



Workshop on Implementation of
Nature-based Solutions to tackle climate change
**Session 3a : research and stakeholder
engagement**

*Marseille (France)
22-24 January 2019*



Conservatoire du
littoral



Wetlands
INTERNATIONAL





BiodivERsA :

- * Promoting research on Nature-based solutions**
- * Promoting stakeholder engagement for maximizing the impact of this research**

Xavier Le Roux (FRB - Coordinator and CEO of BiodivERsA)

www.biodiversa.org

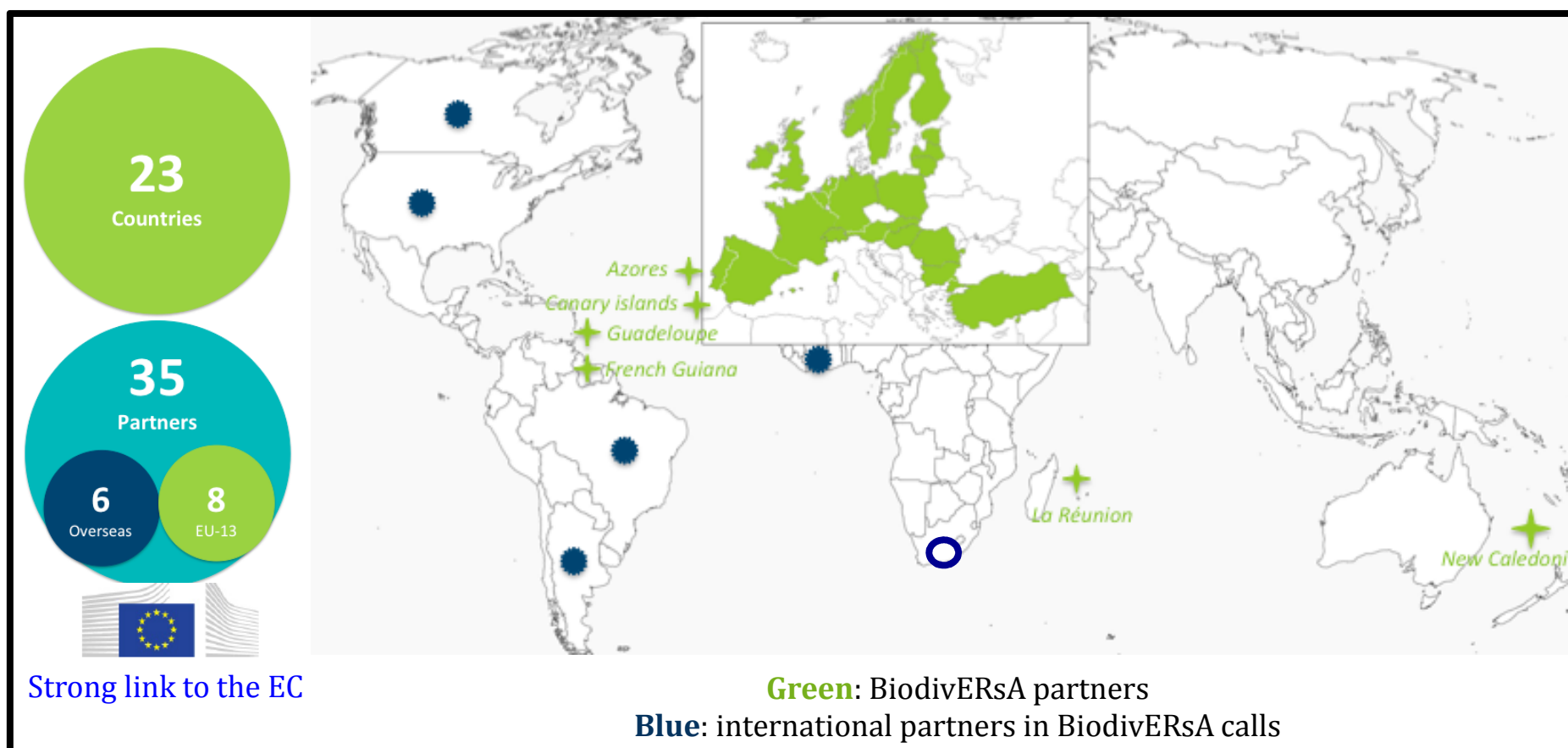


@BiodivERsA3

NBS Conference (Marseille, 21/01/2019)



BiodivERsA : the European network of national/local programmers & funders of research on Biodiversity and NbS (Ministries and agencies)



Usual 'solutions' based on non sustainable exploitation of biodiversity

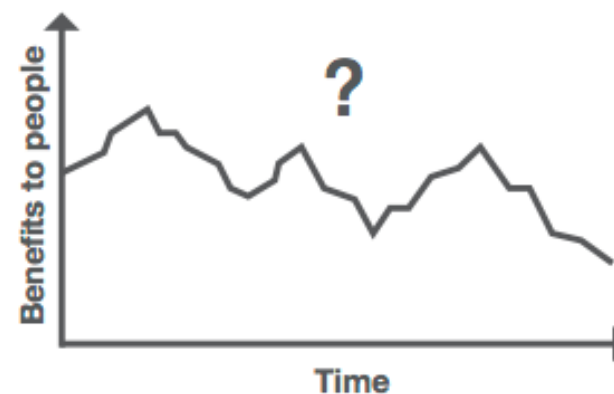
Over-fishing



Intensive agriculture



Cities based on grey infrastructures



Nature-based 'solutions' based on the protection and sustainable management of biodiversity

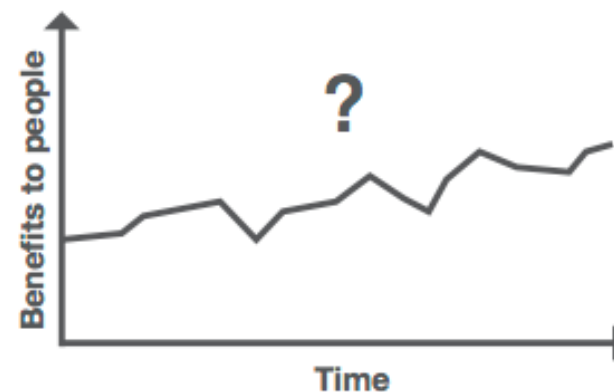
MPAs and reduced fishing on target species



Agro-ecological approaches

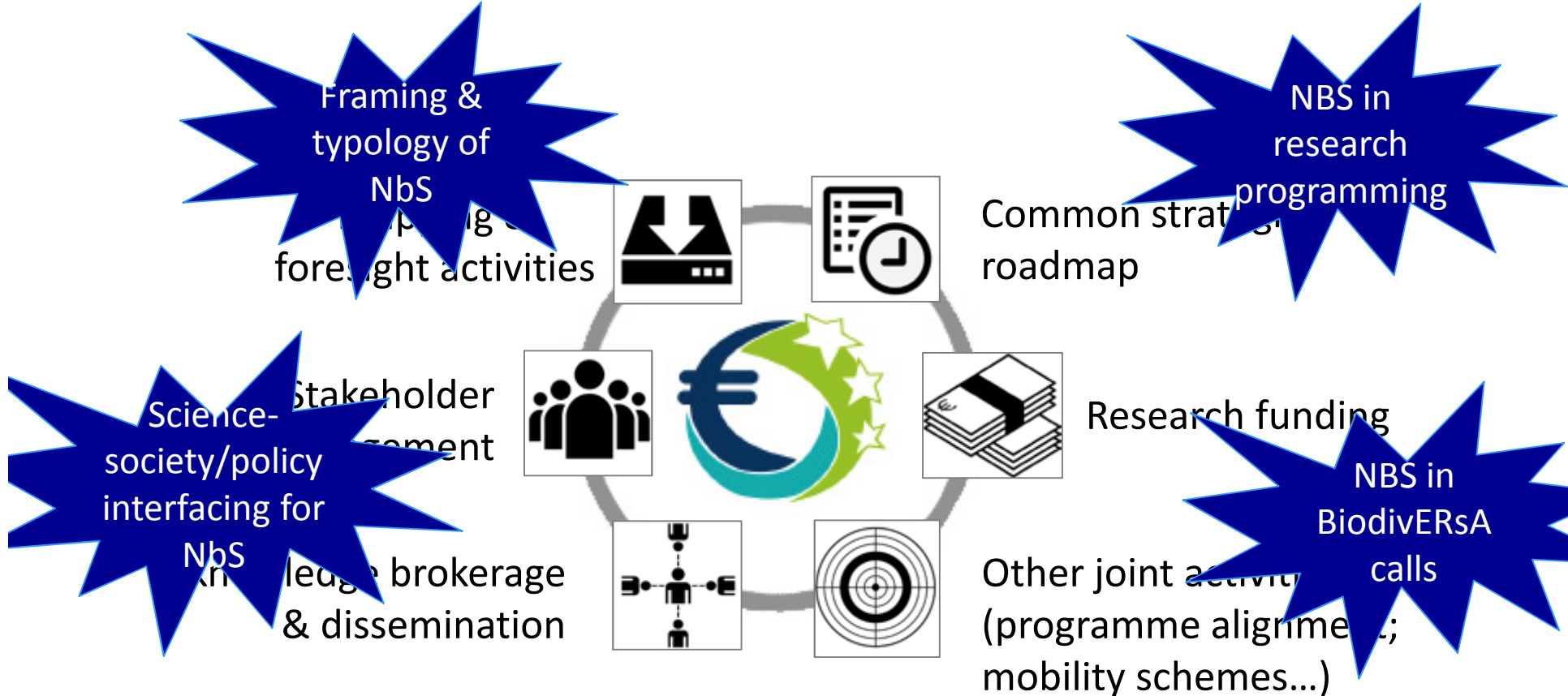


Urban NbS



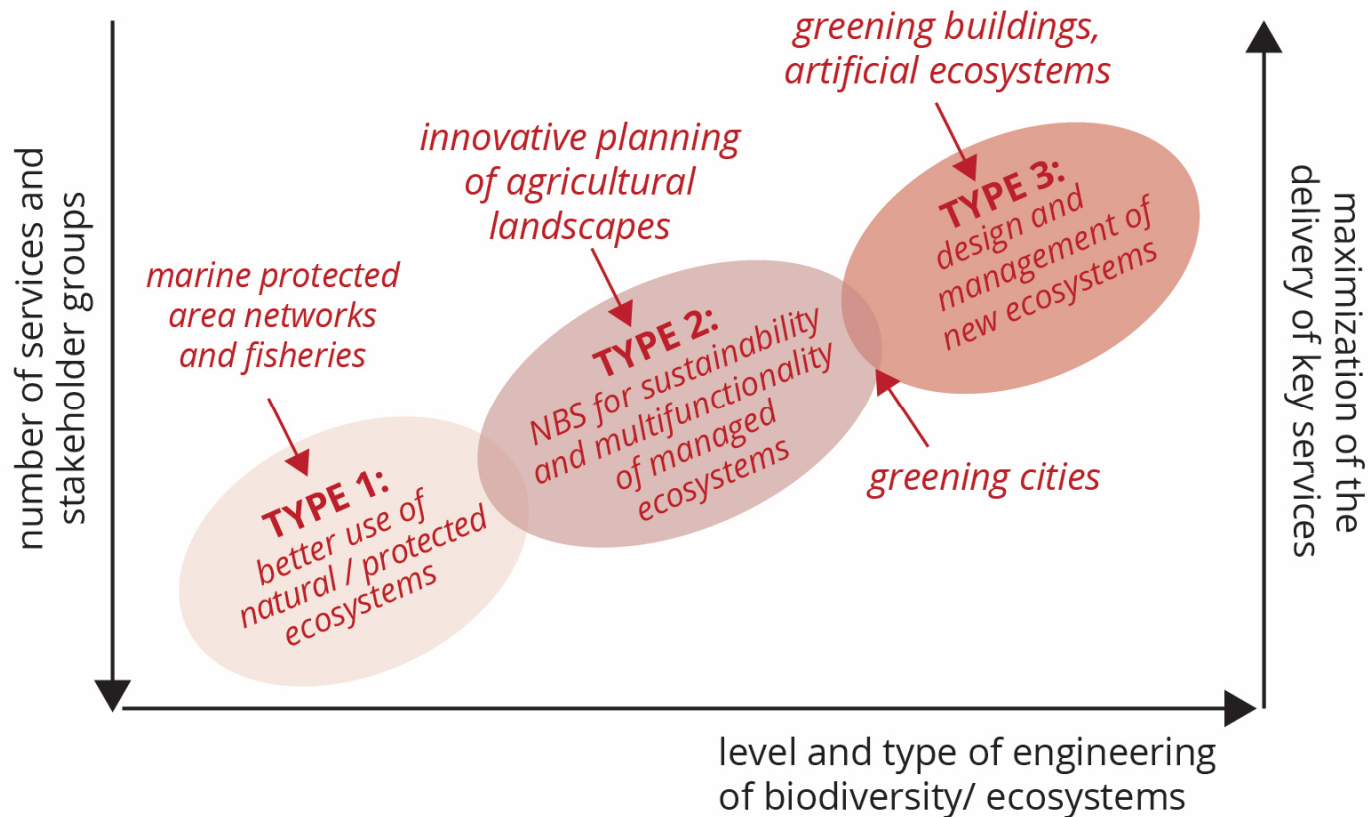


**NBS are addressed
across the range of
BiodivERsA activities**





TYPOLOGY OF NbS:



Eggermont et al. (2015) Nature-Based Solutions:

New influence for Environmental Management Research in Europe. GAIA Ecological Perspectives for science and society



Type 1 NBS : No/weak intervention on ecosystems.

Objectives = preserve/reinforce a range of ecosystem services within and beyond the protected ecosystems

Ex: protection of mangroves; set up of MPAs



Type 1 NBS related to the concept of biosphere reserves (core zones for nature protection + buffering and transition zones)

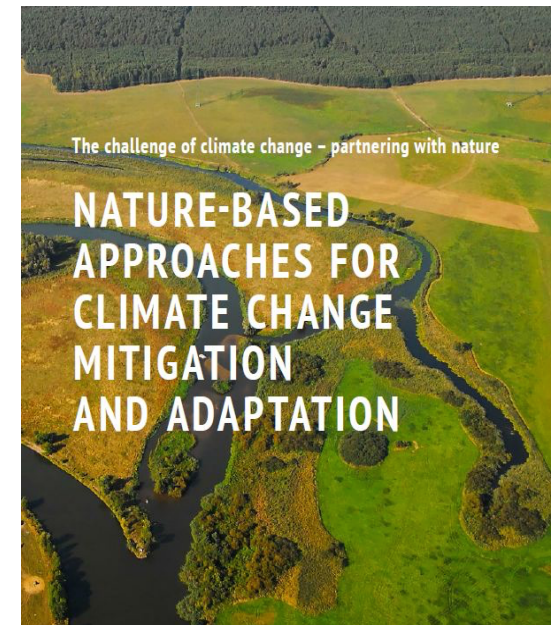
Eggermont et al. (2015) GAIA



Type 2 NBS : Approches for increasing the sustainability / multifunctionality of ecosystems, and service delivery

Ex: development of multifunctional agricultural landscapes; management of tree species and genetic diversity for increasing forest resilience facing extreme events

Type 2 NBS related to concepts like Natural Systems Agriculture, agro-ecology, evolutionary-orientated forestry...



Eggermont et al. (2015) GAIA



Type 3 NBS : Intensive management of ecosystems, possibly creating new ecosystems

Ex: Creation of new assemblages of species/genotypes for greening cities

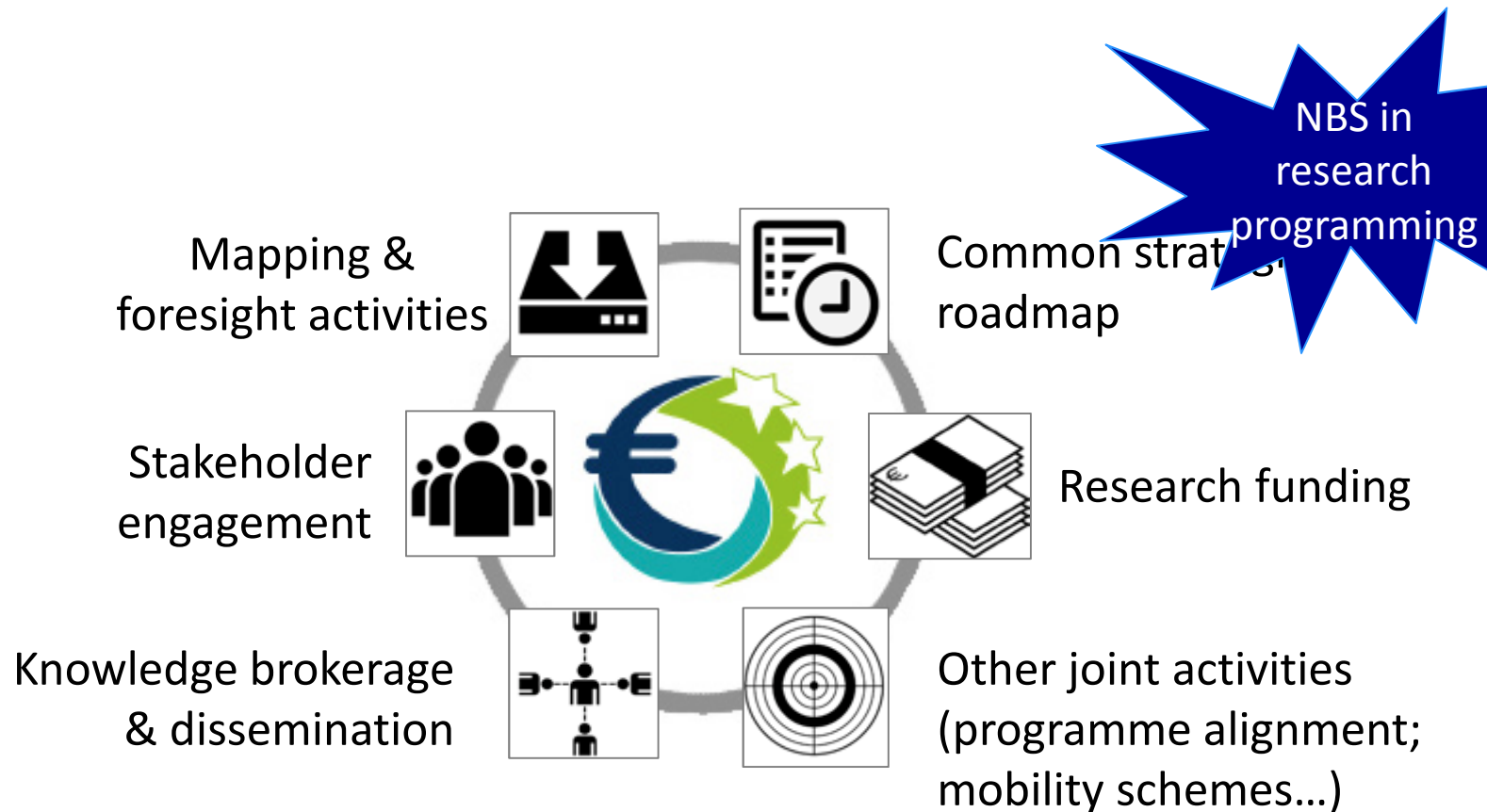
Type 3 (et 2) NBS related to concepts of GBIs, ecological engineering, restoration of disturbed/polluted ecosystems



Eggermont et al. (2015) GAIA



NBS are addressed in BiodivERsA activities

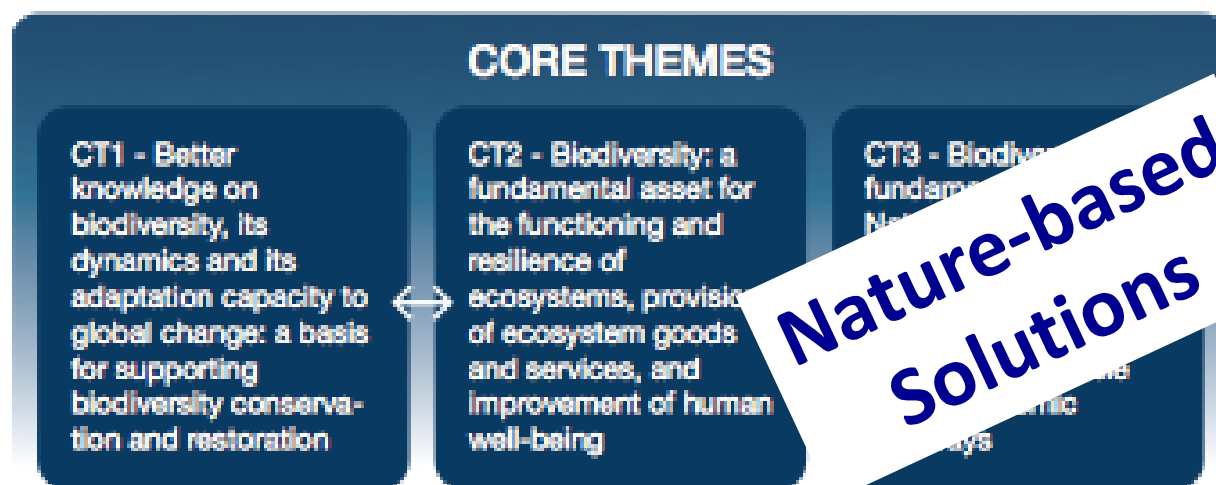




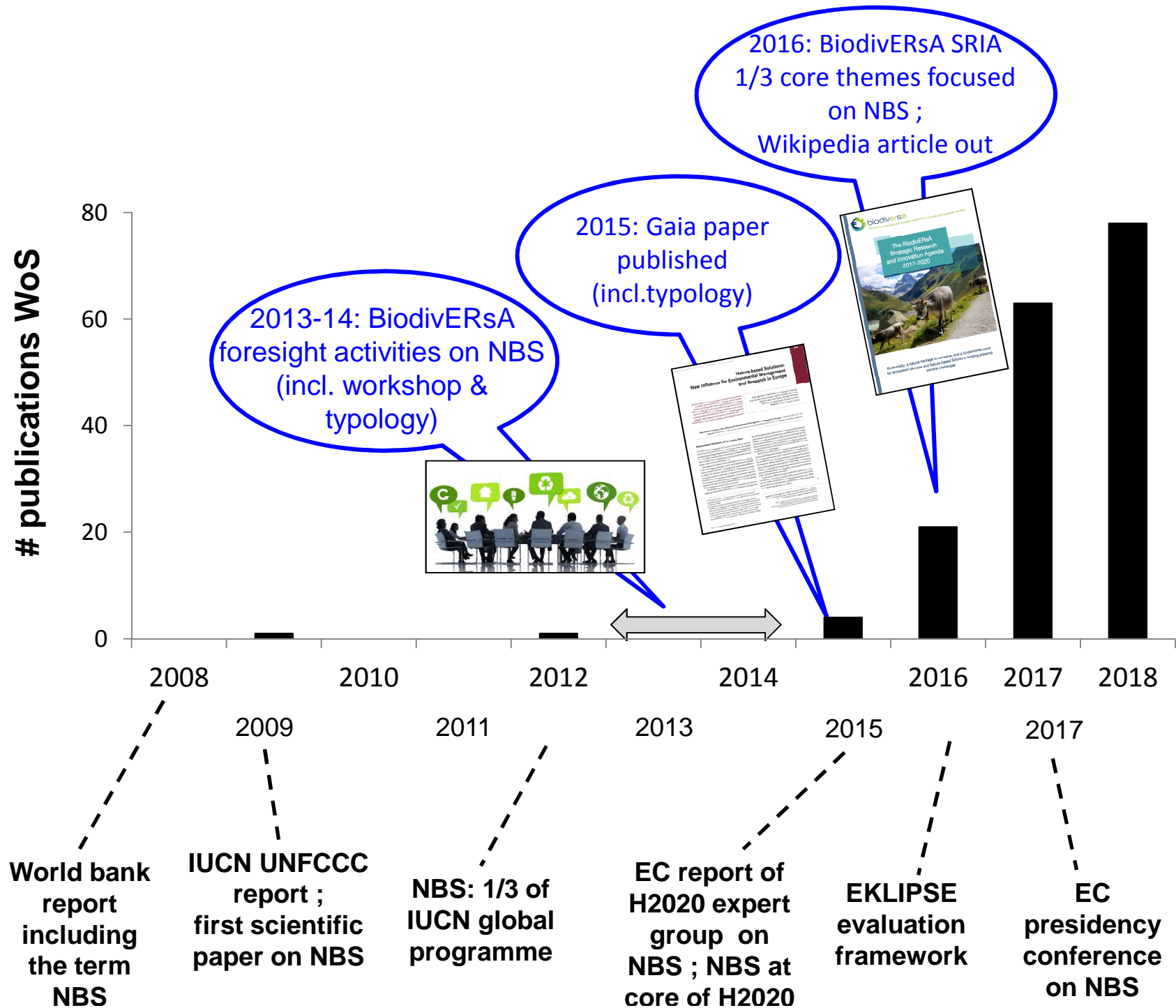
NbS at the core of joint programming for research



The latest BiodivERsA SRIA : 2016

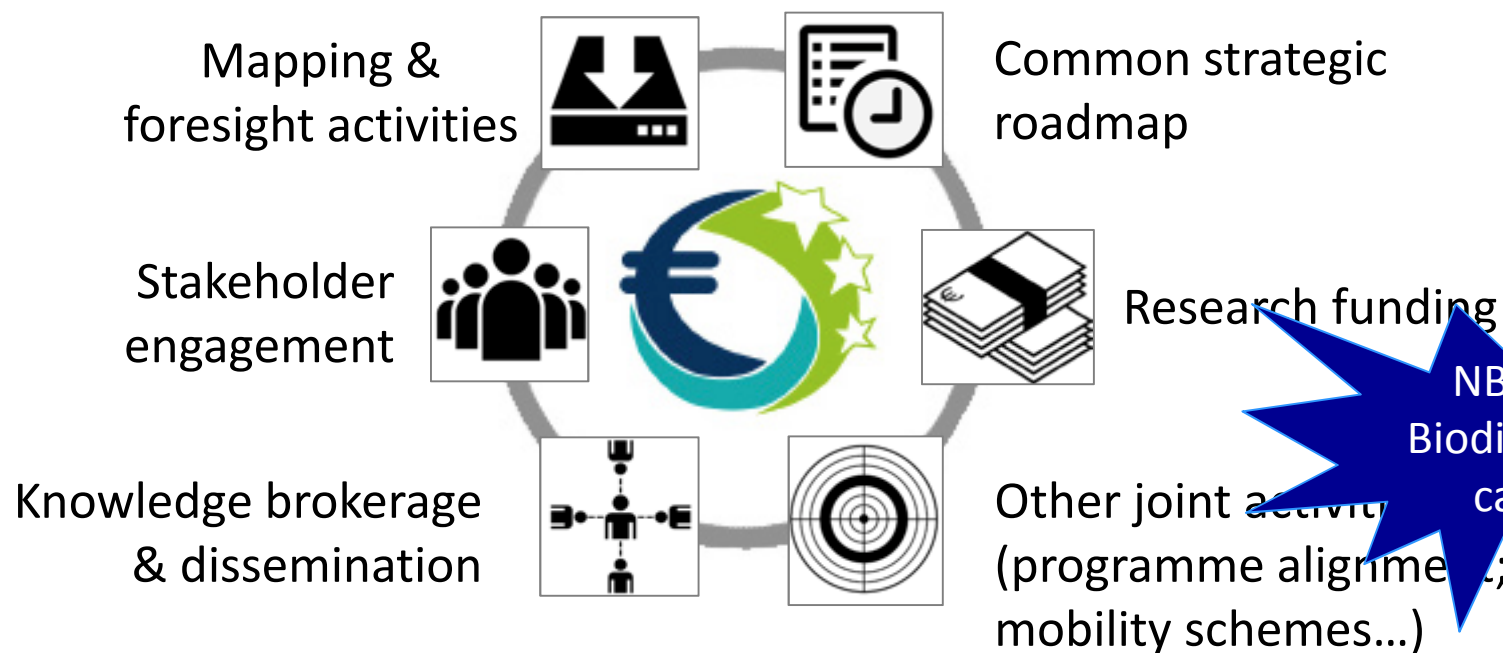


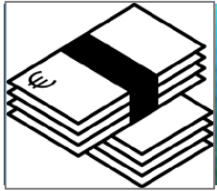
<http://www.biodiversa.org/1226>





NBS are addressed in BiodivERsA activities





Calls for research proposals, incl. NbS projects



- 2017-18 AAP COFUND (with Belmont Forum) on **scenarios**:
➔ 135 proposals; 21 funded projects (for 28 Mio €)
- 2018-2019 AAP on biodiversity & **health**
>10 Mio €
- 2019-2020 AAP on **climate change**
>18 Mio €
- Proposal for a 2020 COFUND (with Water JPI) on '**restoration**'
>15 Mio €

2008-2017: 113 Mio €
2008-2020: 160 Mio €





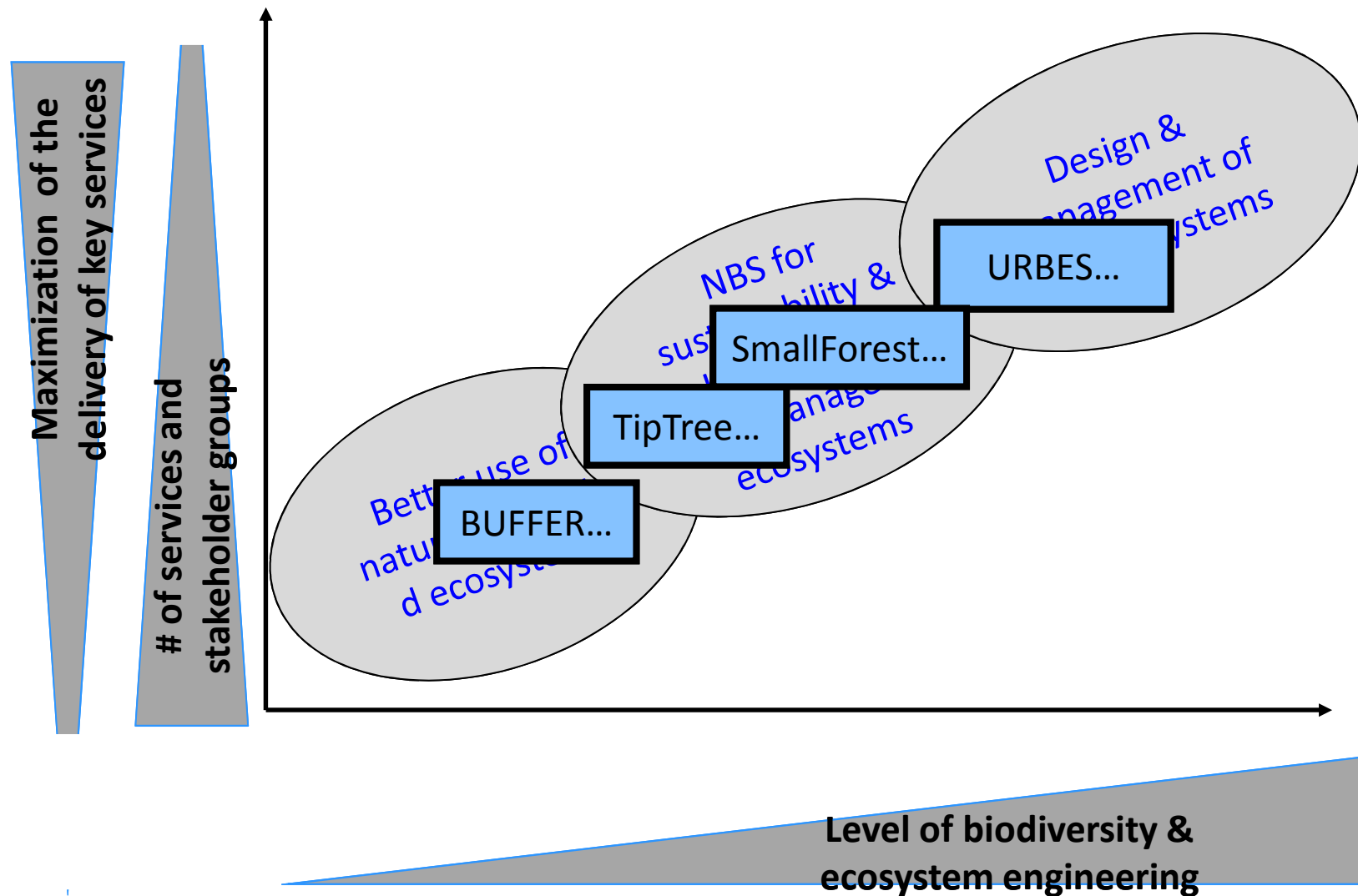
BiodivERsA calls



- Call texts: by scientists & stakeholders
- Selection criteria: Academic excellence + societal relevance + stakeholders engagement
- Evaluation committee: scientific experts + stakeholders
- Monitoring: academic impacts & impacts for stakeholders, policy stakeholders, innovation...



Research projects on all types of NBS supported by BiodivERsA:



Ex : the BUFFER project

Representatives of
AMPs

Regional
fisheries
committee

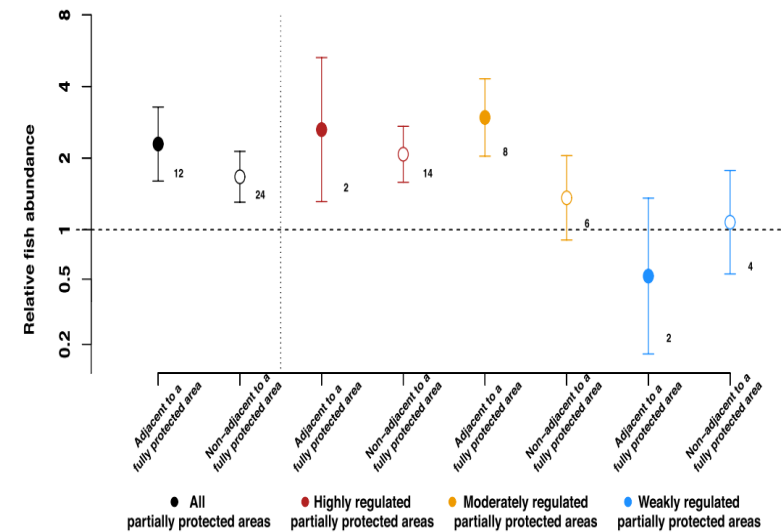
1 SME

Local policy
makers



23 scientific papers

Ecological efficiency / protection types

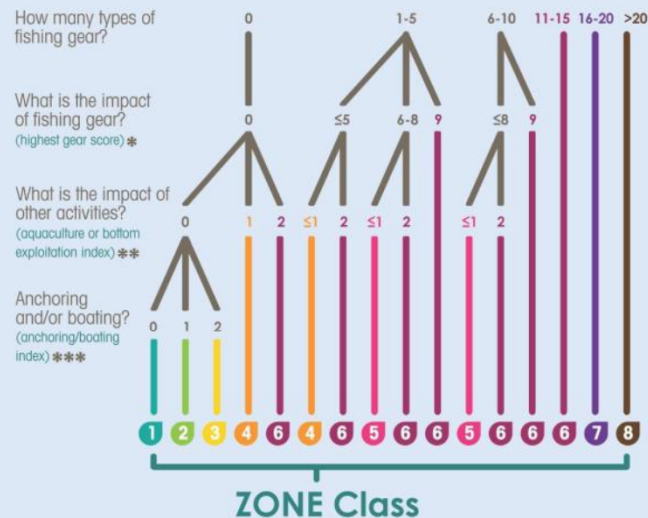


BUFFER : result use

A Regulation-Based Classification System for Marine Protected Areas (MPAs)

Horta e Costa et al. Marine Policy, DOI: <http://dx.doi.org/10.1016/j.marpol.2016.04.021>

Classification System of Zones within MPAs (a decision tree)



ZONE Classification

- | | |
|-------------------------------|------------------------------------|
| 1 No-take/No-go | 5 Moderately regulated extraction |
| 2 No-take/Regulated access | 6 Weakly regulated extraction |
| 3 No-take/Unregulated access | 7 Very weakly regulated extraction |
| 4 Highly regulated extraction | 8 Unregulated extraction |

A Regulation-Based Classification System for Marine Protected Areas (MPAs)

Horta e Costa et al. Marine Policy, DOI: <http://dx.doi.org/10.1016/j.marpol.2016.04.021>

Classification System of MPAs

ZONE Class 1 2 3 4 6 4 6 5 6 6 5 6 6 6 7 8

Next stage: how to classify MPAs

An MPA index is calculated based on the area each ZONE Class occupies within the MPA

$$\text{MPA index} = \text{SUM} \left(\text{ZONEi Class} \times \frac{\text{Area ZONEi}}{\text{Area MPA}} \right)$$

Example of a multiple-use MPA with 3 zones (and corresponding zone classes) occupying different areas



EXAMPLE

MPA with 100 ha of total area

15ha class 1 + 35ha class 5 + 50ha class 8

$$\text{MPA index} = \left(1 \times \frac{15}{100}\right) + \left(5 \times \frac{35}{100}\right) + \left(8 \times \frac{50}{100}\right) = 5.9$$

MPA index

MPA Classification

- | | |
|--------------|---------------------------|
| 1 to 3 incl. | FULLY PROTECTED AREA |
| 3 to 5 incl. | HIGHLY PROTECTED AREA |
| 5 to 6 incl. | MODERATELY PROTECTED AREA |
| 6 to 7 incl. | POORLY PROTECTED AREA |
| 7 to 8 | UNPROTECTED AREA |

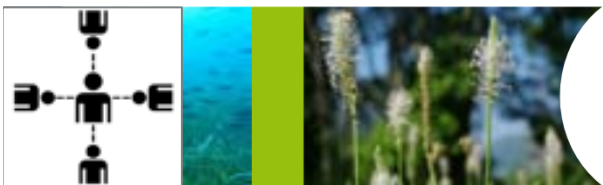
Revision of AMP management plans
Ex: Arrabida Marine Park (PT)

Guide for decision uptake by managers
(MedPAN -> global)



NBS are addressed in BiodivERsA activities





Knowledge brokerage & dissemination

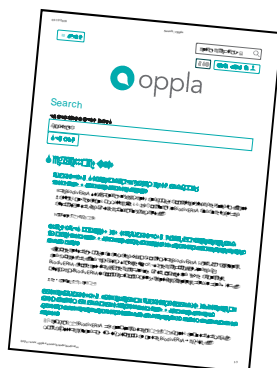


❖ Policy briefs

❖ Collaboration with IPBES

❖ OPPLA platform

❖ Video (*BiodivERsA prize for excellence and impact*)



On YouTube





Support to science- society interfacing



STAKEHOLDER ENGAGEMENT

- A devoted handbook with tool-kit



(2014)

➔ *BiodivERsA web site*

ENGAGEMENT OF POLICY STAKEHOLDERS

- A guide for engaging policy stakeholders



(Dec 2018) ➔ *BiodivERsA web site*



Take-home message

The NbS agenda: a change of mindset needed !

Disciplinarity → Inter/Trans-disciplinarity

One silo → Desiloing, addressing tradeoffs and underlying conflicts


Simplicity → Complexity

Predictability → Uncertainty

Short term benefits → Longer term sustainability

... calling for more systemic approaches in research...

... thanks to more systemic approaches in research programming and funding





Thank You!

*BiodivERsA3 is funded by EC
part of its H2020 programme*





Announcement: 2 forthcoming BiodivERsA calls

Call to be launched in 2019
« *Biodiversity & climate change* » ;
with a theme on NbS
>18 Mio €
20 countries participating

Call to be launched in 2020
« *Restoration of biodiversity & degraded ecosystems* »
>15 Mio €
17 countries participating