



EU Policies for Nature Conservation and Water Management

with a special view to the protection of biodiversity



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Contents



- Legal framework for freshwater biodiversity protection
- Main elements of nature conservation legislation (Natura 2000)
- Main elements of the Water Framework Directive (WFD)
- Integration of requirements of nature and water legislation



The legal frame for freshwater biodiversity



- “Wild Birds Directive” (79/409/EEC)
 - incl. water birds and their habitats
- “Habitats Directive” (92/43/EEC)
 - incl. freshwater habitats and species
- “Water Framework Directive” (2000/60/EC)
 - and related acts (e.g. Groundwater Directive, Common Implementation Strategy)
- COM(2006)216 – 22 May 2006:
 - Halting the loss of biodiversity by 2010 and beyond: sustaining ecosystem services for human well-being



“biodiversity quotes”



- Not explicit in „Birds Directive“ (1979, before Rio Summit)
 - protection of wetlands and aquatic birds
- Explicit reference in “Habitats Directive”:
 - preamble, Art. 2: to promote the maintenance of biodiversity
- COM Biodiversity (2006):
 - freshwater biodiversity explicitly mentioned with precise targets and actions
- Water Framework Directive (WFD):
 - Term „biodiversity“ does not occur, but biodiversity is implicitly included in the definition of good ecological status: taxonomic composition of biological quality elements should be close to reference conditions



The Habitats Directive – an instrument of sustainable development



- The aim of the directive is to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements.
- The Directive makes a contribution to the general objective of sustainable development.
- The maintenance of biodiversity may in certain cases require the maintenance, or indeed the encouragement, of human activities.
- 'Measures shall be designed to maintain or restore, at **favourable conservation status**, natural habitats and species of wild fauna and flora of Community interest.'



The Natura 2000 network



- Sites protected under Habitats Dir. and Birds Dir.
- A major pillar of biodiversity action in Europe
- A combination of species and habitats protection

Total Natura 2000 network:

- ~ 25.000 sites across EU
- 17% of EU territory
- ca. 700.000 km² land areas + 100.000 km² marine areas

Sites with freshwater habitats:

- to date ca. 9800 sites with freshwater habitats (codes „31 standing waters“ and „32 running water“)



Natura 2000 and people...



- Natura 2000 is about **nature and people**. Site conservation depends on co-operation of local communities and shall bring benefit to them.
- Natura 2000 is not about stopping development but it is ensuring **sustainable use of nature** and a healthy, intact environment. It can, if well used, be a positive element in economic development.
- Natura 2000 is a tool of **integration of policies** on EU but also on national and regional level, it needs different sectors work together (e.g. agriculture, forestry, water management, land-use planning, etc.) to be successful.



Water quality objectives in EU water policy



- '70s first Directives setting objectives (mostly chemical parameters) to protect certain uses:
 - Bathing water 76/160/EEC
 - Abstraction of drinking water 75/440/EEC
 - Drinking water 80/778/EEC
 - Fish life 78/659/EEC
 - Shellfish 79/923/EEC
- Other Directives reduce and prevent pollution: nitrates from agriculture, urban waste water treatment, dangerous substances
- The Water Framework Directive sets "**good ecological status**" as the general objective: for the first time the ecosystem function is subject to protection.
- In addition, objectives for "protected areas" and uses



Ecological status and reference conditions



Definition of **Ecological Status**:

“an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters”

Art. 2(21) WFD

Comparison to **reference conditions**:

“Reference Conditions should reflect a state in the present or in the past corresponding to very low pressure, without the effects of major industrialisation, urbanisation and intensification of agriculture, and with only very minor modification of physico-chemistry, hydromorphology and biology.”

REFCOND guidance



Quality Elements

Example: rivers



- Biological elements *(new!)*
 - Composition and abundance of **aquatic flora**
 - Composition and abundance of **benthic invertebrate fauna**
 - Composition, abundance and age structure of **fish fauna**
- Hydromorphological elements *(new!)*
 - Hydrological regime
 - River continuity
 - Morphological conditions (including **riparian zone**)
- Chemical and physico-chemical elements
 - General (oxygenation, nutrients, salinity, etc)
 - Specific pollutants (synthetic and non-synthetic)



Normative definitions: Example for lakes, phytoplankton



- **High status**
 - Totally or nearly totally undisturbed conditions
- **Good status**
 - Slight changes in the composition and abundance compared to the type-specific communities.
 - No accelerated growth of algae resulting in undesirable disturbance
 - A slight increase in the frequency and intensity of the type specific planktonic blooms may occur.
- **Moderate status**
 - Composition and abundance differ moderately from the type-specific.
 - Biomass may be such as to produce a significant undesirable disturbance.
 - A moderate increase in the frequency and intensity of planktonic blooms may occur. Persistent blooms may occur during summer months.

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Ecological objectives



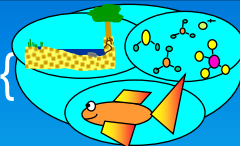
No or minimal

Slight

Moderate

Major

Severe



Non-deterioration



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Courtesy Peter Pollard

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What is intercalibration?



- Legal obligation to harmonise the understanding of "good ecological status" across 27 Member States



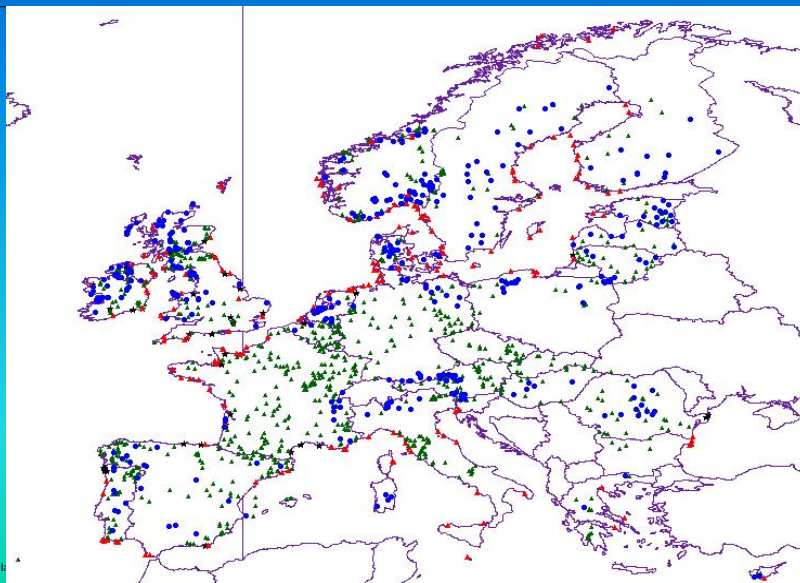
- Harmonise the result of national assessment systems (not the methods) to be **comparable** and **consistent** with the normative definitions
- Commission facilitates the exercise and publish the results

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Intercalibration register



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Challenge: how to actually carry out the intercalibration exercise?



- Working Group on Ecological Status led by JRC
- Started working in 2001
- Geographical Intercalibration Groups (GIGs)

Rivers	Lakes	Coastal / Transitional
Northern Central/Baltic Alpine Eastern Continental Mediterranean	Northern Central/Baltic Atlantic Alpine Mediterranean	Baltic North-east Atlantic Mediterranean Black Sea



Intercalibration results 2006/2007



Expected dates for the GIGs to produce results:

2006	March 2007	No results yet	Not applicable
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GIG ↓	BQE →	Macroinverts	Chlorophyll	Phytoplankt.	Phytobent.	Macrophytes	Macroalgae	Angiosperm	Fish											
Rivers Alpine			NA			NA														
Rivers Central Baltic																				
Rivers Eastern Cont.																				
Rivers Mediterranean																				
Rivers Northern			NA																	
Lakes Alpine																				
Lakes Atlantic																				
Lakes Central Baltic																				
Lakes Mediterranean																				
Lakes Northern																				
Coast/Trans NEA				NA																
Coast/Trans Med																				
Coast/Trans Baltic Sea																				
Coast/Trans Black Sea																				



To summarise....



- Legal framework is there – biodiversity is covered
... but how does it work in practice? What is important is the implementation...



Development of management plans



Achieving the environmental objectives requires that the key pressures are addressed:

- eutrophication/organic pollution
- hydromorphological changes
- habitat fragmentation
- acidification
- toxic pollution
- effects of alien species (under discussion...)



WFD Implementation timetable



Formal transposition into national law; River basin district designation	Dec 2003	✓
↓		
Environmental analysis	Dec 2004	✓
↓		
Monitoring programmes operational Public participation to start at the latest	Dec 2006 Dec 2006	✓
↓		
Draft river basin management plans	Dec 2008	
↓		
Final river basin management plans	Dec 2009	
↓		
Implementation, assessment, adjustment	2015 update every 6 years	



Management of Natura 2000 sites

Article 4 (4) Habitats Directive:



“... the Member State concerned shall designate that site as a special area of conservation..., **establishing priorities** in the light of the importance of the sites for the maintenance or restoration, at a favourable conservation status, of a natural habitat types and species..., and in the light of the threats of degradation or destruction to which those sites are exposed.”



Management of Natura 2000 sites

Article 6 (1) Habitats Directive:



“For special areas of conservation, Member States shall establish the necessary **conservation measures** involving, if need be, appropriate **management plans** specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.”



Current assessment and monitoring of biodiversity



- Baseline will be provided by the evaluation of the 2007 Art. 17 (EU 27) reports on the implementation of the Habitats Directive (incl. conservation status),
- regular reporting of the Member States every 6 years.
- Monitoring methodologies differ among MS, but reporting format and assessment criteria are standardised.
- Bird species are covered by a 3 year reporting requirement (Art. 12, “Birds Directive”).



Integration of WFD and Natura 2000



- WFD requires protection of areas under the Natura 2000 network of sites (Habitats Directive and Birds Directive).
- Most stringent objectives prevail (Art. 4.2 WFD).
- In some cases there may be a duplication between the WFD 'good ecological status' and the HD and BD 'favorable conservation status'.
- And in some cases there may be conflicts of interest.
- Member States will need to resolve such conflicts and include appropriate measures in the river basin management plans.



Conclusions



- Good ecological status is based on quantitative assessments and will therefore contribute to the "measurement" of biodiversity.
- River basin management plans expected to have major impact in preserving biodiversity in Europe
- Different speeds of implementation
- Different scales of implementation
- Need for further analysis of conceptual integration between WFD and Nature directives



Outlook



- In preparation: guidelines on special topics linked to the implementation of the Habitats Directive including requirements of the WFD, e.g.
 - estuaries (incl. dredging)
 - rivers and inland waters
 - non-energy-extractive industries
 - marine areas
- Some issues for research:
 - pressure and impact relationships (how is the quantitative response of biota to pressures, in particular to hydromorphological alterations)
 - effects of droughts / climate change on ecological status
 - transitional waters (ecotones, e.g. estuaries)

Thank you for your attention!

