

Pioneering nature-based solutions

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Outline



- Increase understanding of nature-based solutions (NBS)
- Linkages with EU policy developments
- Identify opportunities for integrating NBS in future Biodiversa research



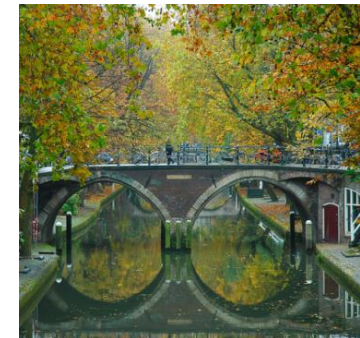
About IUCN



International Union for Conservation of Nature



- Oldest and largest global environmental organization
- Helps the world find pragmatic solutions to our most pressing environment and development challenges such as climate change, sustainable development and food security
- A network of more than 1,200 member organizations (including 200+ government and 900+ NGOs), and almost 11,000 voluntary scientists and experts in 160 countries



IUCN and nature-based solutions



- IUCN Pioneered nature-based solutions at the UN climate negotiations
- Promote them to mitigate and adapt to climate change, secure water, food and energy supplies, reduce poverty and drive economic growth
- Working with governments, the private sector and communities to put science and knowledge into practice - restoring forests, rivers and wetlands, and bring our oceans back to life



A nature-based solution is a solution that....



1. Delivers an effective solution to a major global challenge using nature
2. Provides biodiversity benefits in terms of diverse, well-managed ecosystems
3. Is cost effective relative to other solutions
4. Is easily and compellingly communicated
5. Can be measured, verified and replicated
6. Respects and reinforces communities' rights over natural resources and
7. Harnesses both public and private sources of funding

Nature-based solutions complement but do not replace other interventions

Examples of nature-based solutions



- Climate adaptation
- Disaster Risk Reduction
- Drinking water supply
- Urban environment



Mangroves help mitigate global climate change and communities from coastal storms

A background image showing a red tractor with large black tires operating in a peatland. The tractor is pulling a large, dark, cylindrical object, likely a peat core or a piece of machinery. The ground is brown and textured, typical of peatland. The sky is overcast.

Peatland restoration helps to: reduce emissions of carbon to the atmosphere, improve water quality and conserve biodiversity

Examples of nature-based solutions



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Forests help protect people and their assets from hazardous processes (i.e. rockfall, avalanches, erosion, landslides) reducing risks to acceptable levels at relatively low costs

An aerial photograph of a vast tidal marsh landscape. The foreground and middle ground are dominated by green, textured marshland with a complex network of winding, light-brown water channels and sandbars. In the background, a large body of water (likely a bay or estuary) is visible, with a city skyline and two prominent industrial cooling towers on the horizon under a clear sky.

**Tidal marshes offer protection from
flooding and reduce damages from storm
surges**

Examples of nature- based solutions



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1/3 of the world's largest cities obtain a significant proportion of their drinking water directly from forest protected areas

Examples of nature-based solutions



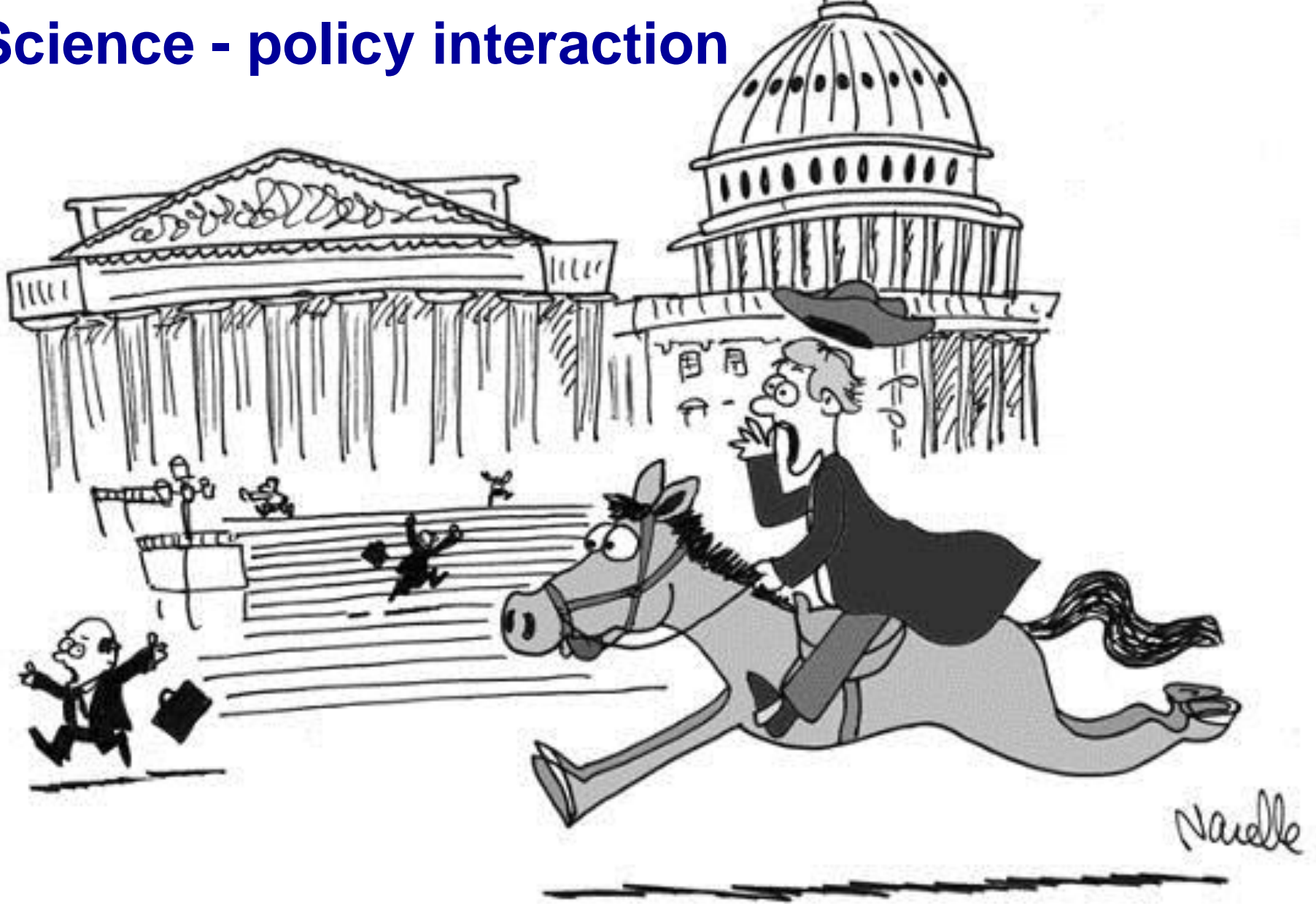
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Biodiversity-rich parks, green spaces and fresh air corridors mitigate the negative effects of summer heat waves and contribute to citizen well-being

1/4 of Basel's flat roof areas have been greened, saving 4 Gigawatt-hours per year

Science - policy interaction



The facts are coming! The facts are coming!

Bridging the gap between science and policy



Natura 2000 and Europe's forests: understanding and tackling implementation challenges



Forests are key ecosystems for conserving Europe's biodiversity and an important focus of the protected area network Natura 2000 – the EU's cornerstone nature policy. They are also essential for delivering multiple ecosystem goods and services to human societies. Yet, forest biodiversity conservation under Natura 2000 faces several challenges which may trigger conflicts during the implementation of the network.

The **biodiversa**-funded **Deforis** project has investigated both ecological challenges related to the management of protected forests and governance challenges related to the implementation of Natura 2000. This Policy Brief describes these inter-ecological challenges, presents key research results, and outlines policy solution pathways towards improving the effectiveness of Natura 2000 with regards to the conservation and sustainable management of Europe's forests.

Main findings

- Forests are essential for conserving Europe's biodiversity. No 50% of Natura 2000 habitats are forests; around 22% of all forests are located within Natura 2000 sites.
- Implementation of Natura 2000 in forests has led to conflict related to different interests and land use paradigms (e.g. balancing nature conservation and sustainable timber production and implementation procedures (e.g. science-based versus participatory inclusion). Resolving and managing these conflicts remains an important challenge for EU biodiversity.
- Key policy recommendations:**
 - Challenges can be addressed with appropriate policies and management strategies, in particular:
 - ▶ Making the 'favourable conservation status' concept more and quantifiable, based on the best available ecological data across EU Member States' jurisdictions.
 - ▶ Facilitating continuous learning processes across EU Member States, e.g. through guidance documents on management.
 - ▶ Better integration of Natura 2000 objectives into public and forest management planning and practices.
 - ▶ Reforming the funding schemes for Natura 2000 by creating incentives for delivering conservation and societal benefits.
 - ▶ Involving local stakeholders and making Natura 2000 a site project.



Conservation of Threatened Insects in Europe: Managing habitats for land use and climate change adaptation

Insects react rapidly to changes in land use and climate because of their generally short life cycles and, in many cases, their dependency on other species. For species which directly depend on one another, a change in one species can have a severe impact on the other. A recent report by the European Environment Agency has revealed dramatic declines in some grassland butterfly populations in Europe since 1990.

Based on research results of the **biodiversa**-funded **CLIMIT** project, conservation schemes could be improved to help halt the extinction of the threatened insects studied in the project. Specific conservation measures could help improve the status of these species by allowing them time to adapt to environmental changes, and to maintain or progress towards favourable conservation status. Such adaptive management measures can contribute significantly to reaching the targets of the **EU Biodiversity Strategy to 2030** and to fulfil the obligations in the **EU Habitats Directive**.

- Some highly-specialized insects, such as the Large Blue butterfly (*Macdonia*), are highly vulnerable to environmental changes.
- The use of appropriate adaptive management measures, in particular integrating ecological knowledge and promoting habitat patches and heterogeneity have been demonstrated to be beneficial to insect conservation.
- A spectacular increase in the Large Blue population in the United Kingdom was possible through specific conservation measures.
- Adequate monitoring and management of Natura 2000 sites and integration of ecological knowledge into management practices are essential for species adaptation.
- Creating and restoring grassland patches enhances insect conservation, as supported by the EU Biodiversity Strategy and recent policy on Green Infrastructure.
- National Rural Development Programmes under the Common Agricultural Policy could better contribute to enhancing grassland conservation.
- EU Member States should build on the advice given in the new European Commission Guidelines on Climate Change and Natura 2000 in their site management planning.

Biodiversity and ecosystem services: the foundation for human health and well-being

Human beings are an integral and inseparable part of the natural world. Our existence and health ultimately depends on the integrity and functioning of ecosystems. This URBES factbook presents research findings and policy recommendations which underline the value of biodiversity and ecosystem services in building and protecting physical and mental health. Within and around cities, green infrastructure is the network of green spaces and other environmental features, which sustains biodiversity and brings benefits to human health and well-being.



Valuing ecosystem services in urban areas

Technological progress has fostered the conception of an urban society that is increasingly decoupled from nature. Cities however depend on nature and the ecosystem services it provides to sustain life, health, security, social relations and to address some of the most pressing challenges, such as climate change, water and food security. While there is increased recognition that biodiversity and ecosystem services can contribute greatly to improve quality of life in cities, their multiple values are usually not fully taken into account in urban policy making. The value of biodiversity and ecosystem services need to be integrated into urban decision making in order to enhance urban resilience, health and quality of life while reducing the ecological footprint of cities and saving costs. This URBES factbook explains what the values of ecosystem services are and provides examples of their benefits for cities.

Factbook 3

Urban Biodiversity and Ecosystem Services

www.urbesproject.org

International Union for Conservation of Nature

Linkages with EU policy developments



Integrating nature's values in policy

- *EU Biodiversity Strategy*
- *EU Forestry Strategy*
- *EU Green Infrastructure Strategy*
- *Mapping and Assessment of Ecosystems and their Services (MAES)*
- And beyond.....*



Science – policy - action



- Cooperation between all key actors
- Integrated planning and development of projects
- Dissemination of research findings
- Knowledge to demonstrate the potential of NBS
- Awareness for value of NBS for society & economy



Thank you !



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