Towards a resilient and coherent conservation network in the EU

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SaveGreen conference 7/12/2022

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Funded by the European Union

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The EU Conservation Network

- 25.7% of land (1.06 M km^2) and 11.1% of the sea in the EU27 (556K km^2)
- 760 000 km^2 are part of the Natura 2000 network on land and 440 000 km^2 at sea
- 23% of the European (38 EEA countries) terrestrial landscape and around 8% of the marine realm

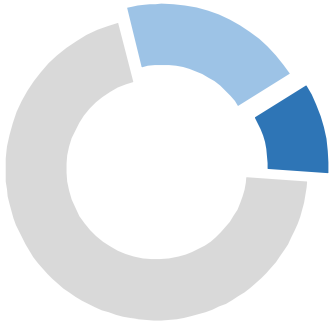
The EU Fitness Check

- The general objectives of the Directives have not yet been met
- It is clear that the status and trends of bird species as well as other species and habitats protected by the Directives would be significantly worse in their absence

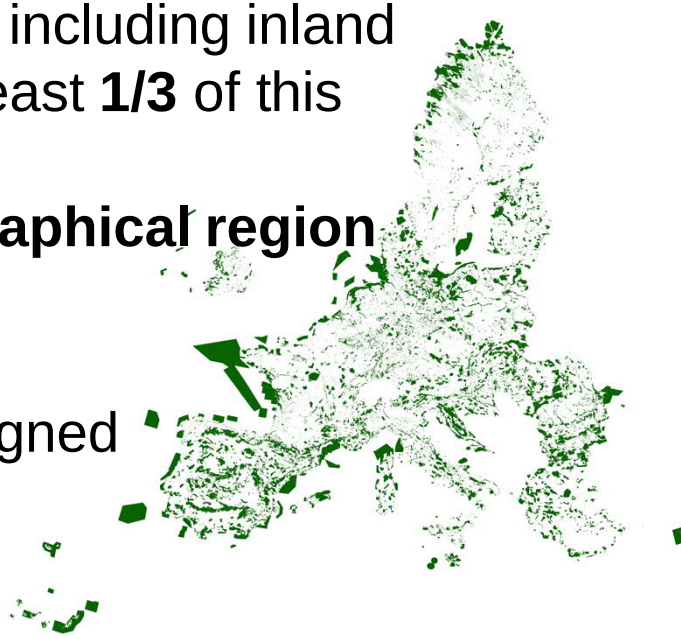
Main Obstacles

- Lack of stakeholder awareness and cooperation (51% respondents);
- Insufficient knowledge and access to existing funding mechanisms (58%);
- Limited availability of knowledge on biodiversity distribution, drivers of change and solutions (48%);
- Authorities' expertise and experience (11%);
- Integration with spatial planning (9%).

The EU Protected Area targets



- **Legally protect at least 30% of the land**, including inland waters, and 30% of the sea in the EU. At least **1/3** of this should be **strictly protected**
- Targets to be achieved **for each biogeographical region**



What counts?

- **All N2K count towards the targets**, only nationally-designed areas with primary conservation objectives count

Priorities:

1. **completion of the N2K network** following annex III of the HD
2. **National designations to support N2K:** connectivity, buffer
3. National designations to **support habitats and species not in the annexes**
4. Protect ecosystems providing **climate mitigation services** (peatlands, coastal wetlands, forests)
5. Protect and manage ecosystems to **increase resilience and adaptation to climate change**

4

The mechanism

1. Initial pledges for new areas to be designated should be submitted by MS to the Commission

   - explain
     - criteria used for the identification
     - scientific evidence that is being used for the designation

2. Discussion of the MS's pledges within the framework of the biogeographical meetings

   - focus on both
     - natural values of individual sites to be designated
     - global coherence and completeness of the network

Current status

Commission and EEA:

1. Development of electronic “reporting formats” for pledges (ongoing)
2. In line with the format, development of dashboards to publicise the pledges received (late 2022)

National authorities:

1. Development of pledges (in the course of 2022)
2. Submission of pledges (end 2022)

Commission, EEA, ETC, national authorities & stakeholders:

1. Review of the pledges in the frame of Biogeographical seminars (early 2023)

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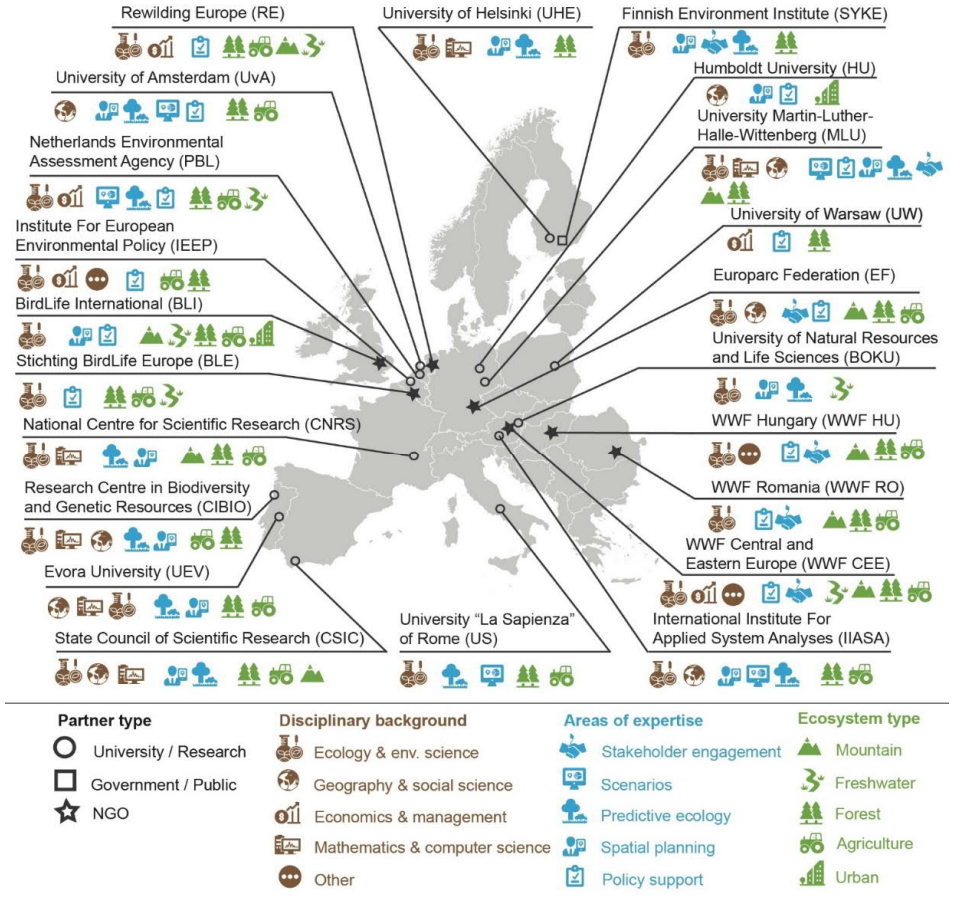
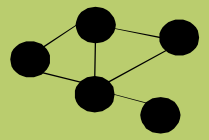


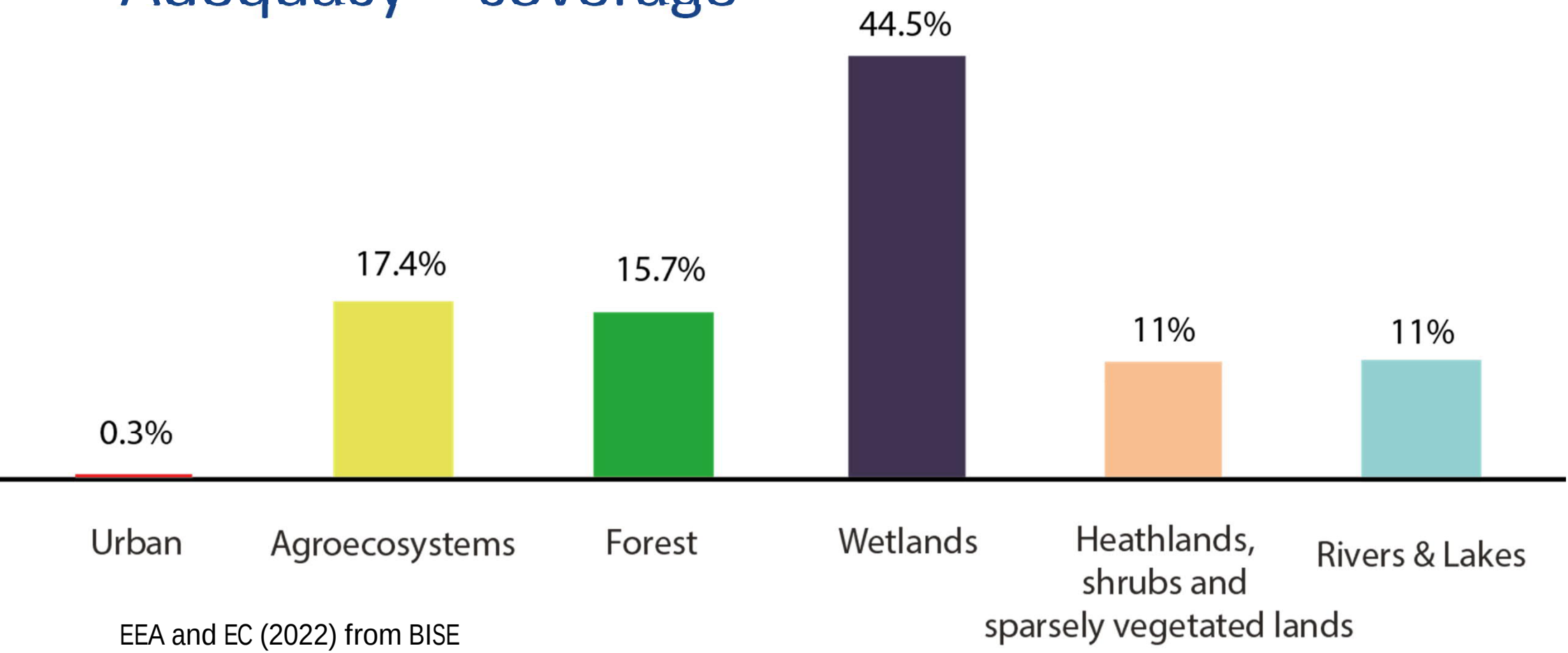
Comprehensive 

Adequate 

Resilient 

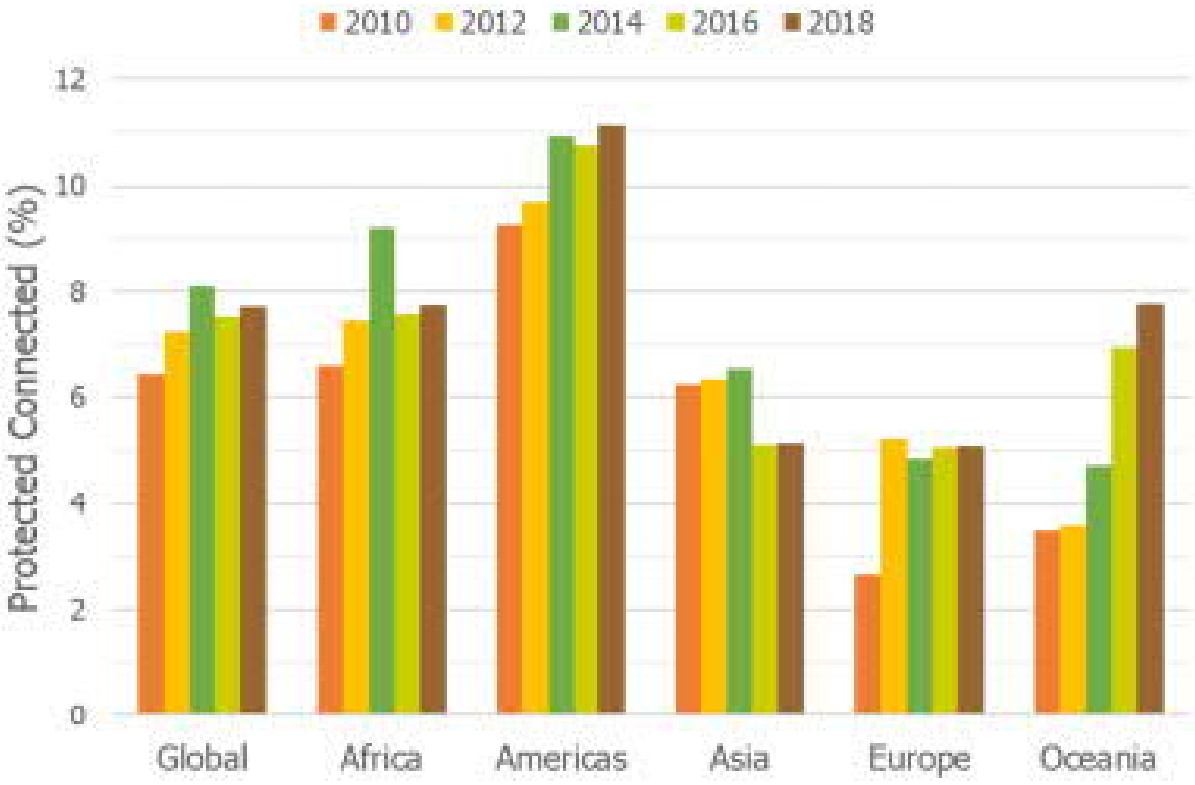
Effective 

Adequacy – coverage

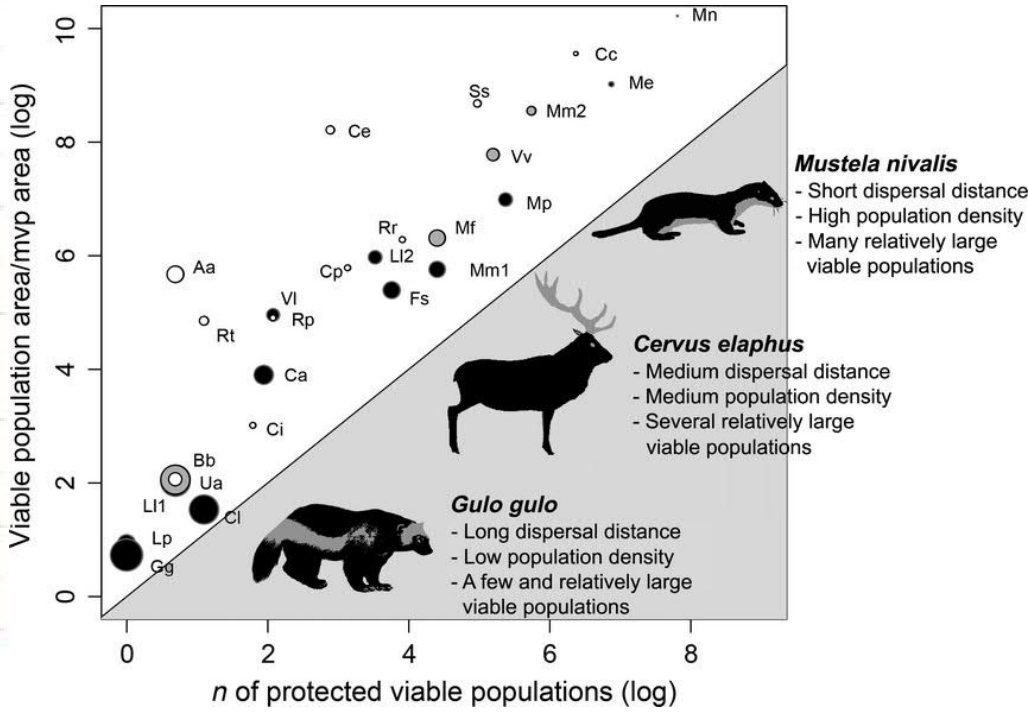


EEA and EC (2022) from BISE

Connectivity



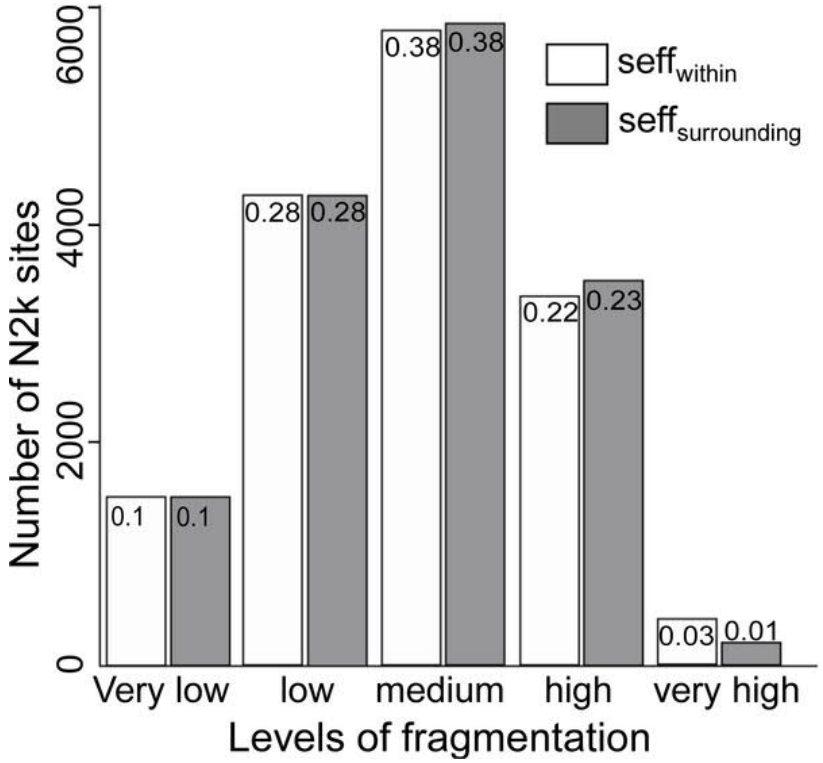
Saura et al. 2018 Bio Cons



Santini et al. 2014 Div & Distr

Size and fragmentation

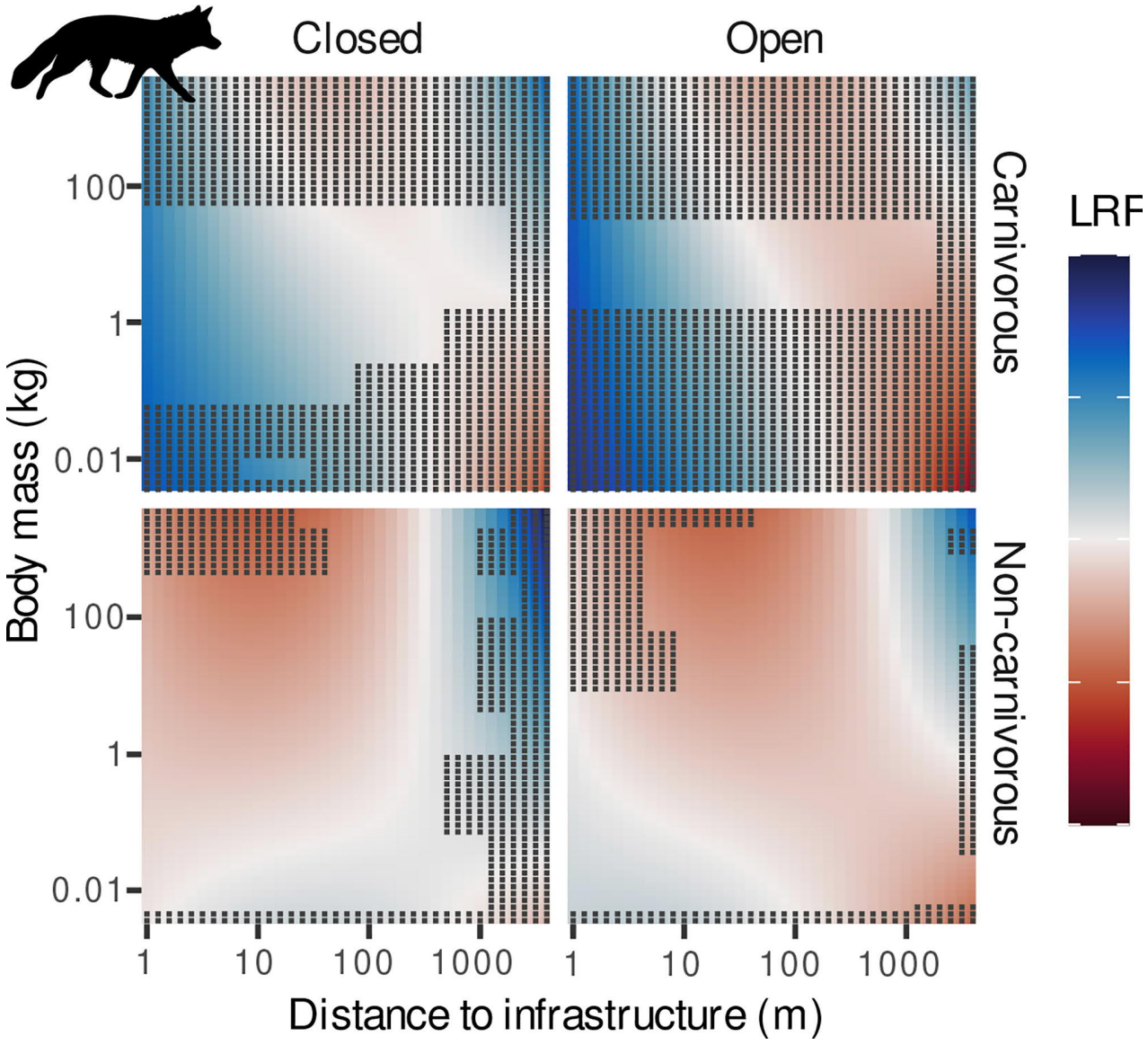
69 % of terrestrial protected areas in Europe are below 1 km²



Lawrence A, Friedrich F, Beierkuhnlein C (2021)

Linear infrastructure

- Large impacts on non-scavengers
- Infrastructure-effect zone on open habitats up to 600 m



De Jonge et al. 2022 https://doi.org/10.1111/gcb.16450

Addressing adequacy: understanding connectivity

- Connectivity for what?
- At what scale?
- Estimated how?
- Measured how?

Output: Guidelines, data and tools for connectivity conservation across scales from local to pan-European

Workshop in March: Approaches for corridors and connectivity in protected areas' network in Europe: towards guidelines.

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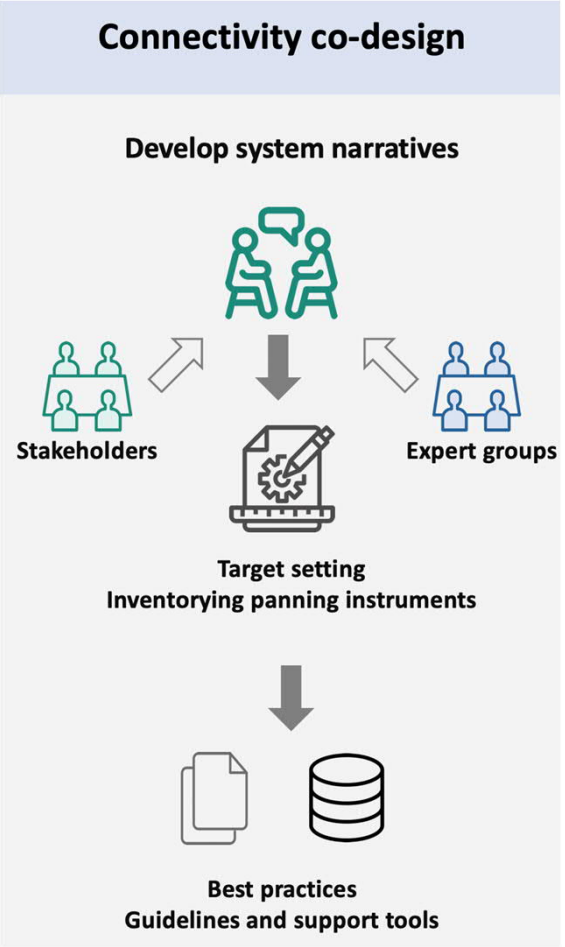
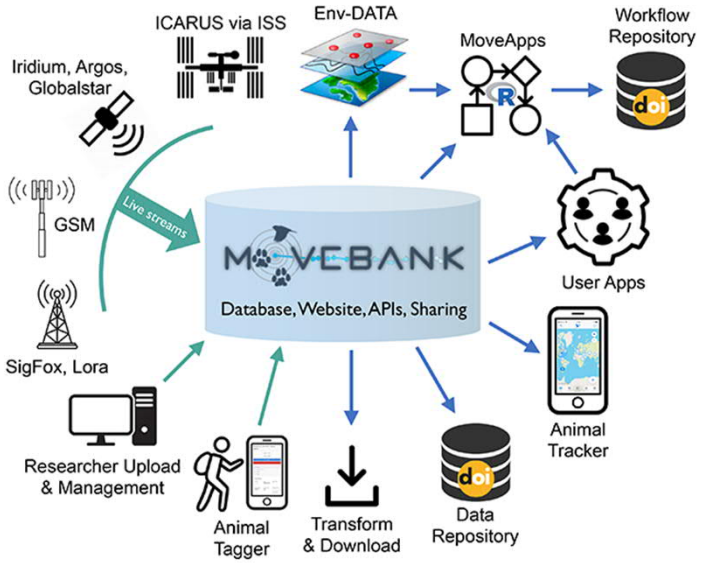
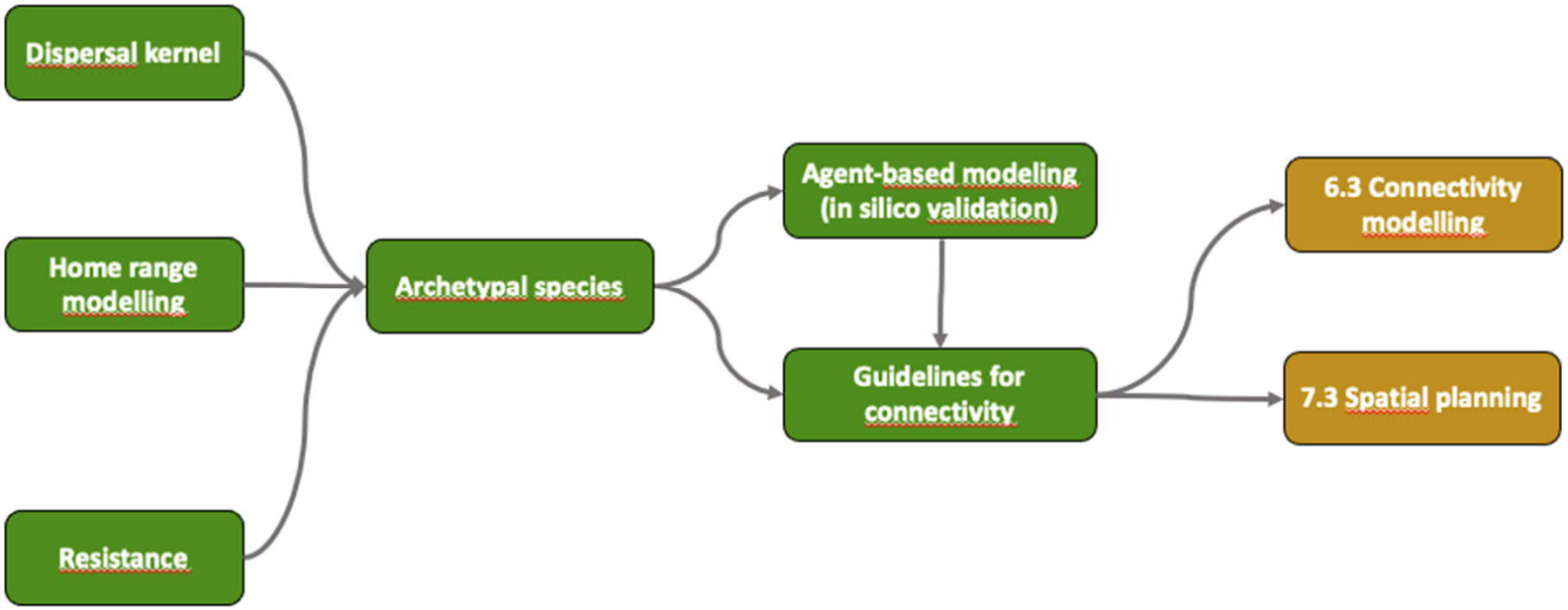


Movement data

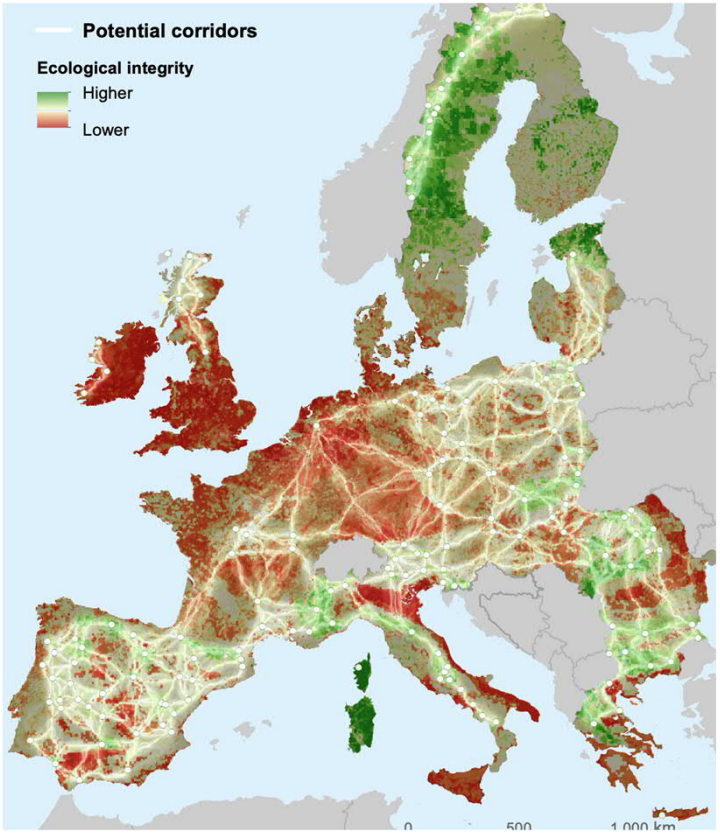


Estimating connectivity



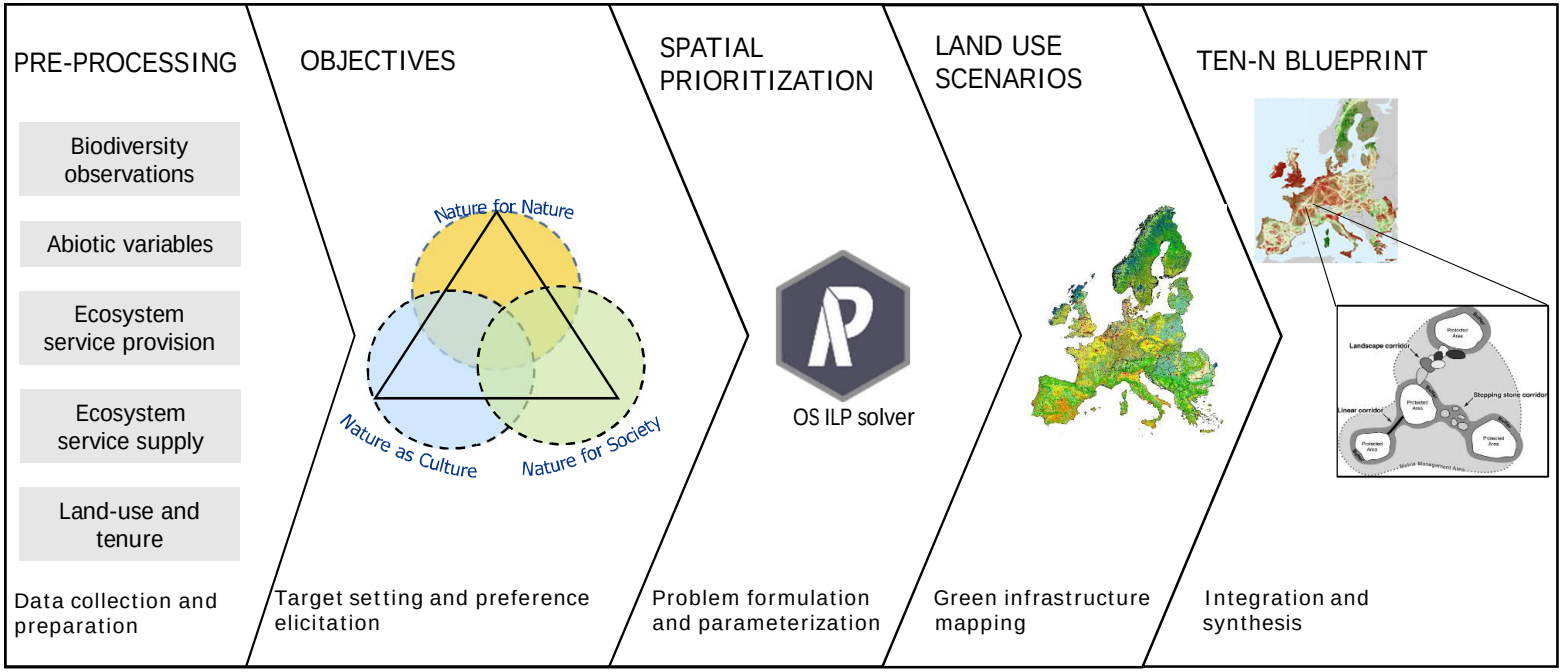
Planning for connectivity

- Conservation and restoration priorities for establishing multifunctional corridors
- Maps of conservation and restoration value for corridors connectivity under different scenarios



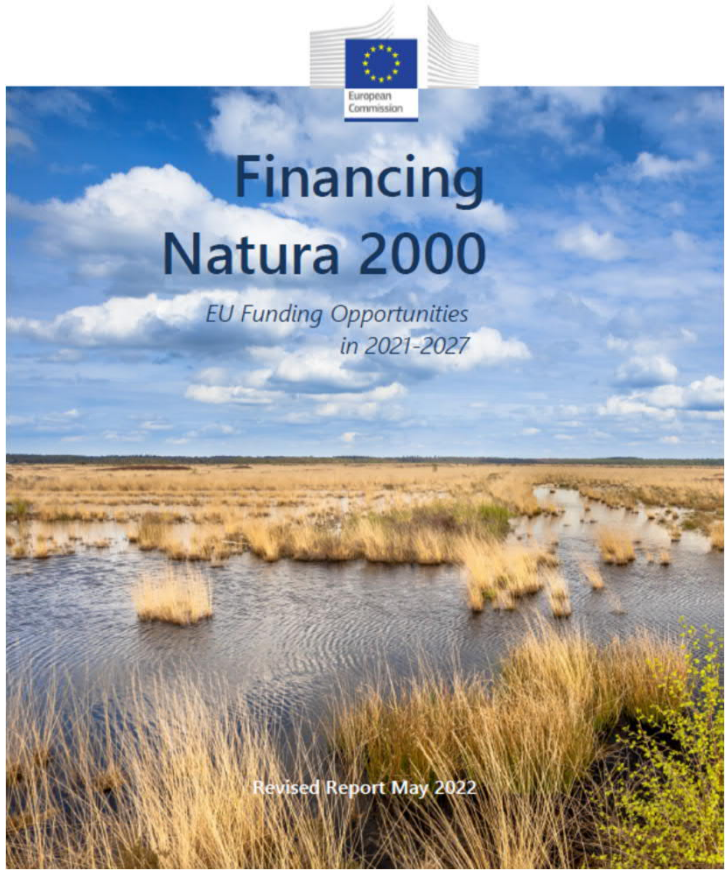
Fernandez et al. in prep

Planning a comprehensive and adequate TEN-N



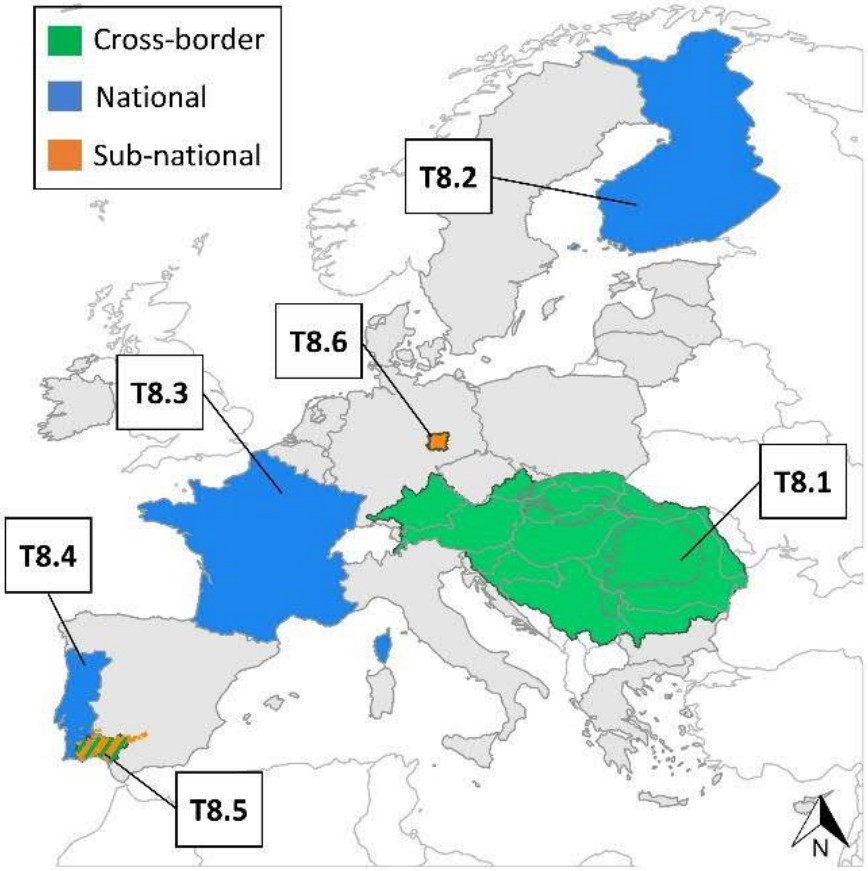
Stakeholder consultation and result dissemination

Addressing effectiveness – financing TEN-N



Addressing effectiveness – decision support

- Cross-border region: Carpathians & Danube
- National level: Finland
- National level: France
- National level: Portugal
- Sub-national level: Doñana area
- Sub-national urban level: Halle-Leipzig
- Integration, support and feedback elicitation
- Monitoring and indicators



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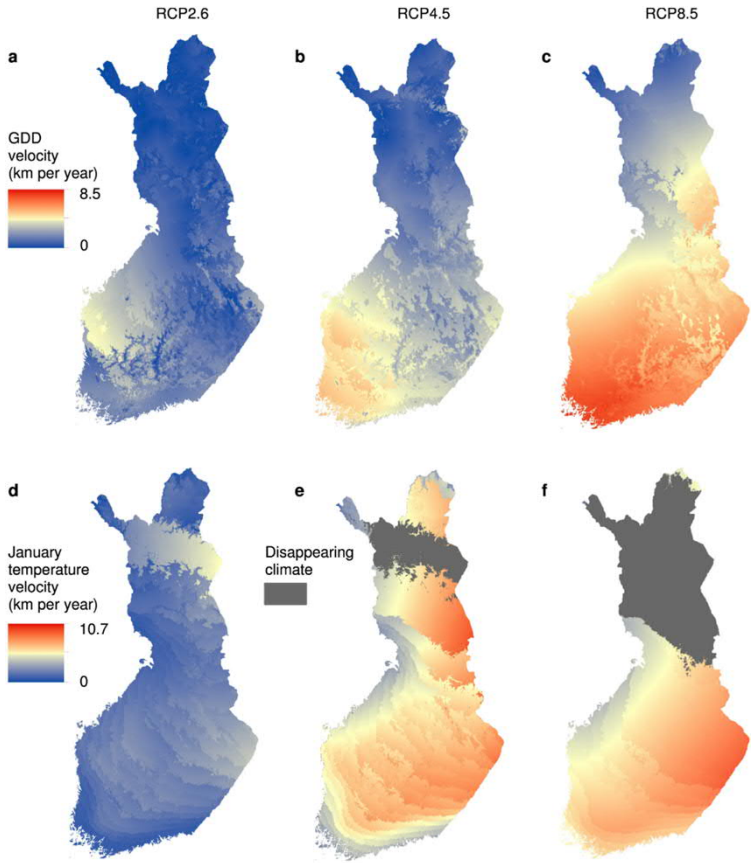
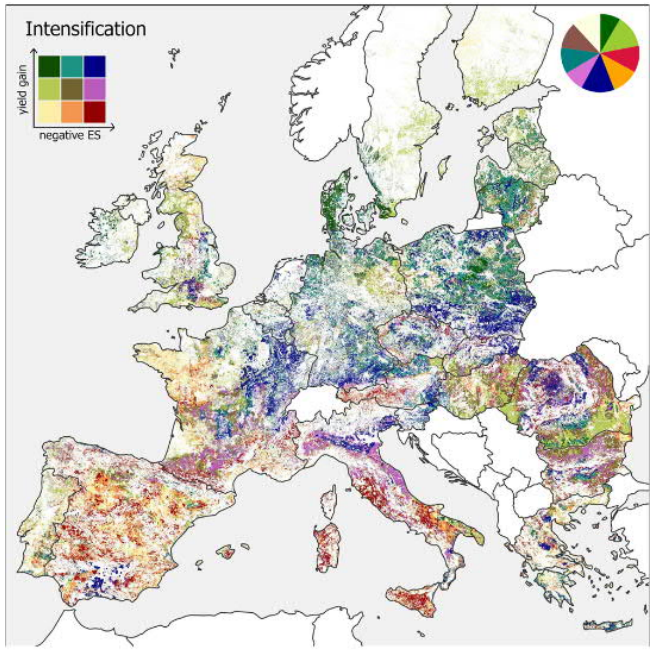
Resilient – the challenge

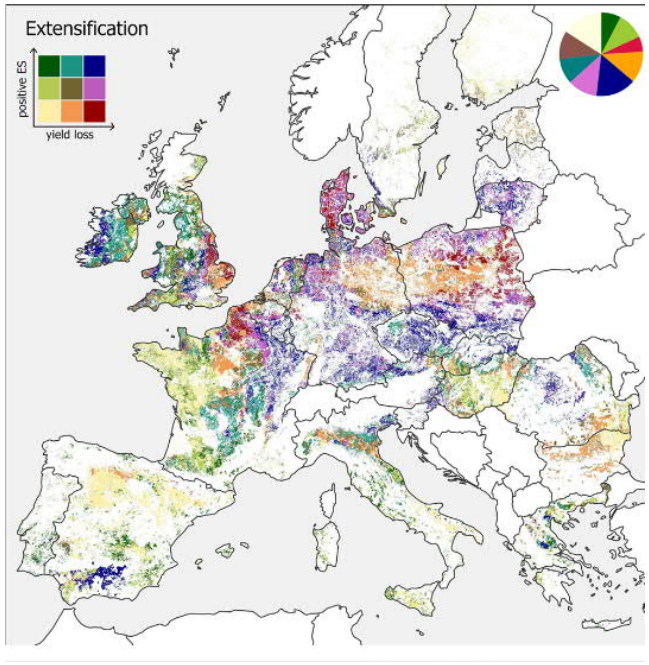
The current temperature conditions are projected to disappear from almost all the studied PAs by the end of this century:

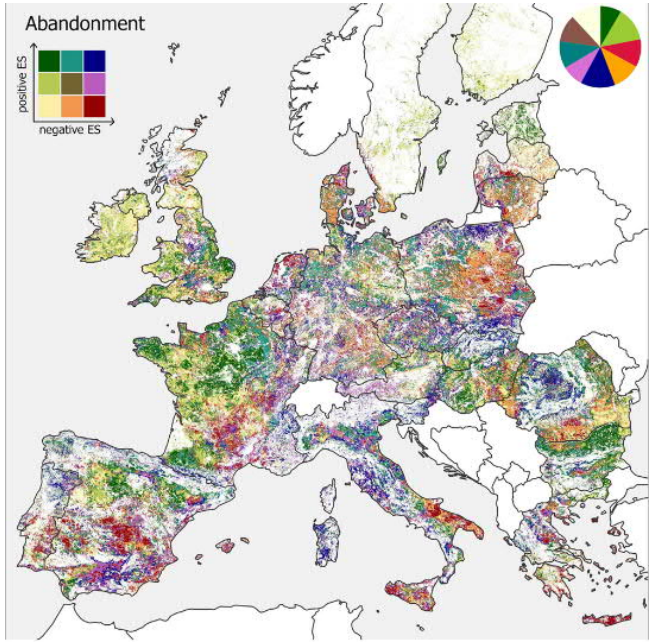
Heikkinen R. et al. 2021 Scientific Report



Resilient – the challenge

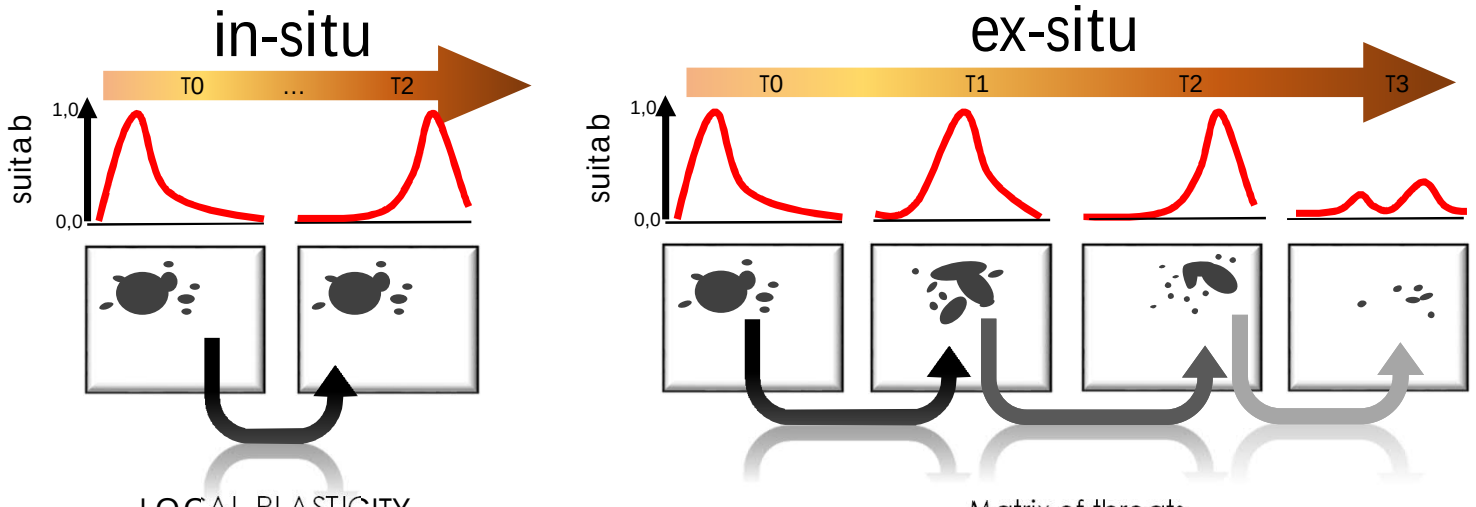






Source: Peter Verburg

Addressing resilience – planning for climate change



LOCAL PLASTICITY
Physiology
Behavior
Phenotypic
Evolutionary
Micro-refugia

Matrix of threats
SOCIO-ECONOMIC ACTIVITIES
increased exposure & land competition

NEW ANALYTICAL APPROACH
OPTIMAL ADAPTIVE TRAJECTORIES

Source: Diogo Alagador

Addressing resilience – Green Infrastructure simulations