

A Coruna Forum – Session 6

The role of ecosystem restoration in increasing resilience and contributing to human wellbeing

Spain, May 16th, 2018

Improved knowledge for effective NbS – European ecosystem and biodiversity restoration research promoted by BiodivERsA

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The BiodivERsA Partnership



33 partners (research programmers and funders) from 23 countries, incl. overseas





Main functions of BiodivERsA





Projects across all types of NbS



Typology of Nature-based Solutions developed by BiodivERsA (Eggermont et al., 2015, GAIA)





Type 1: Better use of protected ecosystems, example of the **RESERVEBENEFIT** project – Evaluating and managing connectivity in a network of MPAs to maintain:

- Direct services: marine resources for fisheries beyond protected limits
- Indirect services: genetic diversity and adaptive capacities of fish stock





Fig. 1: left, network of MPAs in the Mediterranean sea and RESERVEBENEFIT study sites; right, picture of a fisherman in one of the studied sites.



Type 2: Innovative planning of agricultural landscapes – examples from the FarmLand and EC21C projects:

Landscape A

- <u>Direct services</u>: enhances and stabilizes the biological control and pollination in agroecosystems
- <u>Indirect services</u>: semi-natural habitats can buffer negative effects of climate change (see fig 2)

Landscape B



Landscape with 2% semi-natural areas











Fig. 2: left, landscapes with smaller fields and more field edges (A) have more biodiversity in crop fields than landscapes with large fields (B); above, interactive effect of temperature and landscape composition on wild bee species richness. After Papanikolaou et al (2016)



Type 3: designing new ecosystems, example from the **URBES & ENABLE** projects

Evaluating and managing ecosystem services delivered by greening cities, ranging from heat reduction to health benefits:

- <u>Assessing ES delivery</u> from green spaces at city level
- <u>Participative scenarios</u> of urban planning change and impacts on ES delivery with local authorities
- <u>Identifying and testing</u> key features to maximise various ES delivery by different types of urban green spaces





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Restoration and NbS research in BiodivERsA



Strategic planning and future actions

CT1 - Better knowledge on biodiversity, its dynamics and its adaptation capacity to global change: a basis for supporting biodiversity conservation and restoration

CORE THEMES

CT2 - Biodiversity: a fundamental asset for the functioning and resilience of ecosystems, provision of ecosystem goods and services, and improvement of human well-being

CT3 - Biodiversity, a fundamental asset for Nature-based Solutions to pressing societal issues and for promoting transition towards sustainable socio-economic pathways

TT1 - Biodiversity and governance

TT2 – Non-monetary and monetary valuation of biodiversity and ecosystem goods and services

TT3 – Studying biodiversity and ecosystem services based on long term surveys and experiments, re-use of existing data and development of scenarios

TRANSVERSAL THEMES



- → Currently an on-going work on knowledge and knowledge-to action gaps for effective restoration of biodiversity and ecosystem services
- → Upcoming international call for research on resotration of biodiversity and degraded ecosystems (terrestrial, freshwater and marine)





Thank you for your attention