Progress towards the 2010 target in Europe and the development of SEBI2010

Halting the loss of Biodiversity within and outside the EU
Trondheim, Norway
31 October 2006



Euopean Biodiversity Policy

- EU Birds and Habitats Directives
  - Species/site/habitat protection
- EU Biodiversity Strategy
  - Action Plans
  - Message from Malahide
  - Sector integration
- Commission Communication on Biodiversity
  - Biodiversity in the European Union
  - The EU and global biodiversity
  - Biodiversity and climate change
  - The knowledge base
- Pan-European Biological and Landscape Diversity Strategy
  - Kiev Resolution and Action Plans
  - Pan-European Ecological Networks

Commission Communication on Biodiversity (1)

1. Biodiversity in the European Union
   - I. Safeguard EU's most important habitats and species
   - II. Conserve and restore biodiversity and ecosystem services in wider EU countryside
   - III. Conserve and restore biodiversity and ecosystem services in wider EU marine environment
   - IV. Reinforce compatibility of regional and territorial development with biodiversity in EU
   - V. Substantially reduce impact on EU biodiversity of invasive alien species and alien genotypes

Commission Communication on Biodiversity (2)

2. EU and global biodiversity
   - VI. Substantially strengthen effectiveness of international governance for biodiversity and ecosystem services
   - VII. Substantially strengthen support for biodiversity and ecosystem services in EU external assistance
   - VIII. Substantially reduce impact of international trade on global biodiversity and ecosystem services
3. Biodiversity and climate change
   - IX. Support biodiversity adaptation to climate change
4. The knowledge base
   - X. Substantially strengthen the knowledge base for conservation and sustainable use of biodiversity, in EU and globally

Is there progress towards the 2010 target of halting biodiversity loss?

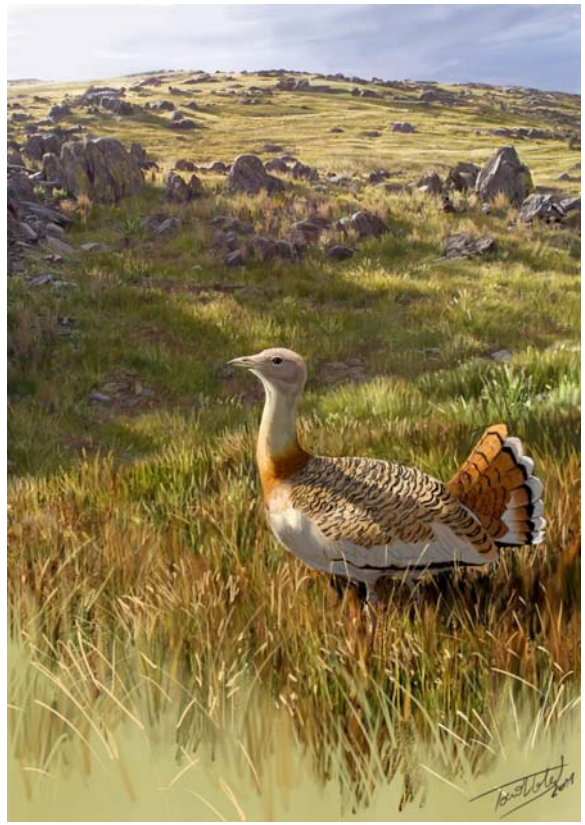
The EEA assessment focuses on :



- The present biodiversity crisis
- State of major ecosystems in Europe
- Key management issues
- Policy responses :Are they fast enough?
- Europe´s impact on the wider world
- What is shaping Europe´s future biodiversity

The widespread collapse of traditional agro-ecosystems in Europe

- Landscapes in Europe were relatively stable until the agricultural and industrial revolutions of the past two centuries.
- The collapse of the formerly diverse systems of land use, has shaped our reality on land and on the coastal and marine environment.



Entry point: Biodiversity in Ecosystems

The EEA assessment focuses on six major ecosystems and the policies affecting them:

- Farmlands
- Forests
- Fresh water
- Marine and coastal ecosystems
- Wetlands
- Mountains

Progress: European nature conservation

Responses in European nature conservation are positive:

- Nationally-designated area has increased during recent years.
- The increase in sites within the EU Natura 2000 network is a good sign.

Progress in halting biodiversity loss in major ecosystems

Farmland / Agricultural ecosystems:

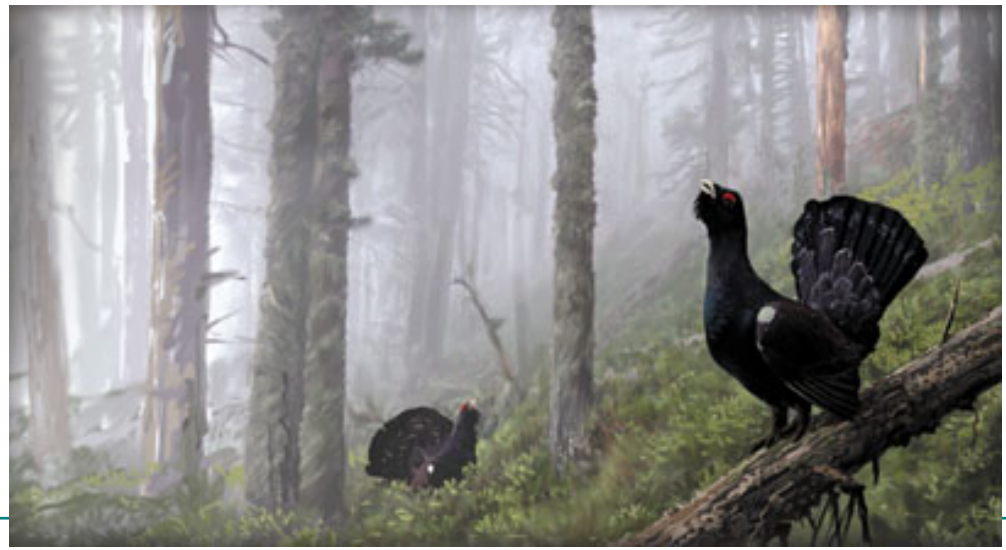
- The sharp decline in farmland species of animals and plants in the past decades has not fully recovered.
- We will not reach targets towards biodiversity loss by 2010.



Progress in halting biodiversity loss in major ecosystems

Forests:

- There are clear signs of progress in reducing threats to and enhancing biological diversity in forests.



Progress in halting biodiversity loss in major ecosystems : Forests

On the side of progress :

- Forest area in Europe is not decreasing.
- Forests are growing older and thus more valuable for biodiversity conservation.
- Decreased effects of air pollution are observed.

Issues where urgent action is needed :

- Still many forest species are threatened.
- More efficient control of forest fires.

Progress in halting biodiversity loss in major ecosystems

Freshwater:

- There is progress with regard to water quality, but reaching the 2010 target will not be possible.

Progress in halting biodiversity loss in major ecosystems : Fresh water

- Water quality in big freshwater bodies has improved.
- Some species that were lost, such as the fresh-water salmon in England, are returning.
- However, the target will not be met unless riverine habitats and biological communities are restored.
- The serious effects of river fragmentation from dams must be counteracted.

Progress in halting biodiversity loss in major ecosystems

Marine and coastal ecosystems:

- Biodiversity loss in all European seas and coasts is considerable and shows few signs of being reduced.

Progress in halting biodiversity loss in major ecosystems

Marine and coastal ecosystems:

- Biodiversity loss in all European seas and coasts is considerable and shows few signs of being reduced.
- Action is urgently needed to restore fish stocks; reduce pollution from land-based sources and oil spills; and counteract fragmentation of natural habitat on coasts.

Progress in halting biodiversity loss in major ecosystems

Wetlands:

- Still shrinking with 3,4% loss across 23 European countries 1900-2000.

Progress in halting biodiversity loss in major ecosystems

Wetlands of international importance:

- Marginally positive outloook, with stable water bird populations and increase of the area designated as Ramsar sites.
- Negative changes in the ecological state of some Ramsar sites.
- Urbanisation and transport have contributed to significant habitat fragmentation.

Progress in halting biodiversity loss in major ecosystems

Mountains:

- Mountain regions are under pressure and there are not many signs of progress.
- However, local conservation measures for endangered species are successful.

Progress in halting biodiversity loss in major ecosystems : Mountains

- Tourism and transport infrastructure are increasing pressures, combined with abandonment of traditional land use.
- Climate change effects are already visible and there is high risk of local loss of species.
- European mountain areas are not sufficiently considered in EU policies

Climate change is already a major factor on top of ongoing:

- Fragmentation and destruction of habitats.
- Overexploitation of resources.

Focal areas for indicators

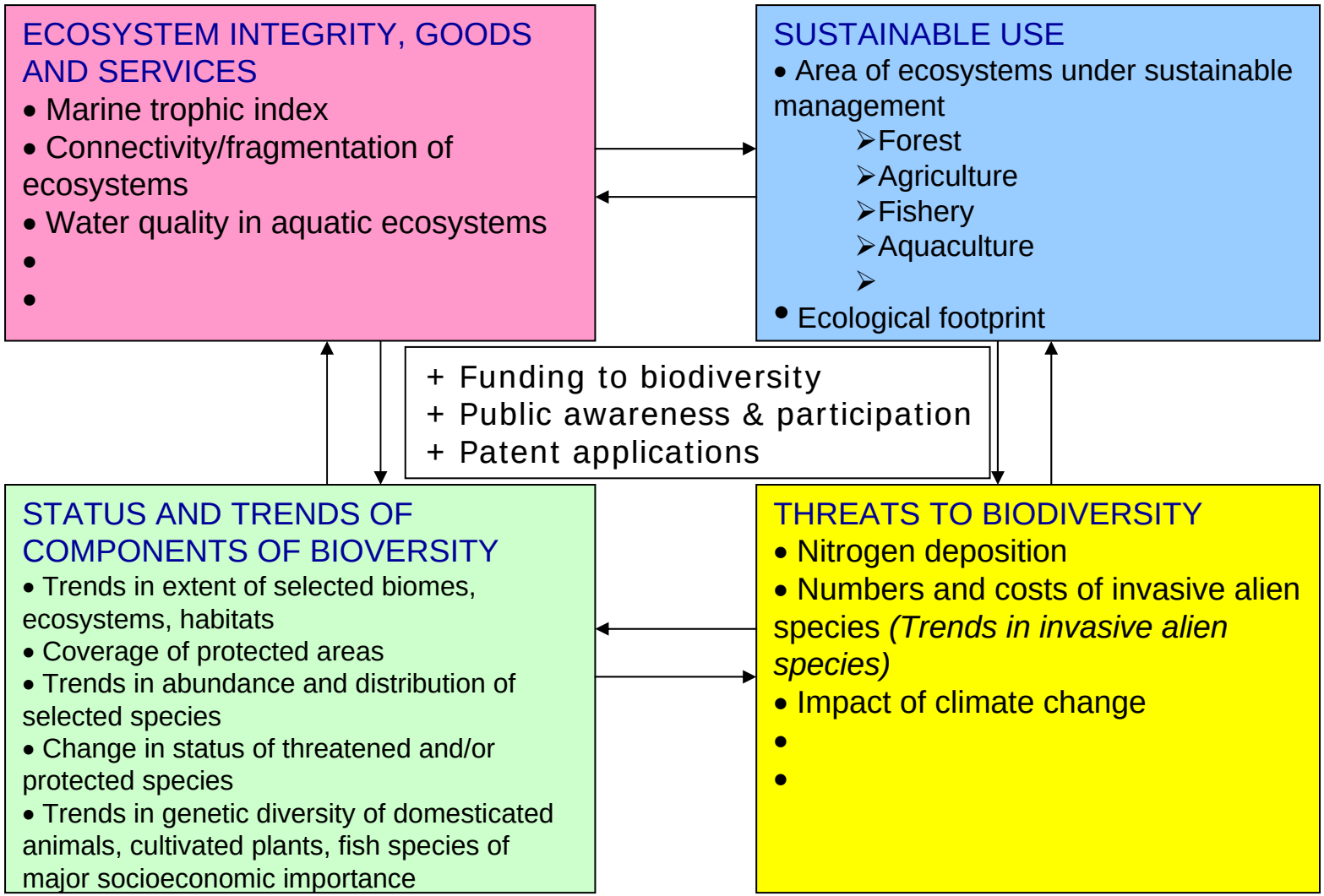
CBD:

- Status and trends of the components of biological diversity
- Sustainable use
- Threats to biodiversity
- Ecosystem integrity and ecosystem goods and services
- Status of traditional knowledge, innovations and practices
- Status of access and benefits sharing
- Status of resource transfers

EU:

- Public opinion

EU Headline Biodiversity Indicators by CBD Focal Area



European Headline Indicators (1)

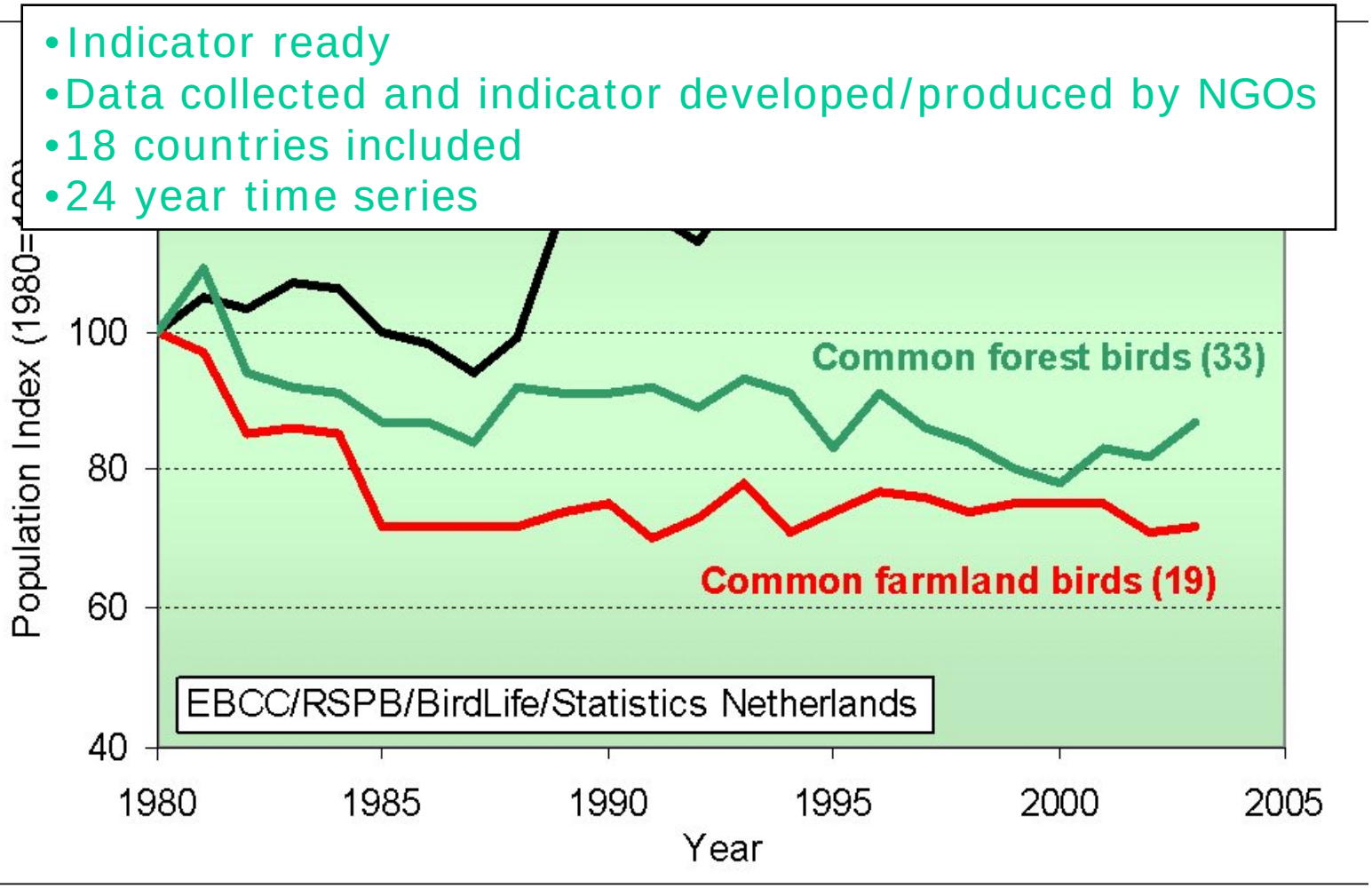
EU Headline Indicators	Specific indicator proposed
Trends in the abundance and distribution of selected species	Pan-European Common Bird Index
	European Butterflies
Change in status of threatened and/or protected species	IUCN Red List Index for European species
	Change in status of species of European interest
Trends in extent of selected biomes, ecosystems and habitats	Trends in extent and composition of selected ecosystems in Europe
	Dynamic of glaciers
	Sea-Ice extent in Arctic
Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance	Trends in genetic diversity of domesticated animals: Number of breeds per country
Coverage of protected areas	Trends in national establishment of protected areas
	Trends in proposals for protected sites under the EU Habitats and Birds Directives
	EU Habitats and Birds Directives: sufficiency of Member State proposals for protected sites.
Nitrogen deposition	Critical load exceedance for nitrogen
Number and costs of invasive alien species	Cumulative numbers of alien species in Europe since 1900 - data for five Nordic countries
	Worst invasive alien species threatening biodiversity in Europe
Impact of climate change on biodiversity	Change in plant species composition
	Plant phenology and growing season
Marine trophic index	Marine trophic index in selected seas
Connectivity/ fragmentation of ecosystems	Status and trends of forest spatial patterns per biogeographical region and country
	Changes in patch size distribution of non-fragmented natural areas

European Headline Indicators (2)

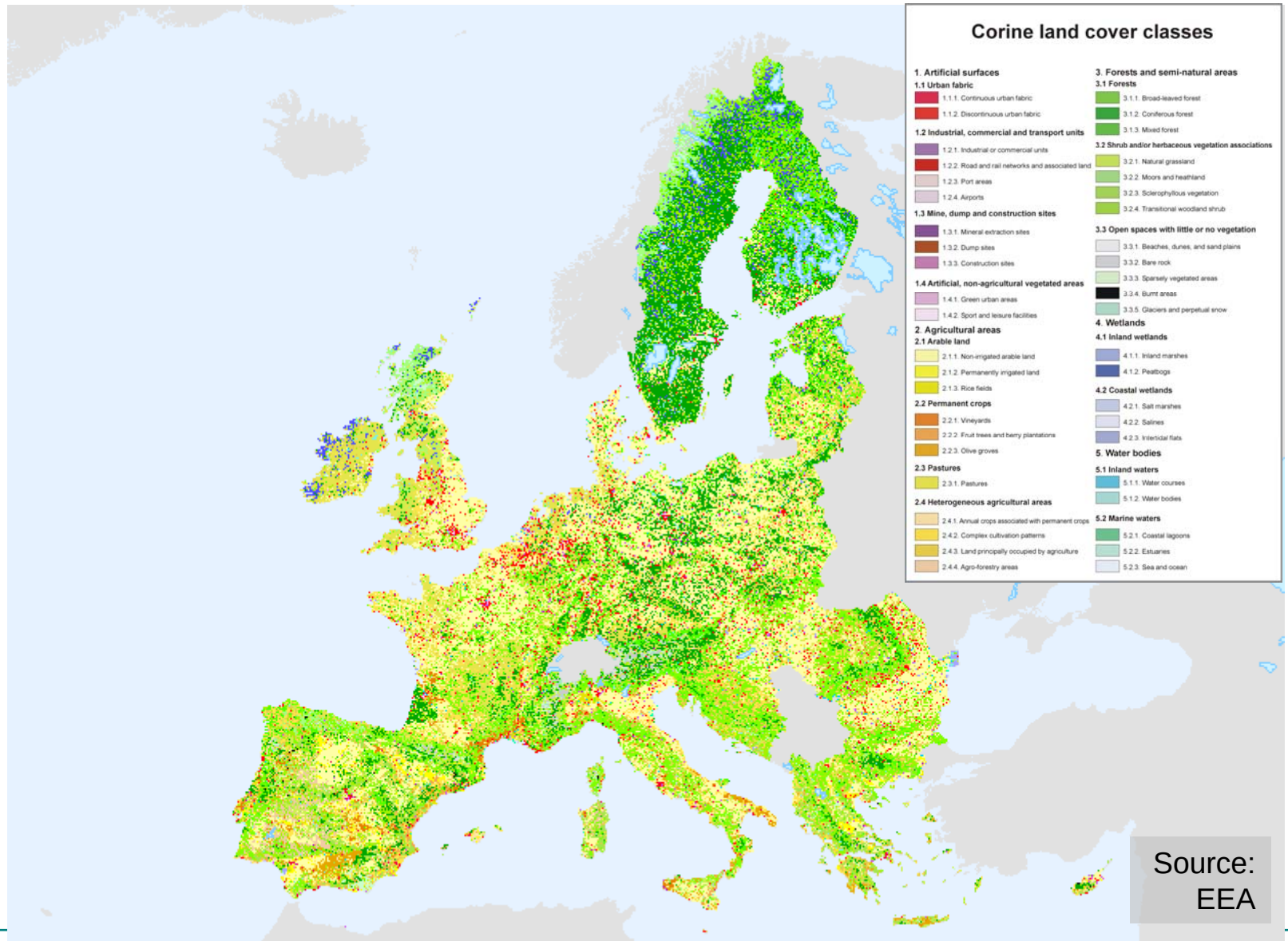
EU Headline Indicators	Specific indicator proposed
Water quality in aquatic ecosystems	Nutrients in transitional, coastal and marine waters (CSI 21)
	Oxygen consuing substances in rivers (CSI 19)
	Nutrients in freshwater (CSI 18)
Area of forest, agricultural, fishery and aquaculture ecosystems under sustainable management	Protected forests (MCPFE Assessment guidelines)
	Naturalness
	Growing stock, increment and fellings
	Deadwood
	Defoliation
	Forest damage
	N-balance (pressure from agri on biodiversity)
	HNV area (area under sust mgmt)
	Area of organic farming (area under sust mgmt)
	Agricultural area with biodiversity oriented support
	Fish stocks outside Safe Biological Limits in 2002 (EEA Fish1a)
	Aquaculture: Effluent water quality
	Ecological Footprint of European countries
Status of access and benefit sharing	Percentage of European patent applications for inventions based on genetic resources
Status of resource transfers and use	Funding to biodiversity
Public opinion	Public awareness and participation

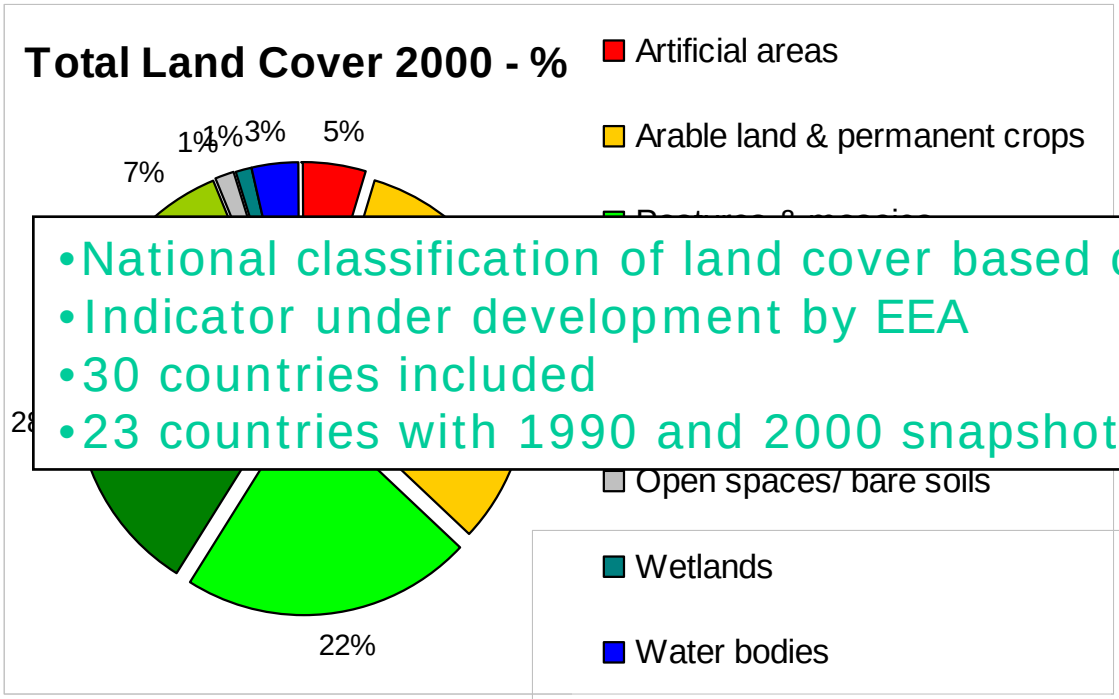
Trends in abundance of selected species: Pan-European Common Bird Index

- Indicator ready
- Data collected and indicator developed/produced by NGOs
- 18 countries included
- 24 year time series



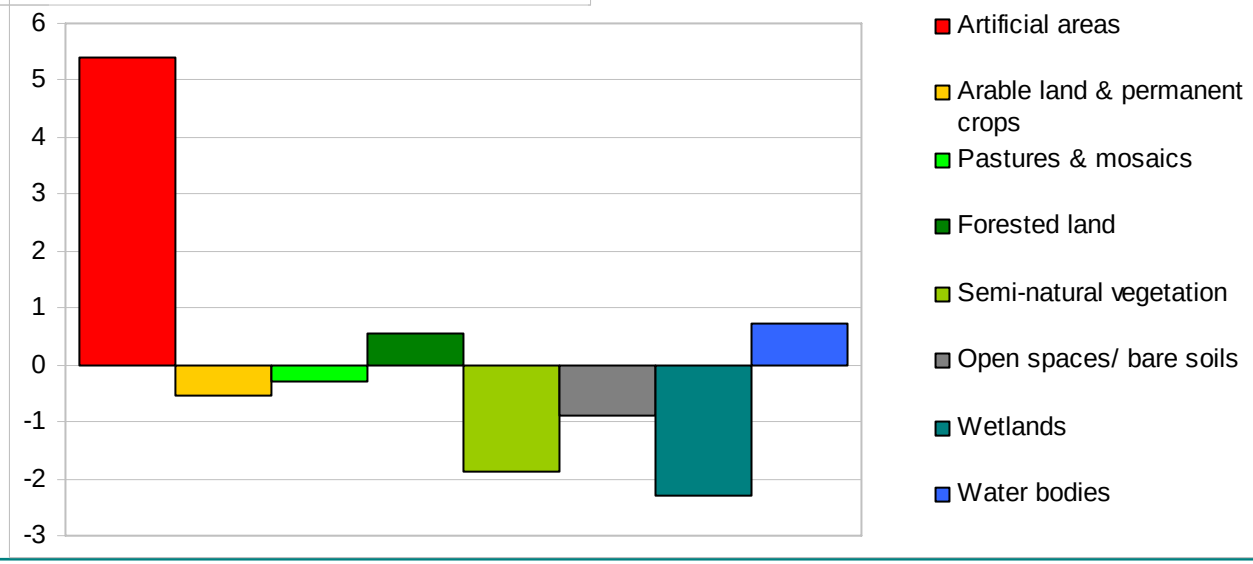
Main habitats: Corine Land Cover 2000





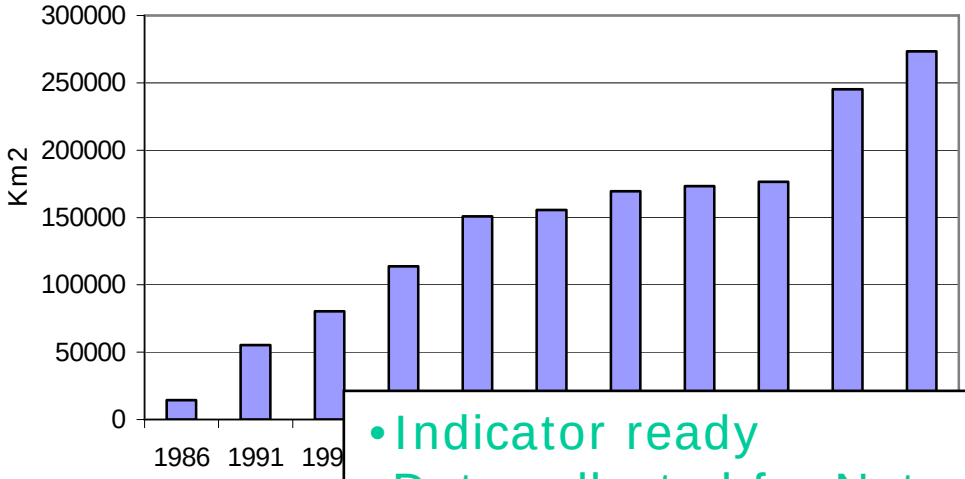
Summary statistics

- National classification of land cover based on remote sensing images
- Indicator under development by EEA
- 30 countries included
- 23 countries with 1990 and 2000 snapshots



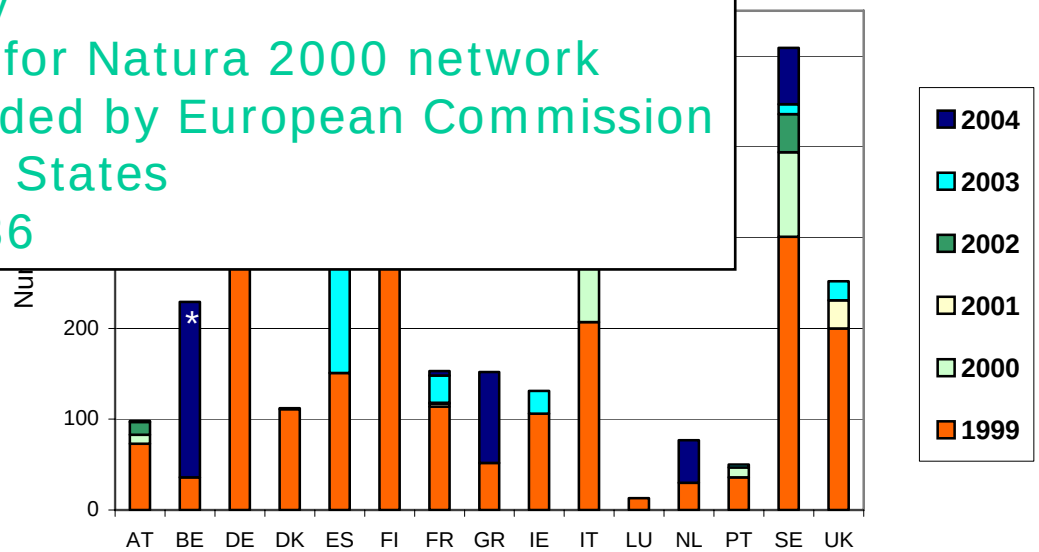
Source: European Environment Agency

Progress in SPA classification



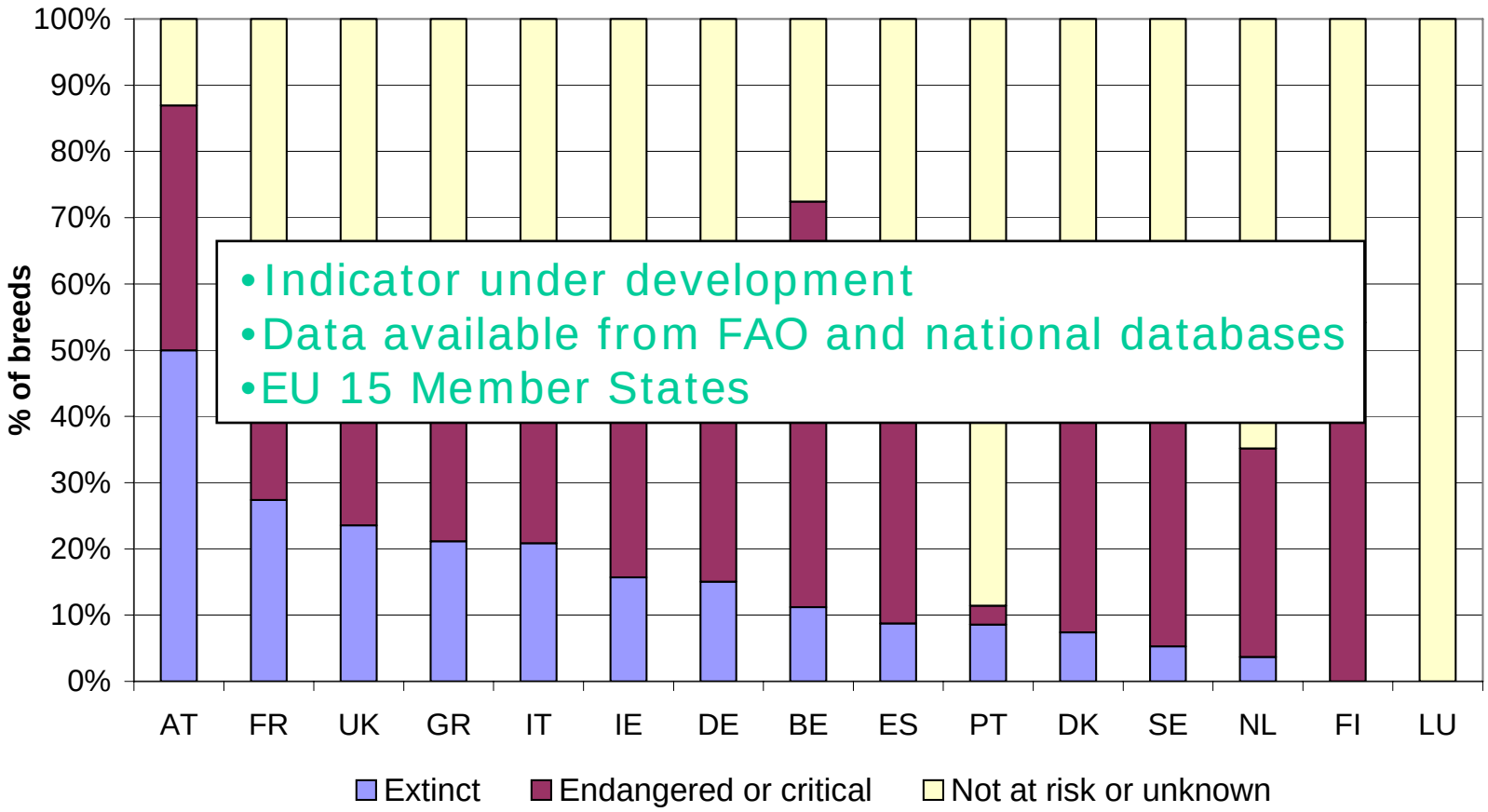
Source: Natura 2000 SPA da
2004 and CEC-DG Environr

- Indicator ready
- Data collected for Natura 2000 network
- Indicator provided by European Commission
- EU 15 Member States
- Data since 1986

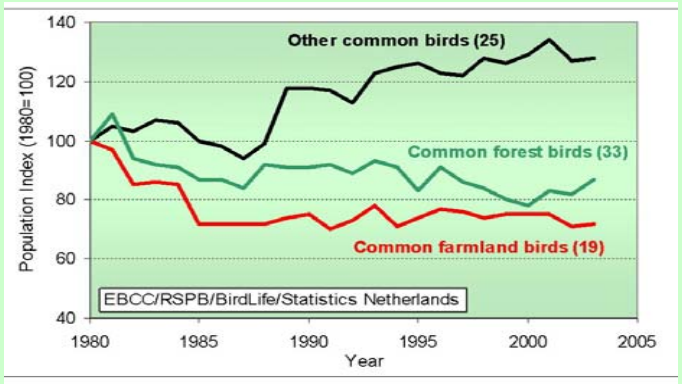


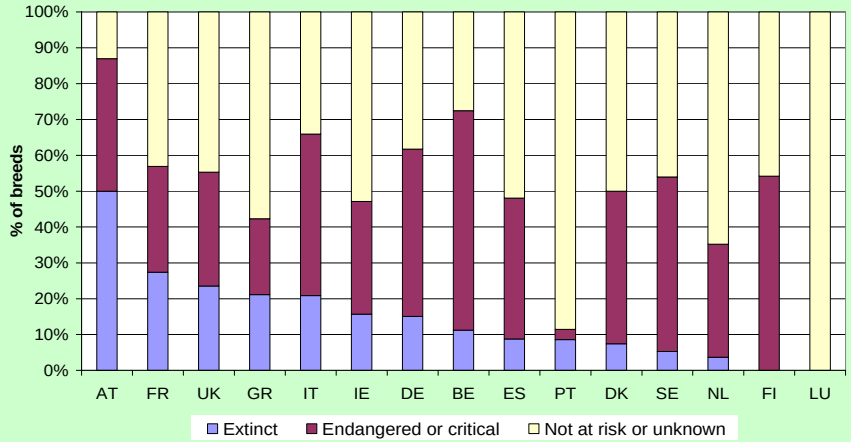
Source: Natura 2000 SPA database, June 2004

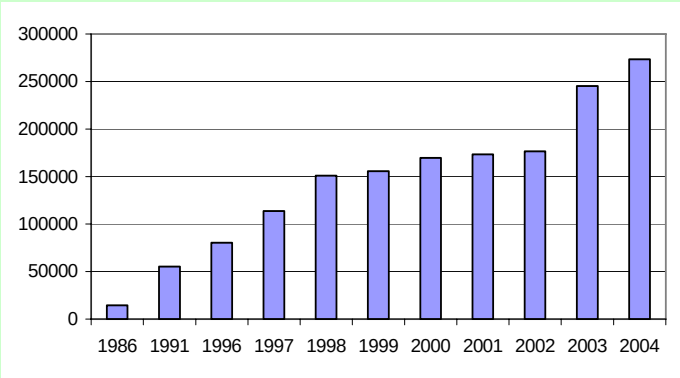
Distribution of risk status in national livestock breeds in EU15

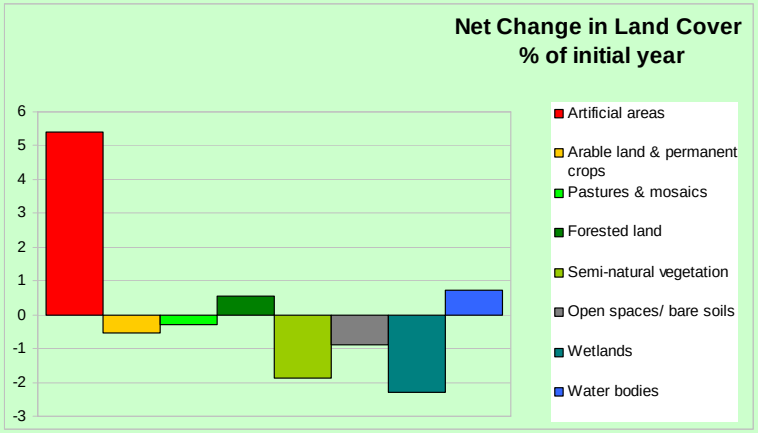


STATUS AND TRENDS OF COMPONENTS OF BIOVERSITY







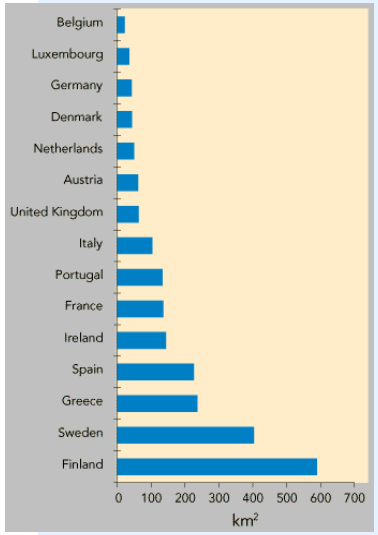


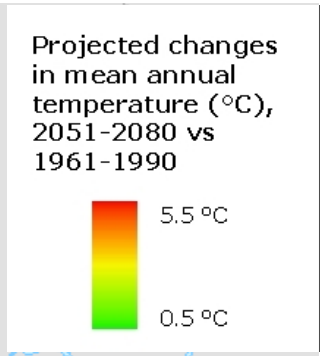
Source: Natura 2000 SPA database, June 2004 and CEC-DG Environment

Have we halted biodiversity loss by 2010? Illustrative Example

CBD focal area	Headline Indicators	Trend to 2010
Status and trends of the components of biological diversity	Trends in abundance and distribution of selected species	
	Change in status of threatened and/or protected species	
	Trends in extent of selected biomes, ecosystems and habitats	
	Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance	
	Coverage of protected areas	
Threats to biodiversity	Nitrogen deposition	
	Number and costs of invasive alien species	
	Impact of climate change on biodiversity	
Ecosystem integrity and ecosystem goods and services	Marine trophic index	
	Connectivity/fragmentation of ecosystems	
	Water quality in aquatic ecosystems	
Sustainable use	Area of forest, agricultural, fishery and aquaculture ecosystems under sustainable management	
	Ecological footprint	
Status of access and benefits sharing	Percentage of European patent applications for inventions based on genetic resources and/or traditional knowledge that disclose the source of these resources and knowledge	
Status of resource transfers and use	Funding to biodiversity: • in economic and development cooperation (response) • in EU research, monitoring and management	
Public opinion (additional EU focal area)	Public awareness and participation	

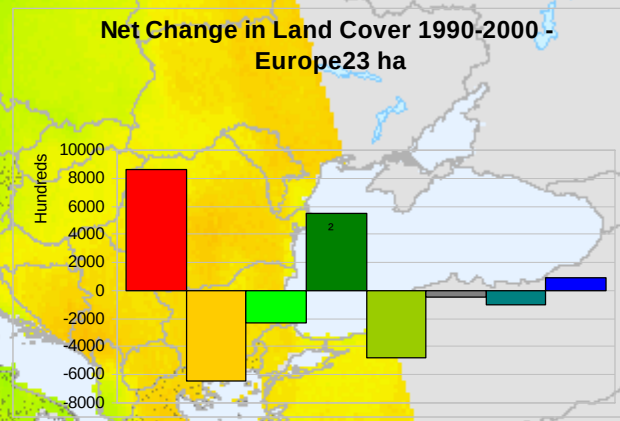
Or do we consider each of the indicators...



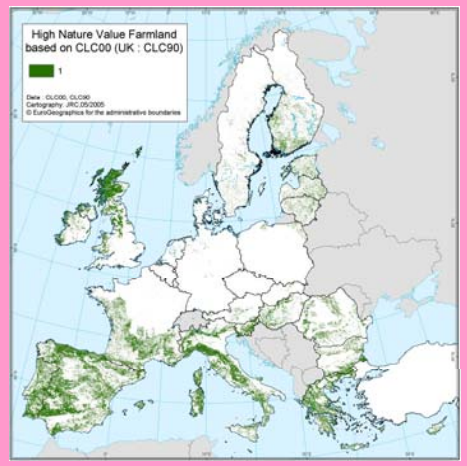


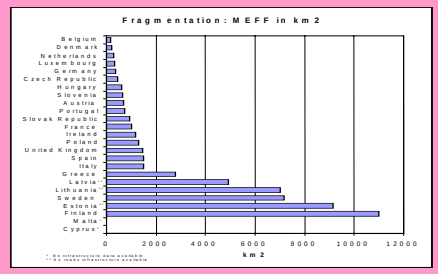


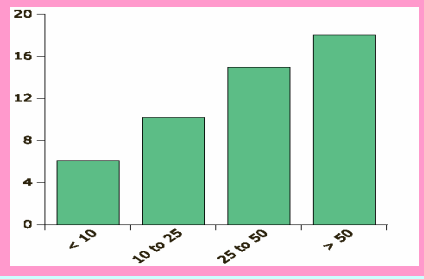


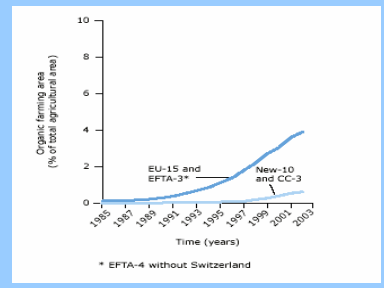


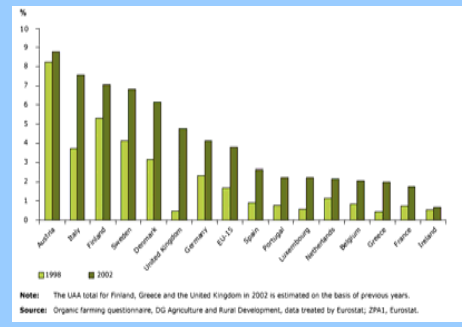
.....within the bigger picture?

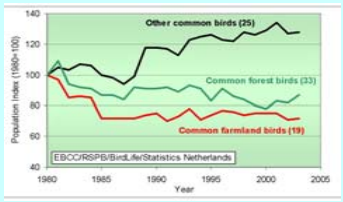


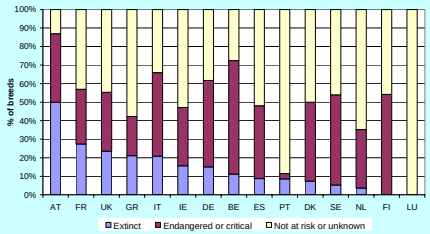


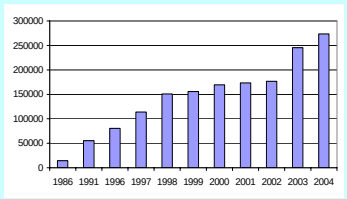




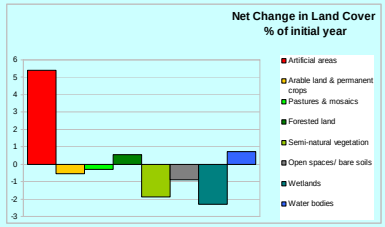


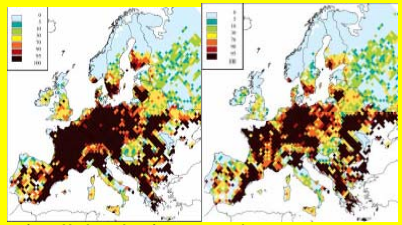




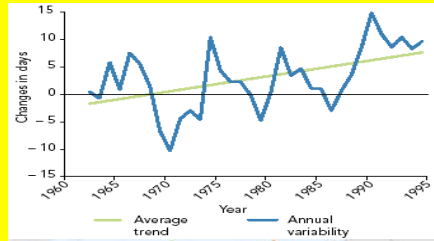


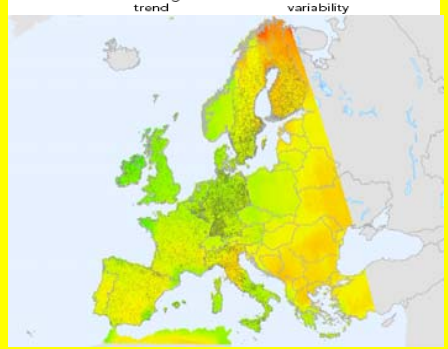
Source: Natura 2000 SPA database, June 2004 and CEC-DG Environment





Map of critical load exceedance for nitrogen eutrophication across Europe. a. 2000, b. 2020 (Source: EMEP)



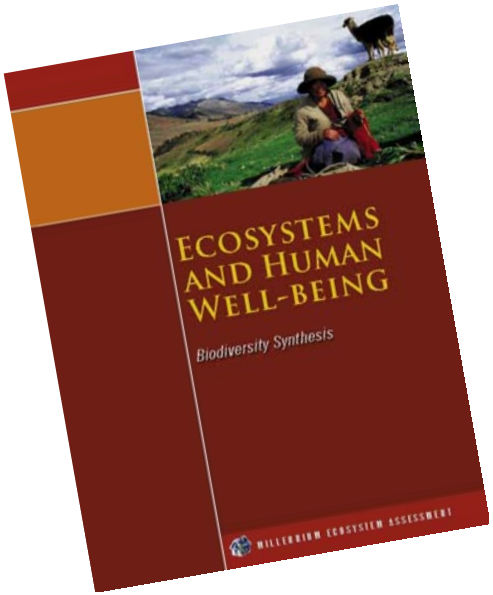


European Environment Agency

Biodiversity reporting 2007-2013

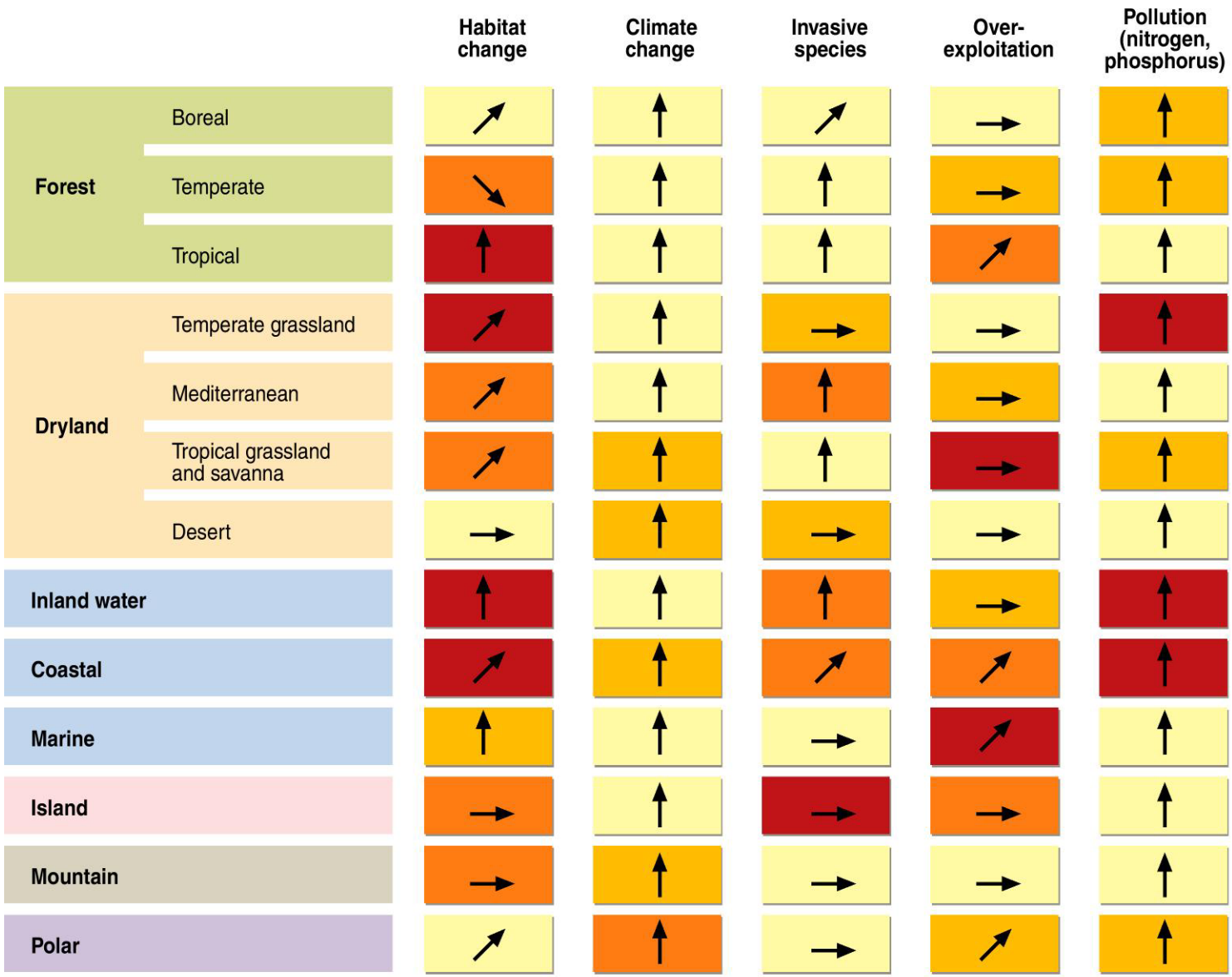
Year	EU	EEA / Pan-Europe	CBD
2006	SEBI Progress report 2006		
2007	- Development of EU biodiversity index - 1st Biodiversity Action Plan Progress Report	Pan-European assessment report, Belgrade, September	SBSTTA meeting, July, Paris
2008	2nd Biodiversity Action Plan Progress Report, including mid-term evaluation of 2010 target (end of year)	Indicator-based biodiversity assessment report	COP 9, Bonn
2009	3rd Biodiversity Action Plan Progress Report (end of year)		Preparation of GBO3
2010	4th Report on EU achievements of 2010 commitments, including indicators (end of year)	State and Outlook 2010 report (biodiversity sub-report to be decided)	COP 10
2011	5th Biodiversity Action Plan Progress Report (end of year)		
2012	6th Biodiversity Action Plan Progress Report (end of year)	European ecosystem assessment	
2013	7th Report on EU achievements of commitments & post-2010 targets, including indicators (end of year)		

The Millennium Ecosystem Assessment



"The most important drivers of biodiversity loss and ecosystem service changes are habitat change (such as land use changes, physical modification of rivers or water withdrawal from rivers, loss of coral reefs, and damage to sea floors due to trawling), climate change, invasive alien species, overexploitation, and pollution"

Millennium Ecosystem Assessment 2005: Ecosystems and Human Well-being: Biodiversity Synthesis.


Habitat change
Climate change
Invasive species
Over-exploitation
Pollution (nitrogen, phosphorus)
Forest
Boreal
Temperate
Tropical
Dryland
Temperate grassland
Mediterranean
Tropical grassland and savanna
Desert
Inland water
Coastal
Marine
Island
Mountain
Polar
Driver's impact on biodiversity over the last century
Low
Moderate
High
Very high
Driver's current trends
Decreasing impact
Continuing impact
Increasing impact
Very rapid increase of the impact

t Agency

Core Questions for Ecosystem Assessments

1. **What is the rate and scale of ecosystem change?**
2. **What are the consequences of ecosystem change for the services provided by ecosystems and for human-well being?**
3. **How might ecosystems and their services change over the next 50 years?**
4. **What options exist to conserve ecosystems and enhance their contributions to human well-being?**

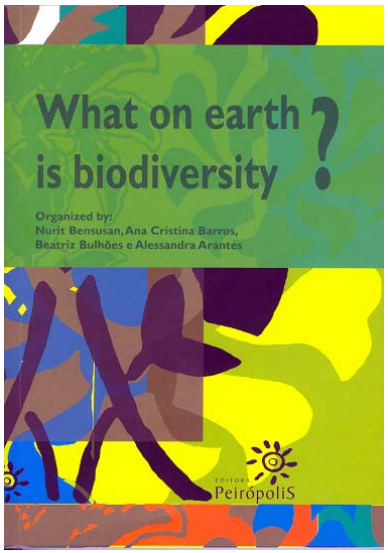
Biodiversity in EEA context

- All ecosystems and species (and genes) in Europe or affected by Europe's activities
- Focus on main drivers and their impacts
- Integrated ecosystem approach using best available information including indicators
- Involve Eionet partners in local, national and regional assessments
- Information to support European policy development, implementation and assessment

THANK YOU

FOR YOUR ATTENTION!

http://www.eea.europa.eu



CBD definition:

"Biological diversity" means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.