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# Assessment of the potential of ecosystem-based approaches to climate change adaptation and mitigation in Europe



## Project overview and case study – Rewetting peatlands in Belarus

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## Assessment of ecosystem-based approaches in Europe – Project overview

- **EU Project** - “Assessment of the potential of ecosystem-based approaches for climate change adaptation and mitigation in Europe”
- **Coordinator:** Sandra Naumann (Ecologic Institute, Germany)
- **Duration:** 9 months (start: Jan. 2011)
- **Partners:** Environmental Change Institute, University of Oxford





## **Assessment of ecosystem-based approaches in Europe – Main project objectives**

- ▶ Collecting evidence of practical applications of the ecosystem-based approach throughout the EU and neighbouring countries
- ▶ Identifying the main barriers and opportunities for implementing ecosystem-based approaches to adapt to and mitigate climate change



## Cost typology used for the analysis of ecosystem-based approaches

- ▶ Financial costs
  - ▶ One-off costs  
*e.g. surveys, research, land purchase, compensation, restoration*
  - ▶ Recurrent costs  
*e.g. monitoring, communications, ongoing management planning, maintenance*
  
- ▶ Opportunity costs  
*e.g. foregone socio-economic opportunities, foregone output from land / resource use*



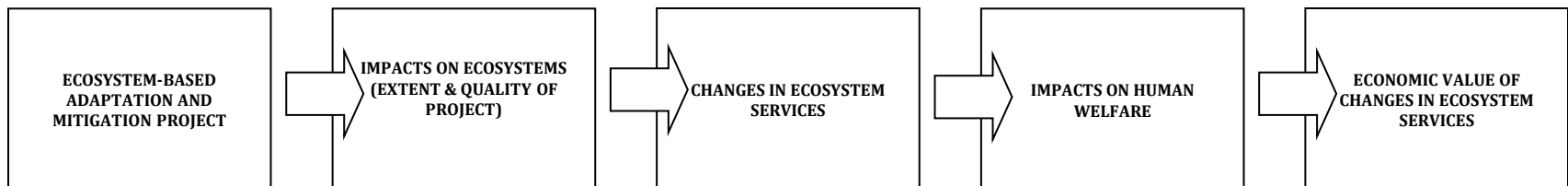
## Benefit assessment of ecosystem-based approaches

Two classifications:

- ▶ Environmental benefits
- ▶ Socio-economic benefits

Can be assessed by studying:

- ▶ Changes in the ecosystem
- ▶ Changes in ecosystem services
- ▶ Changes in the value of ecosystem services





## Rewetting peatlands in Belarus – Case study overview

- **International Project** – Rewetting peatlands in Belarus
- **Duration:** 39 months (start: Sept. 2008)
- **Partners:** The Royal Society for the Protection of Birds (RSPB)  
Akhova Ptushak Batskaushchyny (APB) - BirdLife Belarus  
The Michael Succow Foundation (MSF)
- **Total budget:** € 2.5 million



## Rewetting peatlands in Belarus – Justification

A project developed as a response to a clearly defined need for an integrated and self-sustainable framework that tackles:

- ▶ The extensive CO<sup>2</sup> emissions from degraded peatland
- ▶ The loss of biodiversity and ecological balance in such degraded sites; and
- ▶ The costs and suffering resulting from recurring peatland fires





## Rewetting peatlands in Belarus – Objectives

- ▶ Rewetting 14,000 ha of degraded peatland (adaptation, mitigation, biodiversity)
- ▶ Quantifying greenhouse gas emissions from degraded and re-wetted sites (mitigation)
- ▶ Increasing carbon storage in re-wetted sites (mitigation)
- ▶ Reducing the incidence of peat fires (adaptation)
- ▶ Increasing the number and abundance of wetland species (biodiversity)



## Rewetting peatlands in Belarus – Some measures implemented

Adaptation measures	Mitigation measures
Conservation and restoration of peatland ecosystems	Carbon sequestration
Maintenance and enhancement of ecosystem services (e.g. monitoring of hydrological regimes to restore the target vegetation)	Conservation of terrestrial carbon stores
Conservation of natural infrastructure and reservoir endowment	Bioenergy (e.g. development of paludiculture)
Reduction of threats to biodiversity (e.g. reducing habitat fragmentation, degradation, and loss)	
Management of key habitats (e.g. for bird species like the aquatic warbler, great spotted eagle, white igrig and black grouse)	



## Insights from the review of costs and benefits

- ▶ Main benefits of the project:
  - ▶ Reduction of carbon emissions via sequestration and storage (estimated at 2.9 t CO<sup>2</sup>/ha/year)
  - ▶ Avoided expenditure from peat fire prevention and from the reduced frequency of peat fires (estimated to be €11,000)
  - ▶ Provisioning ecosystem services such as food production (estimated at 2,300 €/yr)
- ▶ Related costs
  - ▶ Estimated cost of avoiding one tonne of CO<sup>2</sup> was estimated at €7.11
  - ▶ Opportunity costs bore by the peat industry



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**Thank you.**

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