

# Ecosystems in a changing context

## What was expected from the ETC/BD?

The need to take into account the ecosystem dimension of biodiversity was strongly expressed in the initial ETC/BD terms of reference:

- To maintain the overview of monitoring activities in Europe relevant to populations of species, extent and quality of habitats and functioning of ecosystems
- To analyse the state of knowledge and existing capacities as a basis for developing indicators and information on key ecosystem functions
- To provide the knowledge base on the role of species and habitats in ecosystem functioning
- To translate knowledge on ecosystem functioning into policy relevant information
- To provide expertise on all European terrestrial, limnic and marine ecosystems
- To provide relevant biodiversity information to specific EEA projects. These may be sectoral studies (agriculture, forestry, transport) as well as integrated spatial assessments (e.g. on land use, biodiversity and water interactions in cooperation with ETCs on Water and Terrestrial Environment, or on climate change impacts with the ETC on Air and Climate Change).

## What is the wider context of the work?

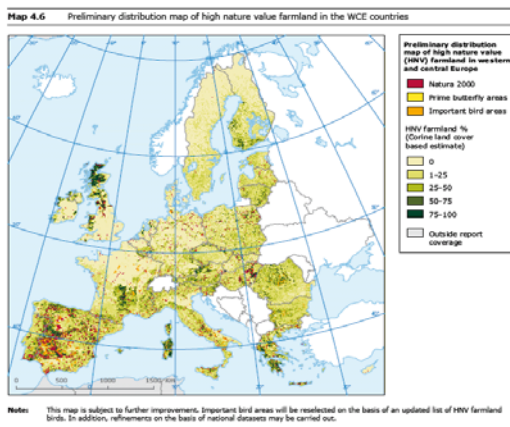
- The publication in 2005 of the Millennium Ecosystem Assessment highlight and considerably enhanced the ecosystem dimension of biodiversity, providing a framework for reporting on ecosystem health, ecosystem goods and services as well as a basis for ecosystem valuation
- The EC Communication on ["Halting the loss of Biodiversity by 2010 and Beyond, Sustaining Ecosystem Services for Human Well-being"](#) provides such a framework for reporting on ecosystems at the EU level
- As a consequence the EEA has decided to prepare a European Ecosystem Assessment report for publication in 2012
- At the same time EEA's implication in UN work on environmental accounting has generated over the last three years a need to assess the feasibility of an ecosystem accounting.

## What has been achieved?

### Reporting on ecosystems in various [EEA reports](#)

- Major contribution to the report "Progress towards Halting Biodiversity loss by 2010" published in 2006. Chapters on agro-ecosystems, wetlands, forest and mountain ecosystems were prepared by the ETC/BD
- Contribution to the EEA report on "The changes faces of Europe's coastal areas", published in 2006
- Drafting of the report on "European forest assessment" (publication in 2008), which aims at contributing to the work programme on Forests and biodiversity under the Convention on Biological Diversity.

### Sectoral approach to ecosystems



Map of High Nature Value farming areas

- Contribution to the EEA-JRC project for mapping High Nature Value farming areas (HNV) identifying habitats and species of European concern linked to extensive types of farming
- Drafting of extensive sections of the report on "How much bioenergy can Europe produce without harming the environment" (2006). The report aims at assessing the 'environmentally compatible' potentials for the utilization of biomass energy from European forest resources

- Extensive contribution to the biodiversity chapter of the '4<sup>th</sup> pan-European environment assessment' (Belgrade report) mainly focused on EECCA countries. The chapter provides a sectoral perspective on biodiversity and ecosystems and addresses sustainability of agriculture and forestry as well as threats due to invasive species and climate change
- Preparation of a scoping paper on climate change and biodiversity and contribution to the climate change impacts report planned for 2008
- Contribution to framing the biodiversity component of forest monitoring, specifically integration with bird monitoring, under the LIFE + (formerly under the Forest Focus) regulation.

### ***Ecosystems goods and services and ecosystem valuation***

- Extensive review of recent literature on valuation of ecosystem goods and services by the ETC/BD as part of the EEA project on economic valuation of ecosystem and biodiversity
- The ETC/BD participates as stakeholder or observer in various initiatives of relevance for tackling ecosystem goods and services: RTD projects (RUBICODE, ALTERNET, MARBEF project), a French initiative for a national MEA, EPBRs electronic conferences, CBD SBSTTA<sup>6</sup> meetings on the "ecosystem approach".

### ***Ecosystem accounting***

As part of the EEA project on "Land and ecosystem accounting", the ETC/BD has provided input, in close collaboration with ETC Land Use and Spatial Information ([ETC/LUSI](#)), on:

- Criteria and datasets for refining the identification of broad types of ecosystems via CORINE land cover
- Contribution to framing a methodology on ecosystem accounting, including tests on wetlands accounting
- Contribution to a classification on main ecosystem goods and services.

## **What are the main challenges ahead?**

- Ecosystem valuation and ecosystem accounting call for an economic approach to biodiversity and thus for specific skills to be further enhanced/mobilised within the ETC/BD
- Many initiatives are being developed in parallel under various international and national frameworks, with different scales of applications. It is important to follow-up these various emerging initiatives and to identify the most relevant approaches to contribute to the European Ecosystem Assessment, planned in 2012
- The CBD work on the "Ecosystem approach" needs to be applied in regional and national contexts
- A main characteristic in Europe as compared with other regions of the world is that ecosystems are embedded in a matrix/mosaic of landscapes which result from a very long human influence on nature. This specificity has to be tackled in any European approach to an ecosystem-based analysis of a sustainable use of goods and services
- The very challenging project on ecosystem accounting needs more testing and validation by the ecology community as well as discussion with economists before it is adopted for integration in the UN system of environmental accounting.

## **What have we learned from our experience?**

- The ETC/BD has a broad overview on the availability but also lack of data at European level to characterise and map European ecosystems as well as quantify goods and services they provide
- The Millennium Ecosystem Assessment has provided a useful conceptual framework to characterise ecosystem services, but there is still scientific debate on the notion of services (benefits to human beings) against ecosystem functions (inherent to ecosystems). This has important consequences in the economic valuation of ecosystems and therefore in ecosystem accounting. A clear position should be agreed upon at the EEA level, in consultation with countries, before any attempt at writing a European ecosystem assessment.

---

<sup>6</sup> [CBD SBSTTA](#): Subsidiary Body for Scientific, Technical and Technological Advice of the Convention on Biological Diversity