



BiodivERsA: promoting international research collaboration on biodiversity and ecosystem services

-
How, and for which added value?

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Coordinator and Chief Executive Officer of BiodivERsA)*

www.biodiversa.org



@BiodivERsA3

Conference about international cooperation (03/12/2015)



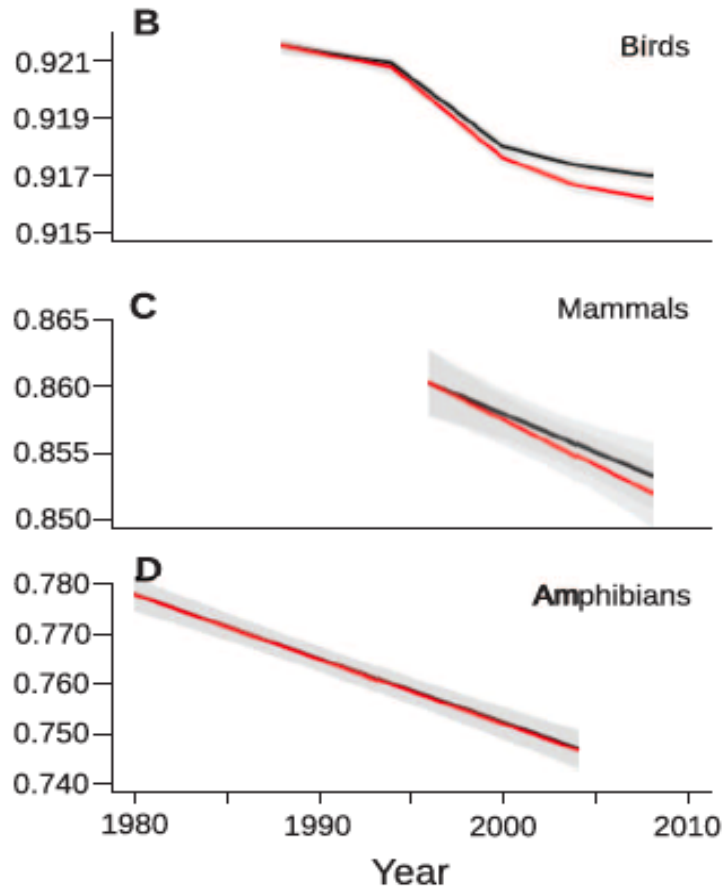
Part #1:

**Biodiversity and ecosystem services:
an increasingly hot topic at the international level...**

**... calling for adequate mobilization of research across
borders**

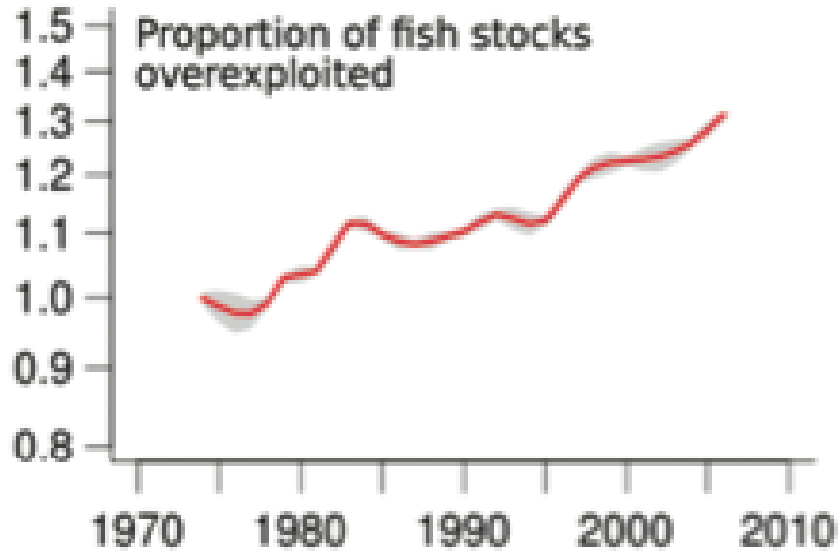
Species at threat!

Trends in the Red List Index (IUCN) for the world's birds, mammals, and amphibians



The delivery of ecosystem services also at threat!

Ex fish stocks & fisheries



Butchart *et al.* (avril 2010 – Science)

Fishing fleet invests 17 times more work/energy than in 1880s for same catch !

(*R. Thurston – University of York*)





Biodiversity crisis
threatens our
existence



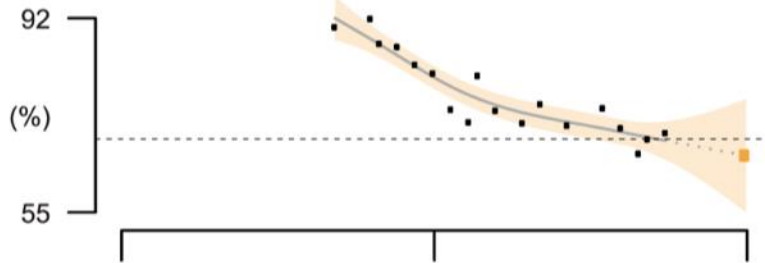
Biodiversity crisis
threatens our
economy



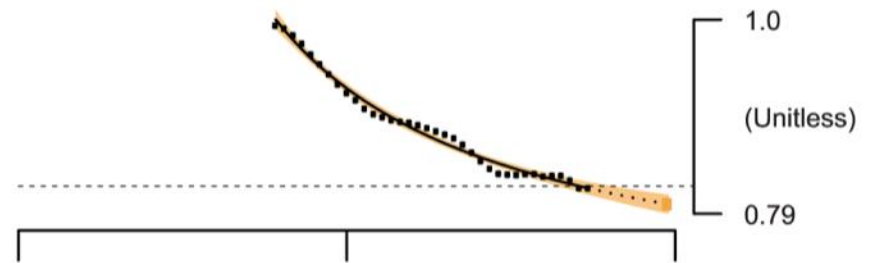
Perspectives (2020)

States

C Fish stocks within safe biological limits

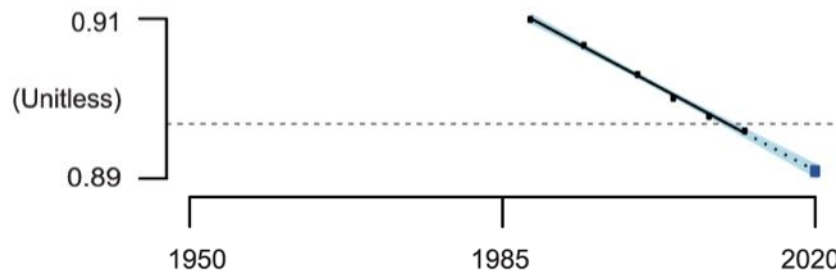


D Living Planet Index

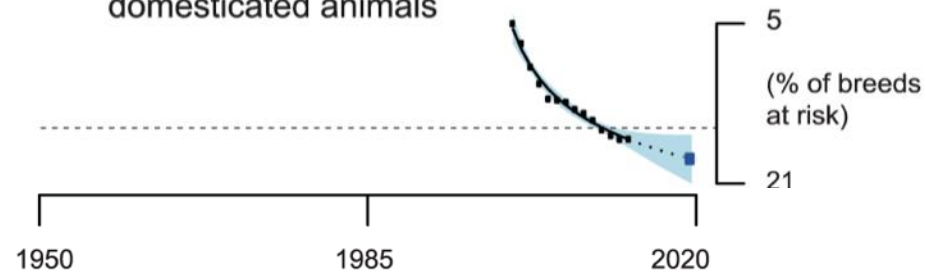


Benefits

E Red List Index for pollinators

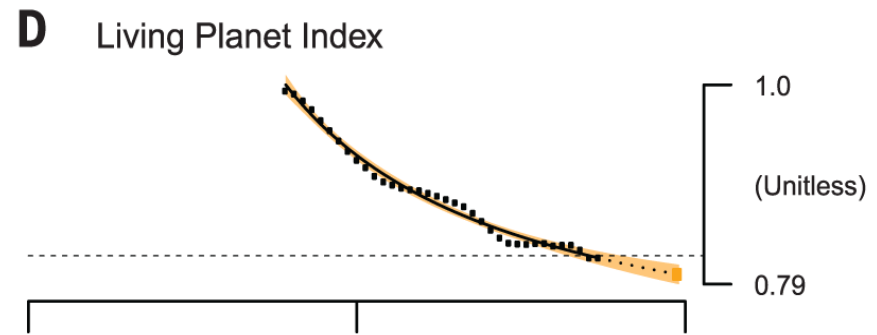
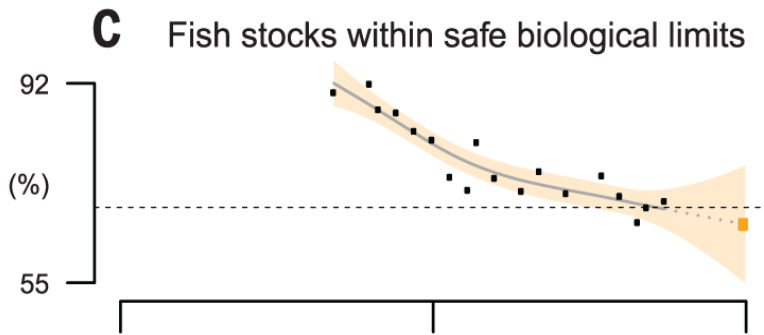


F Genetic diversity of terrestrial domesticated animals

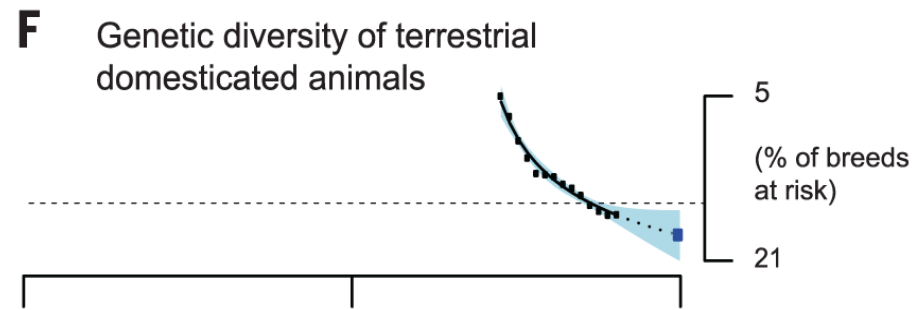
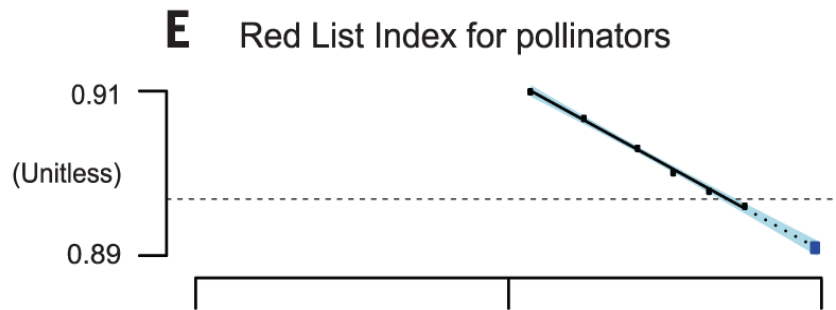


Perspectives (2020)

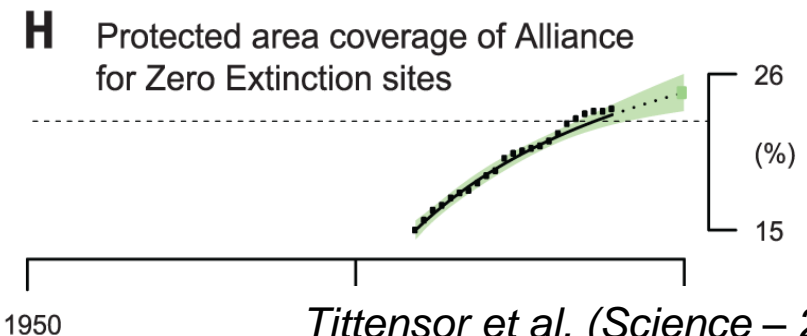
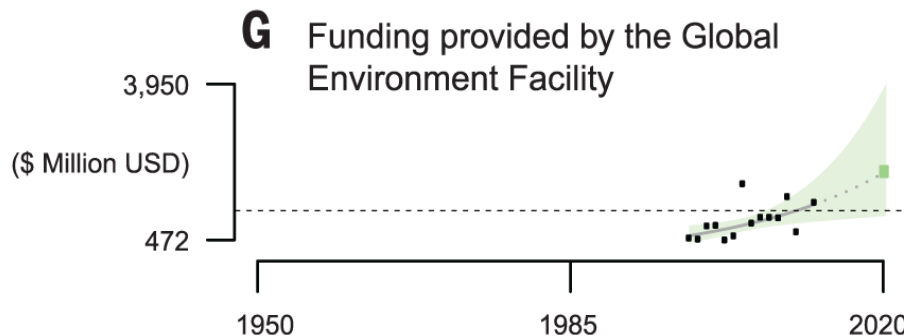
States



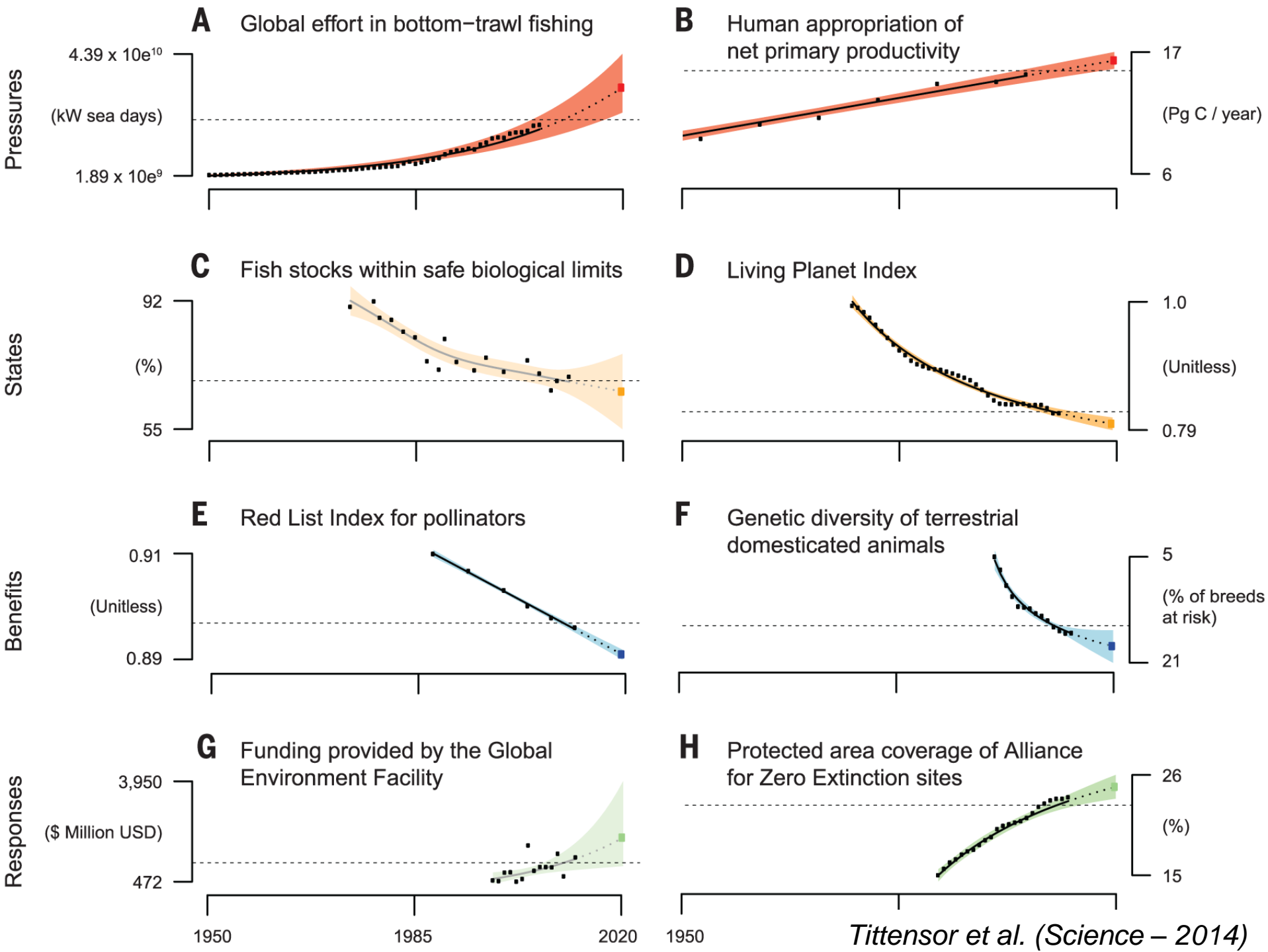
Benefits



Responses



Tittensor et al. (Science – 2014)

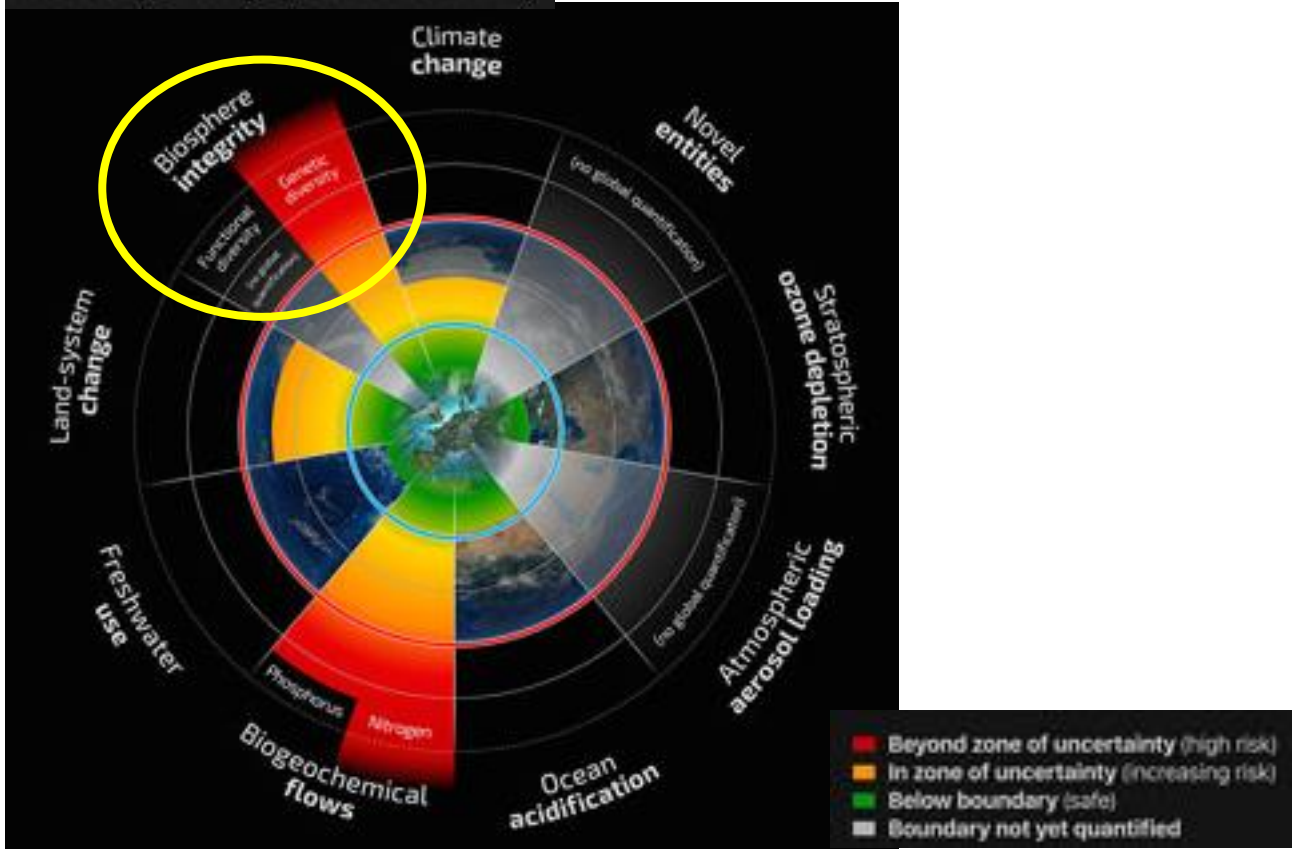




Biodiversity is a major societal challenge

Planetary Boundaries
A safe operating space for humanity

Steffen et al (2015, Science)



What biodiversity/ecosystem research is all about?

- To understand the dynamics of biodiversity in relation to global changes, and consequences for the fate of biological diversity & ecosystem service delivery
- To generate and share the knowledge necessary to bring human societies into a sustainable and mutually beneficial relationship with the living world



Importance to promote research at European level

- **The European scale is sometimes particularly relevant**

Ex: Invasive species that cross borders → understand spread and threat ; management plan at European scale

Ex: Network of field sites allowing better generalization

- **Better cope with new and emerging topics**

Ex: Valuing biodiversity ; biodiversity & governance ; biodiversity & health → unlikely that any one country has sufficient expertise to run a research programme on its own; European collaboration is essential



BiodivERsA : joint activities among national/local bodies that program & fund research in Europe (+EC) to support pan-European research on biodiversity and ecosystem services



Part #2:

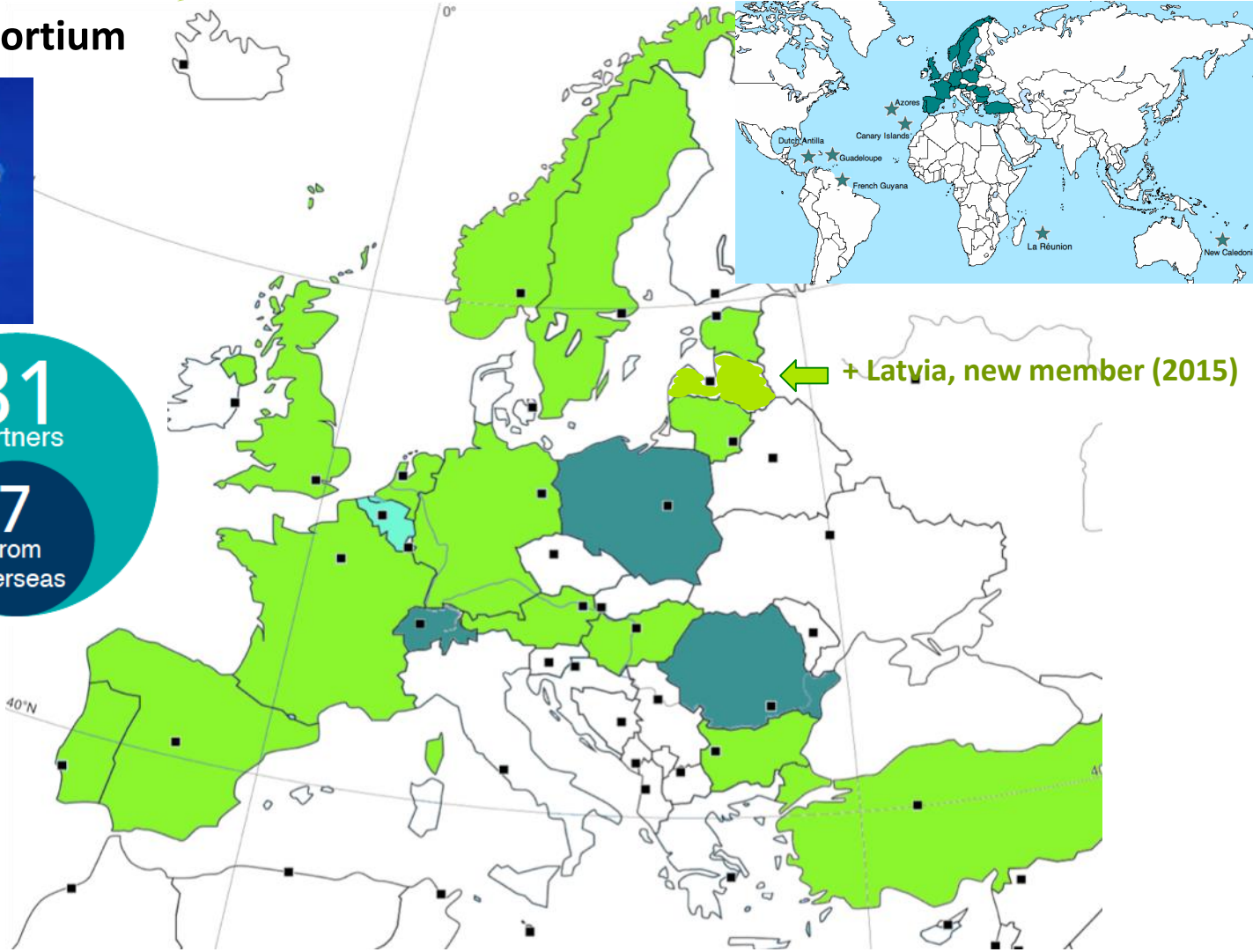
The BiodivERsA ERA-Net: further coordination and support of trans-national research on biodiversity and ecosystem services across Europe

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Role of Nordic and Baltic States



The BiodivERsA3 consortium



19
European countries

31
partners

7
from overseas

Estonia: ETAg

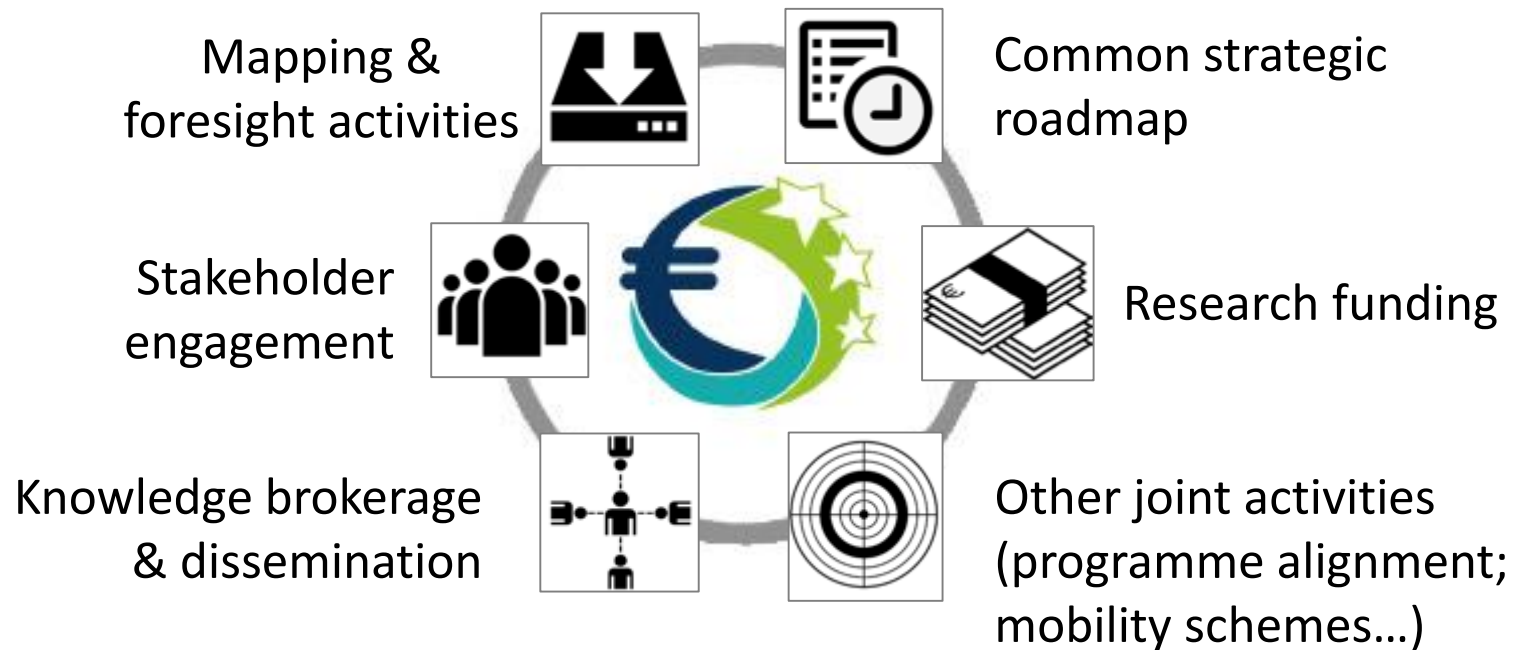


The BiodivERsA3 consortium

**Sweden (Formas) and Norway (RCN) in the BiodivERsA
Executive board**

**Swedish BiodivERsA Vice Chair (Ministry of Environment and
Energy)**

Major activities of BiodivERsA3





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Mapping activities

BiodivERsA database:

-> info on funding, programmes and projects

currently >6500 funded projects profiled in the database!

-> Analyses of funding sources/amounts, temporal trends in the profiles of funded research, etc.

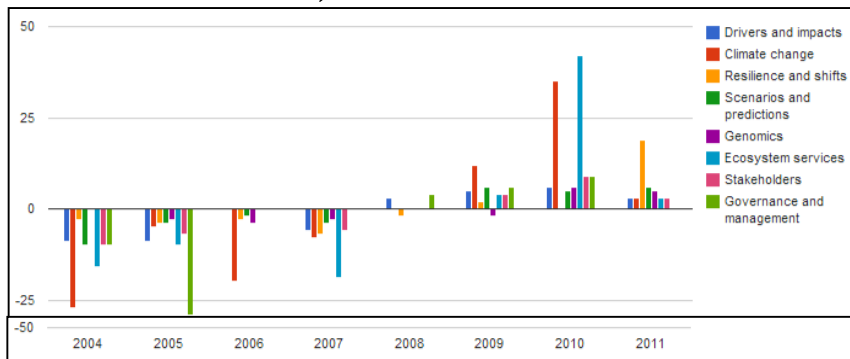
Navigation: Home, Search, **Advanced Search...**, Manual, Feedback, Registration, Login

You are here : > Advanced Search > Search Funding Programs Results

Search Results
Funding Programs: Results: 1 - 19 of 19

Results Navigator: System has found the following number of categories within your search with the specified number of hits. Browse results by categories

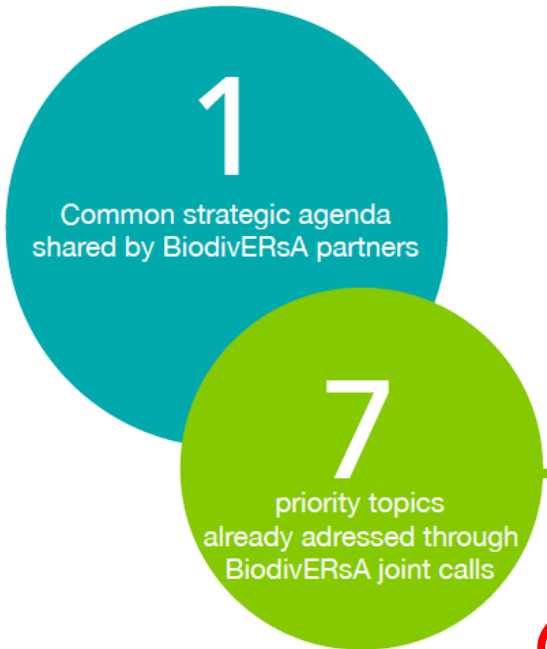
Program ID	Name	Country	Starting date	Ending date
F4FP-9	Biodiversity and Global change	FR	1999-01-01	2099-12-31
F4FP-5	Indian Ocean Islands Biodiversity-Biodiversité des îles de l'océan...	FR	2006-06-10	2007-12-31
F4FP-2	Public action, agriculture and biodiversity - Action publique, a...	FR	2003-01-01	2099-12-31
F4FP-1	ANR Biodiversity	FR	2005-01-01	2099-12-31
FP-061940296	Biodiversity and Forest Management - Biodiversité et gestion for...	FR	1996-01-01	2008-12-01
FP-070229496	Tropical ecosystems - Ecosystèmes tropicaux	FR	1999-01-01	9999-12-31
FP-627521500	Biodiversity dynamics and access policy to habitats and natural ...	FR	2002-07-01	2004-08-31
FP-730086157	Genetic Resources - Ressources génétiques	FR	2002-01-01	2007-01-01
FP-683112675	Dynamics and management of coastal ecosystems (LITEAU)	FR	1996-01-01	2010-01-01













Common
roadmap

Joint research programming: Common priorities identified (basis for joint calls)



- 1. Biodiversity: linking scientific advancements to policy and practice 
 - 2. Biodiversity and ecosystem services, and their valuation 
 - 3. Biodiversity dynamics: developing scenarios, identifying tipping points, and improving resilience 
 - 4. Invasive species and biological invasions 
 - 5. Promoting synergies and reducing trade-offs between food supply, biodiversity and ecosystem services  
 - 6. Understanding and managing soil and sediments biodiversity dynamics to improve ecosystem functioning and delivery of services  
- 2015
- Understanding and managing biodiversity dynamics in land-, river- and sea-scape (habitats connectivity, green and blue infrastructure, naturing cities)



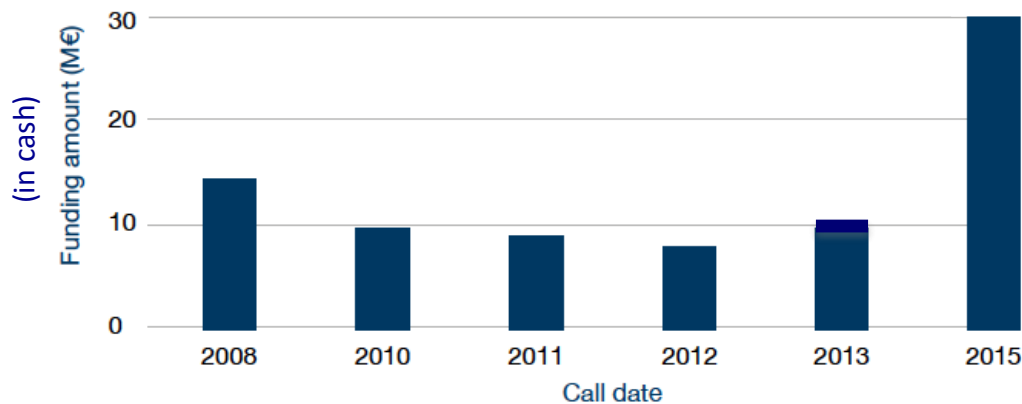
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Research funding (over 2008-2015)



for a total amount of



+ future additional joint calls



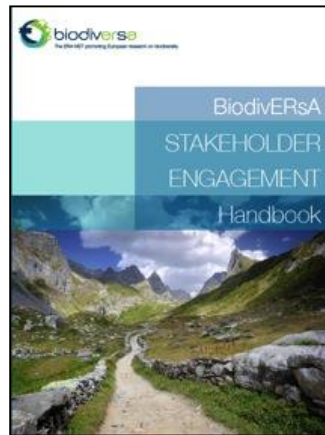
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Stakeholder engagement

- BiodivERSa advisory Board with scientists and stakeholders (NGOs, business, policy makers, media & citizens, genetic resource managers...); ad hoc workshops gathering researchers and stakeholders → Co-design of programmes / joint activities
- Stakeholder engagement = throughout the whole BiodivERSa research process (from inception to knowledge brokerage and transfer)

A tool to help scientists to engage stakeholders in research projects: the *BiodivERSa Stakeholder engagement handbook*

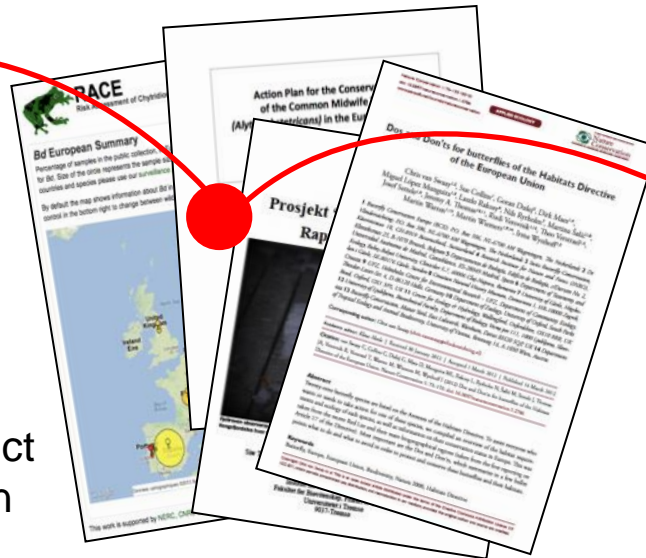


Why?
Who?
When?
How?

Tools and practical examples

The footprint of BiodivERsA projects: excellence of actual academic AND societal outcomes

Most projects reached excellence both for academic and societal impacts !!



- >30 scientific papers/project
- 2/3 of projects published in *Nature*, *Science* or *PNAS*

- Maps of emerging pathogens in EU; atlas of butterflies...
- Update of indicators used
- European abatement plan, Dos and don'ts for habitat directive, guidelines for business...

- Policy briefs targeting policy makers in Europe & European regions



Part #3:

BiodivERsA as an opportunity for Estonian researchers & research managers to develop international collaborations



The point of view of research managers



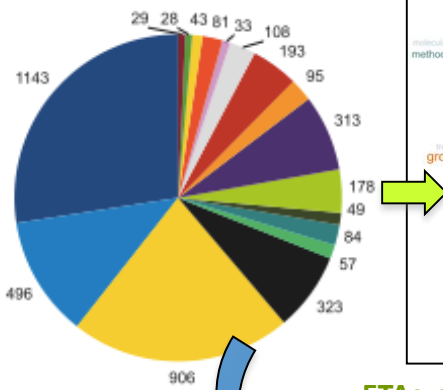
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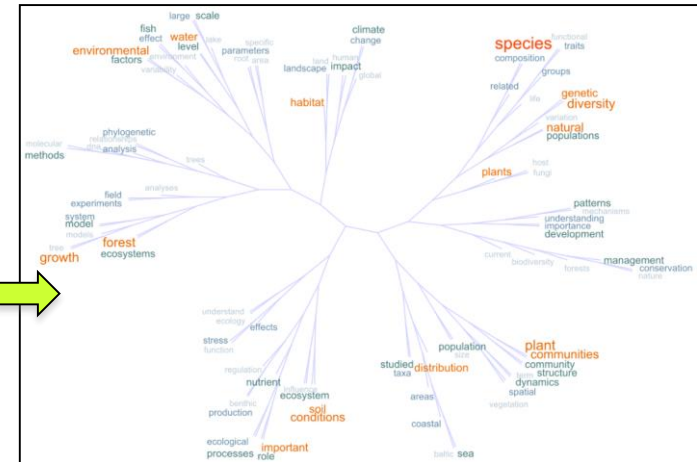
Mapping activities

⌘ Strategic analysis of the place that the national community has within the European research landscape

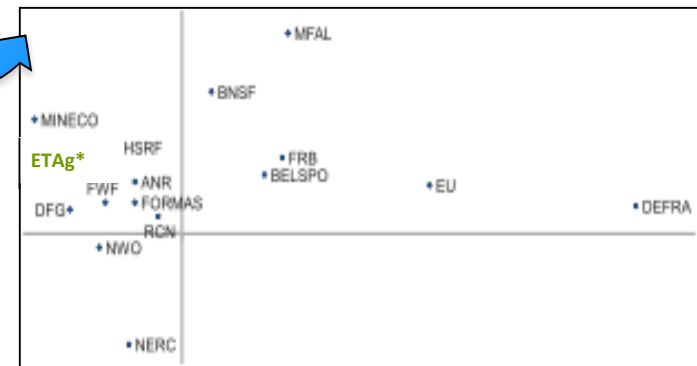
Ex 1: mapping activities using the BiodivERsA database allowed comparison of the profile of the research supported by different national funders



Biodiversity research profile supported by ETAg



ETAg research profile compared to that of other agencies



Ex 2: collaboration networks with researchers from the ERA and from other continents ; identification of collaboration opportunities ...



**Common
roadmap**

**⌘ Influencing joint research programming via the
BiodivERSA common strategic agenda**

2 research priorities proposed by ETAg to BiodivERSA partners:

- *Biodiversity and climate change* → In the Top-priority topics for BiodivERSA for the future
- *Improvement of habitats connectivity, functioning green infrastructure, and diversifying landscapes*



1. Biodiversity: linking scientific advancements to policy and practice 
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Research
funding



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⌘ Using the leverage effect of pan-European approaches and of co-fund actions

ETA_g → 100 k€ to fund
Estonian researchers



Estonian researchers receiving 100k€ and
participating to a 1 M€ European project

+ access to different sites across Europe
+ access to skills and infrastructures

If co-fund by EC

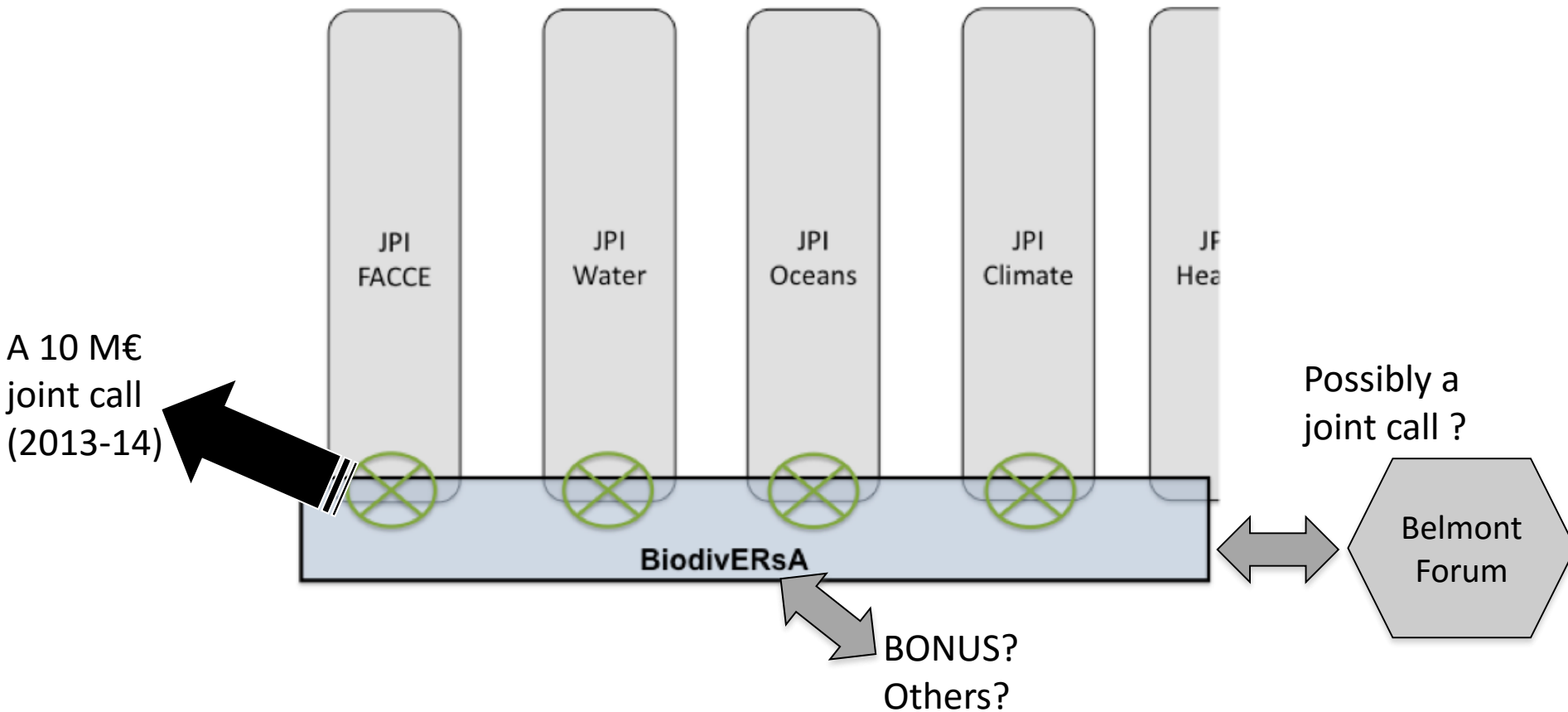
ETA_g → 100 k€ to fund
Estonian researchers



Estonian researchers receiving **130k€** and
participating to a **1.3 M€** European project

+ access to different sites across Europe
+ access to skills and infrastructures

⌘ Improving the consistency of research programming and better addressing cross-sectorial issues through synergies with existing JPIs/art185/ERAnets and international initiatives



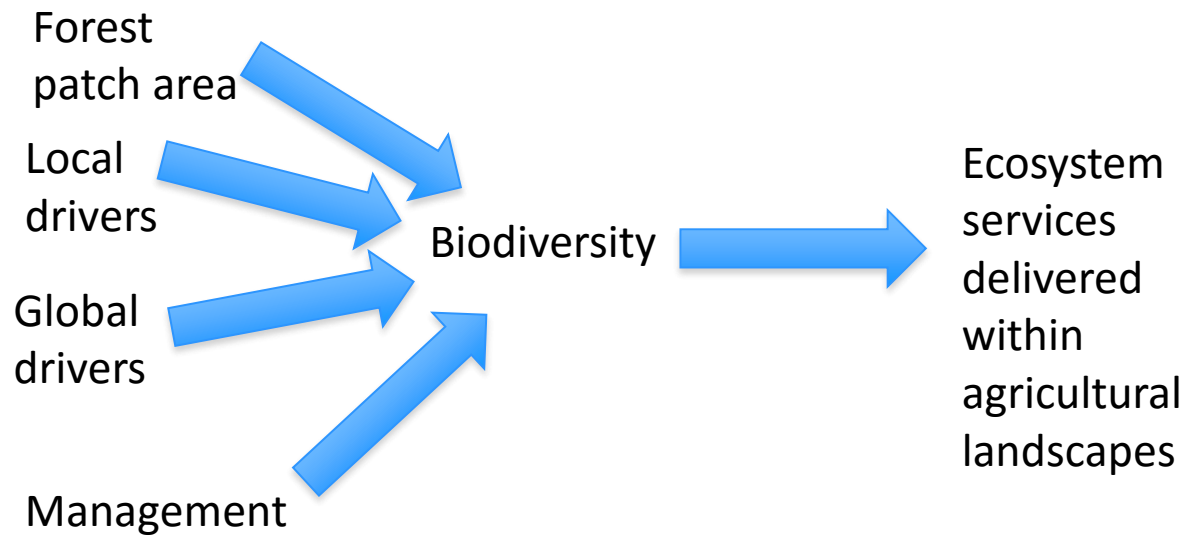


The point of view of researchers

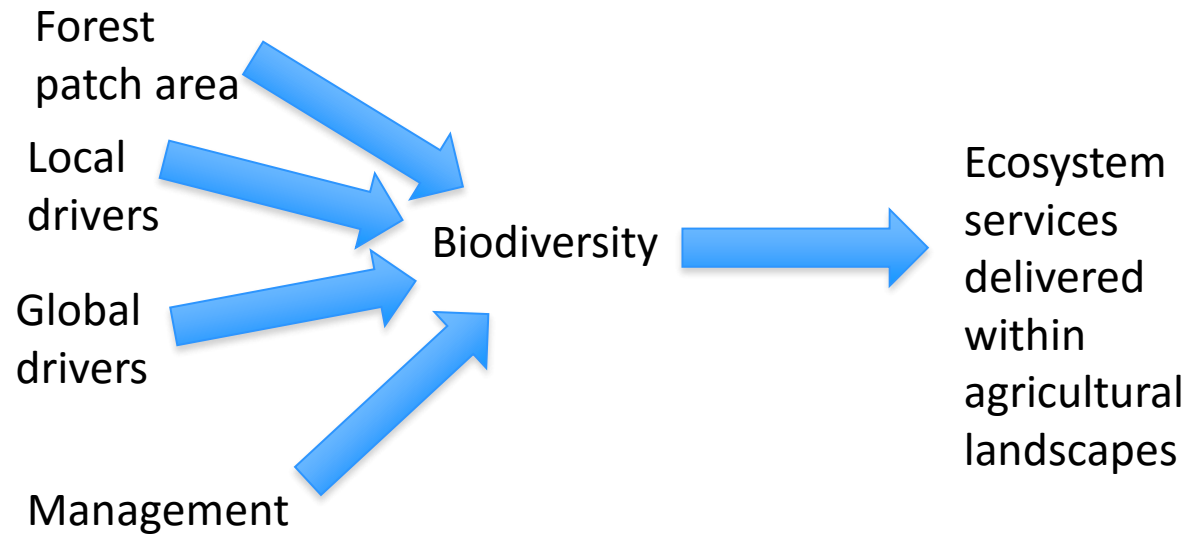


(Taking the example of the BiodivERsA-funded project SmallForest)

Objective: to characterize and quantify biodiversity and ecosystem functions and services at various scales, and relate them to each other, in small forest patches that are embedded in contrasted agricultural landscapes



⌘ **Trans-national approach → national teams can address a complex issue calling for complementarity between many skills**



⌘ Added value of international collaboration: wide range of environmental conditions, necessary to derive general knowledge



SmallForest: SW-NE gradient throughout the whole temperate biome



Estonian site: NE edge of the gradient; many recent land use changes (post-sovietic period)



⌘ Further added value of BiodivERSA for researchers in the near future

The BiodivERSA young scientist scheme:
should favour the emergence of the next generation of scientists;
particularly favourable for Central Europe & Baltic States?

The BiodivERSA mobility scheme:
should initiate and reinforce contacts between scientists and with
stakeholders across Europe; particularly favourable for Central
Europe & Baltic States?

Program alignment by BiodivERSA: new opportunities for
internationalization using other approaches

⌘ **A virtuous circle: promoting international collaboration helps to prepare further international collaboration in the future**

16 Estonian teams applying part of the 2015 call

Estonian team in the European project
→ Brings in a site with specific socio-economic and cultural characteristics and associated data

→ Active participation to data analysis and joint academic productions
→ Estonian situation put in European context

Further links can be developed (PhD theses ; additional projects – national or international)





Remark

BiodivERsA uses a flexible, à-la-carte approach

Sub-regional approaches are possible (ex: alpine ecosystems; overseas; Nordic&Baltic?) – Collaboration with BONUS to be promoted?



Take-home messages (1/3)

Part #1: Protection and sustainable management of biodiversity & ecosystem services =

-a grand challenge of our time...

-...particularly relevant beyond the sole national level at regional and sub-regional levels...

-...thus calling for research collaboration across borders



Take-home messages (2/3)

Part #2: BiodivERsA =

- An ERA-Net covering all the main functions of a JPI...
- ...promoting the academic excellence and society/policy relevance of research on biodiversity and ecosystem services..
- ...with an increasing participation of Baltic States and an increasing role of Scandinavian countries

Take-home messages (3/3)

Part #3: Promoting international research collaboration =

-leverage effects for funding and for addressing large scale, complex, and interdisciplinary issues...

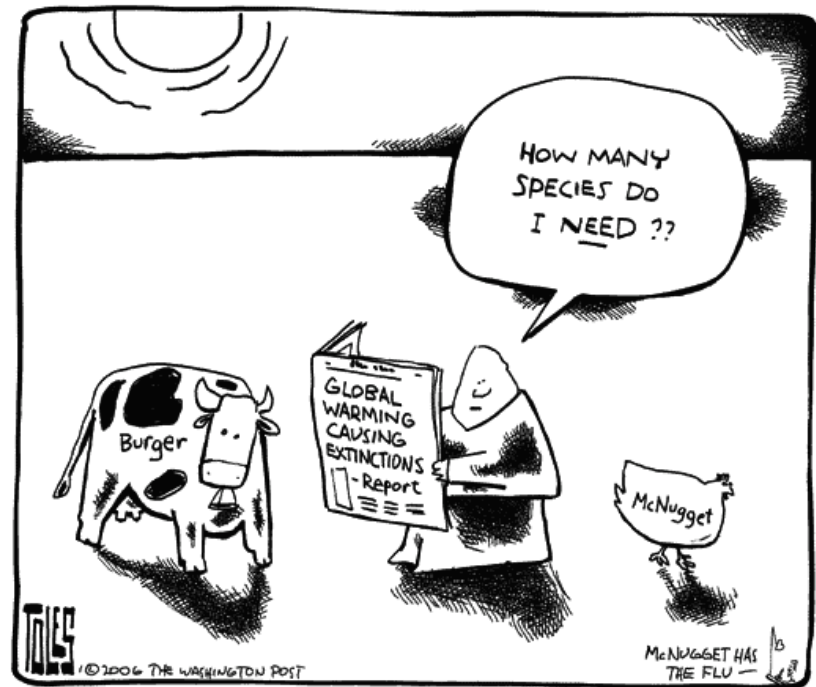
-...reinforcing national teams and their ability to further collaborate across borders



International collaboration will be increasingly needed, e.g. to address the needs of IPBES and its assessment for Europe and Central Asia



**Thank you
for your
attention !**



*BiodivERsA3 is funded by EC
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