

Biodiversity Meets Data

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



Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic
Education and Research EAE
State Secretariat for Education
Research and Innovation SERI

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A large, dark, eel-like fish is resting on a rock in a green, grassy underwater environment. The fish is positioned horizontally, facing right, and is partially obscured by the word 'Contributions' which is overlaid on its body. The background is filled with dense, green, leafy plants, creating a vibrant, natural setting. The overall color palette is dominated by various shades of green and blue, giving it an underwater feel.

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 photograph of a sloth sitting in a field of tall grass. The image is overlaid with a teal gradient, which is darker on the left and lighter on the right. The sloth is positioned on the right side of the frame, looking slightly upwards and to the right. The text "Expected outcomes" is centered in the middle of the image in a white, bold, sans-serif font.

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.



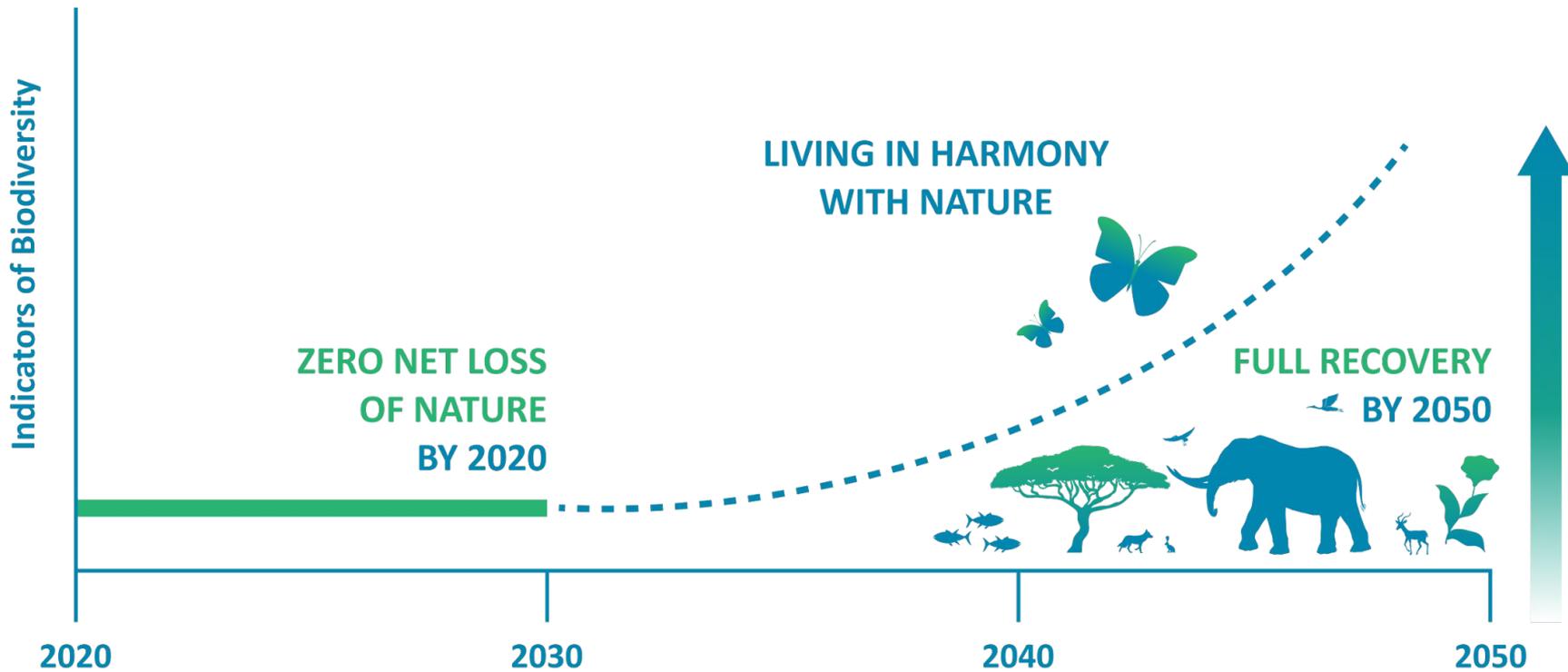


BMD's expected outcomes

- **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.

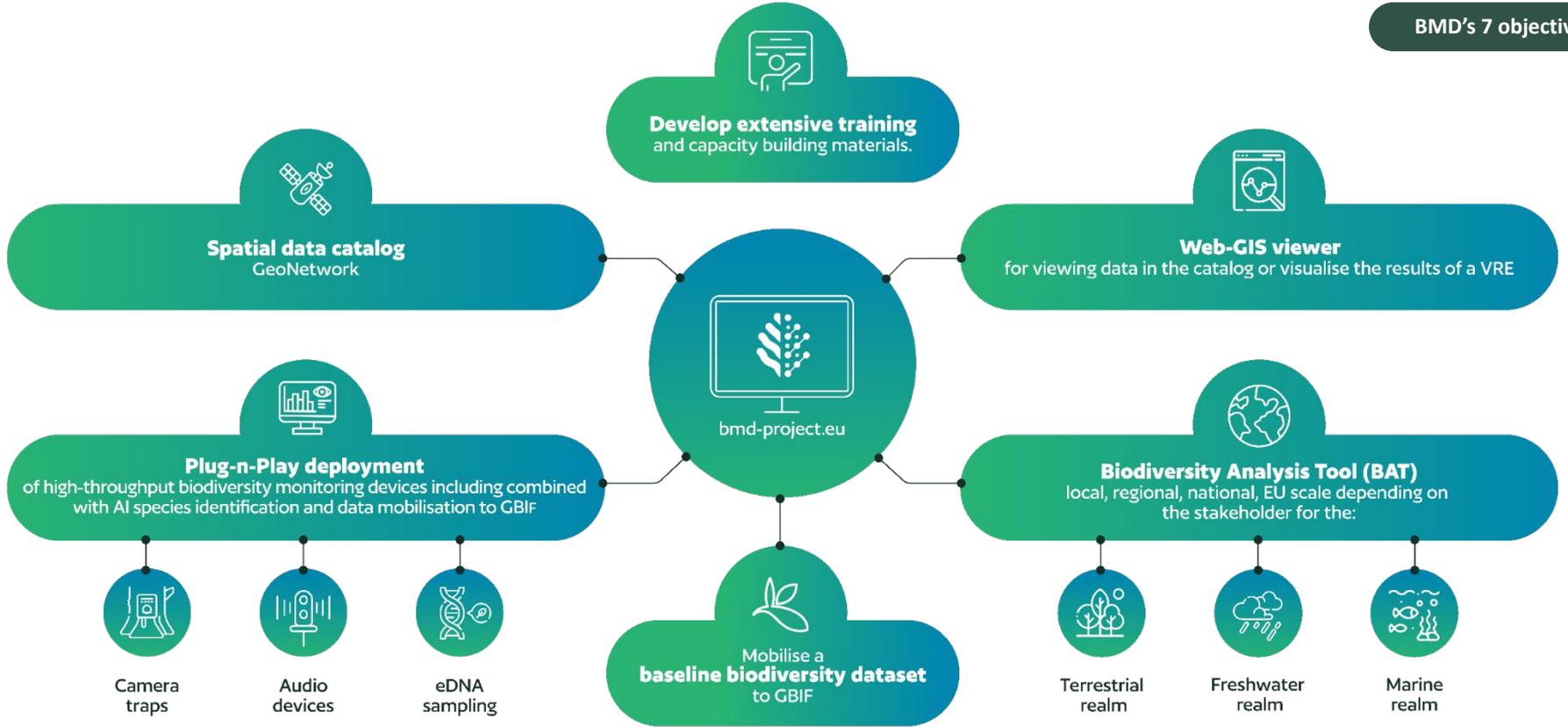
Figure 23: Nature Positive by 2023

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



A photograph of a bison in a grassy field, overlaid with a teal-to-green gradient. The bison is positioned on the left side of the frame, facing right. The text "Seven objectives" is centered in the middle of the image in a white, sans-serif font.

Seven objectives



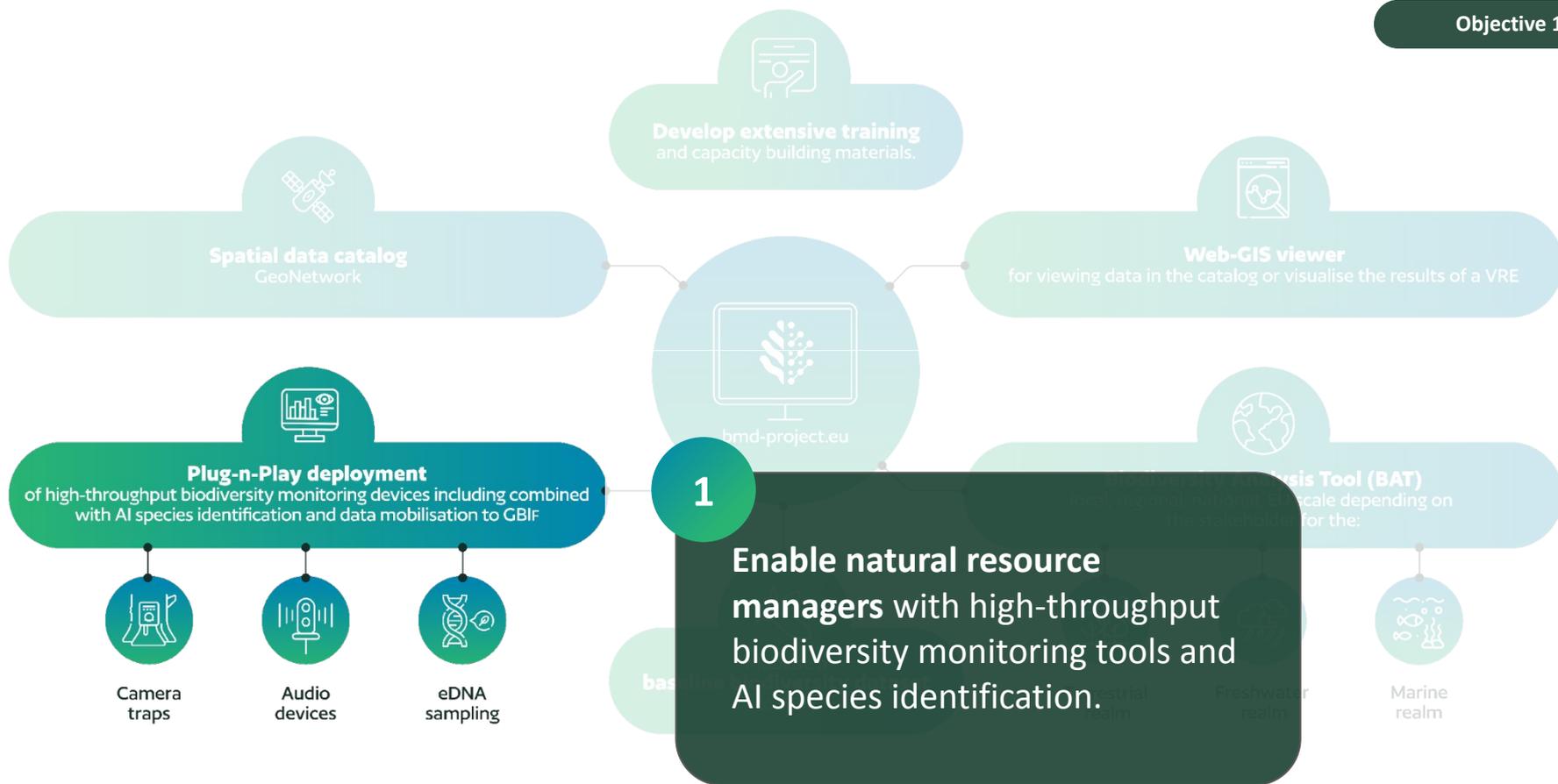
Year 1

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

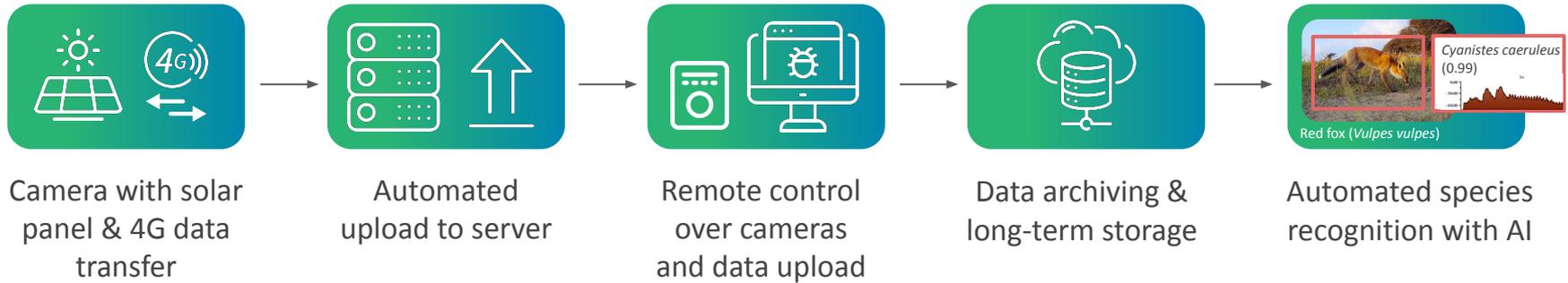




Traditional monitoring with cameras and audio devices



Autonomous monitoring with cameras and audio devices

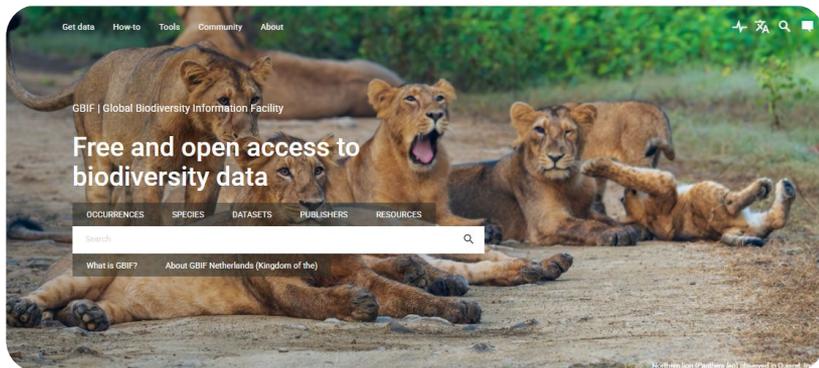
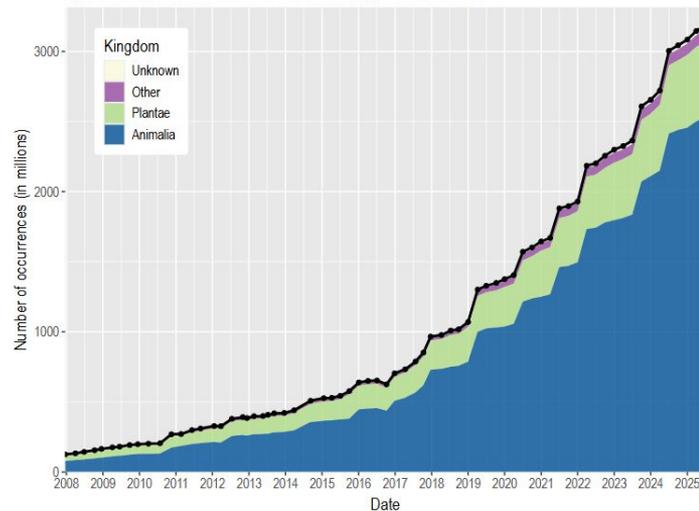


Mobilisation of biodiversity data to the Global Biodiversity Information Facility – GBIF.org from:

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

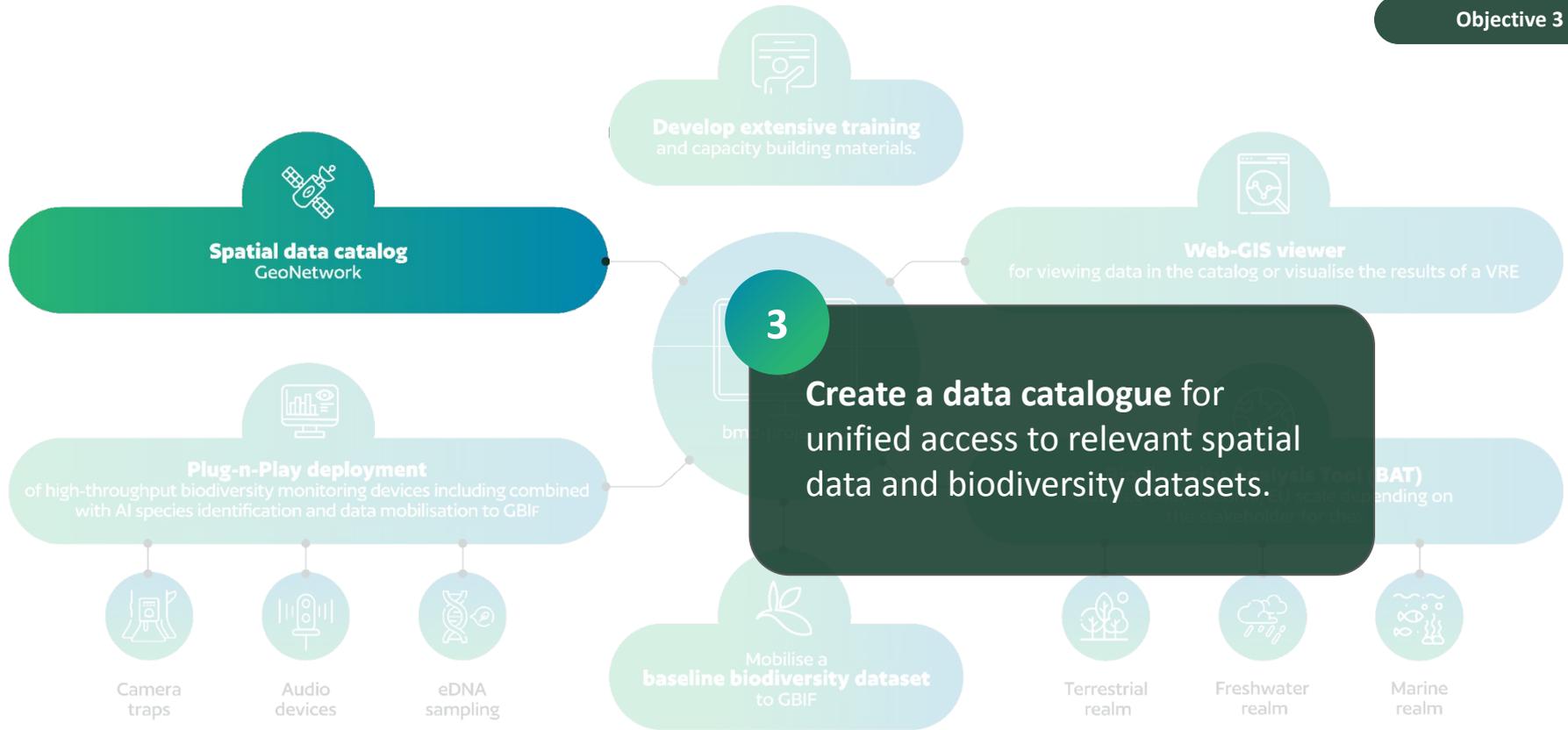
GLOBAL BIODIVERSITY FRAMEWORK

Objective 2

21

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





<input type="checkbox"/> <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	
<input type="checkbox"/> <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	
<input type="checkbox"/> <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	
<input type="checkbox"/> <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	
<input type="checkbox"/> <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	
<input type="checkbox"/> <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	
<input type="checkbox"/> <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	
<input type="checkbox"/> <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	

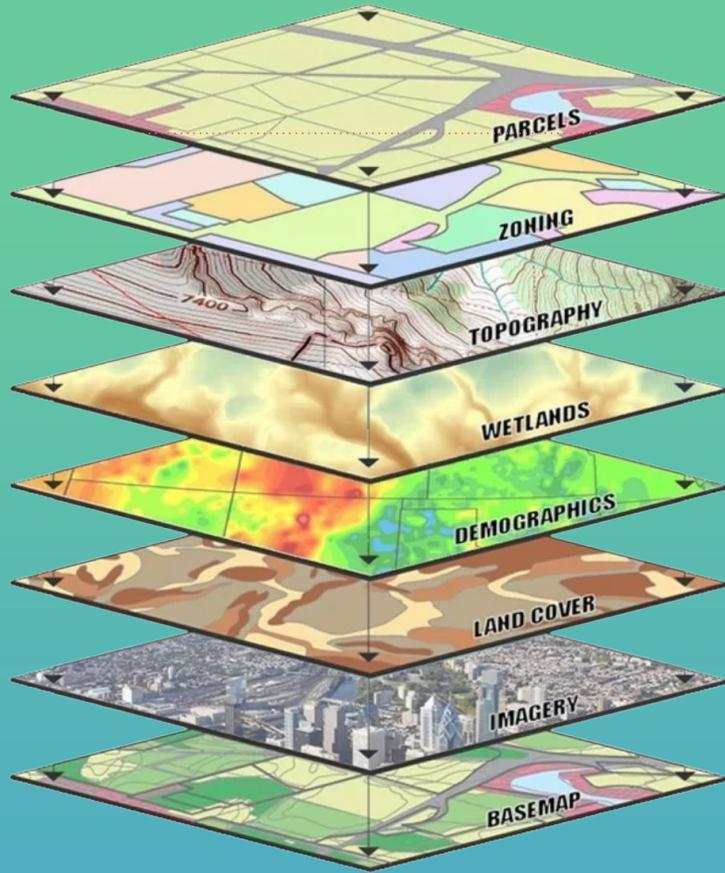
3

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.





4

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



ChecklistBank

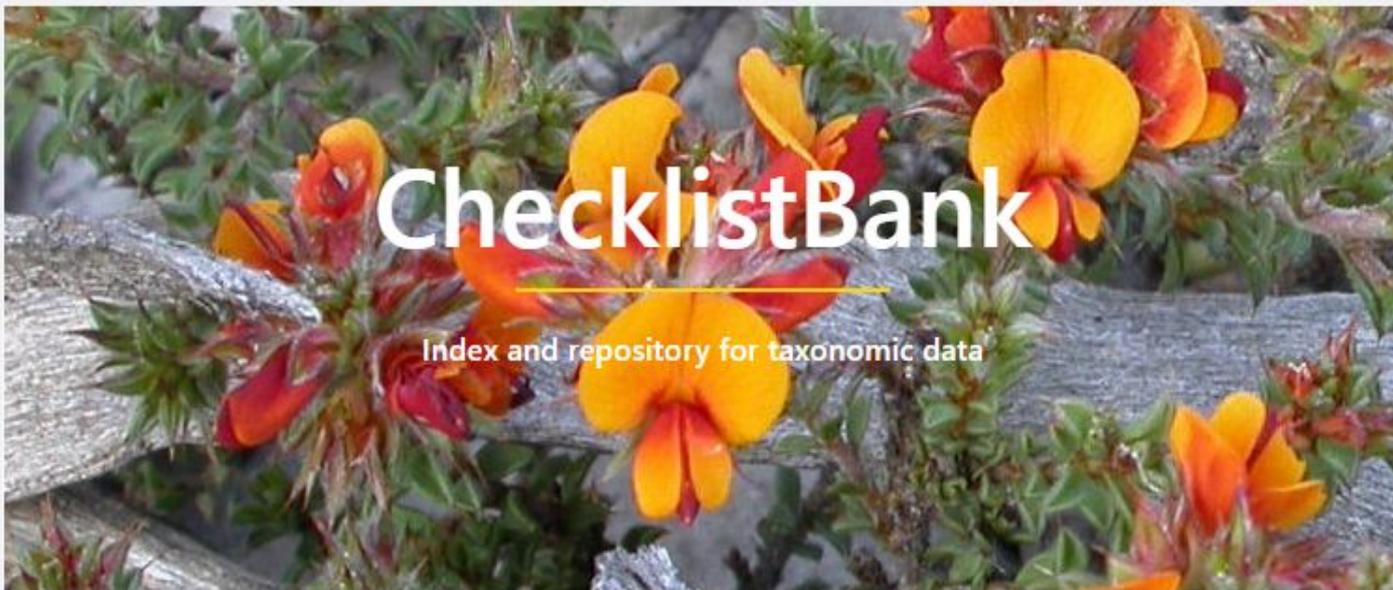
ini

About

Datasets

Tools

Dataset: 2014



Species in Catalogue of Life

2,232,257

Name Usages in ChecklistBank

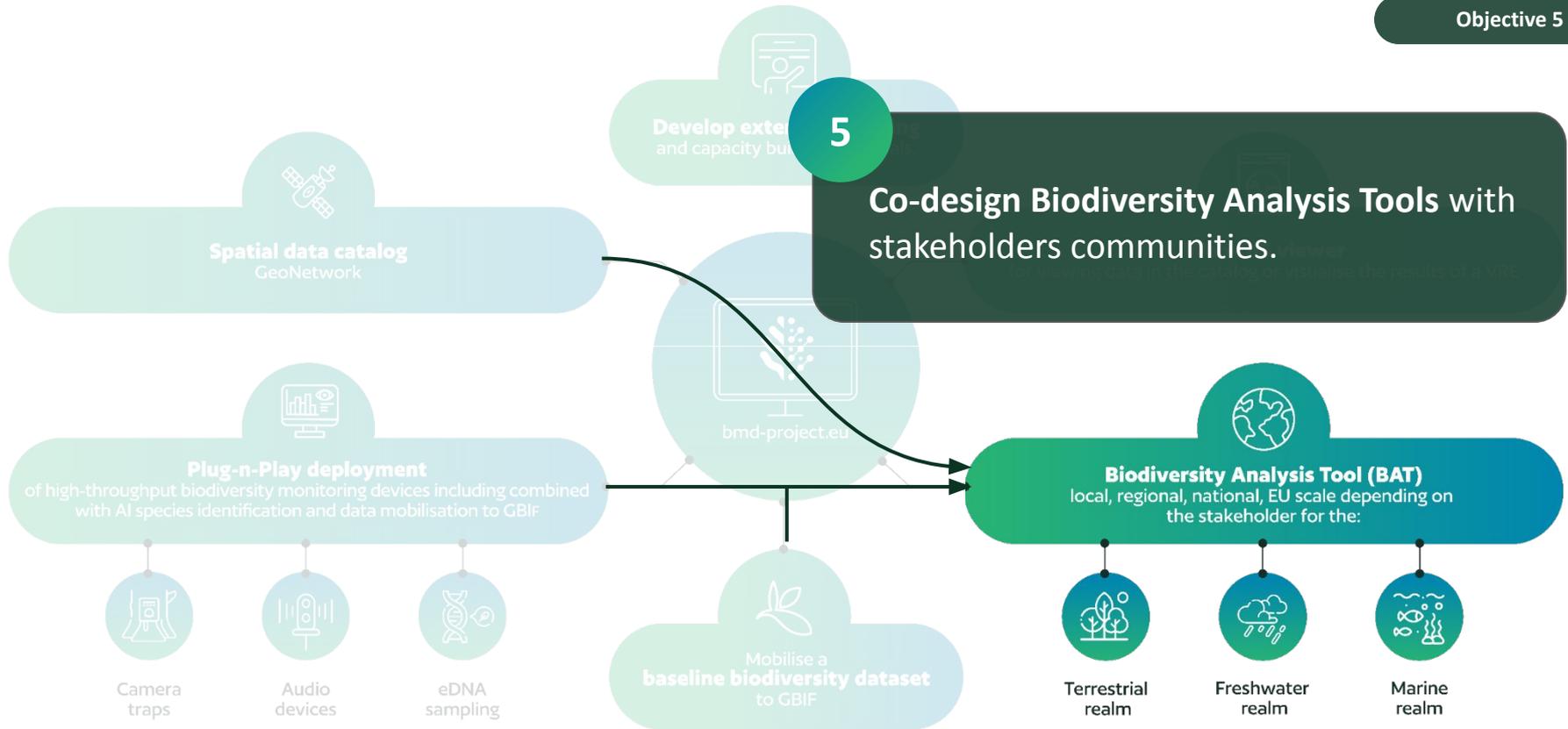
280,798,612

Datasets in ChecklistBank

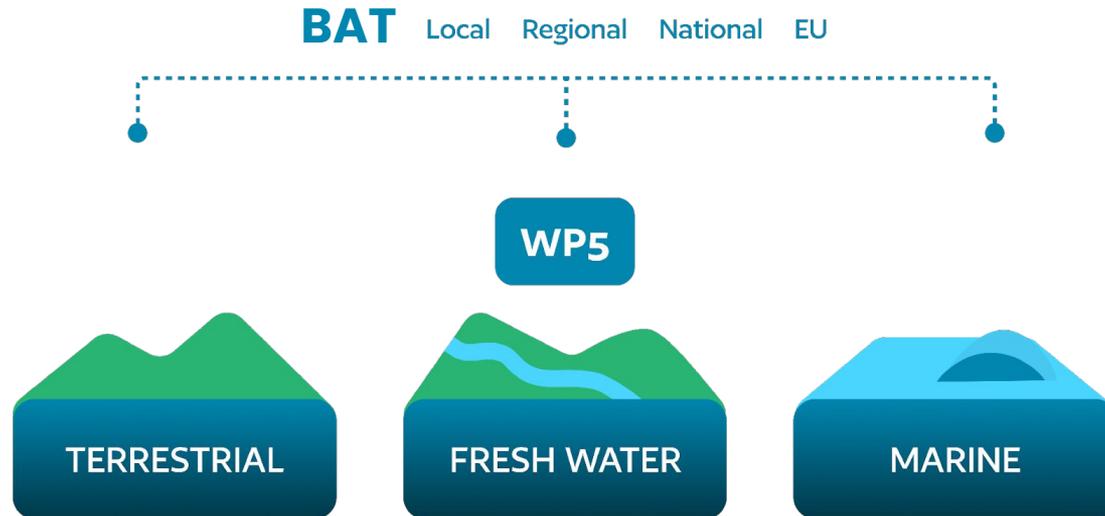
61,533

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.

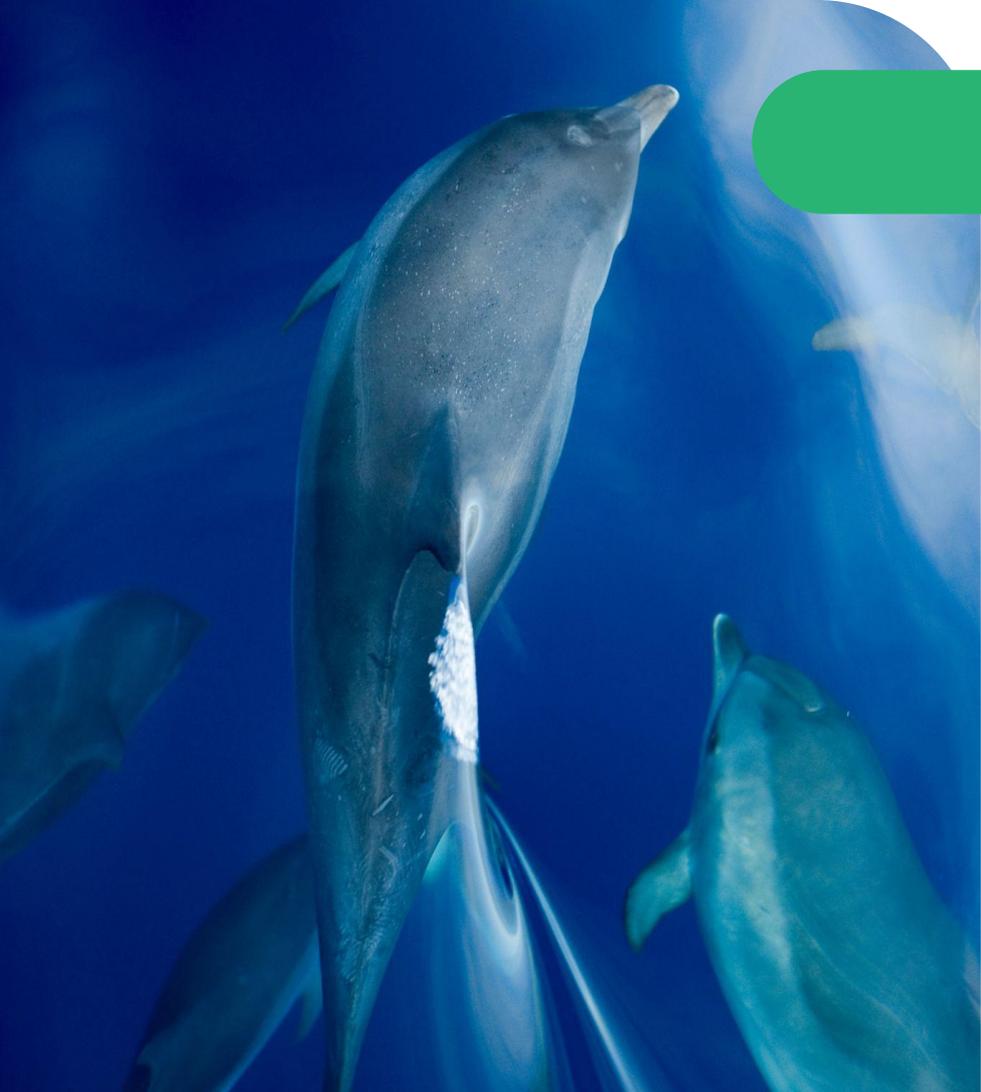


Private sector
with reporting obligations under the Corporate Sustainability Reporting Directive.



Academia
in the Natural and Life Science domains.





Get involved!





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