



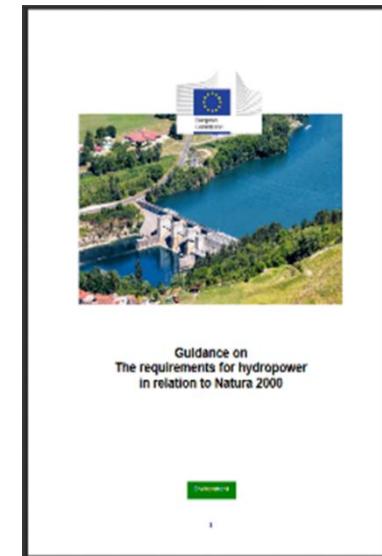
Guidance document on the requirements for hydropower in relation to EU Nature legislation

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EC guidance document on the requirements for hydropower in relation to EU Nature legislation

- Objective: Sets the general principles and requirements for hydropower in relation to Natura 2000 sites
- Examines the types of effects that might occur from hydropower and gives practical examples on how these can be avoided or at least minimised
- Targets to hydropower developers, authorities, practitioners, site managers, NGO's and other stakeholders concerned
- Developed through wide consultation with relevant stakeholder



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Contents of Guidance Document (1)

Chapter 1 – EU Policy and Legislative Framework

- **Provisions of Habitats and Birds Directives and relationship with other relevant environmental legislation (WFD, Floods Directive, EIA, SEA)**

Chapter 2 – Freshwater Ecosystems and Hydropower in the EU

- **Information on the state of EU's river and lake ecosystems**
- **Main pressures and threats**
- **Effects of hydropower**
- **Cumulative effects**

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Contents of Guidance Document (2)

Chapter 3 – Good practice examples in mitigating effects and applying ecological restoration measures to hydropower

- The aim is to provide useful advice, ideas, suggestions

Chapter 4 –Good practices in applying an integrated planning approach to hydropower

- Stresses the need to take into account the river's ecological requirements early in planning phase

Chapter 5 - Appropriate Assessment under Habitats Directive

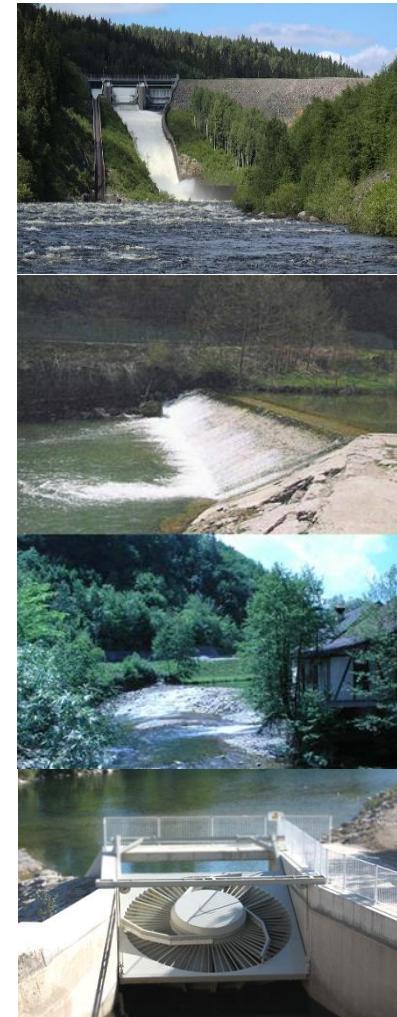
Some more information on the contents

Hydropower

- ❖ one of several important sources of RE
- ❖ key role in EU Renewable Energy and Climate Change targets for 2020 and beyond
- ❖ stable, flexible, efficient form of electricity
- ❖ "physical" potential to develop hydropower (esp. Balkans)

Europe's Rivers

- ❖ Major source of biodiversity
- ❖ Part of our rich heritage
- ❖ Undergone major changes over the decades
- ❖ Reduced resilience and capacity to sustain wildlife
- ❖ Many in degraded state and need for restoration



Biodiversity and Nature Policy Framework

- EU Biodiversity Strategy to 2020
- Nature Directives (cornerstones of EUs nature and biodiversity policy)

Habitats Directive
92/43/EEC
(1992)

Birds Directive
2009/147/EC
(1979)

Objective: "to ensure that species and habitat types they protect are maintained and restored to a favourable conservation status throughout their natural range within the EU"

Key features of Natura 2000

- ❖ Enables EU MS to work together under a common legislative framework
- ❖ *Conserves species & habitats across entire natural range in EU, irrespective of political boundaries;*
- ❖ *Selects sites using the same scientific criteria;*
- ❖ *Offers strong legal protection;*
- ❖ *NOT a system of nature reserves - Works in collaboration with land owners & users;*
- ❖ *Supports sustainable development : new activities or development affecting Natura 2000 sites are not automatically excluded*



Freshwater ecosystems and hydropower in the EU

- *Rivers and lakes: complex and highly dynamic ecosystems*
- *Valuable habitats on their own right but also contribute to the maintenance of biodiversity* (ecological corridors, encourage species dispersal, migration, responsible for development of forests, marshes, wet meadows, etc)
- *Around 400 protected species and habitats under B&H Directives depend on river and lake ecosystems for their survival*
- *Lakes and rivers: 4% of land surface of Natura 2000 network*

Freshwater ecosystems and hydropower in the EU

- *Intensive use of Europe's rivers (esp. last 150 years) - important economic and social resource*
 - **Changes in hydro-morphology, natural flow dynamics and their ecological connectivity**
 - **Pollution and high nutrient loads**
- *EEA State of Nature Report 2015: > 50% EU rivers and lakes not in good ecological condition*



Freshwater ecosystems and hydropower in the EU

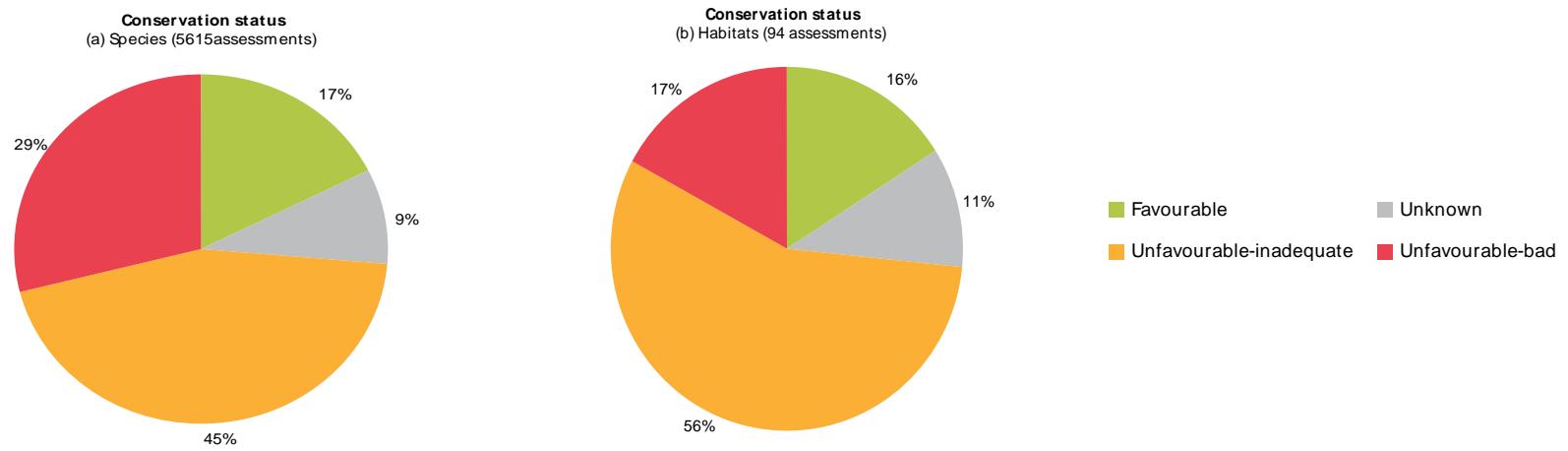
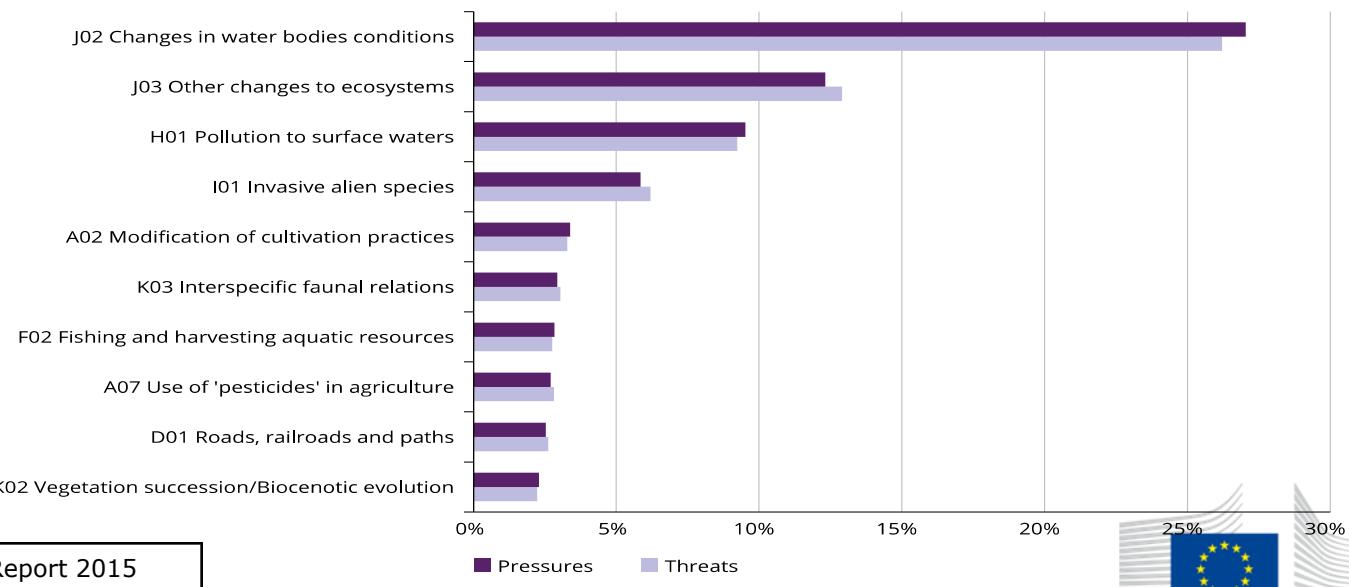


Figure 4.37 Top 10 (% of frequency) reported high-ranked pressures and threats for species (Habitats Directive) associated with rivers and lakes ecosystem



Hydropower in the EU

- Around *23.000 hydropower installations* in EU (2011)
- *91% small* (less than 10 MWH) - **13%** of total electricity production (TEP) from HPP – *2.1% total RE mix*
- *9% large* - **87%** TEP from HPP – *9% total RE mix*
- Often concentrated in mountainous areas due to technical reasons



Potential impacts from hydropower (1)

Impacts on species and habitats may vary depending:

- Individual characteristics of the river
- Physical and ecological state (already degraded or pristine ??)
- Type and scale of hydropower plant
- Species and habitats present

! Need to look at each facility on a case – by – case basis

! Operators / developers of HPP need to have an understanding of the complexities of the riverine ecosystems and the obligations under nature legislation

! This will improve the quality of the assessments made and speed up decision – making

Potential impacts from hydropower (2)

Changes river morphology and riverine habitats

Barriers to migration and dispersal of protected species

Disruption of sediment dynamics

Water chemical and temperature changes (eg. construction of dams)

Injuries and killing of animals

Displacement and disturbance

Impacts on terrestrial species and habitats

CUMULATIVE IMPACTS (other projects already present?)

Good practice examples in mitigating effects

Some examples:

- *Restoration of river continuity*
- *Fish passes*
- *Reduction of fish mortality- installation of screens at inlets*
- *Restoration of adequate ecological flow*
- *Monitoring systems to be established*

→ Specific chapter in the guidance document on good practice examples on mitigation and /or ecological restoration measures under different circumstances

Integrated planning approach and Assessment Procedure under the Habitats Directive

Importance of strategic planning

- Integrate water, nature and energy policy objectives
- Link strategic planning for the aquatic environment and nature conservation with national energy planning on RE
- Meet the objectives of the Water Framework Directive and the River Basin Management Plans (RBMPs)
- Allows involvement of interested parties
- Helps streamline authorization process

Assessment procedure

- Procedure on article 6(3) with specific guidance on hydropower (coordination with SEA, EIA and WFD requirements)