public, private and third-sector managers of natural resource sites
with responsibility for site-level strategic delivery of biodiversity conservation.



Government agencies
at multiple levels (Europe, national and regional) with responsibility for reporting under the Nature Directives.



Policymakers
in the domain of the EU Green Deal, EU biodiversity strategy for 2030 and the EU nature restoration regulation.

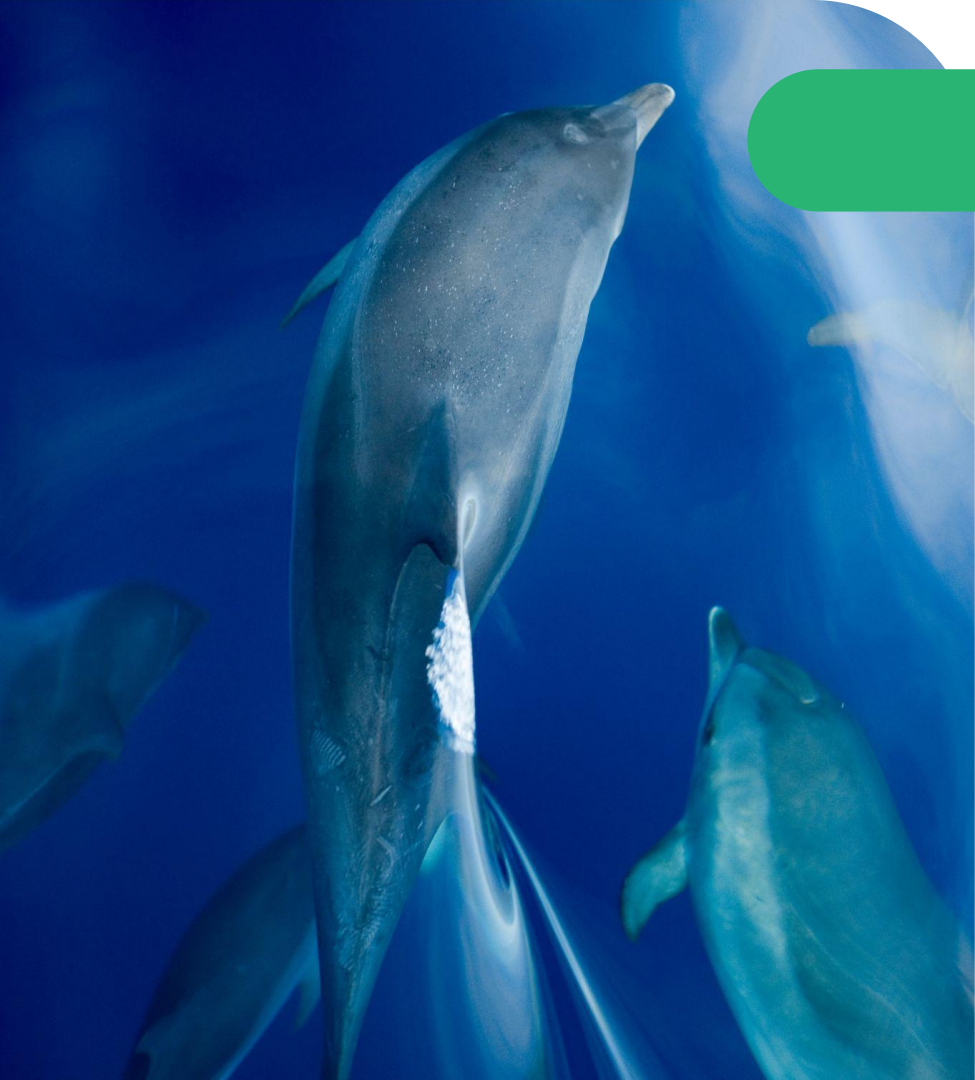


Private sector
with reporting obligations under the Corporate Sustainability Reporting Directive.



Academia
in the Natural and Life Science domains.





Get involved!





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BMD receives funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101181294. Views and opinions expressed are those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the EU nor REA can be held responsible for them.