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# Welcome words

*Dr.* ***Magnus Tannerfeldt,*** *Co-chair of Biodiversa+, FORMAS, Sweden*

# # BiodivNBS

**Posting about the BiodivNBS kick-off on social media?**

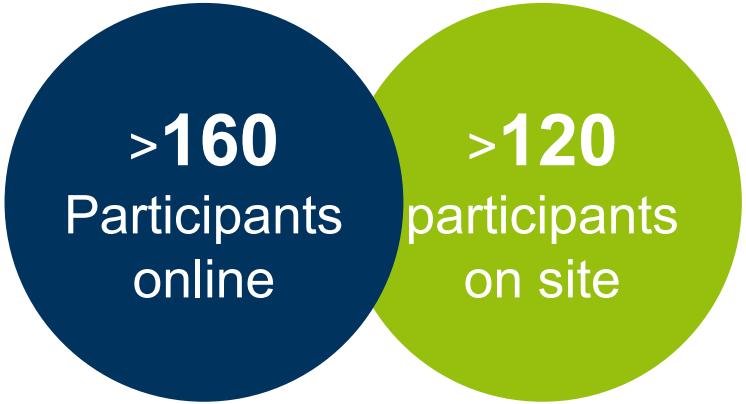
**Don't forget to tag @BiodiversaPlus**

# Some general information

REC

- This meeting is being recorded
  → The recording and slides will be shared on the Biodiversa+ website 👉 biodiversa.eu

- We expect…



# Welcome words by the European Commission

***Bénédicte Blaudeau**, **DG Research & Innovation** – Policy Officer*

***Susanna Gionfra, DG Environment** – Policy Officer for Biodiversity & Nature-based Solutions*

# General introduction to Biodiversa+ and our activities on Nature-based Solutions

***Magnus Tannerfeldt,*** *Biodiversa+ Co-chair, FORMAS, Sweden*

***Chiara Baldacchini,*** *Work Package leader on "Nature-based Solutions, Biodiversity & Business", MUR, Italy*

# What is Biodiversa+?

- The **European Biodiversity Partnership** co-funded by the European Commission under Horizon Europe
- **Supporting excellent research on biodiversity with an impact for policy and society**



# Who is Biodiversa+ ?

**Research actors**

→Ministries in charge of research

→ Research funding organisations

**Policy actors**

→ Ministries in charge of the environment

→ Environment protection agencies

**41**
Countries

**83**
Partners

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# Portfolio of activities


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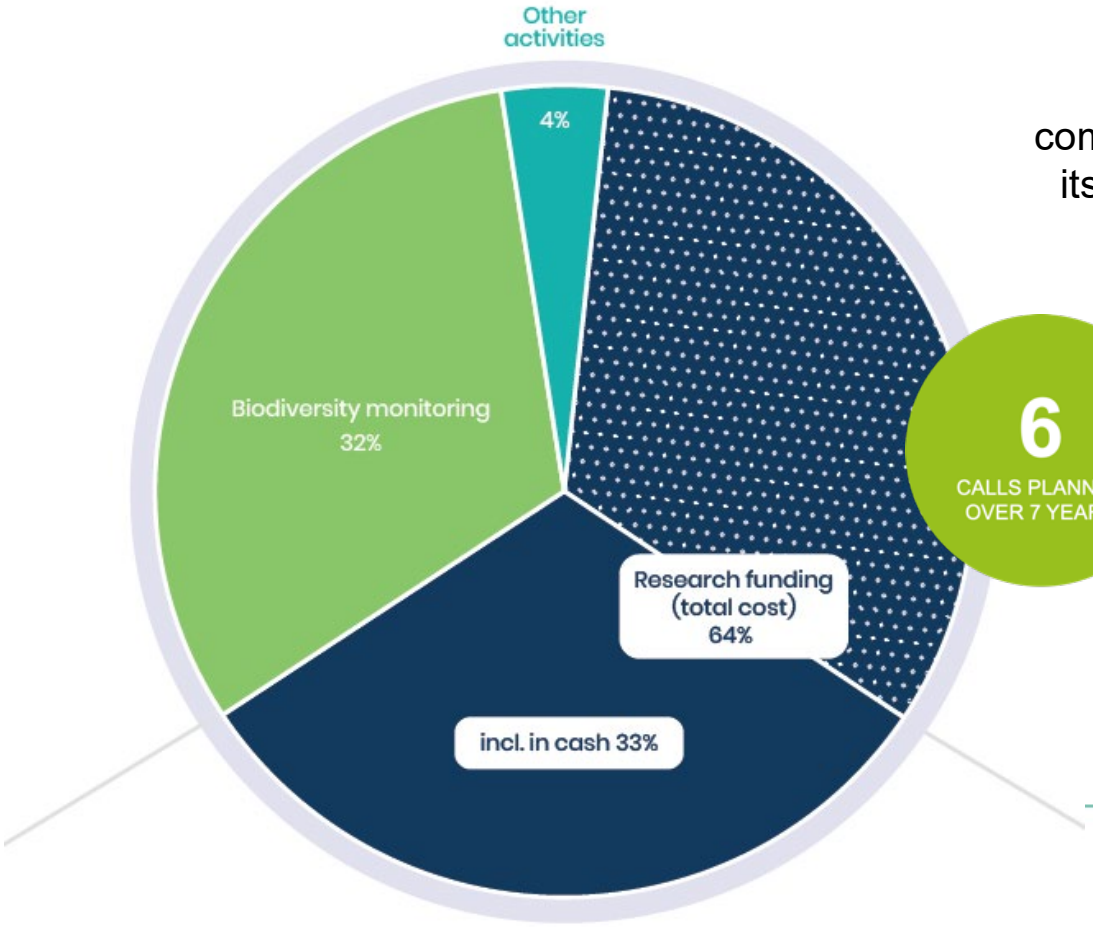
# Portfolio of activities and budget amplitude




Budget of **>800 Mio€ over 7 years**, combining in-cash and in-kind resources from its Partners and including 165 Mio € by the European Commission

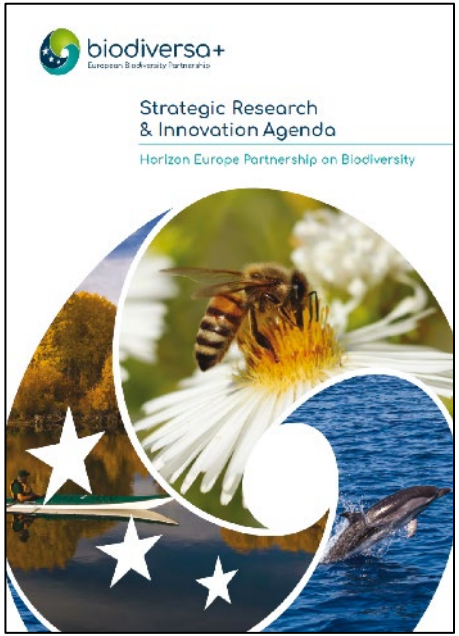
**6** CALLS PLANNED OVER 7 YEARS

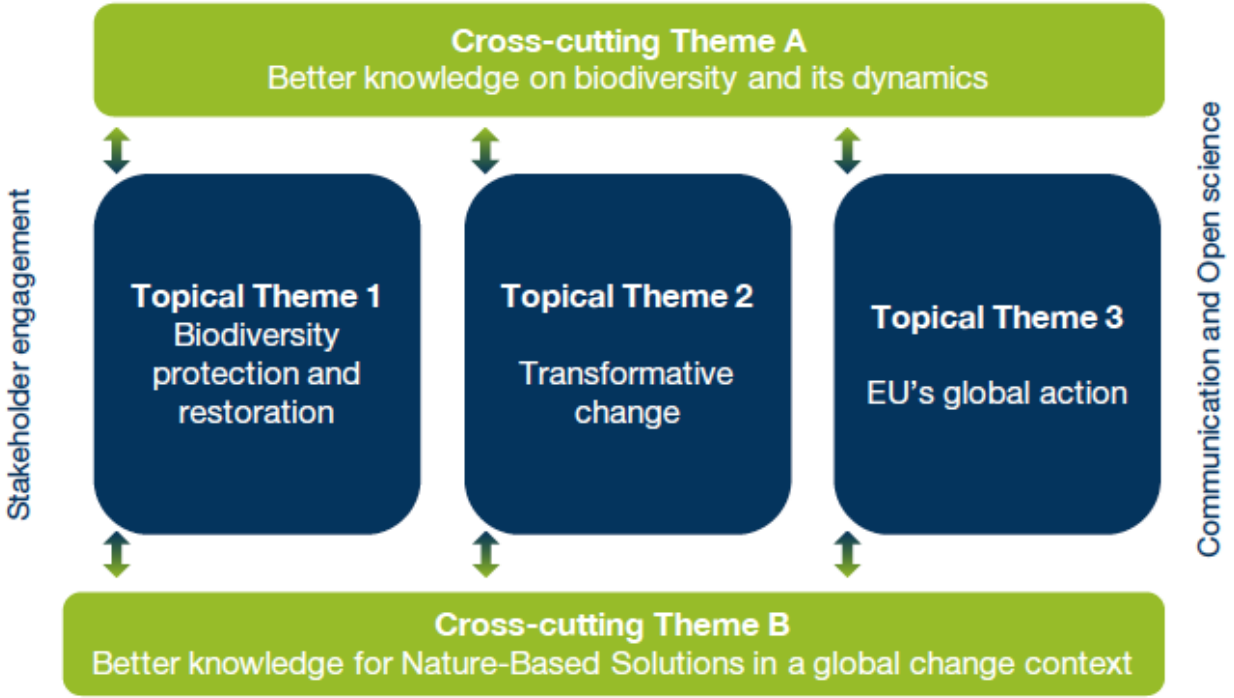
**>40** MIO€ EACH

CA. **30** AT LEAST PROJECTS FUNDED PER CALL

Co-funded by the European Union

# The Biodiversa+ Strategic Research & Innovation Agenda

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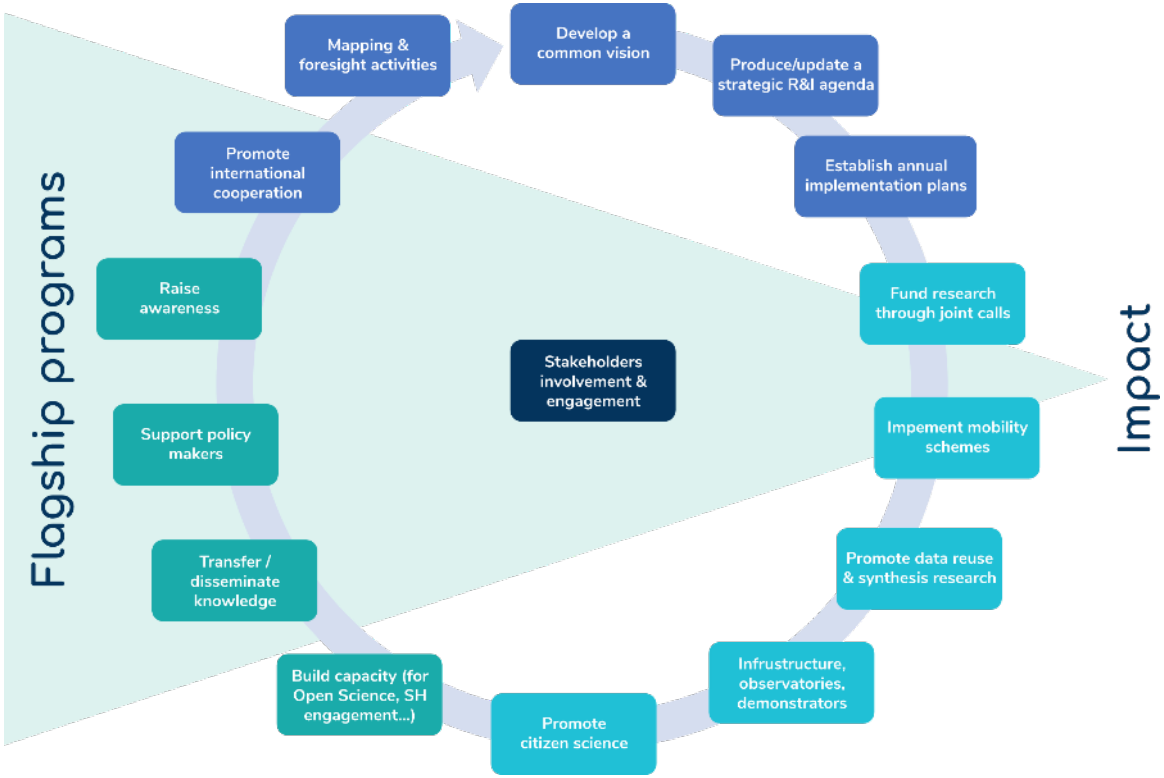
Eggermont H., Le Roux X., Tannerfeldt M. Enfedaque, J., Zaunberger, K. & Biodiversa+ partners (2021). Strategic Research & Innovation Agenda. Biodiversa+, 108 pp.

# The Biodiversa+ flagship programmes

- **Protection and restoration**
  → *2021 | Call*
  → *2025 | Call*
- **Biodiversity monitoring**
  → *2022 | Call*
- **Nature-based solutions**
  → *2023 | Call*
- **Societal Transformation**
  → *2024 | Call*

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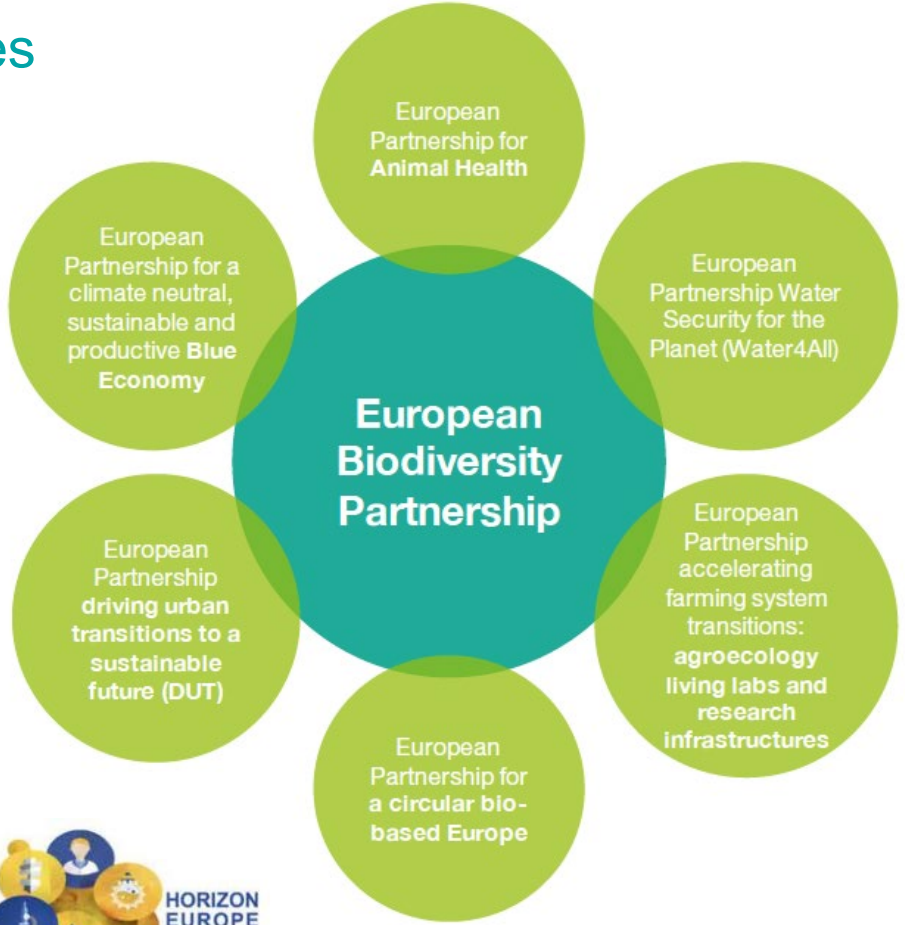
# Building on existing and new initiatives




Life

Knowledge Centre for Biodiversity

Business @ Biodiversity

EUROPABON

Network Nature

Butterfly Conservation

CETAF

EEA

oppla

WCMC

ipbes Science and Policy for People and Nature

alternet

IUCN

eklipse

Copernicus Europe's eyes on Earth

eLTER

bioagora

**... and many more!**

HORIZON EUROPE

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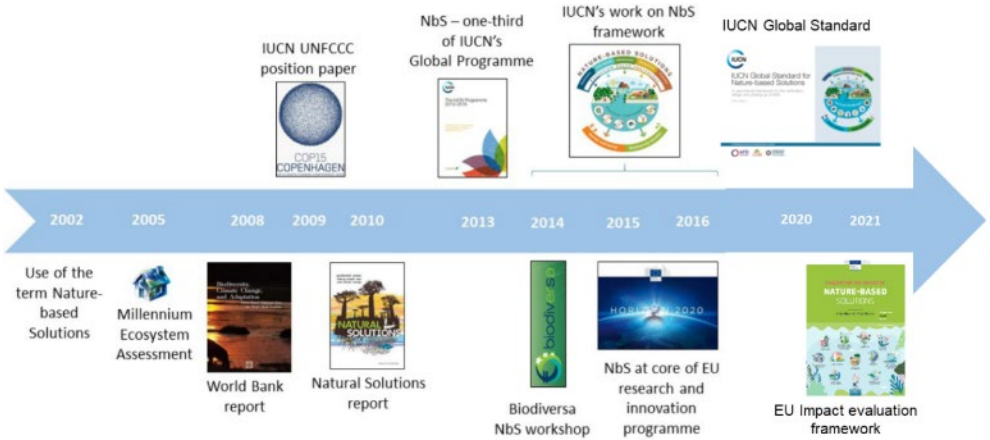
# Nature-based Solutions in Biodiversa+

**Chiara Baldacchini (MUR/WP3 co-leader)**
**09/04/2025**
**BiodivNBS projects Kick-off- Montpellier (France)**

# Nature-based Solutions concept evolution




*Adapted by Baldacchini C. from Cohen-Shacham, E., Walters, G., Janzen, C. and Maginnis, S. (eds.) (2016). Nature-based Solutions to address global societal challenges. Gland, Switzerland: IUCN. xiii + 97pp.*

2nd March 2022 - The United Nations release the **unified NbS definition** (UNEP/EA.5/Res.5):

"Nature-based Solution are actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine **ecosystems**, which address **social, economic and environmental challenges effectively and adaptively**, while simultaneously providing **human well-being, ecosystem services and resilience** and **biodiversity benefits**"

**Ecosystem-based approaches**

**Multifunctionality**

**Evidence-based adaptative management**

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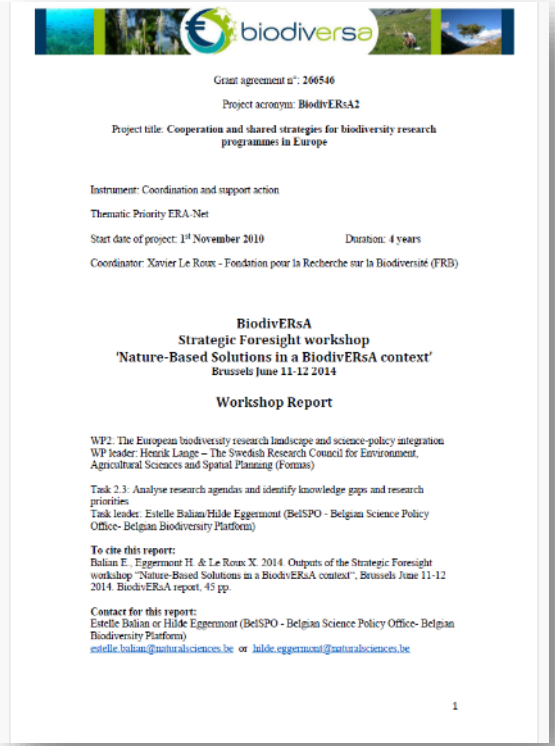
# From the seminal Biodiversa+ contribution…



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Grant agreement n°: 266546

Project acronym: BiodivERsA2

Project title: **Cooperation and shared strategies for biodiversity research programmes in Europe**

Instrument: Coordination and support action

Thematic Priority ERA-Net

Start date of project: 1st November 2010 Duration: 4 years

Coordinator: Xavier Le Roux - Fondation pour la Recherche sur la Biodiversité (FRB)

**BiodivERsA**
**Strategic Foresight workshop**
**'Nature-Based Solutions in a BiodivERsA context'**
**Brussels June 11-12 2014**

**Workshop Report**

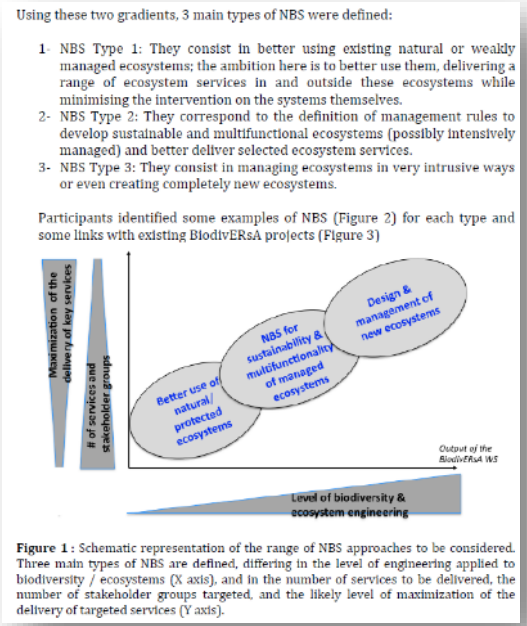
WP2. The European biodiversity research landscape and science-policy integration
WP leader: Henrik Lange – The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (Formas)

Task 2.3: Analyse research agendas and identify knowledge gaps and research priorities
Task leader: Estelle Balian/Hilde Eggermont (BelSPO - Belgian Science Policy Office- Belgian Biodiversity Platform)

**To cite this report:**
Balian E., Eggermont H. & Le Roux X. 2014. Outputs of the Strategic Foresight workshop "Nature-Based Solutions in a BiodivERsA context", Brussels June 11-12 2014. BiodivERsA report, 45 pp.

**Contact for this report:**
Estelle Balian or Hilde Eggermont (BelSPO - Belgian Science Policy Office- Belgian Biodiversity Platform)
estelle.balian@naturalsciences.be or hilde.eggermont@naturalsciences.be

1



Using these two gradients, 3 main types of NBS were defined:

1- NBS Type 1: They consist in better using existing natural or weakly managed ecosystems; the ambition here is to better use them, delivering a range of ecosystem services in and outside these ecosystems while minimising the intervention on the systems themselves.
2- NBS Type 2: They correspond to the definition of management rules to develop sustainable and multifunctional ecosystems (possibly intensively managed) and better deliver selected ecosystem services.
3- NBS Type 3: They consist in managing ecosystems in very intrusive ways or even creating completely new ecosystems.

Participants identified some examples of NBS (Figure 2) for each type and some links with existing BiodivERsA projects (Figure 3)



**Figure 1 :** Schematic representation of the range of NBS approaches to be considered. Three main types of NBS are defined, differing in the level of engineering applied to biodiversity / ecosystems (X axis), and in the number of services to be delivered, the number of stakeholder groups targeted, and the likely level of maximization of the delivery of targeted services (Y axis).

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**Nature-based Solutions: New Influence for Environmental Management and Research in Europe**

*Greening roofs or walls to cool down city areas during summer, to capture storm water, to abate pollution, and to increase human well-being while enhancing biodiversity: nature-based solutions (NBS) refer to the sustainable management and use of nature for tackling societal challenges. Building on and complementing traditional biodiversity conservation and management strategies, NBS integrate science, policy, and practice and create biodiversity benefits in terms of diverse, well-managed ecosystems.*

*Hilde Eggermont, Estelle Balian, José Manuel N. Azevedo, Victor Beumer, Tomas Brodin, Joachim Claudet, Bruno Fady, Martin Grube, Hans Keune, Penelope Lamarque, Katrin Reuter, Mael Smith, Chantal van Ham, Wolfgang W. Weisser, Xavier Le Roux*

**Nature-based Solutions: New Influence for Environmental Management and Research in Europe** | GAIA 24/4 (2015): 243 - 248
**Keywords:** biodiversity, ecosystem services, research programming, social-ecological systems, societal challenges, sustainable management

**Nature-based Solutions, an Emerging Term**

It is now widely recognized that human activities have reached a level that could result in abrupt and, in some cases, irreversible environmental changes detrimental to human development (Steffen et al. 2015). Societies face increasing challenges such as climate change, jeopardized food security and water resource provision, and an enhanced disaster risk.

One approach to answer these challenges is to increasingly rely on technological strategies, which are designed and managed to be as simple, replicable and predictable as possible (Heffert et al. 2002). For instance, physico-chemical purification processes are used to purify air and water at large scales in most countries, in particular in the northern hemisphere. An alternative approach is to manage the [socio-]ecological systems in a comprehensive approach in order to sustain and potentially increase the delivery of the ecosystem services (ES) to humans.[1]

The second approach recognizes the complexity of socio-ecological systems and the fact that they are dynamic, leaving room for self-reorganization and mutability and associated resistance and resilience capacities (Garmestani and Benson 2013). In this context, nature-based solutions (NBS) have recently been put forward by practitioners (in particular the International Union for Nature Conservation, IUCN) and quickly thereafter by policy (European Commission), referring to the sustainable use of nature in solving societal challenges.

While ES are often valued in terms of immediate benefits to human well-being and economy, NBS focus on the benefits to people and the environment itself, to allow for sustainable solutions that are able to respond to environmental change and hazards in the long-term. NBS go beyond the traditional biodiversity conservation and management principles by "re-focusing" the debate on humans and specifically integrating societal factors such as human well-being and poverty alleviation, socio-economic development, and governance principles.

In this sense, NBS are strongly connected to ideas such as natural systems agriculture (Jackson 2002), natural solutions (Dudley et al. 2010), ecosystem-based approaches (Cowan et al. 2010), green infrastructures (Benedict and McMahon 2006), and ecological engineering (Bergip et al. 2013).[2]

1 In this paper we refer to ES as the direct and indirect contributions of ecosystems to human well-being (Costanza et al. 1997, Millennium Ecosystem Assessment 2005).

2 For instance, ecosystem-based approaches are increasingly promoted for climate change adaptation and mitigation (Cowan et al. 2010, Nesshöver et al. 2017). Durch et al. 2010 by organizations like United Nations Environment Programme (UNEP) and non-governmental organizations such as The Nature Conservancy. Similarly, green infrastructure refers to an "interconnected network of green space that conserves natural systems and provides assorted benefits to human populations" (Benedict and McMahon 2006).

http://dx.doi.org/10.14512/gaia.24.4.5

Contact: Dr. Hilde Eggermont | Belgian Biodiversity Platform | Royal Belgian Institute for Natural Sciences | Vautierstraat 29 | 1000 Brussels | Belgium | Tel.: +32 2 6274518 | E-Mail: h.eggermont@biodiversity.be



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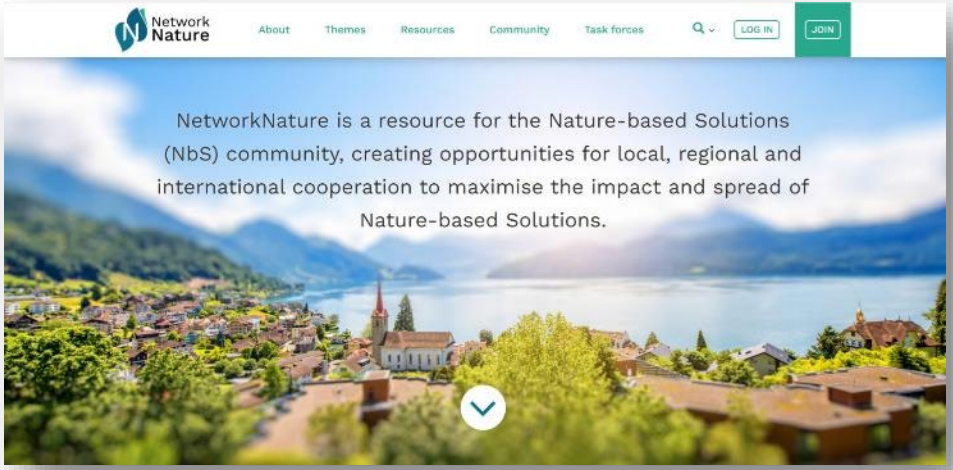
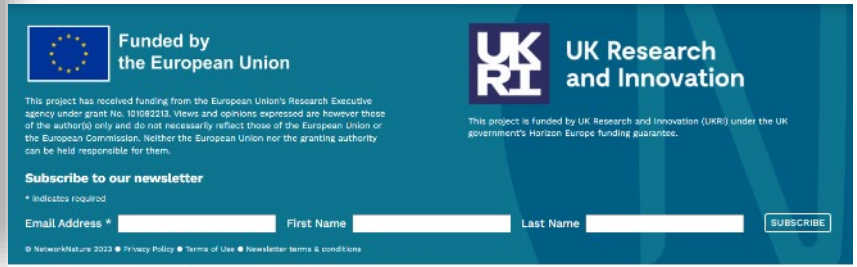
*Eggermont et al., GAIA 24/4 (2015)*

# … while collaborating with the most relevant (not only) EU initiatives on NbS…




https://networknature.eu/

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# … to design the future of NbS R&I…

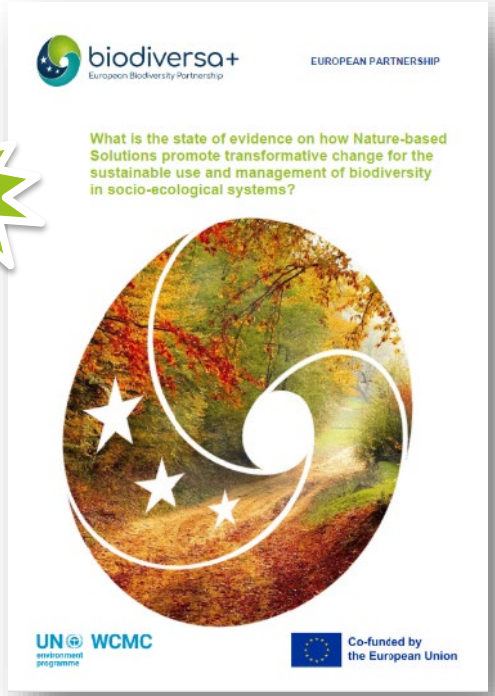
WP2

How the private sector uses biodiversity data?

WP3

How biodiversity is monitored in NbS?


WP4




WP3

How Nature-based Solutions promote transformative change?

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*Ioanna Akoumianaki and Robin J Pakeman, Scoping review: what is the state of knowledge on the role of biodiversity in the design, delivery, and benefits of Nature-Based Solutions? (2023)*

*Boipelo Tshwene Mauchaza; Matthew Harris; Maria Antonova; Filipa Ramalheiro; Aarty Iyengar, What is the state of evidence on how Nature-based Solutions promote transformative change for the sustainable use and management of biodiversity in socio-ecological systems? (2024)*

# … with the projects' collaboration!

**Clustering the activities**

WP1

Within the BiodivNBS call

WP4

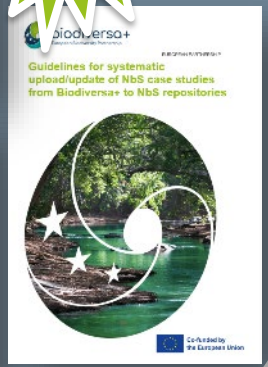
With the Biodiversa+ calls (e.g., BiodivMon & BiodivTransform)

&

With the other initiatives (e.g., Horizon Europe projects' in NetworkNature)

**Building the knowledge**

WP6


WP3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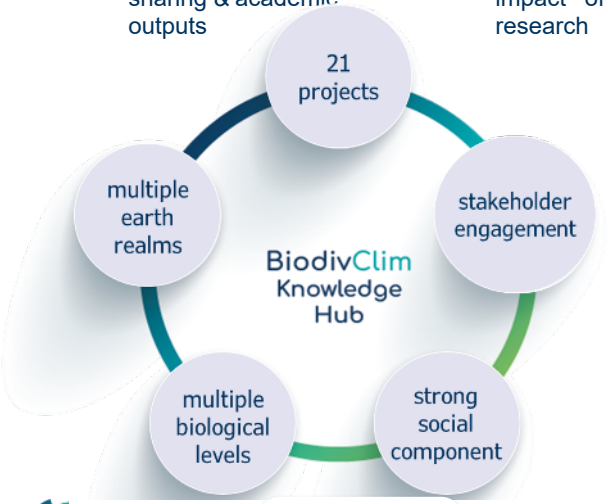
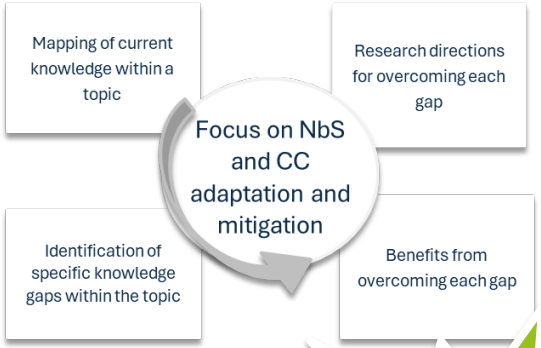
# BiodivClim COFUND Action (2019-2025) Knowledge Hub

**Technical Task Force**
Enhancing research collaborations, knowledge, data sharing & academic outputs

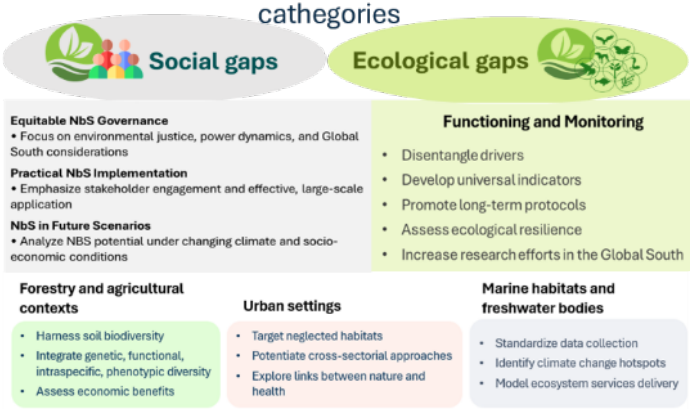
**SSI/SPI Task Force**
Science-policy-society interfacing to increase the impact of funded research




**Procedural procedure**




25 gaps grouped into broad cathegories




*Grilo et al, Nature-based solutions in climate change mitigation and adaptation: knowledge gaps and research directions, under publication (2025)*

Network Nature

*Clustering with NetworkNature Taskforces*

Final Conference in June

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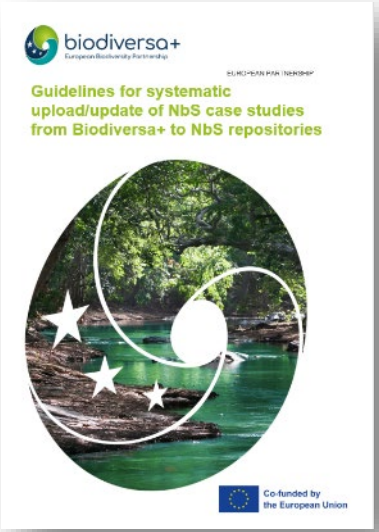
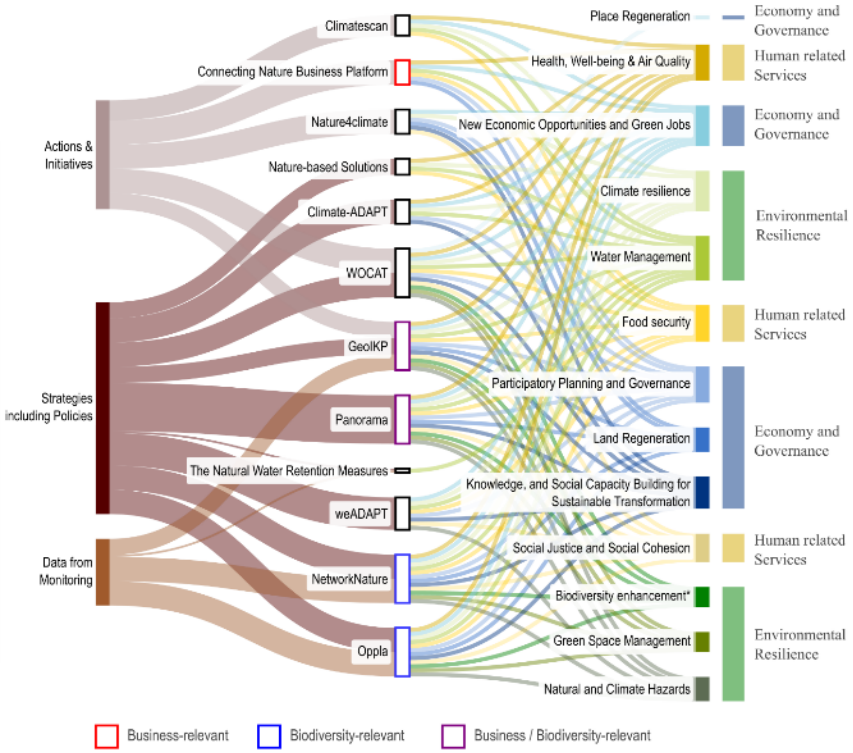
BiodivClim ERA-NET COFUND
Biodiversity and Climate Change

Thanks to Filipa Grilo, University of Lisbon, BiNatUr

# Uploading case studies in NbS platforms and repositories





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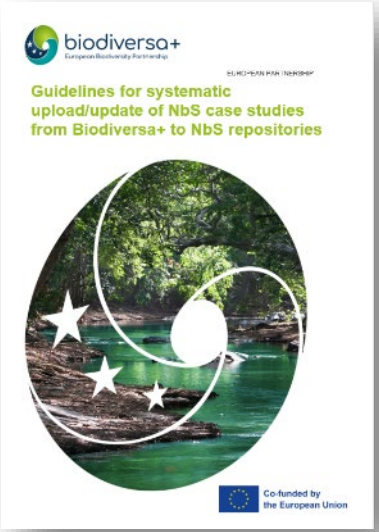
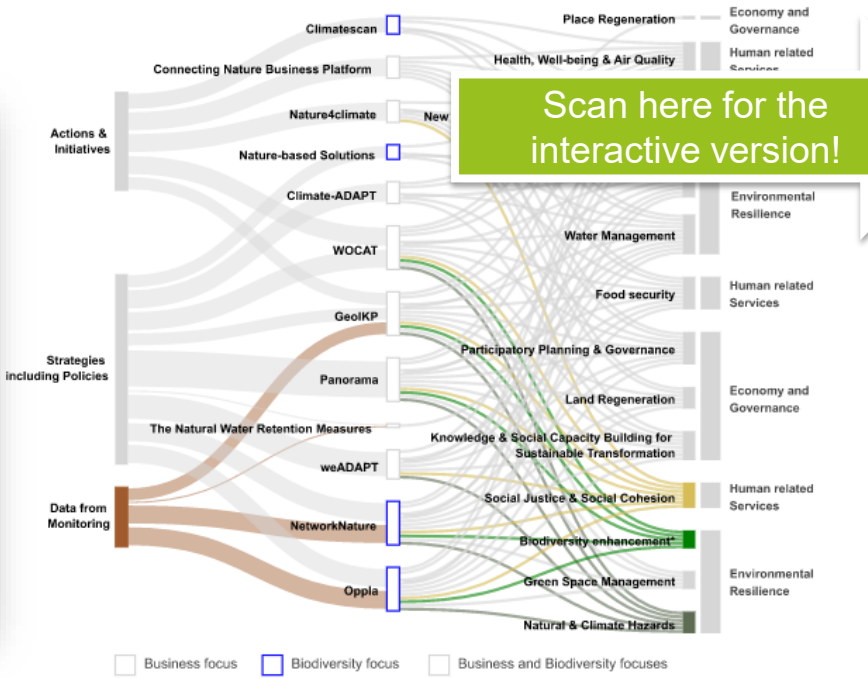
*Chiara Catalano, Valentina Verduchi, Chiara Baldacchini, Guidelines for systematic upload/update of NbS case studies from Biodiversa+ to NbS repositories, (2025)*

# Uploading case studies in NbS platforms and repositories




Scan here for the interactive version!

Guidelines are under test with Biodiversa+ projects

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*Chiara Catalano, Valentina Verduchi, Chiara Baldacchini, Guidelines for systematic upload/update of NbS case studies from Biodiversa+ to NbS repositories, (2025)*

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***Thank you for your attention and keep in touch!***

The WP3 leaders:
Chiara Baldacchini (baldacchini@unitus.it)
Lars Dinensen (lars.dinesen@sund.ku.dk)

For information about the Guidelines for uploading/updating NbS case studies, the Task 3.3.1 team:
Chiara Catalano (chiara.catalano@cnr.it)
Valentina Verduchi (valentina.verduchi@iret.cnr.it)

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# General impressions on the BiodivNBS call

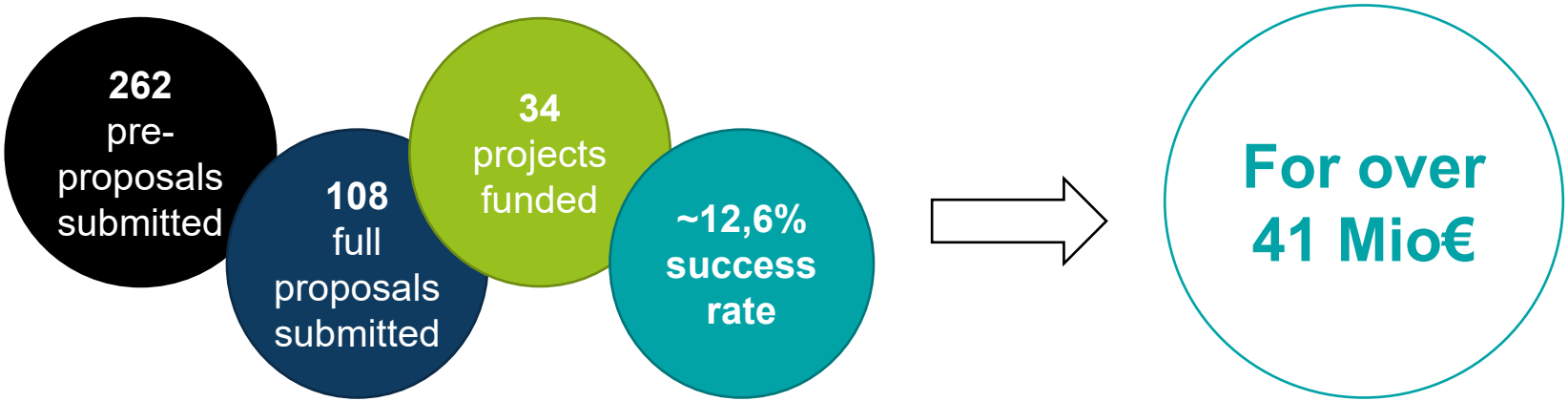
*By **Claire Brown**, Principal Technical Specialist, UNEP-WCMC,*

*policy-management co-Chair of the BiodivNBS Evaluation Committee*

Third Biodiversa+ joint co-funded call on

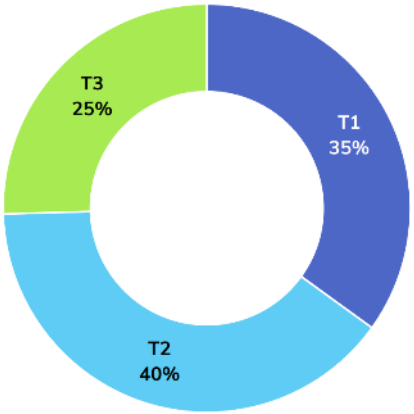
# “Nature-based solutions for biodiversity, human well-being and transformative change”

## Overview of the results of the Call

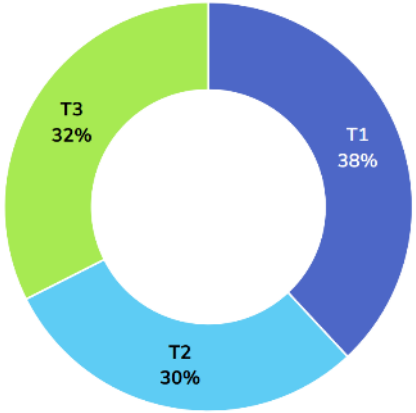


# Call themes

Submitted full proposals




Funded projects

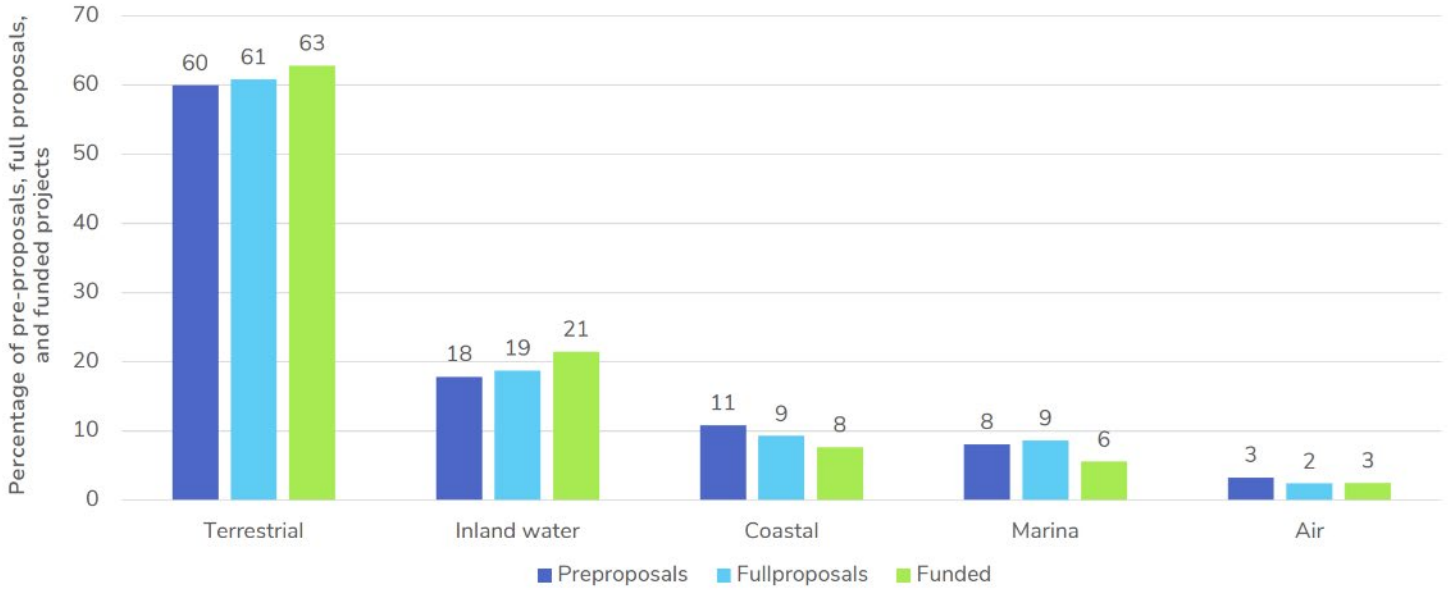



**Theme 1:** Synergies and trade-offs of Nature-based Solutions in the context of human well-being

**Theme 2:** Nature-based Solutions mitigating anthropogenic drivers of biodiversity loss

**Theme 3:** The contribution of Nature-based Solutions for just transformative change

# Studied environments

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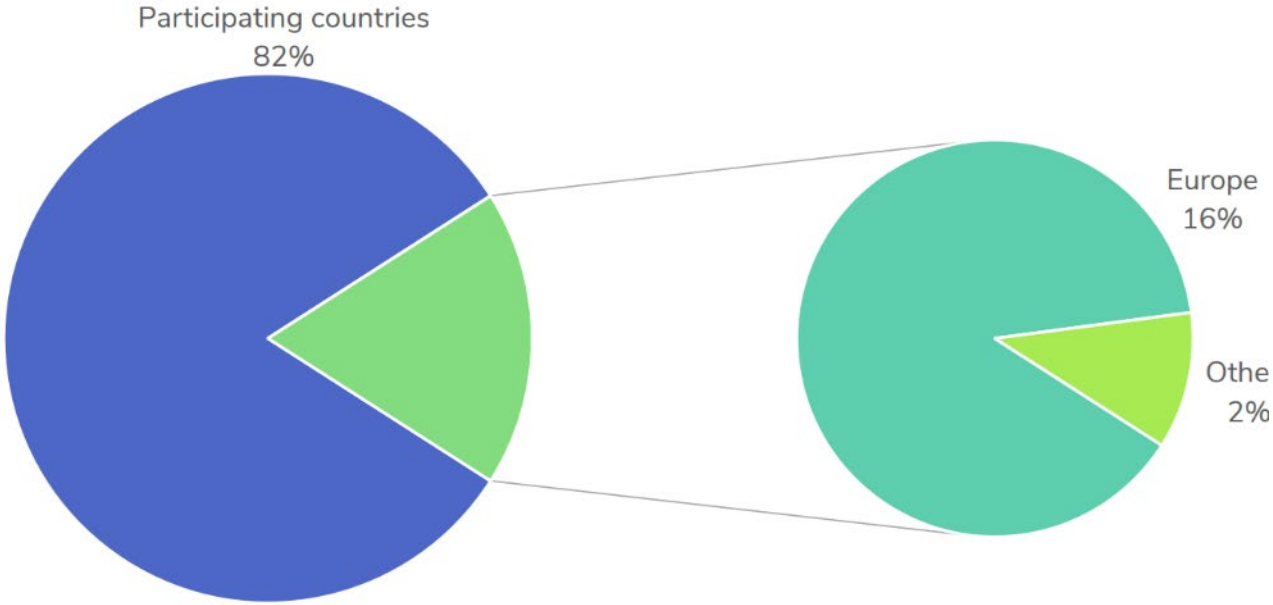
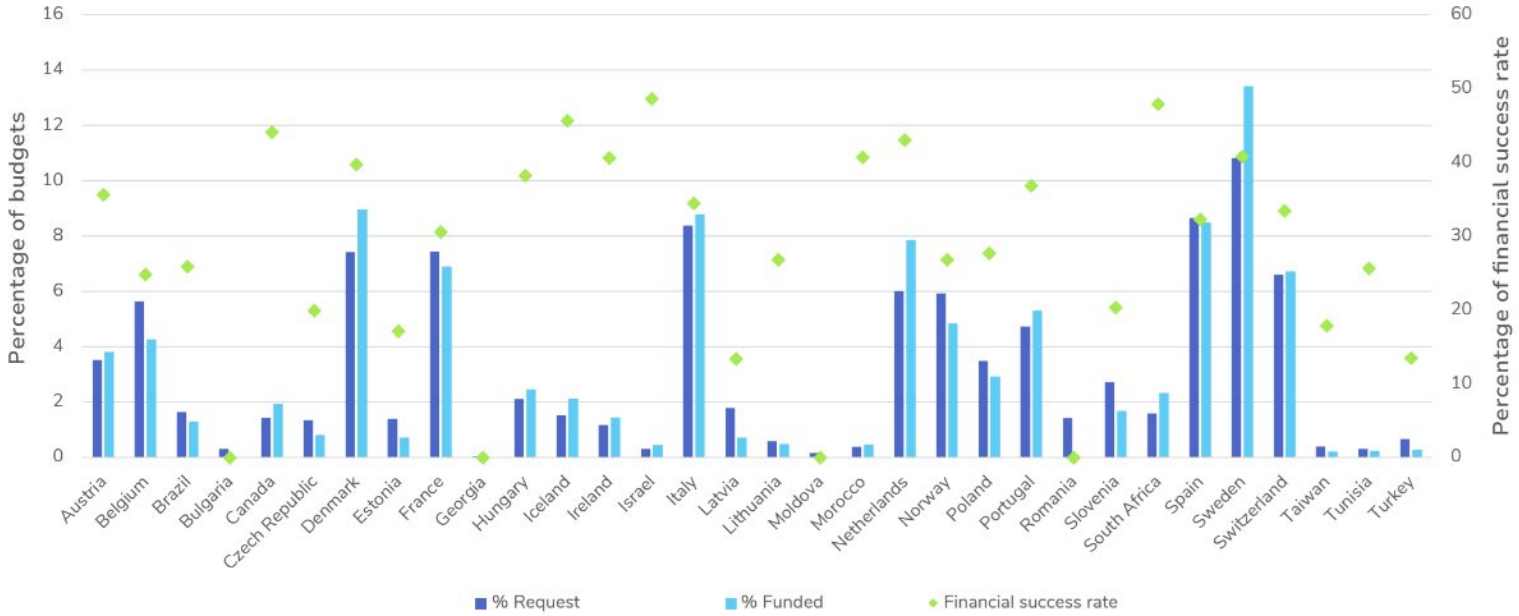
# Geographical origin of the applicants participating in the 2023-2024 BiodivNBS Call



# Budget




Percentage of budgets requested at the submission stage (step 2 – full proposals) and after selection (funded projects) for each country participating in the funding of the call, together with the percentage of financial success rate

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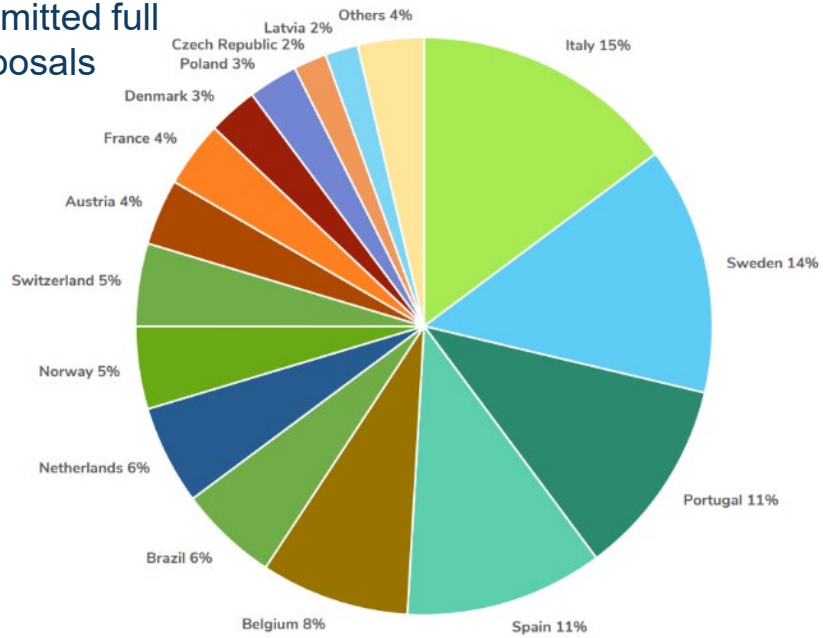
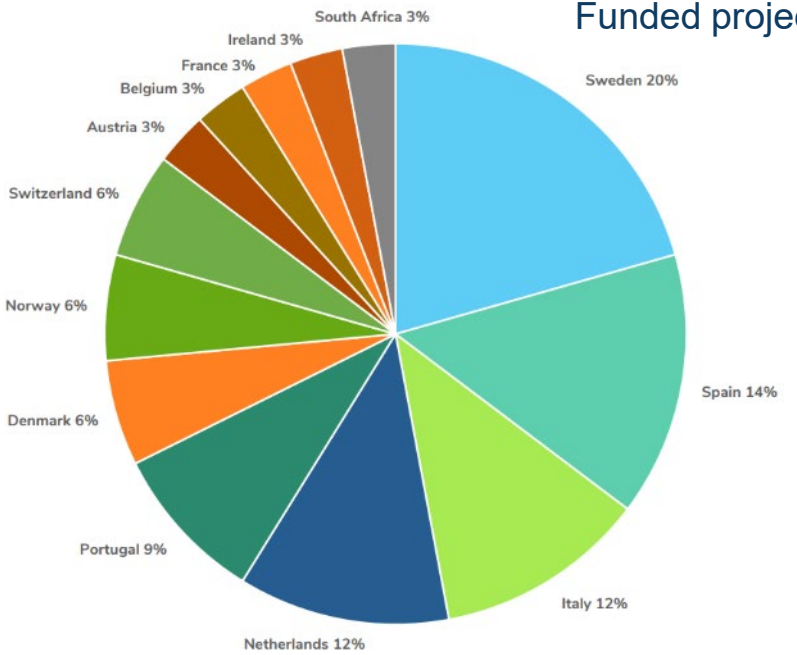
# Origin of Coordinators

Submitted full proposals




Funded projects




Others: Hungary, Ireland, Slovenia, South Africa (0.9% each).

# Brochure of the Call


**More information on the BiodivMon Call process and overview of the 34 projects in the Brochure**

**You can download it on the Biodiversa+ website**

# Examples of funded projects

inSALSA – Increasing Sustainability of Agribiologicals by Living Labs in sub-Saharan Africa (ZA, SE, DK, IT, IS, CZ)

EVESNAT – Nature-based Solutions to meet EU Nature Restoration Targets: Evaluating synergies and trade-offs across Ecosystem Services for biodiversity conservation, climate change mitigation, and resilience and autonomy improvement (FR, IT, AT, CH)

COMCHA – Community-based change: local and traditional knowledges in NBS (ES, BR, PT, IT, HU, IS

SaltyBEATS – Salty symphonies: bringing back BiodivErsity in mArginal Saltlands (ES, PT, TN, IT, PL, NL)

# Composition of the Evaluation Committee

## Co-Chairs of the Committee

- **Scientific co-Chair:** Rachel Bezner-Kerr
- **Policy-management co-Chair:** Claire Brown

## Scientific panel (27)

- Kofi Akamani
- Isabelle Aubin*
- Jacob Carstensen*
- Yu-Chung Chiang
- Michael Christie
- Thomas Elmqvist
- Michael Fullen
- Christopher Gore*
- Jan Hanspach
- Stephen Hawkins
- Iryna Herzon**
- Sven Jelaska
- Hans Keune
- Carolyn Lundquist
- Eric Malezieux**
- Frank Matose
- Liam McCarton
- Masoumeh Mirsafa
- Unai Pascual
- Céline Pelosi*
- Tavis Potts
- Leonard Sandin
- Bill Slee
- Stephen Swearer**
- Silvia Tobias
- Vigdis Vandvik*
- Erich Wolff

## Policy-management panel (26)

- Ana Cristina Becerra Salas
- Alison Blay-Palmer*
- Karma Bouazza*
- Roberto Crosti**
- Andrew Farmer
- Judith Fisher
- Adriana Ford*
- Sonja Gantioler
- Cecilia Gonçalves Simões
- Juan Carlos Gonzalez
- Robert (Bob) Harris
- Ana Maria Hernandez Salgar**
- Katia Hueso
- Valerie Kapos
- Dave Kendal
- Manuel Lago
- Juana Lucia Marino de Posada
- Ivone Pereira Martins
- Vinod Bihari Mathur
- Isabel Mesquita
- Madeleine Nyman
- Christian Prip
- Osamu Saito**
- Elisabeth Simelton*
- Nadia Sitas*
- Janice Weatherley-Singh

*only Step 1
** only Step 2



*at Step 1 only

# Evaluation process at Step 1

## Pre-proposal stage; closed on the 8th of November 2023

Eligibility check by Call Secretariat and Funding Organisations

**Evaluation Committee (EvC)**

Each pre-proposal (5-page project description) was evaluated by :

- **2* scientific members**
- **2* policy/management members**

* one as rapporteur and one as reader

**Evaluation Criteria**

- For Scientific EvC members
- **Fit to the scope of the call (Yes/No)**
- **Novelty of the research (1-5; threshold: 3)**
- For Policy/Management EvC members:
- **Societal and policy impact** (incl. contribution to society and/or policy and Transnational added value) **(1-5; threshold: 3)**

# Evaluation process at Step 2

## Full proposal stage; closed on the 9th of April 2024

Eligibility check by Call Secretariat and Funding Organisations

### External Reviewers

Each proposal was in evaluated by at least:

- **2 scientific external reviewers**
- **1 policy/management external reviewer**

### Evaluation Committee (EvC)

Each proposal (16-page project description) was evaluated by :

- **2* scientific members**
- **2* policy/management members**

* one as rapporteur and one as reader

### Evaluation Criteria

- For **Scientific** EvC members
  - **Excellence** (incl. fit to thematic priorities and scientific excellence)**(1-5; threshold: 3.5) / weight 7**
  - **Quality and efficiency of the implementation (1-5; threshold: 3) / weight 3**
- For **Policy/Management** EvC members:
  - **Impact** (incl. societal / policy relevance and approaches to stakeholder engagement) **(1-5; threshold: 3) / weight 6**

# Outcomes

- **Reviewers brought a high level of expertise and collegiality**. There was a high degree of consistency between rapporteurs and readers in their evaluations for both Scientific and Policy Management Committees.
- The funded projects address topics across **all three non-exclusive themes** and will contribute knowledge **across diverse ecosystems**: terrestrial ecosystems, inland waters and coastal and marine ecosystems.
- The selected proposals are both **innovative** and **trans-disciplinary** and will require close working relationships internationally as well as between scientists and stakeholder communities.
- The selected proposals will deliver **scientific research relevant to policy makers** at regional, national and international levels.

**3-year transnational research projects**

**Strictly following the ranking list, 34 projects recommended for funding by the call funders**

# Nature-based Solutions to Reverse Environmental Degradation and Biodiversity Loss

Dr. Laura Wendling
SINTEF Community, Trondheim

# What are Nature-based Solutions?

Actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services and resilience and biodiversity benefits

*-UN EA 2022 (UNEP/EA.5/Res.5)*




# Protect, Conserve, Restore, Sustainably Manage…

## Protect

Legally safeguarding ecosystems from negative human impact (nature reserves, wilderness areas, national parks)

## Conserve

Managing areas to maintain ecosystems & biodiversity for future generations (conservation areas, OECMs)

*OECM = Other Effective area-based Conservation Measures*

## Restore

Actively reversing damage to ecosystems (reforestation with native species, reconnect fragments)

## Manage

Fulfilling current needs without compromising future generations (community forestry, FSC certified mgmt, non-timber forest products)

Image from RECOFTC

# NbS & Biodiversity

- NbS derive their effectiveness from ecosystem integrity
  - Ecosystem services delivery is contingent on the health, structure & function of the underlying natural systems
- Ecosystems exhibit optimal functionality & resilience when they are rich in biodiversity
  - Biodiversity underpins key ecological processes, e.g., nutrient cycling, pollination, C storage, hydrological regulation
- Biodiversity plays a central role in NbS design & outcomes
  - It is the foundation of ecosystem function & adaptive capacity
  - It is a primary co-benefit of NbS actions
  - It represents a **strategic priority in European & global policy frameworks**, including the EU Biodiversity Strategy for 2030 & Kunming-Montreal GBF

# Kunming-Montreal Global Biodiversity Framework

## Target 8

- **Minimise the Impacts of Climate Change on Biodiversity & Build Resilience**
- Minimize the impact of climate change and ocean acidification on biodiversity and increase its resilience through mitigation, adaptation, and disaster risk reduction actions, including through nature-based solutions and/or ecosystem-based approaches, while minimizing negative and fostering positive impacts of climate action on biodiversity

## Target 11

- **Restore, Maintain & Enhance Nature's Contributions to People**
- Restore, maintain and enhance nature's contributions to people, including ecosystem functions and services, such as regulation of air, water, and climate, soil health, pollination and reduction of disease risk, as well as protection from natural hazards and disasters, through nature-based solutions and/or ecosystem-based approaches for the benefit of all people and nature

## Target 12

- Enhance Green Spaces & Urban Planning for Human Well-Being & Biodiversity
- Significantly increase the area & quality & connectivity of, access to, & benefits from green & blue spaces in urban & densely populated areas sustainably, by mainstreaming the conservation & sustainable use of biodiversity, & ensure biodiversity-inclusive urban planning, enhancing native biodiversity, ecological connectivity & integrity, & improving human health & well-being & connection to nature & contributing to inclusive & sustainable urbanization & the provision of ecosystem functions & services

# Innovating with nature to deliver policy goals

- Innovating with nature yields opportunity to address major societal challenges whilst delivering economic benefits, & fostering social justice & social equity, to achieve more sustainable & resilient societies
- Most of the policies within the EU environmental & climate change legislative framework either explicitly or implicitly support NbS

**Can we systematically embed biodiversity protection, conservation, restoration, sustainable management & use + systematic assessment within actions to address climate & environment concerns?**

***Support and integration of NBS in EU policies***

| EU policies, strategies and approaches | Level of NBS support | Type of integration |
|---|---|---|
| European Green Deal | Strong | Explicit |
| Biodiversity Strategy for 2030 | Strong | Explicit |
| Bioeconomy Strategy | Medium | Explicit |
| Forest Strategy | Medium | Implicit |
| Green Infrastructure Strategy | Strong | Explicit |
| LULUCF Regulation | Medium | Implicit |
| Action Plan on the Sendai Framework | Strong | Explicit |
| Adaptation Strategy | Strong | Explicit |
| Common Agricultural Policy | Medium | Implicit |
| Farm-to-Fork Strategy | Medium | Explicit |
| Water Framework Directive | Medium | Implicit |
| Floods Directive | Strong | Implicit |
| Urban Agenda | Medium | Explicit |

Image source: EEA 1/2021, Pakarinen 2022

# Ambitious European initiatives to address climate change & environmental degradation

**Biodiversity**

**Biodiversity Strategy for 2030**

**Nature Restoration Law**

**Strategy on Green Infrastructure**

Pollinators Initiative

EU Habitats Directive

EU Birds Directive

**Forests**

**EU Forest Strategy for 2030**

Regulation on Deforestation-Free Products

Bioeconomy Strategy

**Land Use**

LULUCF Regulation

**EU Soil Strategy for 2030**

**Zero Pollution Action Plan**

EU Territorial Agenda 2030

**Water**

Water Framework Directive

Floods Directive

Marine Strategy Framework Directive

**Water Resilience Strategy***

**Agriculture/Food**

**Farm-to-Fork Strategy**

Common Agricultural Policy

Common Fisheries Policy

**Climate Change**

**Strategy on Adaptation to Climate Change**

**Action Plan on the SFDRR 2015-2030**

European Climate Law

**Carbon Farming Initiative**

**Urban**

**Urban Agenda for the EU**

**European Urban Initiative**

New European Bauhaus

# NbS & the EU Forest Strategy for 2030

Image reproduced from Network Nature Case Study 18020
Marteloscope 'Steinkreuz' at the Ebrach State Forest Enterprise

NbS framed as integrated approach to deliver climate, biodiversity & socio-economic co-benefits

- Close-to-nature forestry & diversified, resilient forest ecosystems
  - Selective logging, species diversity & structural heterogeneity, minimal soil disturbance, year-round canopy cover, planting & regeneration of locally adapted species
  - Community-based forestry
- Restoration of degraded forests to enhance ecosystem services
- Reconnection of forest landscapes
- Urban tree planting & green infrastructure to cool cities & improve air quality
- Forest management to balance carbon sinks, biodiversity & livelihoods

# NbS in support of the LULUCF Regulation

LULUCF Regulation encourages activities that maintain or enhance land-based C stocks

- Promotes restoration & management of natural C sinks like forests, peatlands & soils
  - Afforestation & reforestation
  - Agroforestry
  - Hedgerows & buffer strips
  - Peatland rewetting
  - Soil C improvement measures
- Example: restore degraded peatlands to reinstate their function as C sinks & enhance biodiversity (LIFE Peat Restore project)
  - Biodiversity hotspots, provide unique habitat that support specialist species, connect forest, grassland & freshwater ecosystems

# NbS & the Floods Directive

Although it does not specifically mention “NbS”, the directive explicitly encourages "non-structural measures“ which include ecosystem-based flood risk management

Potential NbS actions:

- Restoration of floodplains & wetlands
- Reforestation in catchments to reduce runoff
- Natural water retention measures (NWRM)
- River restoration & re-meandering
- Land use planning that maintains or restores natural flood buffers
- Example: riparian zones
  - Key for ecotone diversity because they support both aquatic & terrestrial species
  - Function as ecological corridors
  - Filter sediments, nutrients, pollutants

# The Farm-to-Fork Strategy & NbS

- Many Farm-to-Fork priorities & actions are fundamentally nature-based in principle
- Protection & restoration of pollinator habitats (hedgerows, flower strips)
- Agroecological practices
  - Crop rotation
  - Cover cropping
  - Mixed farming
  - Agroforestry
- Example: Establishing hedgerows & flower strips along margins of agricultural fields
  - Shelter, food & movement corridors for beneficial wildlife
  - Filtration for water, soil & air

# NbS & Climate

- EU Strategy on Adaptation to Climate Change & Action Plan on the Sendai Framework for Disaster Risk Reduction 2015-2030 emphasise:
  - Ecosystem-based approaches
  - Conservation/ protection/ restoration of natural habitats
- NbS are embedded within the European climate adaptation framework
  - Underscores the role of healthy ecosystems in mitigating climate risks & fostering sustainable (nature-positive) development
  - Recognises NbS as multi-purpose solutions
  - Promotes ecosystem-based approaches, e.g., wetland restoration & sustainable land management
- Action Plan on SFDRR emphasises transboundary cooperation to implement ecosystem-based strategies

# Urban Europe & NbS

- European urban development policies increasingly integrate NbS to reconnect cities with nature
  - Enable biodiversity to thrive by restoring ecosystems, integrating GI & embedding ecological thinking into design, planning & innovation
- Urban Agenda for the EU Sustainable Land Use, Greening Cities & Water Sensitive Cities thematic Partnerships
  - Promotes restoration of nature in urban environments via green infrastructure, incl. sustainable urban drainage systems
- EU Green Infrastructure Strategy
- **Urban Nature Plans (Biodiversity Strategy)**
  - Cities & towns of 20,000+ people: measures to create biodiverse & accessible urban forests, parks & gardens, urban farms, green roofs & walls, tree-lined streets, urban meadows & hedges

# Reverse Environmental Degradation & Biodiversity Loss

| ADAPTIVE MANAGEMENT ACTION | HOW CAN WE SYSTEMATICALLY EMBED BIODIVERSITY? |
|---|---|
| **PLAN**: Define ecosystem & biodiversity goals, assess site conditions, co-create NbS to complement, extend or connect existing natural & semi-natural areas | 🐝 Identify target species & habitats<br>💡 Systematically consider structural & functional connectivity at landscape scale<br>🌱 Use baseline biodiversity surveys<br>🌍 Set biodiversity co-benefits as objectives |
| **DO**: (Co-)Implement the NbS to realise plans | 🌿 Use native, diverse species<br>🛠️ Create structurally complex habitats<br>🚫 Avoid monocultures or invasive species |
| **CHECK**: Regularly monitor effectiveness & ecosystem responses, including movement, dispersal or flow across connected sites | 📊 **Monitor & assess** indicators of biodiversity (e.g., species richness, pollinator activity)<br>📷 Use citizen science or field surveys |
| **ACT/ADJUST**: Adapt management based on monitoring results, refine design as needed; add complementary features as necessary to enhance connectivity | 🔁 Modify species mix, habitat structure or placement/extent, or management practices to improve biodiversity outcomes |

# Monitor Impact & Build the Evidence Base

- **Biodiversity indicators developed by the Biodiversity Indicators Partnership global initiative**
  - Numerous indicators to monitor progress toward global and national goals and targets
  - Searchable full list, indicators linked to specific SDGs or multilateral environmental agreements (MEAs), organized by Themes, or National indicators with data available by country
- **Share information**
  - Global Biodiversity Information Facility (GBIF – www.gbif.org): feeds into global & EU biodiversity indicators
  - Biodiversity Information System for Europe (BISE – www.biodiversity.europa.eu)
  - Oppla NbS Evidence Platform (www.oppla.eu) + Zenodo (www.zenodo.org; use Darwin Core metadata)

# Assessing Kunming-Montreal GBF Targets

## Target 8

**Minimise the Impacts of Climate Change on Biodiversity & Build Resilience**

- Total climate regulation services provided by ecosystems by ecosystem type (UN SEEA)
- Number of countries adopting & implementing national DRR strategies in line with the Sendai Framework that include biodiversity considerations
- National GHG inventories from LULUC
- Bioclimatic Ecosystem Resilience Index (BERI)

## Target 11

**Restore, Maintain & Enhance Nature's Contributions to People**

- No. deaths, missing persons & directly affected persons attributed to disasters per 100,000 population
- Mortality rate attributed to unsafe water, sanitation & lack of hygiene
- Annual mean levels of fine particulate matter (PM2.5 & PM10) in cities
- Proportion of waterbodies with good ambient water quality
- Level of water stress

## Target 12

**Enhance Green Spaces & Urban Planning for Human Well-Being & Biodiversity**

- Average share of the built-up area of cities that is green/blue space for public use
- Recreational & cultural ecosystem services
- *Accessibility is not specified in GBF*
  - Proportion of urban dwellers within 1.5 km/15-min walk of an accessible blue/green space (TNC proposed)
  - % w/in 300 m of >0.5 ha space (WHO); 3-30-300 design rule (Konijnendijk)
  - %with access to public spaces, disaggregated by age, gender &

# Thank you!

Laura Wendling

laura.wendling@sintef.no

# PLACEHOLDER: slides from Erich Wolff

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# Panel discussion

**Panellists:**

- **Bénédicte Blaudeau,** Policy Officer, European Commission DG ENV
- **Susanna Gionfra,** Policy Officer Biodiversity & Nature-based Solutions, European Commission DG RTD
- **Chiara Baldacchini,** Biodiversa+ Work Package leader on “Nature-based Solutions, Biodiversity & Business”, MUR
- **Claire Brown,** Senior Programme Officer Ecosystem Assessment UNEP-WCMC, policy-management co-Chair of the BiodivNBS Evaluation Committee
- **Laura Wendling,** Senior Research Scientist, SINTEF community
- **Erich Wolff,** Postdoctoral Researcher, Utrecht University, Scientific member of the Biodiversa+ Advisory Board, BiodivNBS EvC member

*Moderation by* Magnus TANNERFELDT, Co-Chair of Biodiversa+, FORMAS (Sweden)

# Break
# 11:20 - 11:50

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[11:55 – 12:45]

# Funded Projects Presentations – Session 1

Moderated by Adriana Ford, Centre Manager, Leverhulme Centre for Wildfires, Environment and Society, Imperial College London, BiodivNBS EvC member, UK

# Presented projects - Session 1

- BioPlastOmics, *presented by Alicia Prieto*
- NATUREBIOPROMO, *presented by Patricia Cardoso Teixeira*
- NBS4AQUAMISSION, *presented by Gema Parra*
- BioReStorm, *presented by Katharina Tondera*
- BRAVE, *presented by Melina Kourantidou*
- FreeB, *presented by Grace McCormack*
- PRESINMED, *presented by Javier Martínez-López*
- PHloresttAll, *presented by Miguel Vasco*
- Wilding Grasslands, *presented by Joris Cromsigt*
- BIOCUE, *presented by Aline Frossard*

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# BioPlastOmics
# Discovering Brazilian Biodiversity-Driven Plastic Degradation through Omics Analysis

By *Alicia Prieto*




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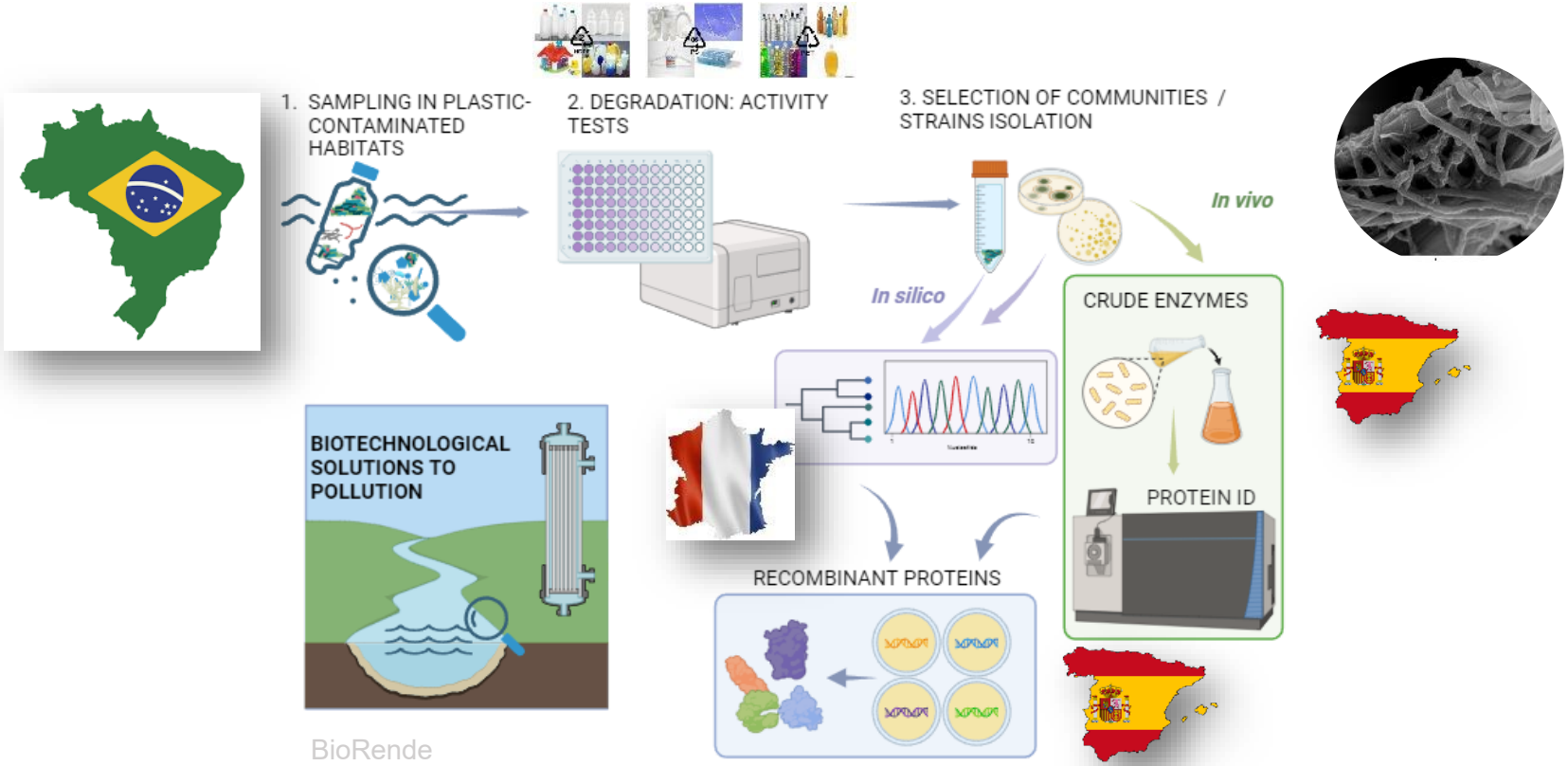
FAPERGS

ANR

# BioPlastOmics at a glance



# NATUREBIOPROMO

## Hybrid nature-based solutions as biodiversity promoters and their implications for emerging contaminants mitigation

By *Patricia Cardoso*

***Consortium***:
*CIIMAR – Interdisciplinary Centre of Marine and Environmental Research, University of Porto, Portugal*
*FEUP – Faculty of Engineering, University of Porto, Portugal*
*UFRGS – Federal University of Rio Grande Sul, Brazil*
*UM – University of Montpellier, France*
*CZU – Czech University of Life Sciences Prague, Czech Republic*
*UNIBS – University of Brescia, Italy*
*CSIR – Council for Scientific and Industrial Research, South Africa*

# AIMS

- Promote higher efficiency of contaminants removal
- Synergy between NBS sewage treatment and biodiversity support
- Valorisation of plant biomass for bioenergy production – circular economy

Constructed wetland – Vieira do Minho, Portugal

# IMPACTS

## Scientific

- Biodiversity enrichment and conservation
- Wastewater management

## Society

- Production of clean energy – socio-economic value
- Environmental sustainability

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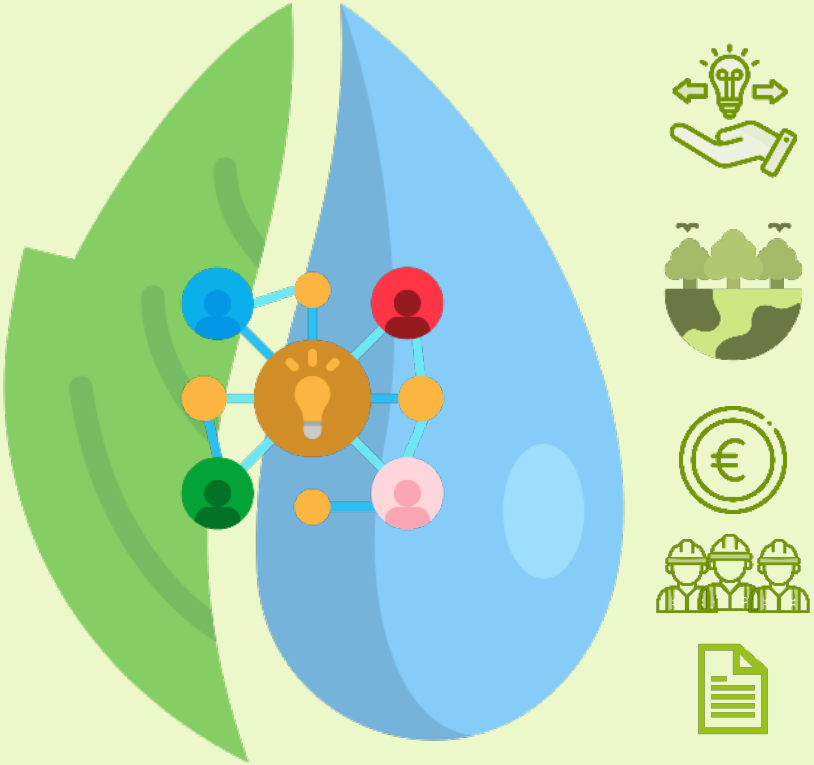
# NBS4AQUAMISSION

## Nature Based Systems mission for aquatic biodiversity enhancement: reducing pharmaceutical products pollution in urban and rural environments


By *Gema Parra*

*University of Jaén (Spain)*
*Aarhus University (Denmark)*
*Kilian Water (Denmark)*
*Gebze Technical University (Turkey)*
*University College Dublin (Ireland)*
*Norwegian Institute of Bioeconomy Research (Norway)*
*University Mediterranea of Reggio Calabria (Italy)*
*Agencia de Medio y Agua de Andalucía (Spain)*


## A toxic cocktail? No, thanks…



## …NBS on my team!

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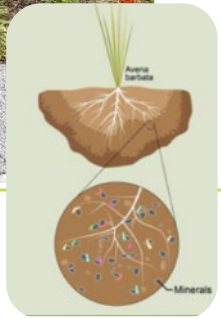
BIO RE STORM

# Anticipating Biological Succession in Rehabilitation of Long-Term Operated Nature-Based Solutions for Stormwater Treatment in Different Climate Zones

By Katharina Tondera

UMR 5023 LEHNA (team IAPHY), ENTPE, France; UMR 5023 LEHNA (team BAH), CNRS, France, Department of Civil, Environmental and Natural Resources Engineering, Urban Water Engineering, Luleå University of Technology, Sweden; Institute of Ecology and Earth Sciences, University of Tartu, Estonia; School of Urban Planning and Landscape Architecture, University of Montreal, Canada


Avena barbata
Minerals

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# BRAVE

## Biological Invasions Resolved through Adaptable, Versatile, and Engaging Nature-Based Solutions

By Melina Kourantidou

***Denmark***: *University of Southern Denmark*
***Norway***: *Norwegian University of Life Science; Norwegian school of economics*
***Sweden***: *Swedish University of Agricultural Sciences; Swedish Institute for Food and Agricultural Economics;*
***Italy***: *University of Messina; University of Salento; National Research Council*
***Portugal***: *University of the Algarve; Algarve Centre of Marine Sciences*



Innovation Fund Denmark
The Research Council of Norway
FORMAS
MU
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Mediterranean Nordics **Real World Solutions**

## Trade-offs

NbS

Who wins?

Who loses?

What values guide our choices?

***Ecology & Economics***
***Policy & People***

*"Managing invasions isn't just about stopping species.*
*It's about making smarter, fairer decisions"*

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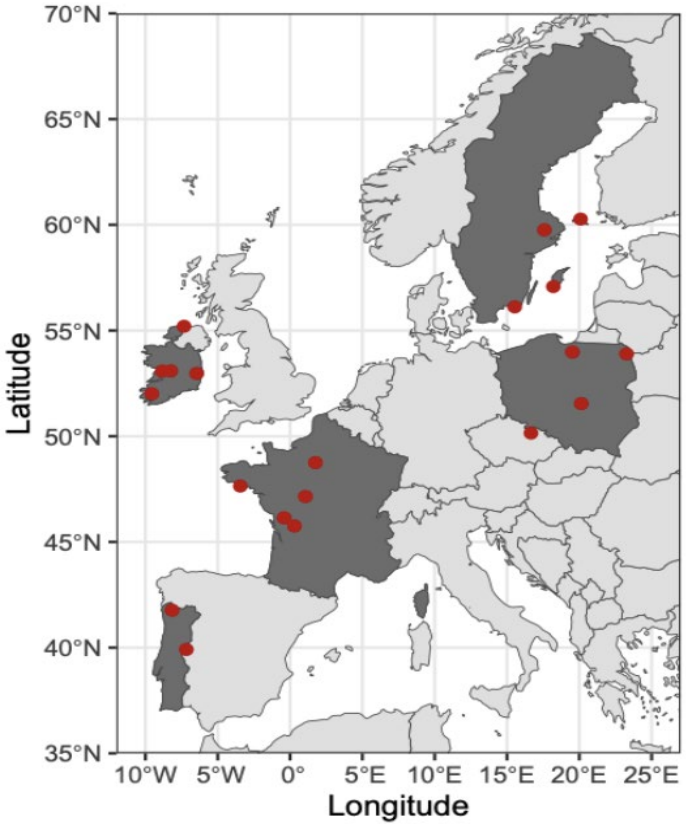
FREE-B: *FREE*-living honey *B*ee colonies in Europe: nature-based solutions to safeguard and promote transformative change

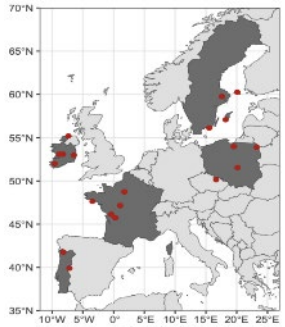


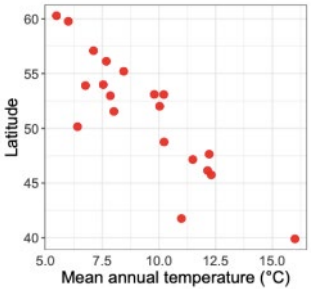

By **Grace McCormack**, *University of Galway* (Ireland)

**Joachim de Miranda**, *Sveriges Lantbruksuniversitet* (Sweden)
**Andrzej Oleksa**, *Uniwersytet Kazimierza Wielkiego* (Poland)
**M. Alice Pinto**, *Instituto Politécnico de Bragança* (Portugal)
**Fabrice Requier**, *IRD–Université Paris-Saclay* (France)
**Steve Rogenstein**, *Honey Bee Watch* (Ireland)

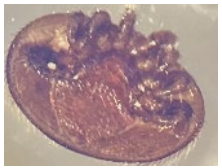
epa Environmental Protection Agency
FORMAS
National Science Centre Poland
fct Fundação para a Ciência e a Tecnologia
anr agence nationale de la recherche

## Where

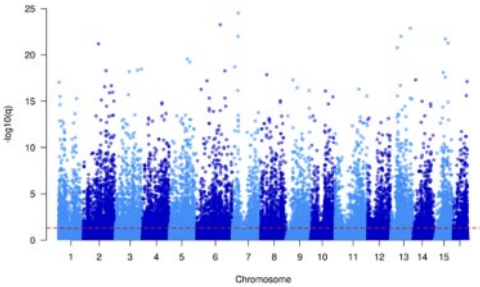



## How



## What




## Who

## Why

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Ollscoil na Gaillimhe University of Galway | Scoil na nEolaíochtaí Nádúrtha School of Natural Sciences

SLU

Uniwersytet Przyrodniczy we Wrocławiu

ipb Bragança Polytechnic University | Instituto Politécnico de Bragança

EGCE IRD cnrs université Paris-Saclay

Honey Bee Watch

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# Preserving the singularity of Mediterranean high-mountain biodiversity hotspots: a NbS approach (PRESINMED)

By Javier Martínez-López (University of Granada, Spain)

*(1) University of Granada (UGR, Spain), (2) Consiglio Nazionale delle Ricerche (CNR, Italy), (3) University Of Molise (UNIMOL, Italy), (4) University Of Coimbra (UC, Portugal), (5) University Mohammed Vi Polytechnic (UM6P, Morocco), (6) Cadi Ayyad University (UCA, Morocco), (7) Ecole Nationale Forestiere D'Ingenieurs (ENFI, Morocco, pending)*



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Fundación Biodiversidad

MUR Ministero dell'Università e della Ricerca

fct

# Preserving the singularity of Mediterranean high-mountain biodiversity hotspots: a NbS approach (PRESINMED)

## Ecological Importance

- Biodiversity hotspots
- Water regulation
- Ecological refuges

## Impacts

- Phenology alteration
- Fragmentation of wet meadows
- Biodiversity loss

## Study Areas

- Apennines, Grand Paradiso, Atlas, Serra da Estrela, Sierra Nevada
- Contrasting socio-ecological conditions

## Main Threats

- Climate change: temperature rise & precipitation decline
- Increased wild/domestic ungulate concentration
- Growing human presence & recreation

## Research Questions

- Identify & monitor essential variables for integrated diagnosis of wet meadows
- Develop adaptation & restoration NbS using scientific & local knowledge
- Foster intl. collaboration for innovative practices & participatory governance

## Research Methods

- Habitat mapping & conservation assessment through RS
- Cultural services mapping (AI & social media)
- Pasture production & hydrological modeling + field experiments
- Assessment of NbS trade-offs & synergies
- Co-production of knowledge & capacity building

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# PHORESTALL – Planetary Health by Healing Forests as Nature Based Solution

By **Miguel Vasco**

**POL**
Pawel Sowa - Medical University of Białystok

**PT**
Miguel Vasco - Destinature
Alex Gesse - FT Hub
Isabel Henriques - University of Coimbra

**SI**
Sonja Turk – University of Maribor (FHS)
Anže Japelj – Slovenian Forestry Institute
Arnela Kuzma - National Laboratory of Health, Environment and Food

**LT**
Lina Raudone – Lithuanian University of Health Sciences

**AT**
Stefan Seiberling – International Society of Forest Therapy (AP)

**TW**
Chiapin Yu - National Taiwan University



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NSTC 國家科學及技術委員會 National Science and Technology Council

Let’s go

# SoilMates


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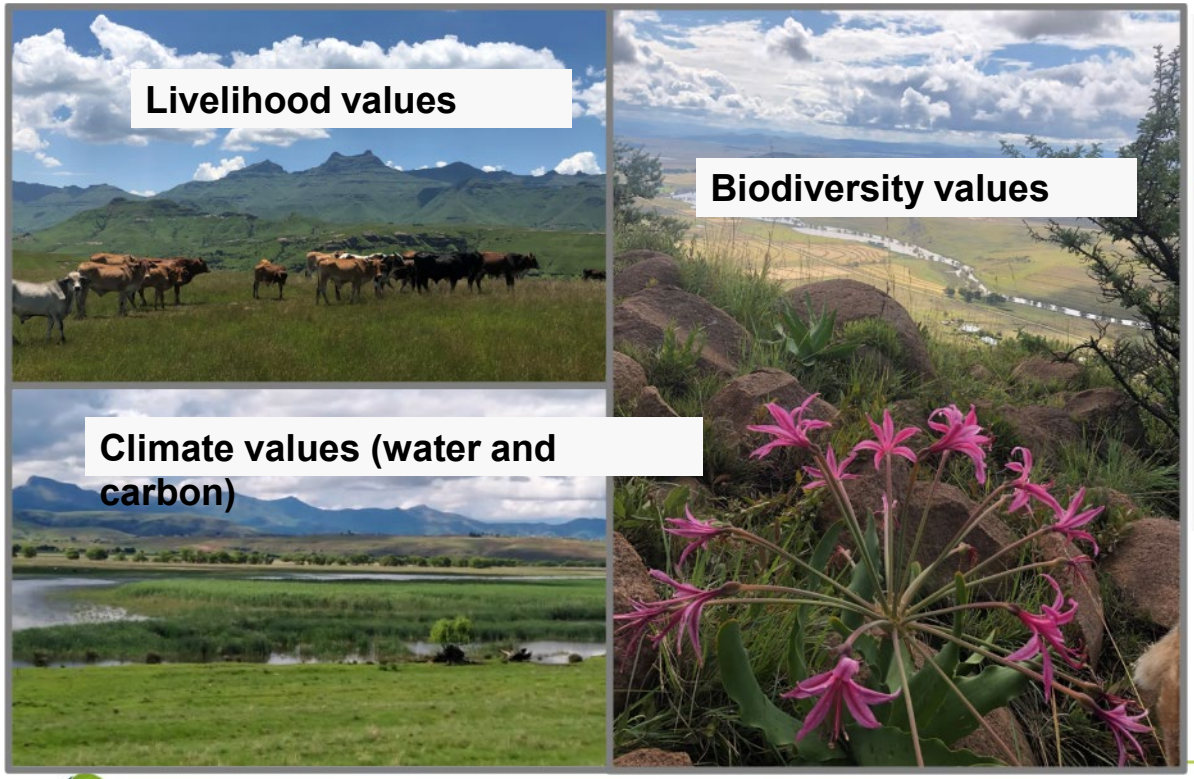
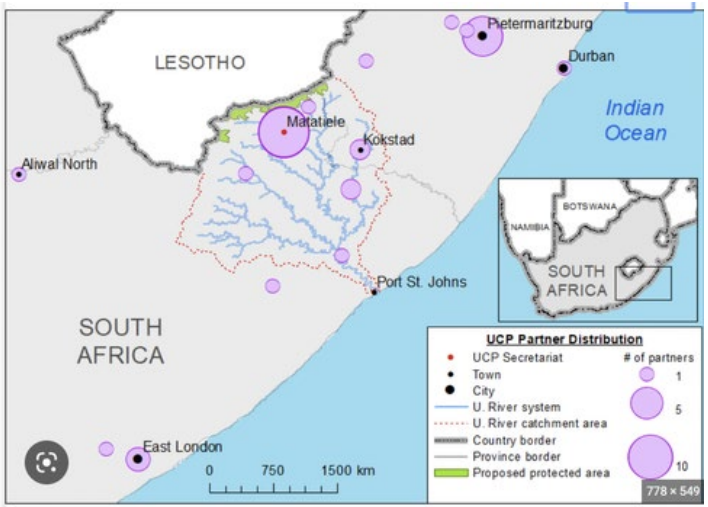
# WILDING GRASSLANDS: wilding as nature-based opportunity for grassy ecosystems under diverse land tenure systems

By **Joris Cromsigt**, Swedish University of Agricultural Sciences, Sweden

Marjanneke Vijge, Mariska te Beest (Utrecht University, the Netherlands)
Leocadia Zhou (University of Fort Hare, South Africa)
Heidi Hawkins (University of Cape Town & Conservation South Africa, South Africa)
Graham Kerley (Nelson Mandela University, South Africa)
Nicky McLeod (Environmental & Rural Solutions, South Africa)

# WILDING GRASSLANDS: wilding as nature-based opportunity for grassy ecosystems under diverse land tenure systems

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BIOCUE

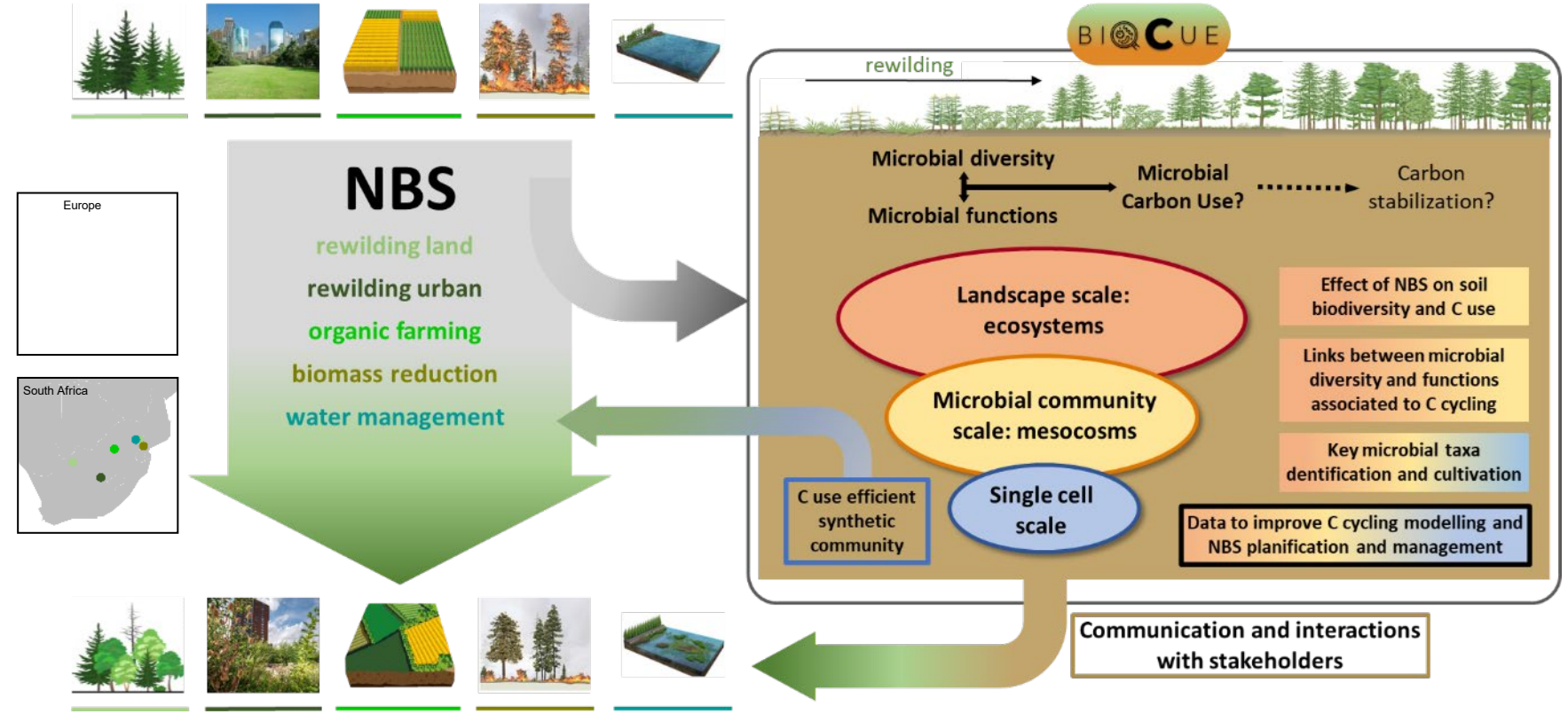
# Microbial Biodiversity and Carbon Use Efficiency as NBS for soil stabilization (BIOCUE)


By ***Aline Frossard*** *(WSL, Switzerland)*

and ***Anders Priemé*** *(Uni. Copenhagen, Denmark)*
***Anna M. Romaní*** *(Uni. Girona, Spain)*
***Jean-Baptiste Ramond*** *(Uni. Pretoria, South Africa)*
***Arina Hitzeroth*** *(Uni. Western Cape, South Africa)*


BIOCUE

# How Nature-Based Solutions affect microbial carbon use and carbon balance in soil?

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# Panel discussion - Session 1

Moderated by Adriana Ford, Centre Manager, Leverhulme Centre for Wildfires, Environment and Society, Imperial College London, BiodivNBS EvC member, UK

- BioPlastOmics - *Alicia Prieto*
- NATUREBIOPROMO - *Patricia Cardoso Teixeira*
- NBS4AQUAMISSION - *Gema Parra*
- BioReStorm - *Katharina Tondera*
- BRAVE - *Melina Kourantidou*
- FreeB - *Grace McCormack*
- PRESINMED - *Javier Martínez-López*
- PHloresttAll - *Miguel Vasco*
- Wilding Grasslands - *Joris Cromsigt*
- BIOCUE - *Aline Frossard*

# Lunch break
# 12:45 - 14:15

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[14:15 – 15:05]

# Funded Projects Presentations – Session 2

Moderated by Masoumeh Mirsafa, Senior Lecturer, Department of Architecture and Built Environment, Lund University, BiodivNBS EvC member, Sweden

# Presented projects - Session 2

- Biodiversity2Drugs *presented by Christian Gruber*
- AirBiD *presented by Nestor González Roldán*
- BIODIVECITY *presented by Sander Koenraadt*
- GREENHANCEnbt *presented by Geovana Mercado*
- inSALSA *presented by Ramesh Vetukuri*
- WildCrop *presented by Johan Stenberg*
- SaltyBEATS *presented by Nadia Bazihizina*
- SOILDIVINE *presented by Matteo Gatti*
- TRANSFOrm *presented by Matteo Dainese*
- BioSolar *presented by Helena Naffa*
- emBrace *presented by Mario Torralba Viorreta*
- FOUNDATIONAL *presented by Barbara Prack Mc Cormick*

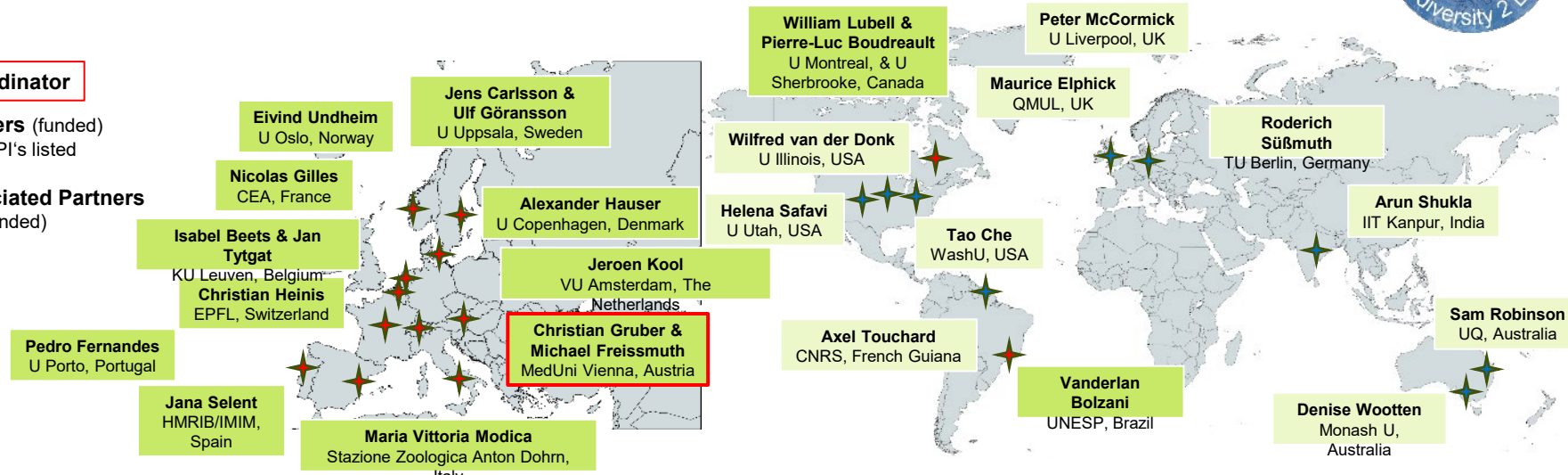
# Biodiversity2Drugs & Peptide Biodiversity: Advancing Human Health Through Nature's Pharmacological Treasures

*Christian Gruber (Medical University of Vienna, Austria) – Project Leader*
*Presented by Nicolas Gilles (CEA, France)*

**Coordinator**

**Partners** (funded) – only PI's listed

**Associated Partners** (non-funded)




*Funding agencies:*

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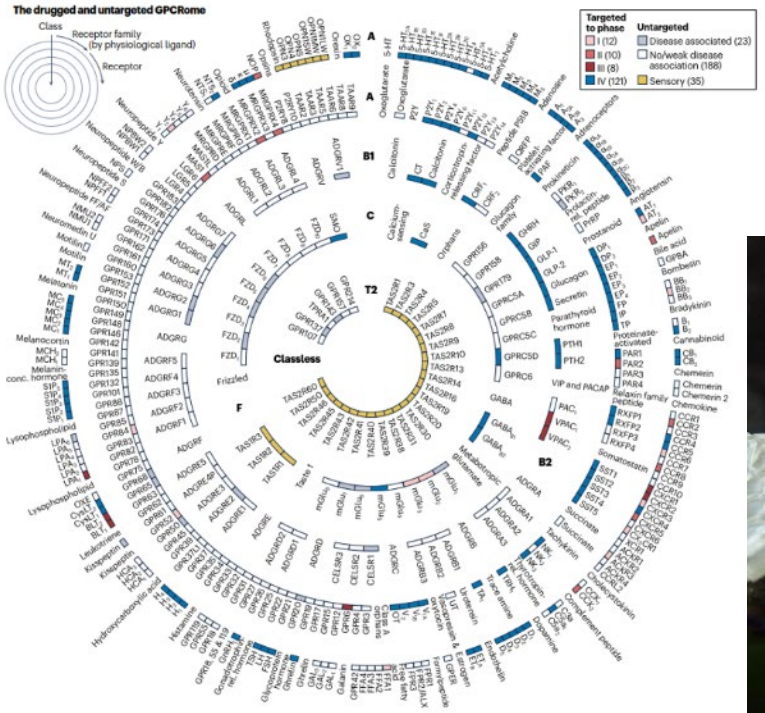
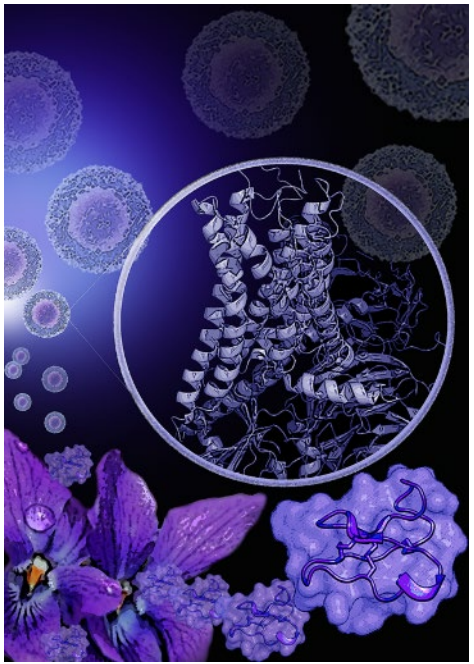
## Main objective(s):

- **Drug Discovery from Nature:** Transform natural peptides into safe, targeted drugs that minimize side effects, addressing urgent healthcare challenges.
- **Decoding GPCR Functionality:** Enhance our understanding of GPCRs to design medicines with greater precision and effectiveness.
- **Biodiversity Conservation:** Highlight the critical importance of preserving biodiversity as a reservoir for scientific discovery and societal benefit.




Lorente *et al*., Nature Reviews Drug Discov, 2025



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AIRBID

**AirBiD** – Airborne Biological Diversity shaped and modelled by Urban Green Elements

By *Nestor González Roldán*

Carsten Skjøth
Aarhus University

Clara Pogner
Austrian Institute of Technology

Antonella Cristofori
Fondazione Edmund Mach

Célia Antunes
University of Èvora

Nestor González Roldán
University of Gothenburg

**Funding:** www.biodiversa.eu
Innovationsfonden
FWF Austrian Science Fund
AUTONOME PROVINZ BOZEN SÜDTIROL
PROVINCIA AUTONOMA DI BOLZANO ALTO ADIGE
fct Fundação para a Ciência e a Tecnologia
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Aerobiome

Urban green elements

Air quality shaped by biodiversity

Develop maps and tools for city planners and communities

Citizen scientists

Practical guidance to promote health and well-being by creating and maintaining green areas boosting biodiversity in urban environments

https://www.vecteezy.com

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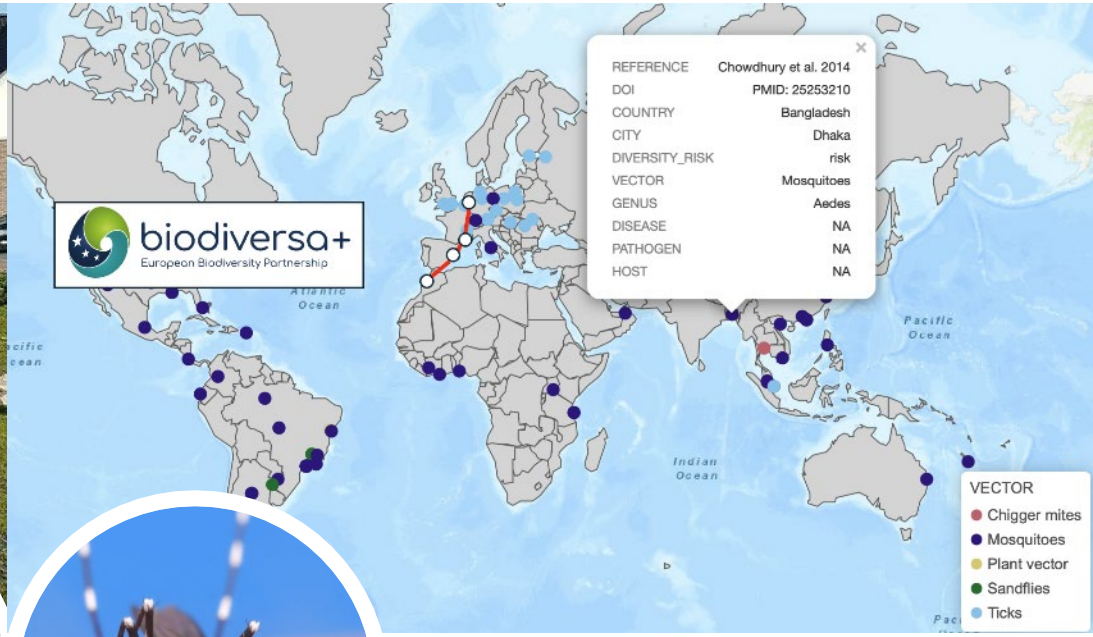
# BiodiveCITY – Greening cities as nature-based solution and their impact on vectors and vector-borne disease risks

By: *Sander Koenraadt, Laboratory of Entomology, Wageningen University, The Netherlands*

With: *The Netherlands Food and Consumer Product Safety (*NL*), Institut de Recherche pour le Développement* (FR),*Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnnement* (FR), *Institut Agronomique et Vétérinaire Hassan II (*MO*), University Mohammed V of Rabat (*MO*), University of Barcelona (*ES*),*

# Building a healthy and biodiverse environment




Credit: Nanda Sluijsmans

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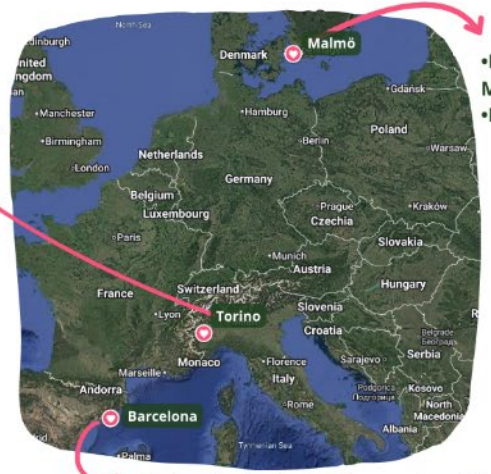
# GREENHANCEnbt

## Growing Resilience by Exploring Methods to Enhance Urban Agriculture for Human Well-being, Community and Biodiversity Enrichment

•Dept. of Cultures, Politics & Society, University of Turin.
•Dept. of Agricultural Sciences, University of Sassari.
•Municipality of Turin

UNIVERSITÀ DI TORINO

CITTA' DI TORINO




•Dept. of Landscape Architecture, Planning and Management, Swedish University of Agricultural Sciences.
•Botildenborg Foundation.

SLU

BOTILDENBORG
Social Gastronomy

•Center for Ecological Research and Forestry Applications (CREAF).
•Barcelona Regional Metropolitan Agency

CREAF

Barcelona Regional
Agència Desenvolupament Urbà

*Geovana Mercado - SLU*



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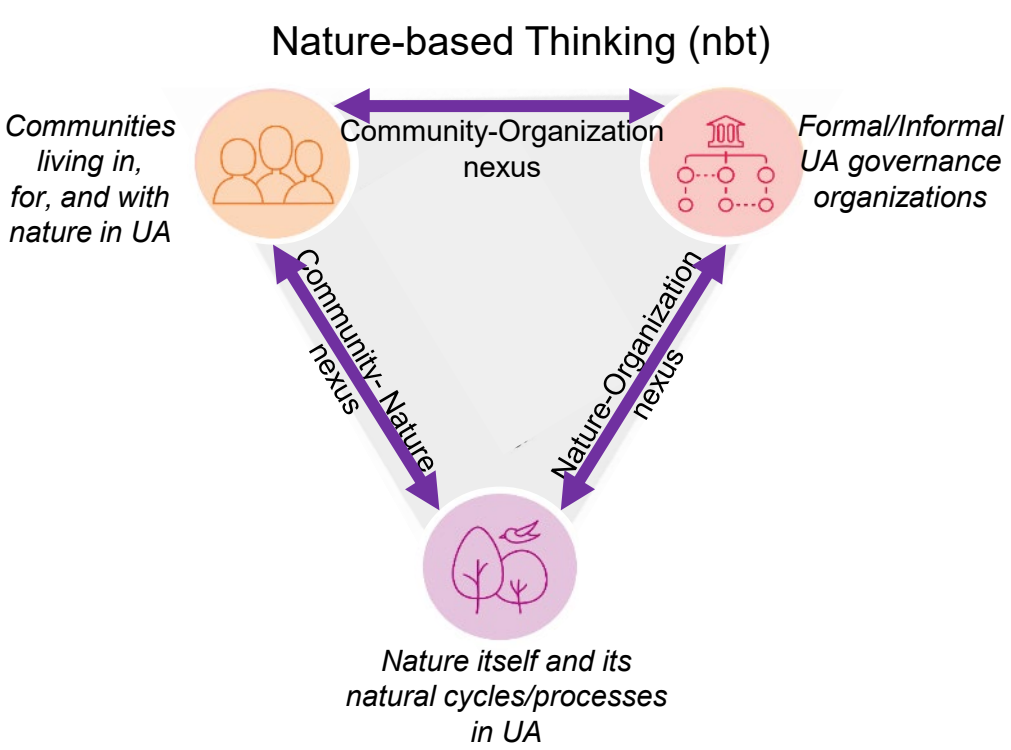
MUR

# GREENHANCEnbt




Urban allotment in Barcelona

**Randrup et al**. (2020); **Mercado et al.** (2023)

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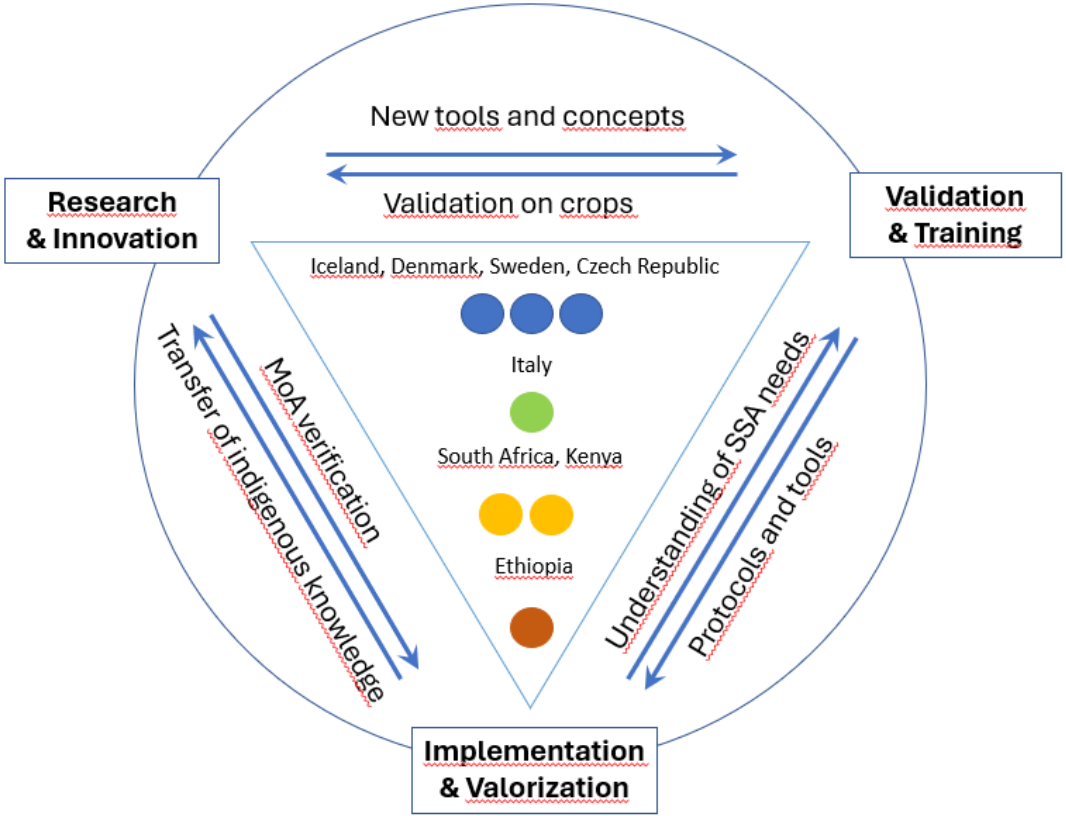
# inSALSA: Increasing Sustainability of Agribiologicals by Living Labs in sub-Saharan Africa

Ramesh Raju Vetukuri

Swedish University of Agricultural Sciences (SLU), Sweden; University of Dar es Salaam, Tanzania; University of Nairobi, Kenya; Kotebe University of Education, Ethiopia; Mount Kenya University, Kenya; University of Pretoria, South Africa; Agricultural Research Council, South Africa; Univerzita Palackého v Olomouci, Czech Republic; Aarhus University, Denmark; University of Tuscia, Italy; Agrolab A/S, Denmark; University of South Africa, SouthAfrica; Agricultural University of Iceland, Iceland; CAB International, Kenya; ADDA, Denmark; Voices4Change, Sweden

FORMAS MUR T A Č R UNISA rannís Innovation Fund Denmark


New tools and concepts
Validation on crops
Research & Innovation
Validation & Training
Iceland, Denmark, Sweden, Czech Republic
Italy
South Africa, Kenya
Ethiopia
Transfer of indigenous knowledge
MoA verification
Understanding of SSA needs
Protocols and tools
Implementation & Valorization

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# **WildCrop** – Optimal rewilding of crop-bodyguard interactions facilitating the green transformation of agriculture


By *Johan A. Stenberg*

*Swedish University of Agricultural Sciences (SE)*
*University of Udine (IT)*
*University of Málaga (ES)*



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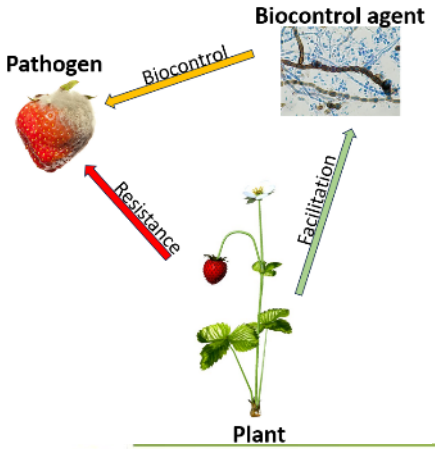
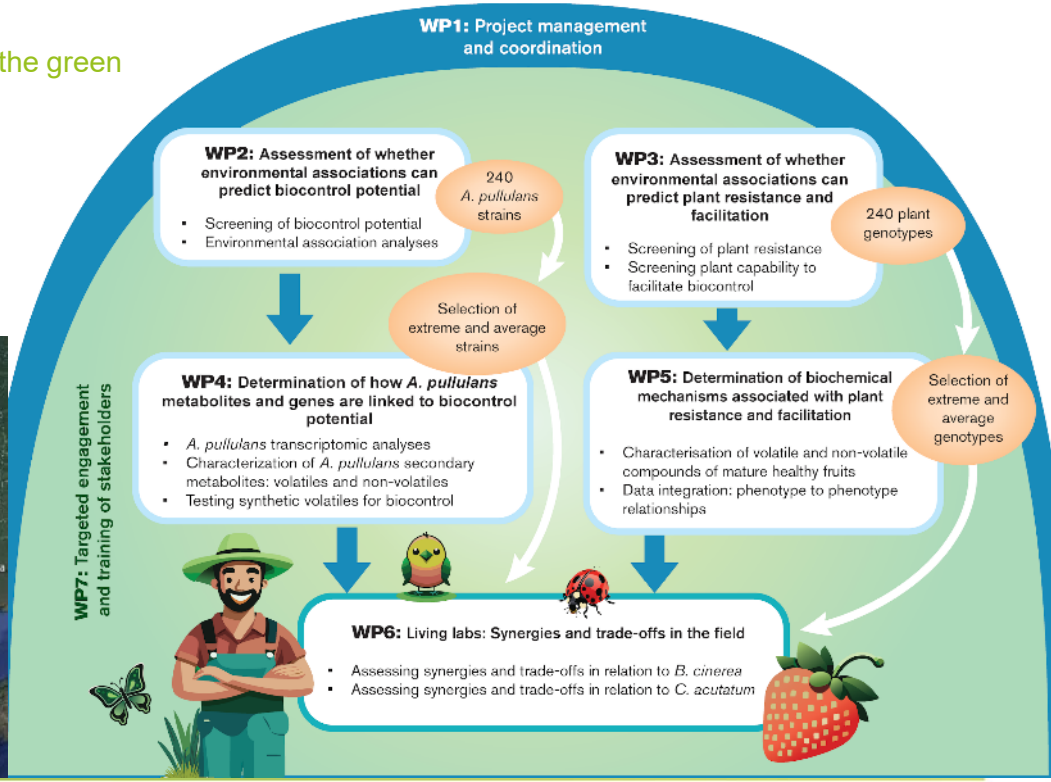
MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO
Fundación Biodiversidad
FORMAS

# WildCrop

Optimal rewilding of crop-bodyguard interactions facilitating the green transformation of agriculture





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# Salty symphonies: bringing back BiodivErsity in mArginal Saltlands (SaltyBEATS)

By *Nadia Bazihizina*

***Composition of the consortium:***

***Nadia Bazihizina**, Department of Biology, University of Florence, Italy*
***Karim Ben Hamed,** Laboratoire des Plantes Extrêmophiles, Centre de Biotechnologie de Borj Cédria, Tunisia*
***Luísa Custódio,** Centre of Marine Sciences of the Algarve, Portugal*
***Katarzyna Hrynkiewicz,** Department of Microbiology, Nicolaus Copernicus University in Toruń, Poland*
***Katarzyna Negacz,** Institute for Environmental Studies, Stichting Vrije Universiteit Amsterdam, The Netherlands*
***Josè Antonio Hernandez Cortes**, Spanish National Research Council, Spain*
***Antonella Castagna**, Università di Pisa, Italy*
***Imed Riadh Farah,** Manouba National School of Engineering, University of Manouba, Tunisia*

# SaltyBEATS

**Salty symphonies: bringing back BiodivErsity in mArginal Saltlands**

## Our aim:

Understand how to use saline agriculture as a NbS for innovative and sustainable (across the 4 Ps) design of agricultural landscapes

## How:

Unveil the mechanisms sustaining functional biodiversity in naturally saline landscapes to transfer them in salt-degraded agricultural lands via a decisional support tool

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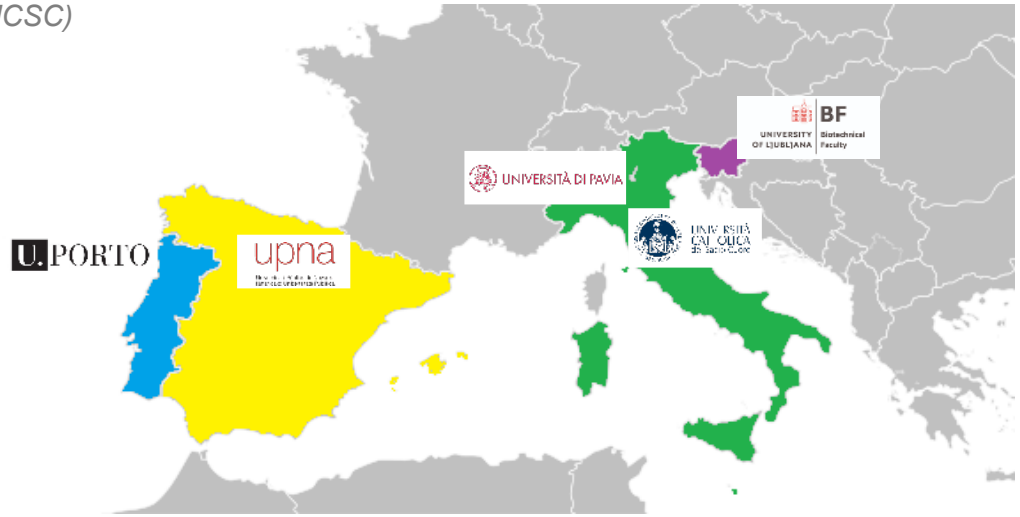
# Promoting Soil Quality and Biodiversity in Vineyard Ecosystems Through Nature-Based Solutions - SOILDIVINE

By *Matteo GATTI (UCSC)*




www.biodiversa.eu Co-funded by : MUR fct Fundação para a Ciência e a Tecnologia GOBIERNO DE ESPAÑA MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES CDTI INNOVACIÓN REPUBLIC OF SLOVENIA MINISTRY OF HIGHER EDUCATION, SCIENCE AND INNOVATION

Vineyard ecosystem stressors



NBS




Grapevine performance, yield and fruit composition

Soil quality and health

Microbiological biodiversity



Entomological biodiversity

Floristic biodiversity and composition

Policy maker and stakeholders engagement

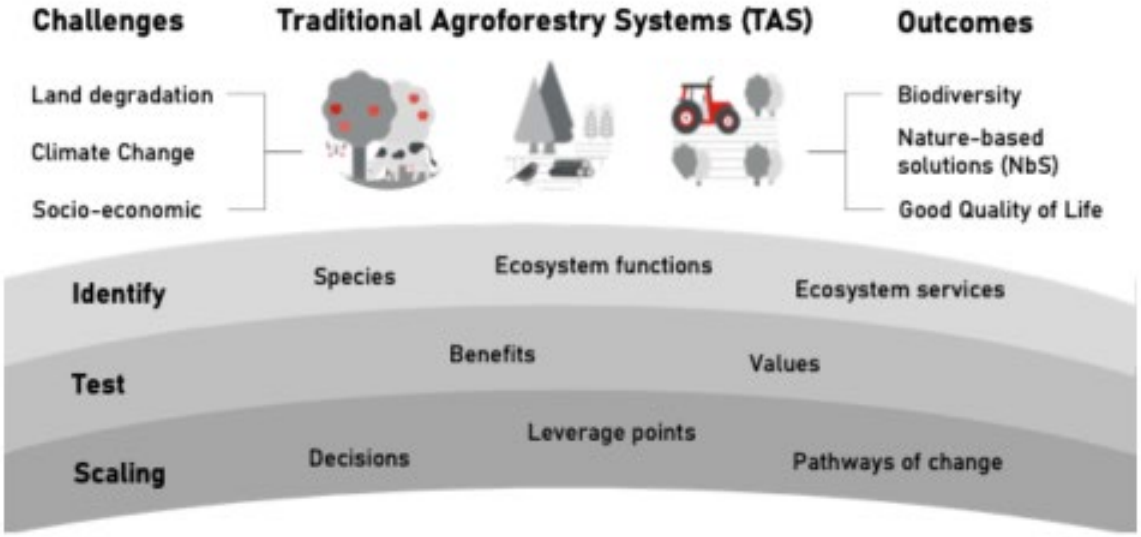
# TRANSFOrm
# Back to the future: Traditional agroforestry systems as NbS to face multiple societal challenges

By *Matteo Dainese (University of Verona)*

*Lukas Egarter Vigl (Eurac Research), Yael Mandelik (The Hebrew University of Jerusalem), Brenda Maria Zoderer (BOKU), Livia Madureira (UTAD), Ieva Misiune (Vilnius University), Luis Cayuela (Universidad Rey Juan Carlos)*

# Promoting TAS in the Euro-Mediterranean region as NbS can enhance agricultural sustainability, biodiversity, and climate resilience.

## Conceptual framework




## Case studies

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*Presented by:*

*Sandra Wright, University of Gävle, Sweden*
*Helena Naffa, Corvinus University, Hungary*

BioSolar

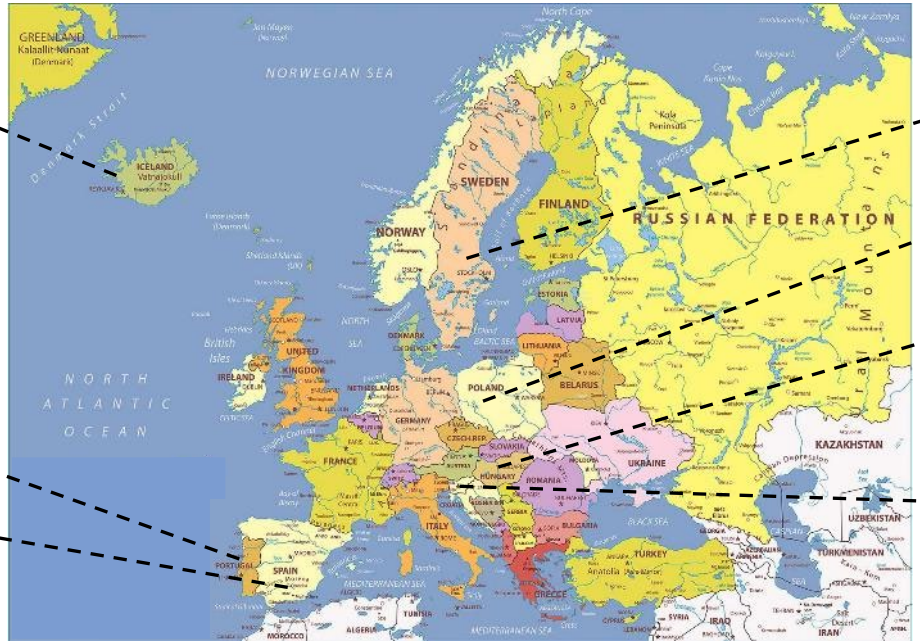
# Solar farms - an opportunity to recover biodiversity in farmlands

Fonds de recherche Nature et technologies Québec
Concordia University

Reykjavik University

universidade de aveiro
University of Aveiro, Portugal

UNIVERSIDAD D CÓRDOBA
University of Córdoba, Spain




UNIVERSITY OF GÄVLE
University of Gävle, Sweden

POZNAŃ UNIVERSITY OF LIFE SCIENCES
Poznan University of Life Sciences, Poland

BUDAPESTI CORVINUS EGYETEM
Corvinus University, Hungary

SEB School of Economics and Business
UNIVERSITY OF LJUBLJANA
University of Ljubljana, Slovenia

rannís

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NATIONAL RESEARCH, DEVELOPMENT AND INNOVATION OFFICE

BioSolar


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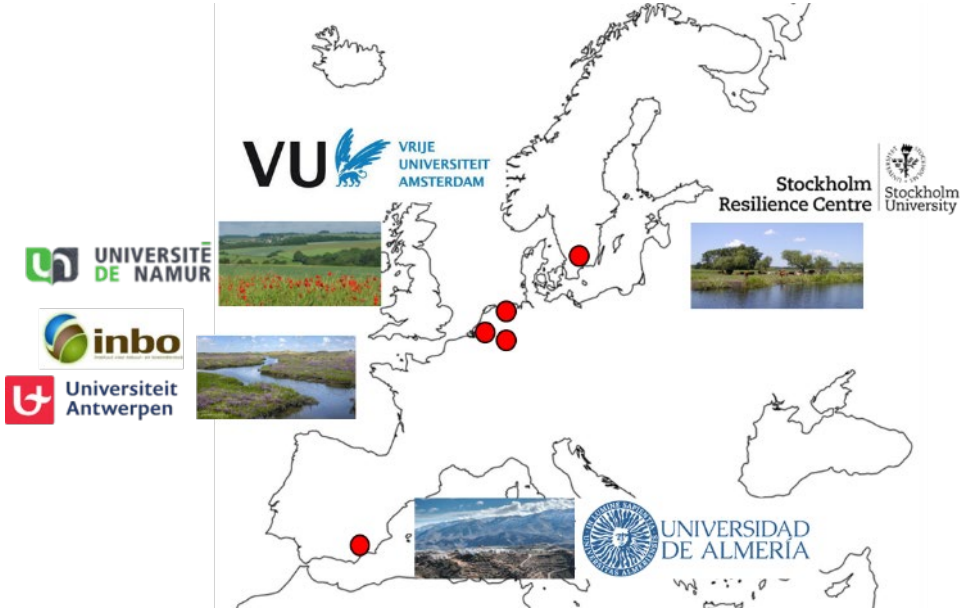
# emBrace – Reconciling Food Systems Sustainability and Biodiversity Conservation in Multifunctional Protected Areas



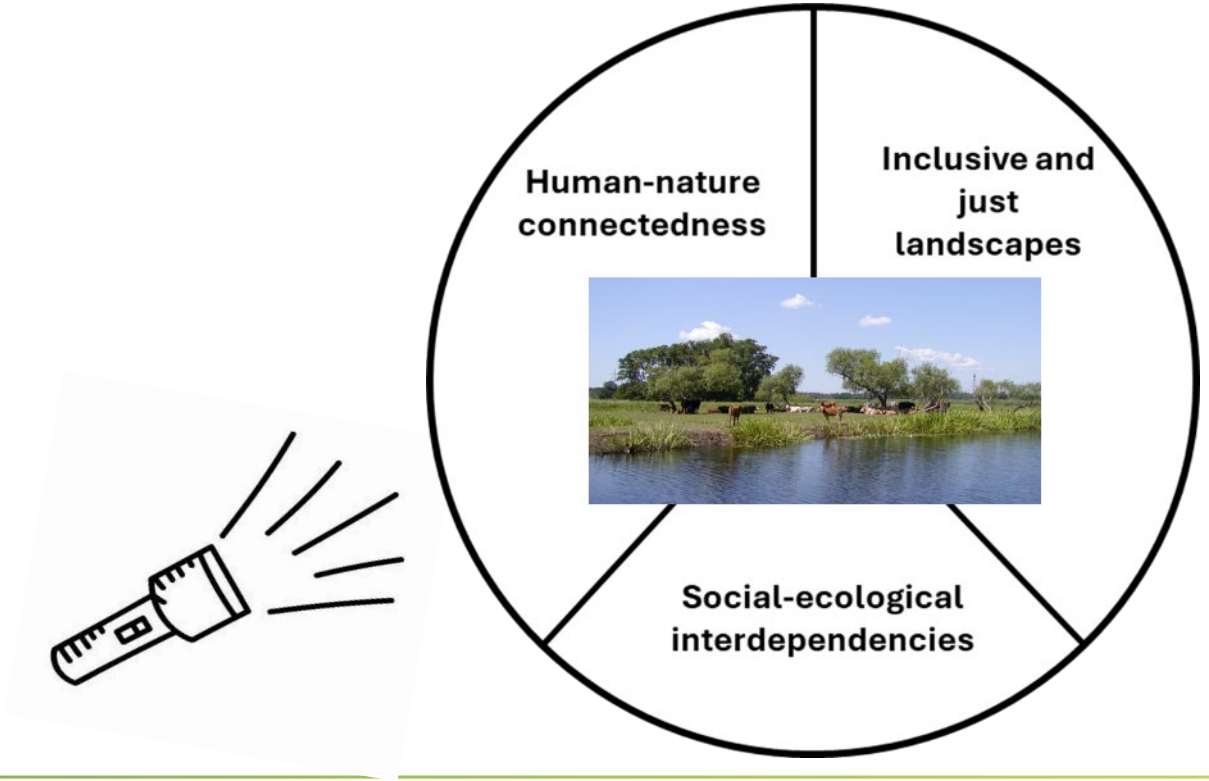



NWO Netherlands Organisation for Scientific Research

fwo Research Foundation Flanders Opening new horizons

fnrs FREEDOM TO RESEARCH

FORMAS


Human-nature connectedness
Inclusive and just landscapes
Social-ecological interdependencies

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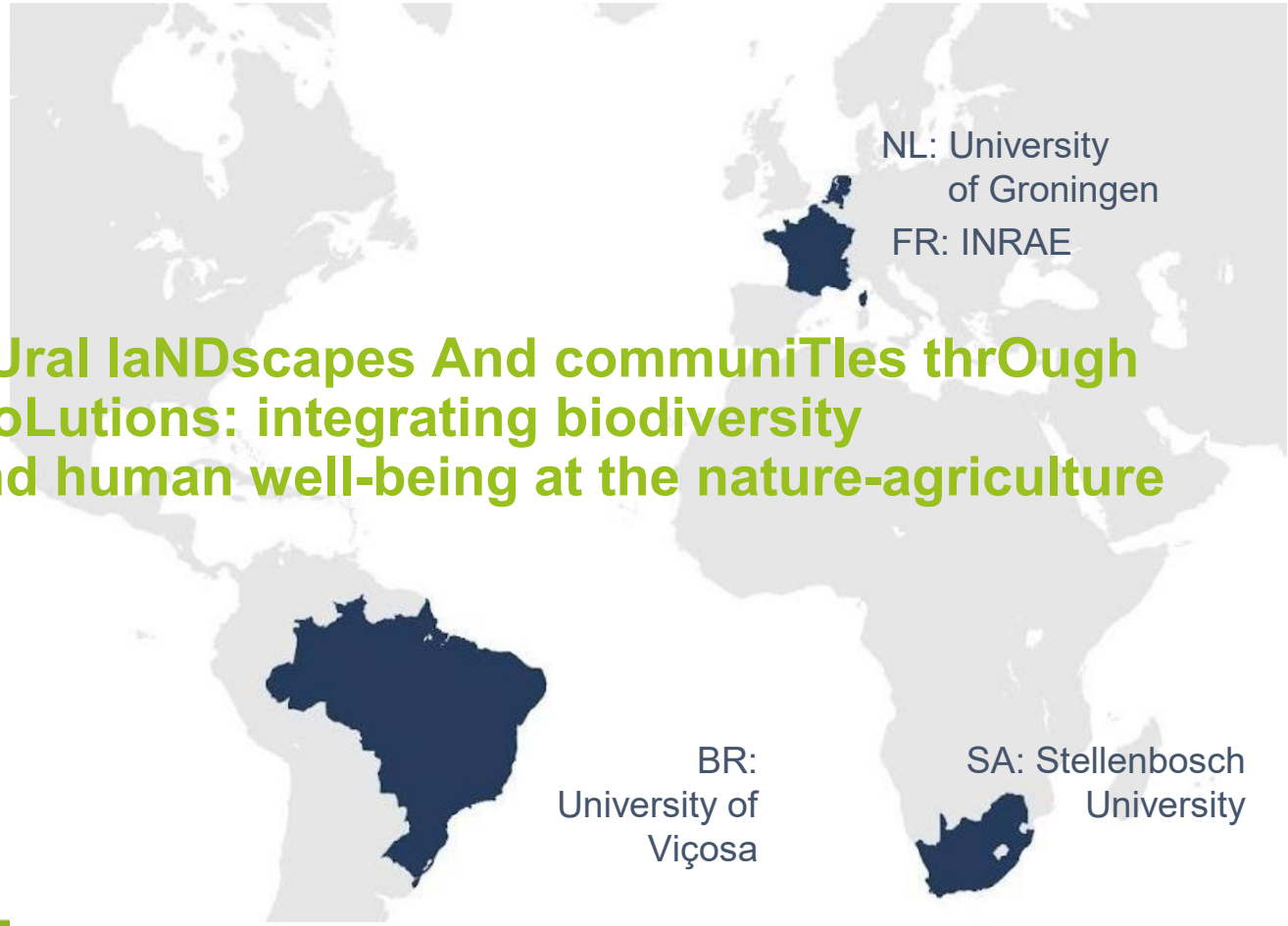


FOUNDATIONAL:

# transFOrming rUral laNDscapes And communiTles thrOugh NAture-based soLutions: integrating biodiversity conservation and human well-being at the nature-agriculture interphase

By Barbara Prack McCormick

FOUN


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rural landscapes from Brazil, South Africa, and France

# Panel discussion - Session 2

Moderated by Masoumeh Mirsafa, Senior Lecturer, Department of Architecture and Built Environment, Lund University, BiodivNBS EvC member, Sweden

- Biodiversity2Drugs presented by Christian Gruber
- AirBiD presented by Nestor González Roldán
- BIODIVECITY presented by Sander Koenraadt
- GREENHANCEnbt presented by Geovana Mercado
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- SOILDIVINE presented by Matteo Gatti
- TRANSFOrm presented by Matteo Dainese
- BioSolar presented by Helena Naffa
- emBrace presented by Mario Torralba Viorreta
- FOUNDATIONAL presented by Barbara Prack Mc Cormick

# Break
# 15:05 - 15:35

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[15:35 – 16:25]

# Funded Projects Presentations – Session 3

Moderated by Isabel Mesquita, Regional Coordinator - Latin America & the Caribbean, Global Landscapes Forum, BiodivNBS EvC member, Brazil

# Presented projects - Session 3

- FITNESS *presented by Gert Van Hecken*
- COMCHA *presented by Luciane Lucas dos Santos*
- FairNature *presented by Marije Schaafsma*
- DEFENDBIO *presented by Claudia Ituarte-Lima*
- EVESNAT *presented by Yannick Probst*
- ARE BEST NbS *presented by Brooks Kaiser*
- SUNLOOP *presented by Séréna Vanbutsele*
- NBSPLUS *presented by Ursula McKnight*
- NatureScape *presented by Hai-Ying Liu*
- UrbanBEE *presented by Chevonne Reynolds*
- RESOLVE *presented by Margrete Emblemsvåg*
- RiVIVE *presented by Marta García Mollá*

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# FITNESS

## Financing Transformative Nature-Based Solutions for Equitable and just Sustainability Solutions

By Gert Van Hecken

*University of Antwerp (Belgium)*
*Aarhus University (Denmark)*
*Universidade Federal do Pará (Brazil)*
*Chr. Michelsen Institute (Norway)*



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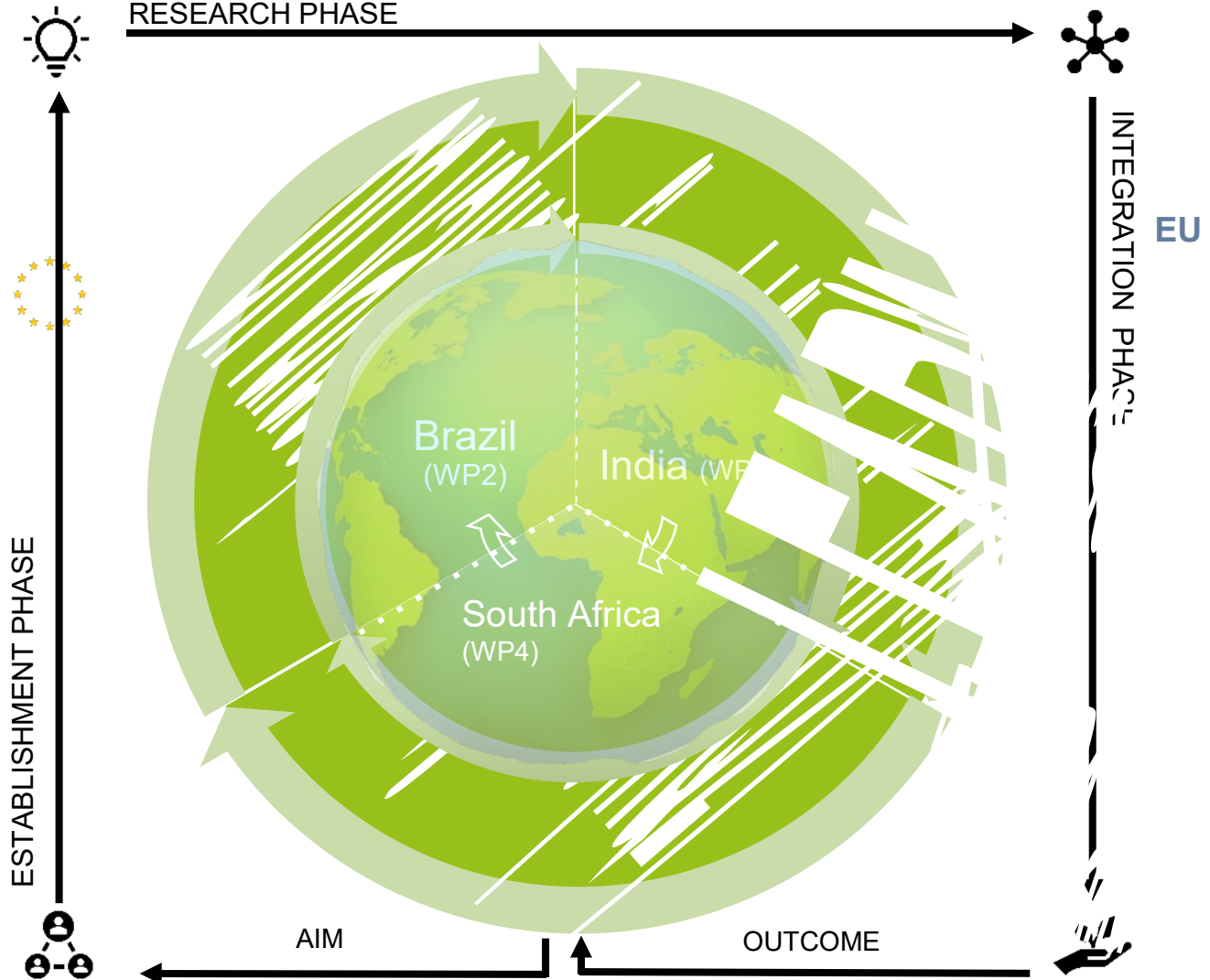
Innovation Fund Denmark
The Research Council of Norway
Fapespa


RESEARCH PHASE
INTEGRATION PHASE
EU
ESTABLISHMENT PHASE
Brazil
(WP2)
India (WP
South Africa
(WP4)
AIM
OUTCOME

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# COMCHA – Community-based change: local and traditional knowledge(s) in NbS

By Luciane Lucas dos Santos/Beatriz Caitana

Centre for Social Studies (Portugal), University of Iceland (Iceland), State University of Ponta Grossa (Brazil), University of Extremadura (Spain), University of the Azores - Center for Ecology, Evolution and Environmental Changes (Portugal), Sintropico (Portugal), University of Florence (Italy), Federal Institute of Education, Science and Technology of Espirito Santo (Brazil), Federal University of Southern Bahia (Brazil), Federal University of Rio Grande do Sul (Brazil), Federal University of Rio de Janeiro (Brazil), University of Szeged (Hungary)

# Community-based change: marginalised communities' practices and knowledges in threatened lands

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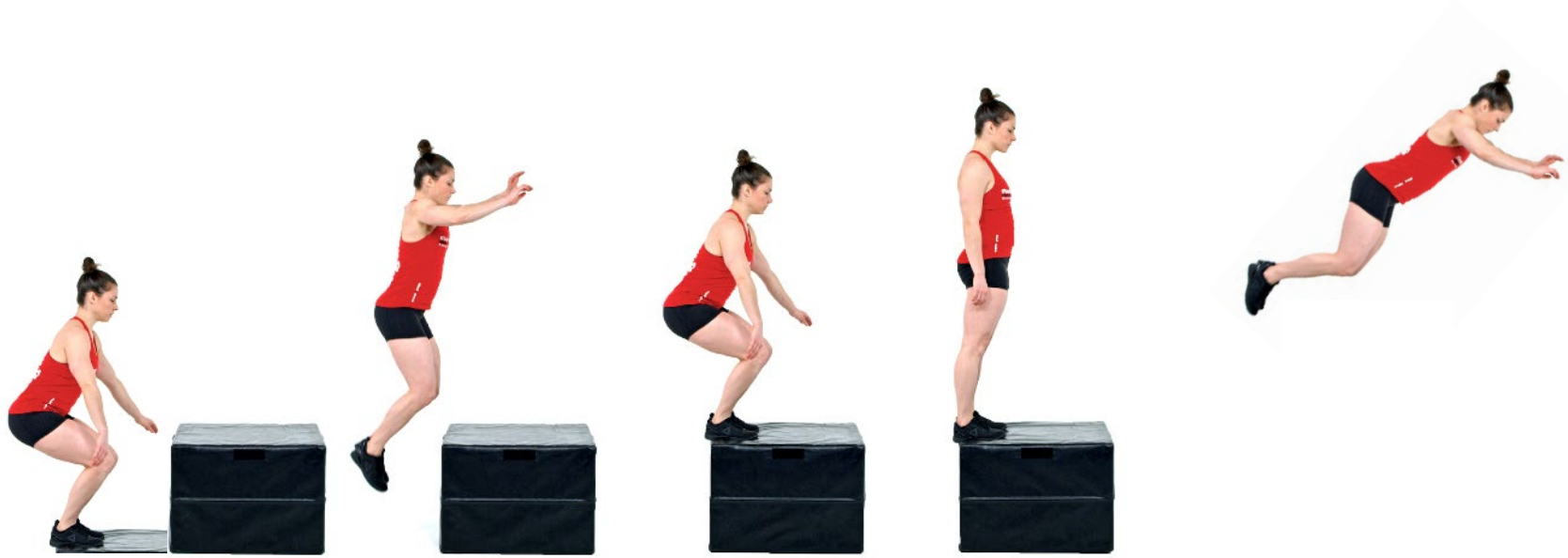
# FAIRNATURE
# Developing NbS scaling approaches to achieve just transformative change


By *Marije Schaafsma*
- *Institute for Environmental Studies, VUA, the Netherlands*
- *University of Barcelona, Spain*
- *ESSRG, Hungary*
- *University of Grenoble, France*
- *INBO and eCO-CITY, HOGENT, Belgium*
- *IFRO, University of Copenhagen, Denmark*
  - *Subcontracted partner: Ecologic Institute, Germany*



SCALING
DOWN
+
UP
+
DEEP
+
IN
->
OUT

# DEFEND-BIO - Biosphere Defenders Leveraging Legal and Governance Tools for Just Sustainability Transformations.


By Dr. Claudia Ituarte-Lima (PI and project coordinator)

Dr. Claudia Ituarte-Lima
Dr. Maria Andrea Nardi

Dr. Ana María Vargas
Dr. Torsten Krause

Dr. Diana Vela Almeida
Dr. Tatiana Acevedo

Dr. Liliana Lizarazo Rodríguez

Dr.Elizabeth Bürgi Bonanomi
Dr.Judith Schäli
Dr. Gabi Sonderegger

Carol Rask
Alvaro Amaya
Helene Møller



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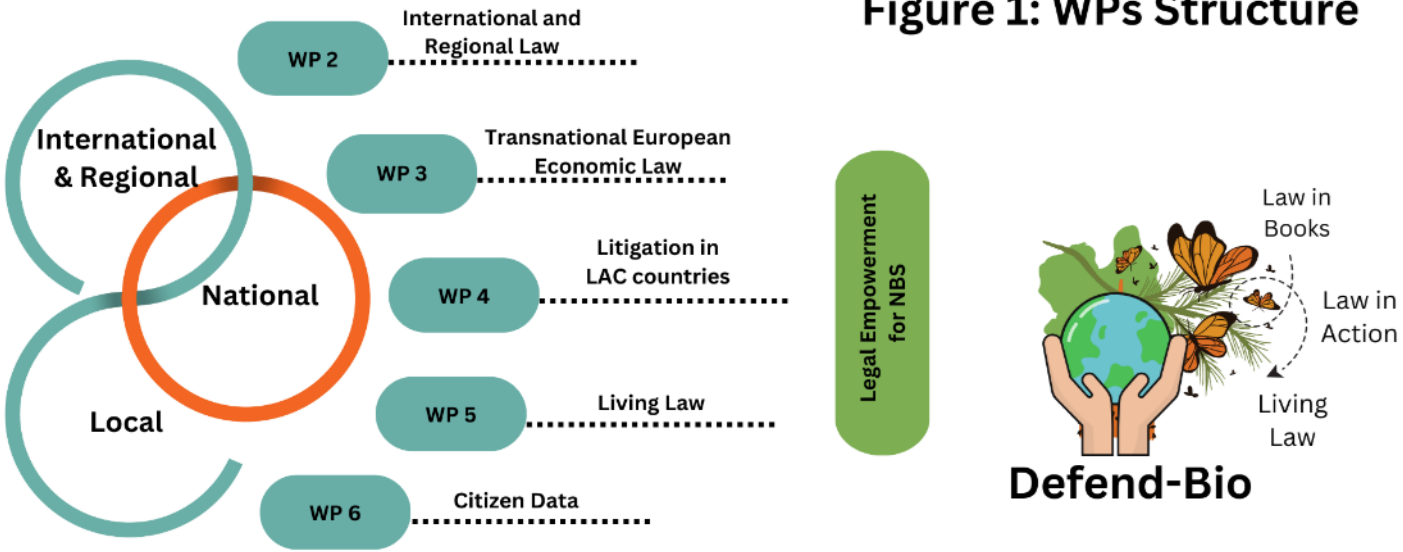
# Figure 1: WPs Structure




PI contact: Claudia.ituarte-lima@rwi.lu.se

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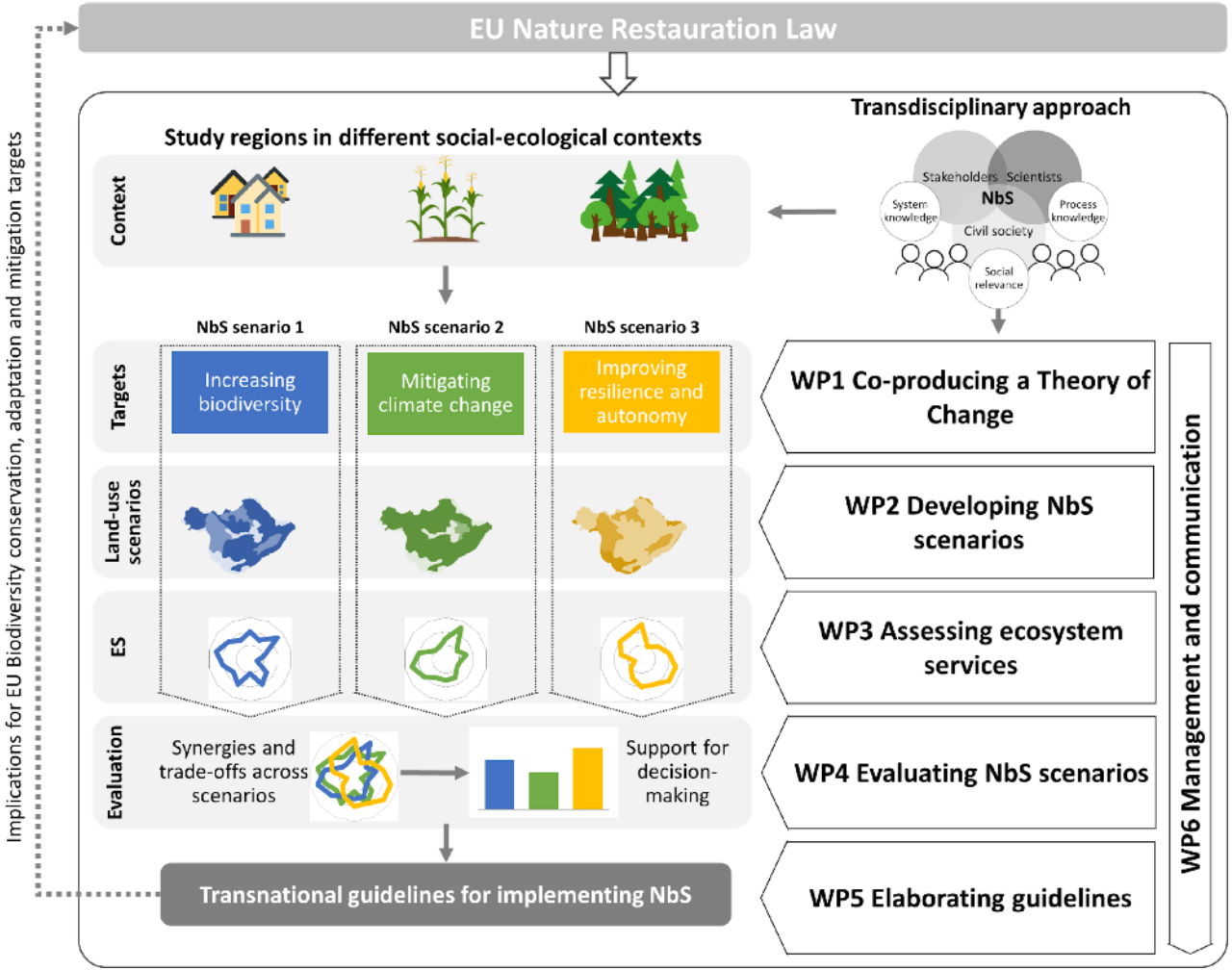
# EVESNAT - Nature-based Solutions to meet EU Nature Restoration Targets: Evaluating synergies and trade-offs across Ecosystem Services for biodiversity conservation, climate change mitigation, and resilience and autonomy improvement

By Yannick Probst

Uta Schirpke, Eurac Research, Italy
Ignacio Palomo, French National Research Institute for Sustainable Development, France
Ulrike Tappeiner, Universität Innsbruck, Austria
Adrienne Grêt-Regamey, ETH Zürich, Switzerland
Martin Bé, Grenoble Alpes Metropoles, France

EVESNAT

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# ARE BEST NbS: Aquatic and Riparian Ecosystems: Biodiversity and Economic Service Transformations from NbS


By *Brooks A. Kaiser*

DK: Brooks Kaiser, Julia Bronnmann, Ana Faria Lopes, Gary Banta, Cintia Organo Quintana, Nicola Tollin, PhD Student; University of Southern Denmark (Economics, Biology, Design), and Christine Fentz, Trine Rytter Andersen, Natasja Lundehoej Hedegaard, Louise Kirkegaard (Dramatic Arts); Secret Hotel
NO: Gorm Kipperberg, Andreea Cojocaru,, Dora Simon, Sigbjoern L. Tveteraas (Economics) University of Stavanger
NL: Karlijn van den Broek, postdoc, senior researcher (environmental psychology) Utrecht University
PT: Claudia Carvalho-Santos, Luis Machado, Elif G. Ozturk, Janeide Padilha, Claudia Pascoal, Postdoc, PhD (Biology) University of Minho
HU: Maria Karyda, Kitti Butter, Damla Cay (Data Storytelling) Moholy-Nagy University of Arts and Design





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Forskningsrådet
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NWO
fct Fundação para a Ciência e a Tecnologia
nkfih

# Biodiversity and economic services of NbS: what, why and for whom?

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# SUNLOOP : Spontaneous Urban Nature in LOcal nO net land take Policies

By *Séréna Vanbutsele, Prof. Architect-Urbanist, HEIA-FR (CH)*

Scientific coordination

Scientific partners

Local committees

Funding

www.biodiversa.eu

# Addressing ‘non intervention’ as a potential Nature-based solution that promotes spaces of Spontaneous Urban Nature (SUN) in local no net land take policies


1 2 3
4 5 6

1. Exploration of an industrial wasteland Sogéros-Blédina, Workshop Friches en Seine, Ris-Orangis (FR), Collectif Inter-friches, 2022

2. In situ panel discussion and spatial interventions, Broucheterre (BE), Belgium, S. Blanckaert, 2021

3. Vegetal and uses's survey, Workshop ‘Vive les groues !’, (FR), C. Mattoug, 2019

4. Restitution of a collective workshop ‘Friches en Seine’ with local authorities, Cité des Sciences et de l'Industrie Paris (FR), C. Mattoug, 2022.

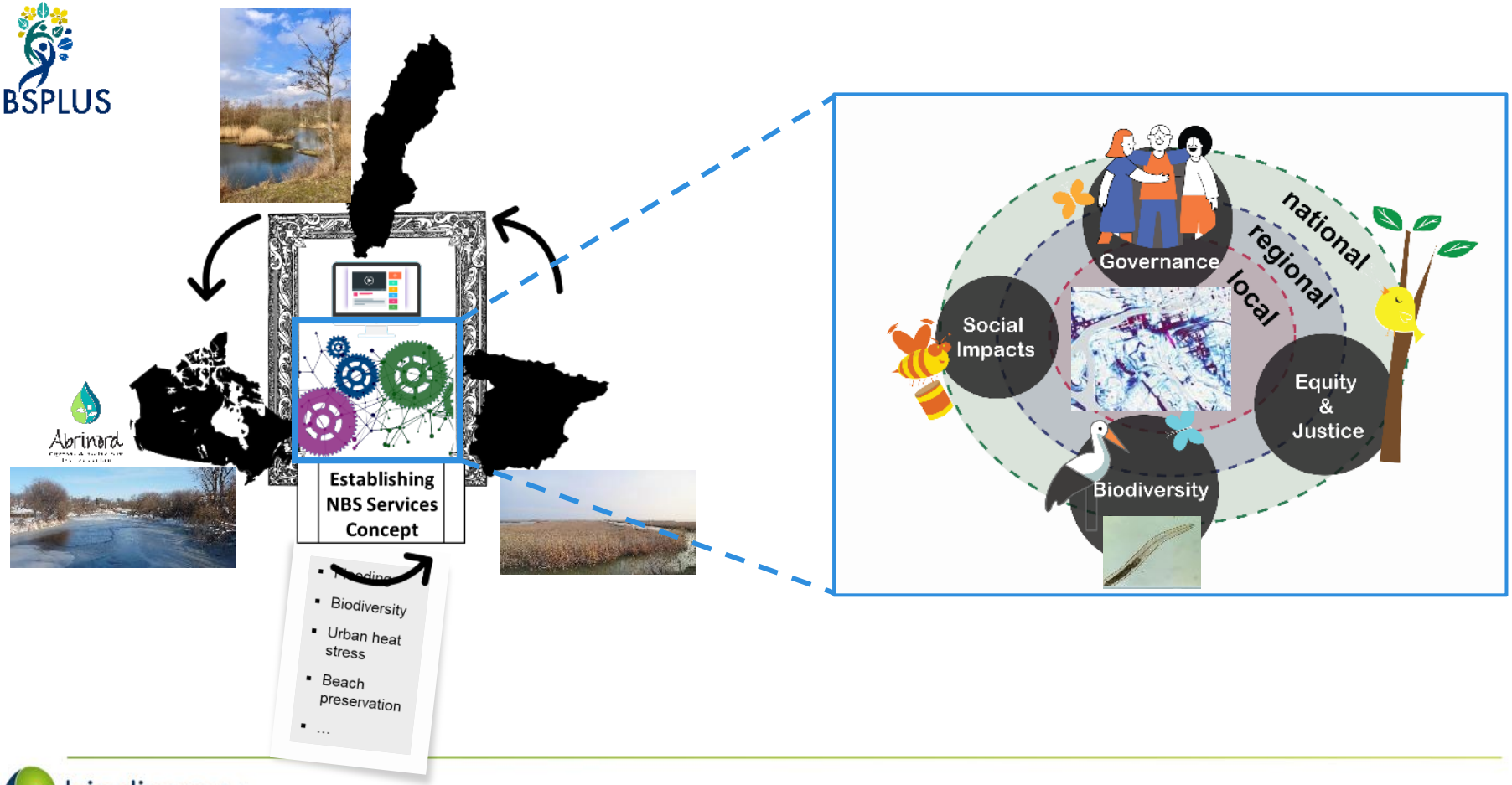
5.Botanical Survey, Fribourg (CH), S. Vanbutsele; 2019

6. Ongoing urban developments at the edges of a semi-natural spaces, Brussels (BE), S. Vanbutsele, 2014

# NBSPLUS: NBS Services Promoting Local Biodiversity, Well-being and Scalable Solutions

By Ursula McKnight, SMHI

*SMHI: Jonas Olsson, Louise P. Wårdh, Richard W. Alpfjord, Remco Van de Beek, Iris Ljundqvist*
*RISE: Shane Carnohan, Andreas N. Lindqvist, Annika Löwgren*
*SEI Tallinn: Kaidi Tamm, Heidi Tuhkanen, Shimin Huang*
*NIVA: Katarina Cetinic, Kate Hawley*
*IST-ID: Isabel L. Ramos, Rute Martins, Margarida Monterio, Fátima Bernardo*
*UPV: Rafael Bergillos, Joaquin Andreu, Javier Paredes, Abel Solera, Syrine Ghannem*
*City of Malmö: Ludwig Sonesson, Therése Ehrnstén, Daniel*
*McGill: Jan Adamowski, Van Th-V. Nguyen, Cody Danaher*
*Subcontractor: IBN: Sebastian Höss, Luciana Zedda*


Establishing NBS Services Concept
Biodiversity
Urban heat stress
Beach preservation
...
Governance
national
regional
local
Social Impacts
Equity & Justice
Biodiversity

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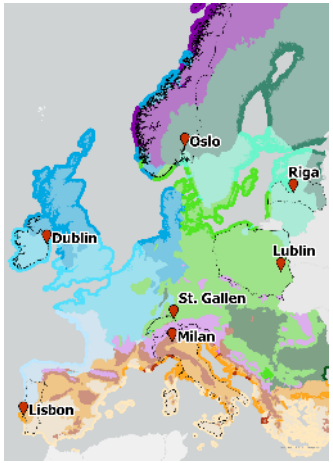
# **NatureScape** - Enhancing Urban Sustainability for Environmental Quality and Human Well-being through Nature-Based Solutions Transformation Labs

*By Dr. Hai-Ying Liu, Project coordinator, NILU*

## *Partner List*

- *Department of Environmental Impact and Sustainability, Stiftelsen NILU – The Climate and Environmental Research Institute (NILU), Norway*
- *Department of Social Work/IFSAR Institute of Social Work and Social Spaces, Eastern Switzerland University of Applied Sciences (OST), Switzerland*
- *School of Architecture, Planning and Environmental Policy, University College Dublin, National University of Ireland (NUID UCD), Ireland*
- *Department of Hydrobiology and Ecosystems Protections, The University of Life Sciences in Lublin (ULSL), Poland*
- *Lisbon Energy and Environment Agency (Lisboa E-Nova), Portugal*
- *Baltic Studies Centre (BSC), Latvia*
- *Department of Architecture and Urban Studies, The Polytechnic University of Milan (Polimi), Italy*



# NatureScape overview

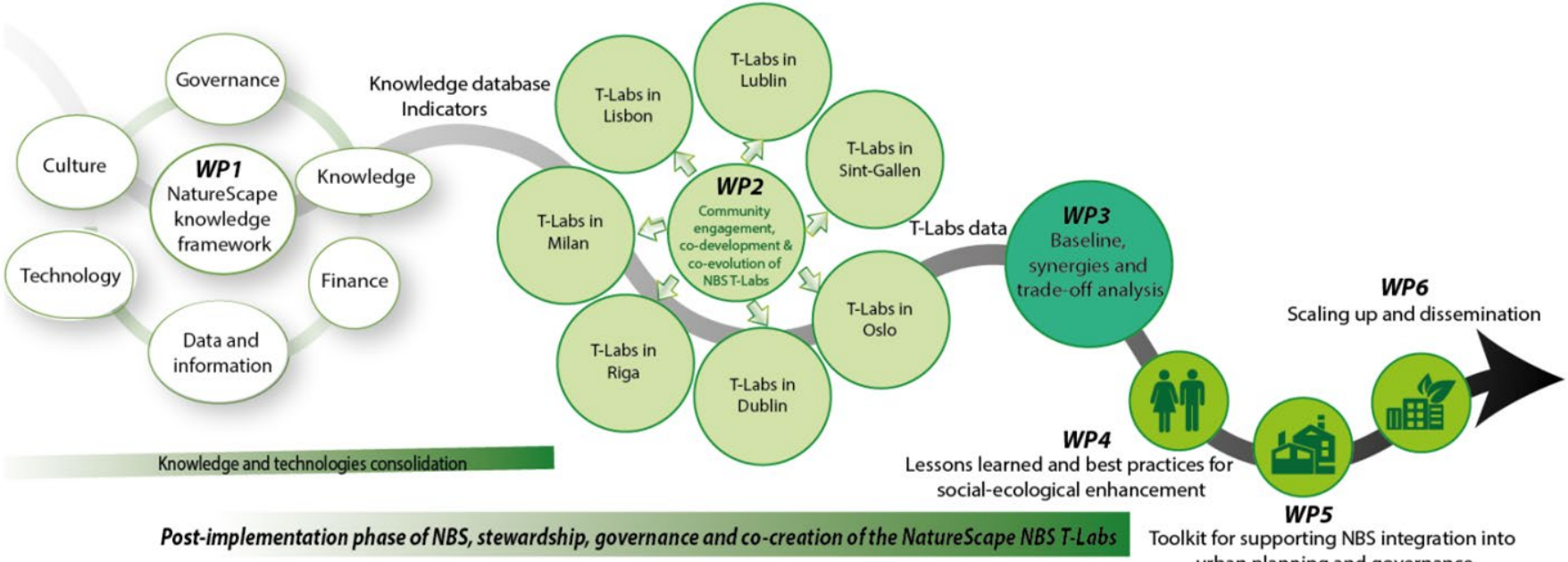



**Fig. 1.** NatureScape overall methodological framework.

https://naturescape.nilu.no

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# UrbanBEE: Promoting Biodiversity, Ecosystem Services and Societal Engagement across Diverse Urban Ecosystems

By Chevonne Reynolds

www.myurbanbee.com

UrbanBEE




science & innovation
Department: Science and Innovation
REPUBLIC OF SOUTH AFRICA

MUR

National Research, Development and Innovation Office

FWF
Der Wissenschaftsfonds.

WP5: Policy and Planning

Theme B: Mitigating Biodiversity Loss

Theme A: Human Well-being

WP1: Citizen Science

WP2: Digital Technology

WP3: Biodiversity Research

WP4: Custodianship

Theme C: Driving Transformative Change

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UrbanBEE

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# **RESOLVE** - NatuRE based SOLutions for sustainable use of high north marine biodiVersity and ecosystems sErvices

By Margrete Emblemsvåg, *email: margrete.emblemsvag@moreforsking.no*

Norway
Denmark
Greenland
Canada
Sweden
Iceland
Germany

MØREFORSKING
UiT The Arctic University of Norway
Université Laval
Greenland Institute of Natural Resources
DTU
Stockholm University
NINA
Norwegian Institute for Nature Research
THÜNEN

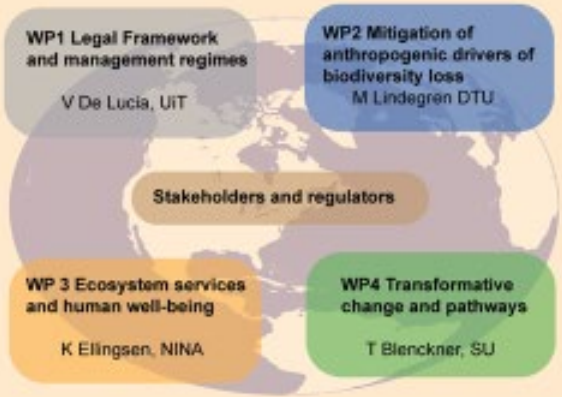
www.biodiversa.eu
The Research Council of Norway
The Swedish Research Council Formas
Committed to excellence in research for sustainable development
Innovation Fund Denmark
rannis

## Objectives

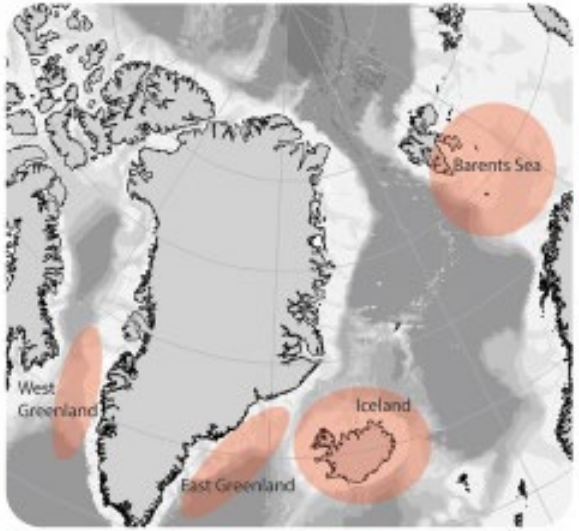
### Area-based NBS
MPAs, OECMs and EBSAs

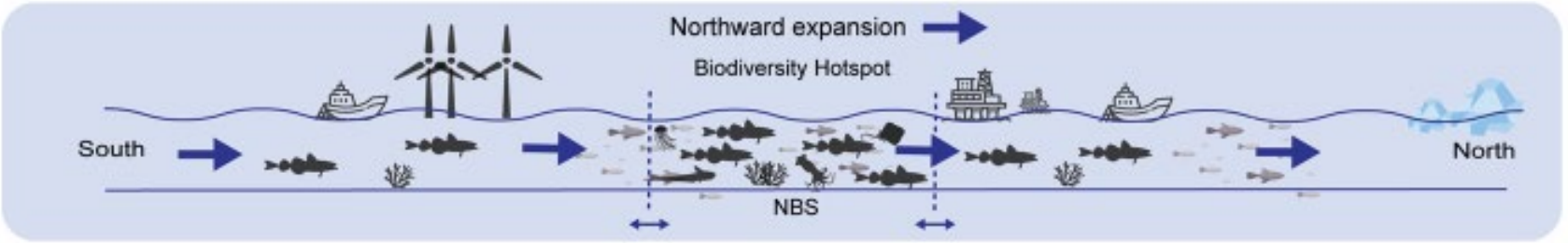
i. Assess the mitigation potential of NBS under climate-driven biodiversity change
ii. Evaluate NBS trade-offs and synergies with human well-beeing
iii. Co-design NBS that consider dimansions of transformative change

## Activities




## Case Studies

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RESOLVE

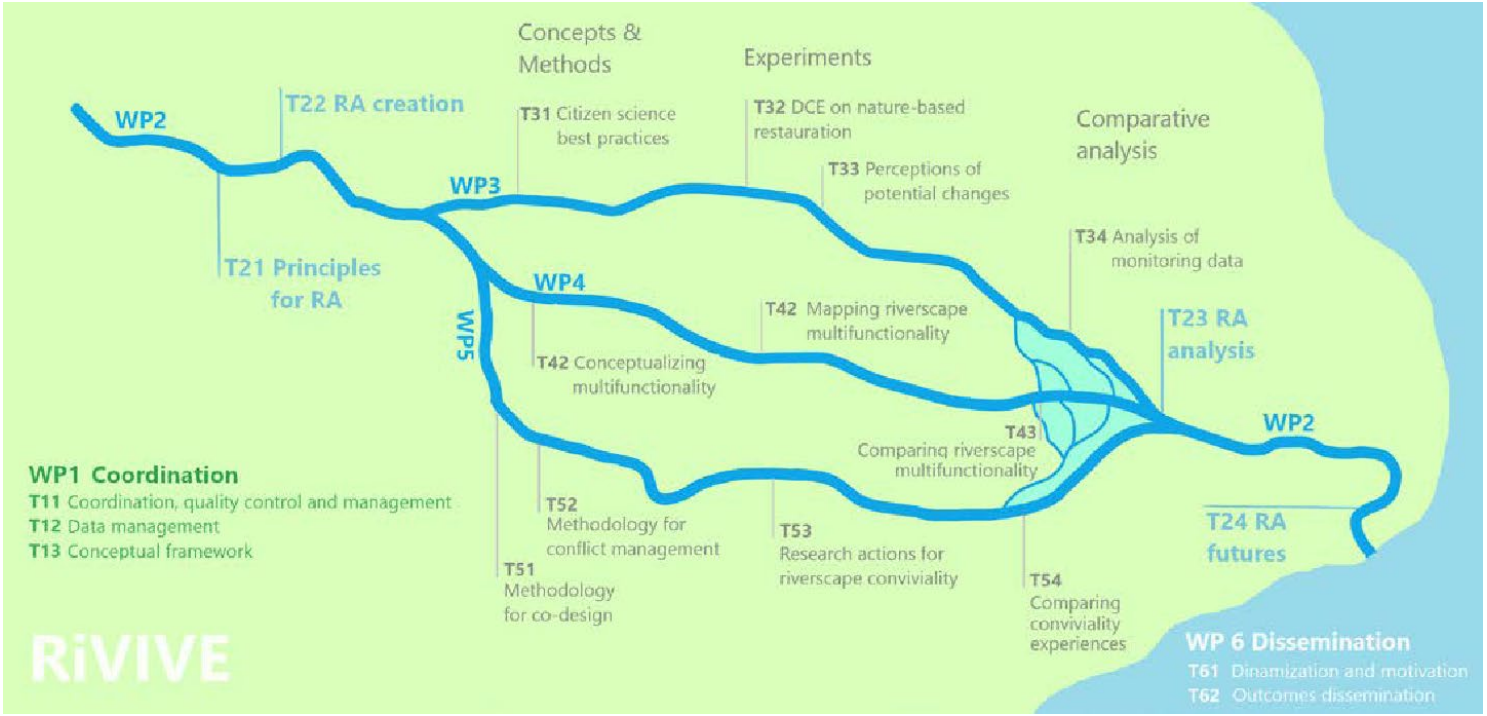
# RiVIVE
# River Conviviality: Advancing socio-environmentally just river restoration through nature based solutions

By *Marta García Mollá*

CVER Universitat Politècnica de València; Department of Geography. Universitat de Girona; UMR G-EAU National Research Institute for Agriculture, Food and Environment; Environmental Sciences Group Wageningen University and Research; DIATI. Politecnico di Torino; Land, Environment, Agriculture and Forestry Department University of Padova; CNRS Universite Lumière Lyon 2

RiVIVE

# River Conviviality: Advancing socio-environmentally just river restoration through nature based solutions

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# Panel discussion - Session 3

Moderated by Isabel Mesquita, Regional Coordinator - Latin America & the Caribbean, Global Landscapes Forum, BiodivNBS EvC member, Brazil

- FITNESS - *Gert Van Hecken*
- COMCHA - *Luciane Lucas dos Santos*
- FairNature - *Marije Schaafsma*
- DEFENDBIO - *Claudia Ituarte-Lima*
- EVESNAT - *Yannick Probst*
- ARE BEST NbS - *Brooks Kaiser*
- SUNLOOP - *Séréna Vanbutsele*
- NBSPLUS - *Ursula McKnight*
- NatureScape - *Hai-Ying Liu*
- UrbanBEE - *Chevonne Reynolds*
- RESOLVE - *Margrete Emblemsvåg*
- RiVIVE - *Marta García Mollá*

# Few words by Biodiversa+ Follow-up & Communication teams

*By Matěj Štěpánek and Ondřej Kusbach - BiodivNBS Follow-up Team, TA CR, Czech Republic*
*& Leendert Plaetinck and Phong Hoang, Communication Officers, BELSPO, Belgium*

# Follow-up Team

- Facilitation during the lifetime of the BiodivNBS projects
- Main communication points for the projects (Coordinators)

- Provision of the key documents (**BiodivNBS Dropbox -> Toolkit**)
  - Event-materials
  - Guidelines for the acknowledgement
  - Guidelines on the follow-up procedures
  - Biodiversa+ logo usage guidelines

- Administration of the “change requests” (e.g. budgetary changes, consortium changes)
- Assistance with Biodiversa+ reporting
  - BioRep platform (online)
  - Mid-term & Final reports

# Let’s connect!

communication@biodiversa.eu

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www.biodiversa.eu/**newsletter**

# Concluding words

***By Catherine Julliot*** *- Head of Research at the Ministry for Ecological Transition, France*

***& Magnus Tannerfeldt*** *- Biodiversa+ Co-Chair, FORMAS, Sweden*

# Thank you for your attention!

Practicalities:
17:00 - guided tour from the meeting venue
19:15 - dinner at Faune (MOCO)