

Freshwater biodiversity and EU policies

Reflections from nature conservation
and water management legislation

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contents

- Legal frame for freshwater biodiversity protection
- Main elements of Nature and Water Framework Directives
- Research needs
- LIFE contribution



The legal frame for freshwater biodiversity

- “Water Framework Directive” (2000/60/EC) and related acts (e.g. Groundwater Directive, Common Implementation Strategy)
- “Wild Birds Directive” (79/409/EEC), incl. waterbirds and their habitats, “Habitats Directive” (92/43/EEC), incl. freshwater habitats and species
- COM(2006)216 – 22 May 2006:
 - Halting the Loss of Biodiversity by 2010 and Beyond: Sustaining Ecosystem Services for Human Well-being



'biodiversity' quotes

- Explicit reference in “Habitats Dir.”: preamble; Art. 2
Protection of habitat and species of aquatic systems; Art. 10
- Not explicit in “Birds Dir.” (1979, before Rio Summit),
protection of wetlands and aquatic birds
- COM BIOD: freshwater biodiversity explicitly mentioned,
with precise targets and actions
- WFD: Terms ‘biodiversity’ does not occur. Biodiversity is
implicitly included in the definition of ‘good ecological
status’:
 - Taxonomic composition of biological communities should be
close to reference conditions

On water scarcity and droughts

- COM(2007) 414 Final - Communication from the Commission “Addressing the challenge of water scarcity and droughts in the EU”
- Call for: integrated and consistent data at EU level, to develop a water scarcity and drought information system; use of existing platforms for information sharing (WISE – Water Information System for Europe, GMES – Global Monitoring for Environment and Security service), water hierarchy and saving



About effects of climate change

- COM 2007 354 final “Adapting to Climate Change in Europe – Options for EU action”
- Call for: early action to strengthen ecosystem resilience to climate change, conserving and restoring biodiversity in wider countryside, reducing impacts of invasive alien species



Other relevant legislation

- Flood risks Directive (2007/60/EC), based on River basin management plans (WFD)
- Council Regulation 1698/2005 on Rural Development
- Council Regulation 1782/2003 and Commission Regulation 796/2004: cross compliance modulation and integrated administration and control system (related to to Nature Directives and protection from groundwater pollution, not yet to WFD)



Is freshwater biodiversity protected?

- 13.2% and 10.3% of EU 25 terrestrial area is protected under the “Habitats Directive” and the “Wild Birds” Dir. respectively (the Natura 2000 network of protected sites)
- To date, 9854 sites out of 24518 (40%) include freshwater habitats (codes “31 Standing waters”; and “32 Running water — sections of water courses with natural or semi-natural dynamics (minor, average and major beds) where the water quality shows no significant deterioration”)
- WFD protects ALL waters (including wetlands) and covers all impacts



Is the protection regime effective?


- **Implementation of Community legislation needs a sound knowledge base but also:**
- **Direct responsibilities and active participation of local/national administrations**
- **Involvement of the economic and social sectors (stakeholders and citizens)**
- **Different implementation state of Nature and WFD Directives**



Implementation timetable of WFD

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 and further

WFD environmental objectives:

- Prevention of deterioration of the ecological and chemical status of all bodies of surface water
 - Achievement of “good surface water status” of all European lakes, rivers, and coastal/transitional waters by 2015
 - Surface water good status defined in terms of biology, supported by chemistry and morphology
 - good status defined as deviation from reference conditions
 - water management based at catchment scale, across administrative and political borders
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Achieving the WFD 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)



Nature Directives objectives

- Protecting biodiversity through conservation of natural habitats and wild fauna and flora
- Measures designed to maintain or restore, at **favourable conservation status**, natural species and habitats of Community interest (Art. 2 HD)



WFD and protected areas

- WFD requires protection of areas under the Natura 2000 network of sites (Habitats Directive and Birds Directive)
- In some cases there may be a duplication between the WFD ‘good ecological status’ and the HD ‘favorable conservation status’
 - Most stringent objectives prevail (Art.4.2 WFD)



Current assessment and monitoring of biodiversity

- Baseline will be provided by the first Art.17 (EU 25) report on Favourable conservation status, “Habitats Dir.” (every 6 years)
- Monitoring methodologies differ among MS
- But reporting format and assessment criteria are standardized
- Bird species are covered by a 3 year reporting requirement (Art. 12, “Birds Dir.”)



Strengths and problems between WFD and Nature Directive

- “Good ecological status” results from a quantitative assessment contributing towards the ‘measurement’ of biodiversity
- River basin management plans expected to have major impact in preserving biodiversity in Europe
- Different implementation state
- Need for further analysis of conceptual integration between WFD and Nature Dir.

Some issues requiring further research

- the link between biodiversity (composition, structure, function) and the flow of ecosystem services
- the link between biodiversity and ecosystem resilience – eg. to climate change
- ecosystem thresholds or tipping points
- costs of damages to stocks and flows



Research support to WFD

- FP5 and FP6 projects have had an important contribution to the implementation of the WFD ecological status objectives (STAR, AQEM, FAME, REBECCA, EFI+...)
- But there are still many research needs due to the novelty of the approach
- Recently launched FP7 call includes a topic on ecological status



Research needs, specific on freshwater biodiversity

- Pressure and impact relationships (how is the quantitative response of biological parameters to pressures, in particular for hydromorphological alterations)
- Effects of droughts on ecological status
- Transitional waters (ecotones, e.g. estuaries, lagoons)
- Further progress in developing harmonized methods (completion of intercalibration)



Contribution from LIFE programmes on freshwater biodiversity

- 133 LIFE funded projects (1992-2007)

Reference publications:

- LIFE and Europe's rivers - protecting and improving our water resources
- LIFE and Europe's wetlands - restoring a vital ecosystem

<http://ec.europa.eu/environment/life/publications/lifepublications/lifefocus/nat.htm>

Projects database on:

- **Water saving**
- **Rivers:** Floodplains and river management, Habitat restoration and management, Integrated River Basin Management, River and floodplain restoration, Monitoring, Species conservation, third countries
- **Waste water**
- **Wetlands and lakes:** web page in preparation

<http://ec.europa.eu/environment/life/themes/water/index.htm>

Thank you for your attention!

