



European
Commission

THE WATER CHALLENGE EVERY DROP COUNTS



Green Week - Brussels, 22-25 May 2012

Green Week 2012

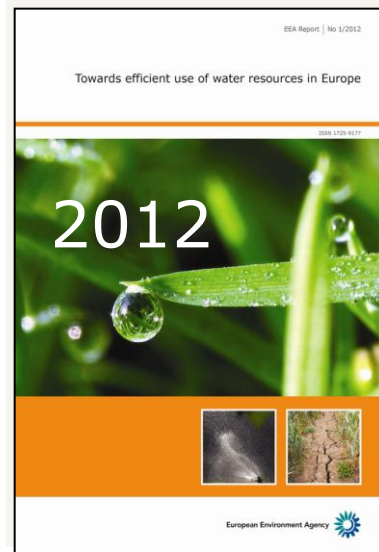
State of Europe's Water

Peter Kristensen

European Environment Agency



2012 EEA reports



1. Towards efficient use of water resources in Europe

2. Status of Freshwater ecosystems and Biodiversity
3. Vulnerability
4. Synthesis

WFD assessment
Water accounts

**Towards the 2012
"Blueprint to safeguard
Europe's water resources"**



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European Environment Agency



2012

Year of Water



European Environment Agency



<http://www.eea.europa.eu/themes/water>

WISE

WATER INFORMATION

SYSTEM FOR EUROPE

Waste water and water quality



European Commission, DG Environment



Urban Waste Water Treatment Directive

Council Directive 91/271/EEC of 21-05-1991, as amended
by Commission Directive 98/15/EC of 27-02-1998



<http://europa.eu.int/comm/environment/water>

Prague, 25.-26. February 2005 Christof Planitzer DG ENV D.2 Slide 1



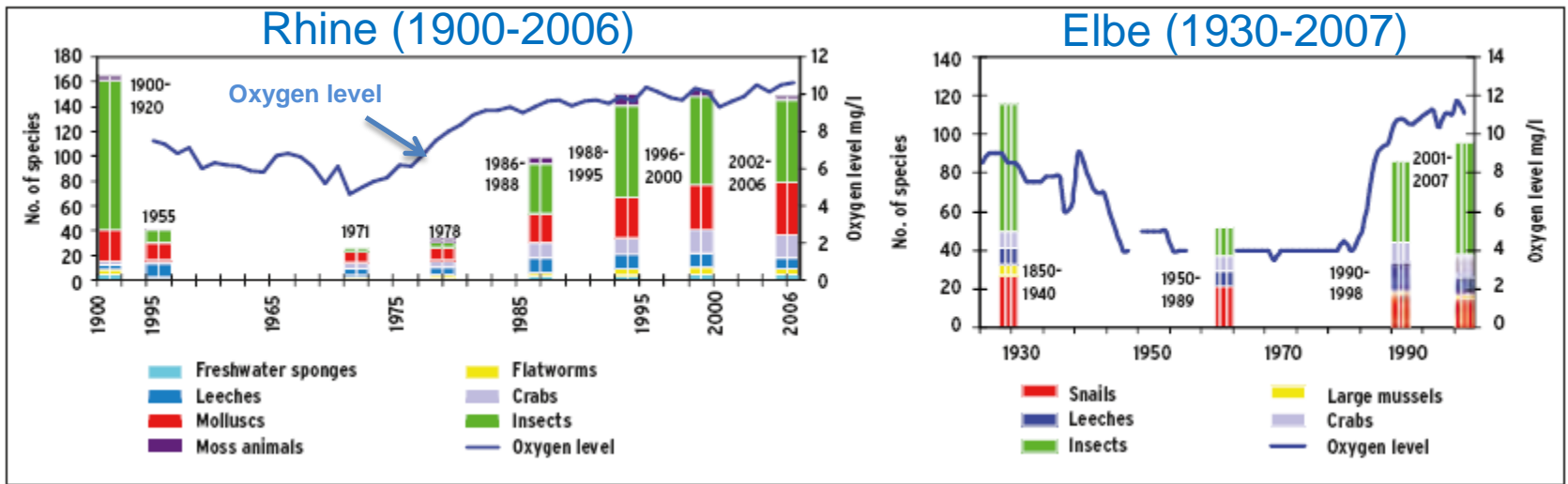
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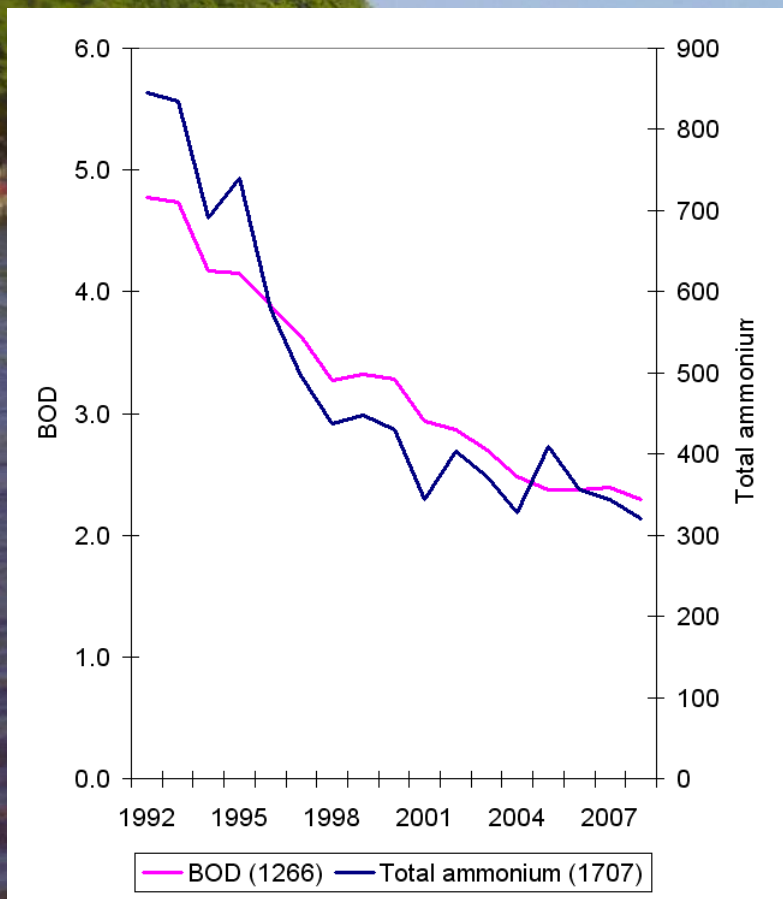
- One hundred years ago the Rhine was inhabited by some 165 species of macrozoobenthos, while in around 1930 the Elbe was inhabited by around 120 species.
- As pollution increased and oxygen levels fell, the numbers of species have declined dramatically since the mid-1950s.
- In the 1970s few species remained in the two river sections.
- Improved oxygen conditions associated with improved wastewater treatment in the Rhine led to a turnaround from the mid-1970s onwards,
- while in the Elbe the situation did not improve until after German reunification in the early 1990s.

Key findings: Urban waste water and water quality

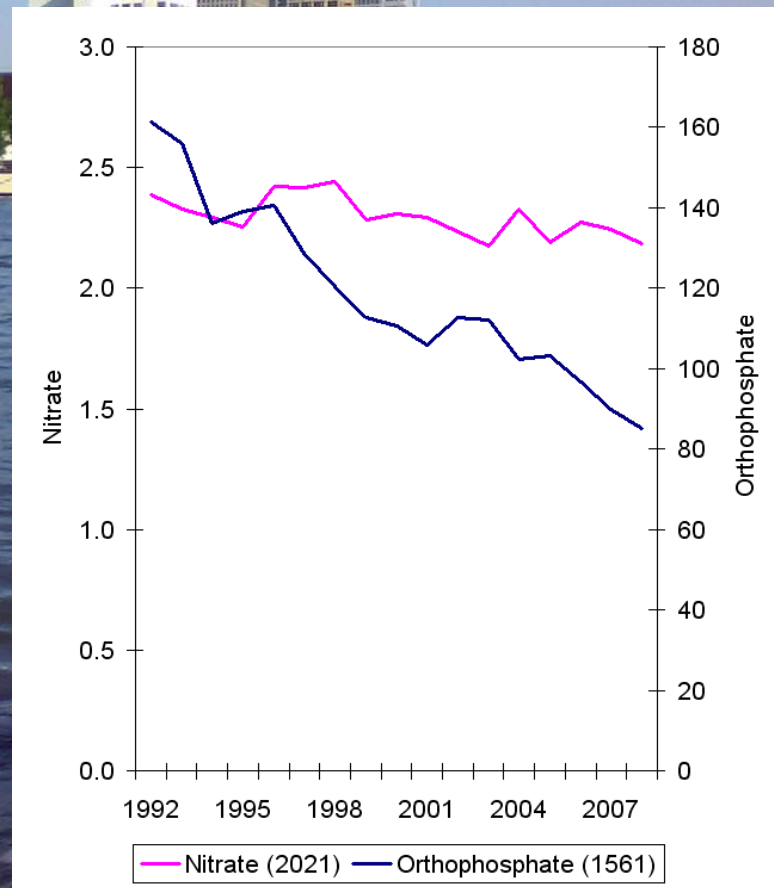
- Pollutants in many of Europe's surface waters have led to detrimental effects on aquatic ecosystems and the loss of aquatic flora and fauna.
- Implementation of the Urban Waste Water Treatment Directive, together with national legislation, has led to improvements in wastewater treatment across much of the continent.
- This has resulted in reduced point discharges of nutrients and organic pollution to surface water bodies.
- Clear downward trends in water quality determinants related to urban and industrial wastewater are evident in most of Europe's surface waters, although these trends have levelled in recent years.



Marked improvements in river water quality



BOD & total ammonium



Nitrate & orthophosphate



Key findings: Nutrient enrichment and diffuse source pollution

- Excess nutrients can create 'eutrophication', characterised by increased plant growth, problematic algal blooms, depletion of oxygen and loss of life in bottom waters.
- Modern-day agricultural practices often entail the high use of fertilisers and pesticides resulting in pollution of Europe's waters.
- Despite improvements in some regions, diffuse pollution from agriculture remains a major cause of the poor water quality currently observed in parts of Europe.
- The average nitrate concentration in European rivers has decreased slightly since 1992, reflecting improved wastewater treatment, reduced atmospheric inputs and, in some regions, lower agricultural emissions.

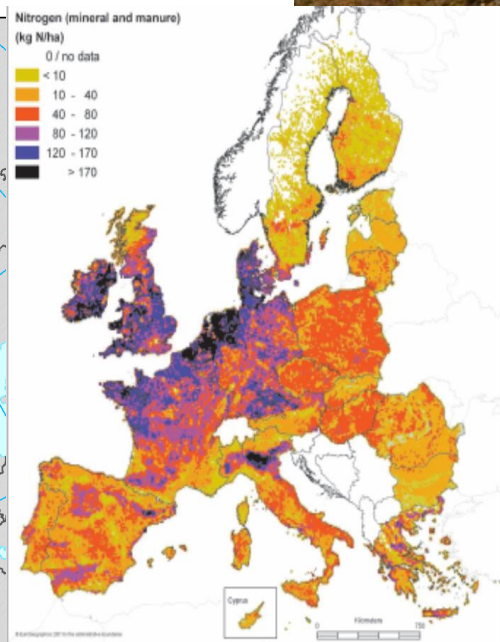
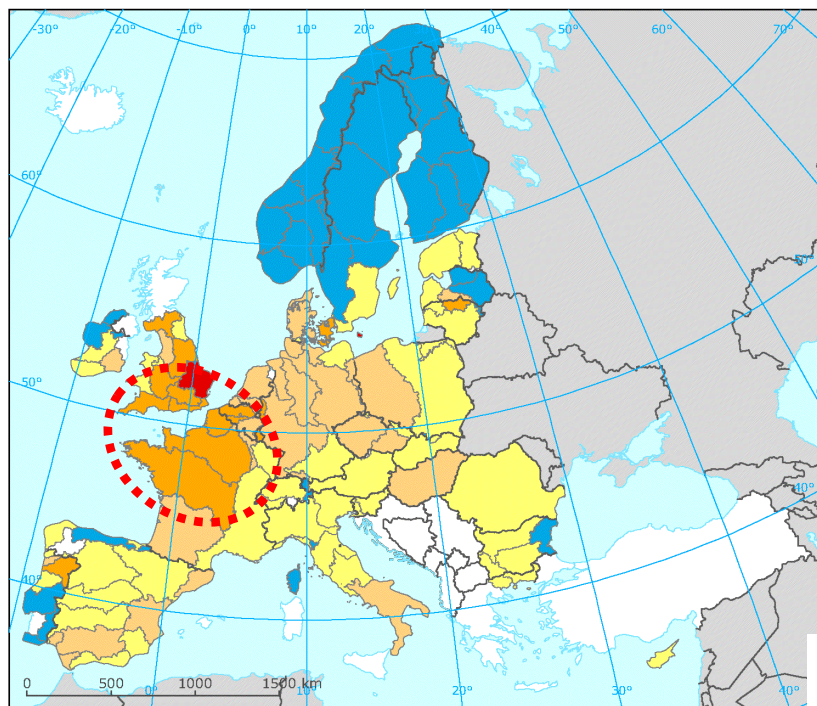
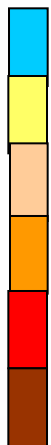


Nitrate concentration per river basin district

latest year (most RBDs 2008)

Nitrate (mg N/l)

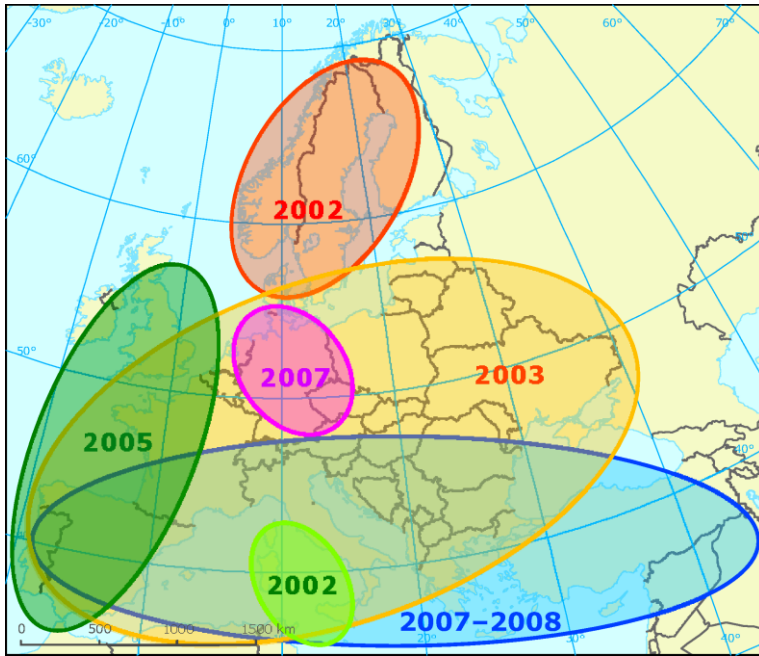
- < 0.8
- 0.8-2
- 2-3.6
- 3.6-5.6
- 5.6-11.3
- > 11.3



Application of fertilisers and manure

Source: JRC

Water scarcity and drought in Europe



Reservoir,
Sicily

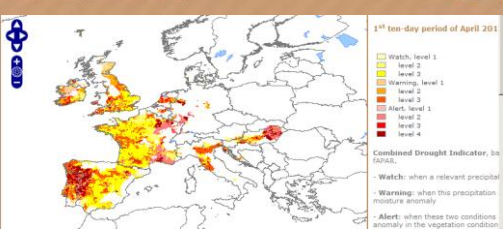


Reservoir,
Cyprus



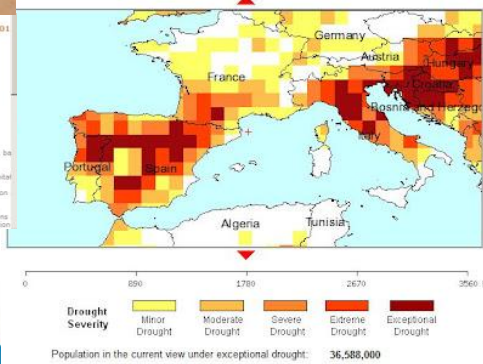
River Elbe,
Dresden
Spring, 2007

European Drought Observatory



Global Drought Monitor

May 2012



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Key findings: Water scarcity and droughts

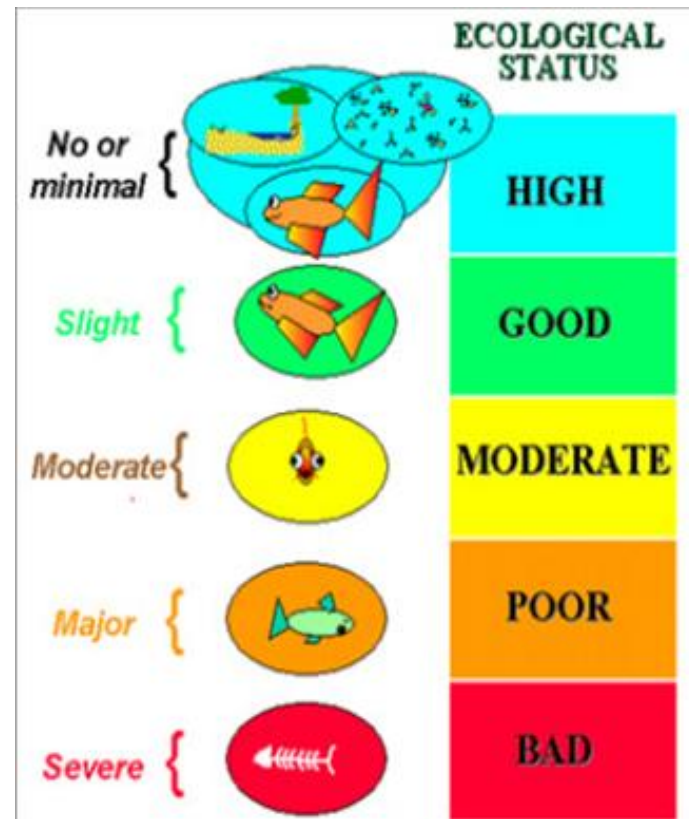
- While water is generally abundant in much of Europe, water scarcity and droughts continue to affect some areas.
- Water scarcity and droughts have direct impacts on citizens and economic sectors. Activities with high water demand, such as irrigated agriculture, tourism and the use of cooling water, are heavily affected by water scarcity.
- Over-abstraction is causing low river flows, lowered groundwater levels and the drying-up of wetlands, with detrimental impacts on freshwater ecosystems.
- Climate change is projected to increase water shortages, particularly in the Mediterranean region.

Water Framework Directive

- Introducing the river basin approach
- Protecting all water bodies, including transitional waters and coastal waters
- Covering all impacts on waters



Achievement of **good status in all water bodies** and no deterioration of status



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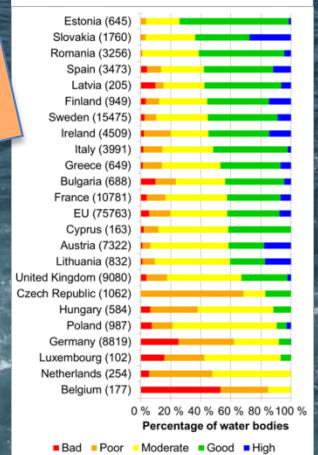
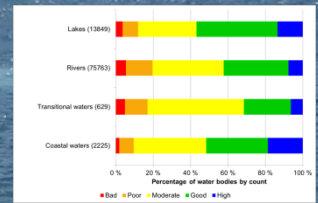
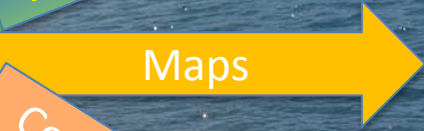
- 104 000 river water bodies (1.2 million km of rivers – average water body length 11.3 km)
- 19 000 lake water bodies (two-thirds in Sweden and Finland)
- 1000 transitional and 2950 coastal water bodies

State of Europe's Waters

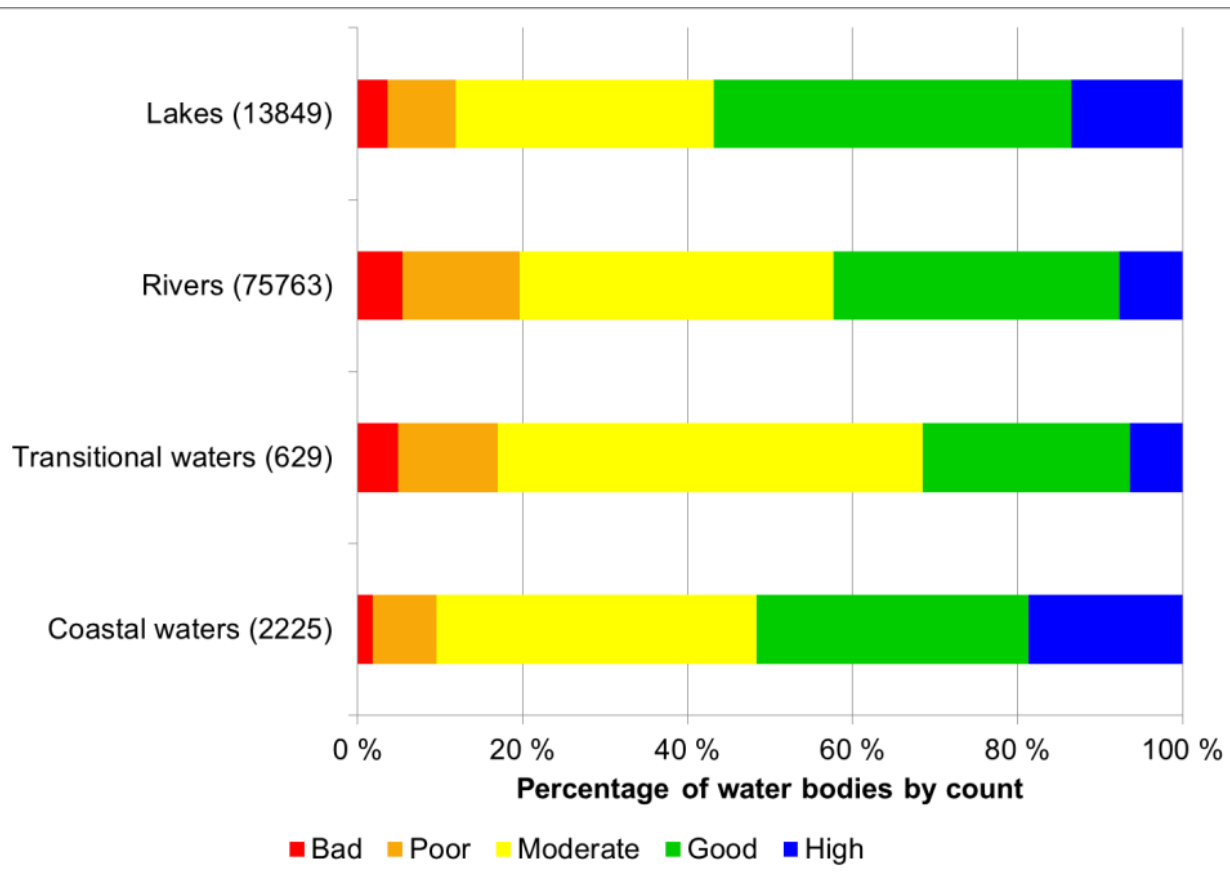
River Basin Management Plans



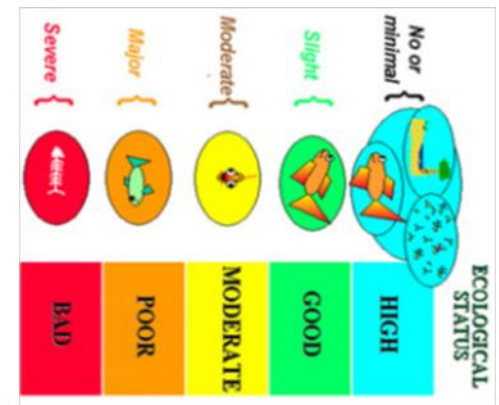
EU Member States
156 River Basin Districts



European overview of ecological status and potential

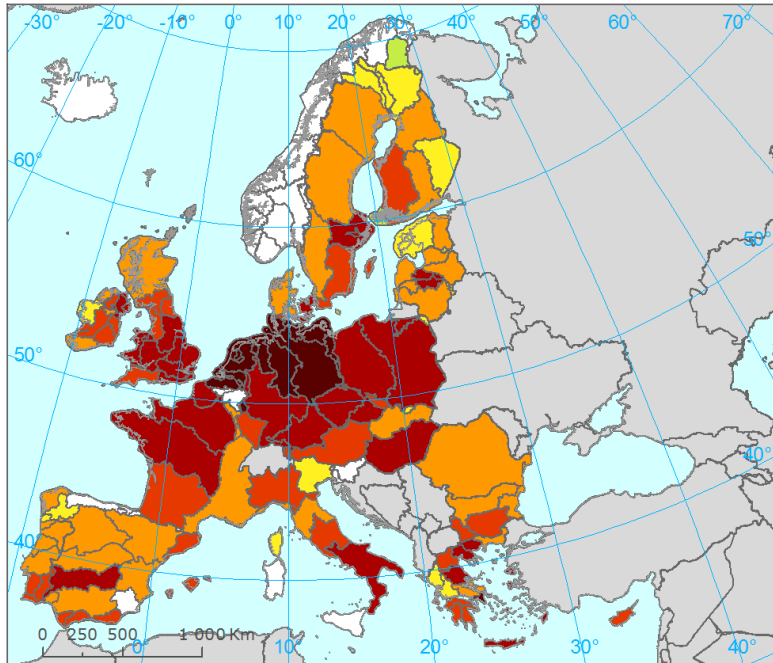


- **More than half** of the surface water bodies in Europe are in **less than good** ecological status or potential.
- **Rivers and transitional** waters are reported to have **worse** ecological status or potential and more pressures and impacts than water bodies in lakes and coastal waters.



European overview of ecological status of rivers and lakes

% Water Bodies in less than good ecological status



- More than half the surface water bodies in Europe are reported to be in less than good ecological status or potential.
- The worst areas of Europe concerning ecological status and pressures in freshwater are reported from *Central Europe*.
- Only few River Basin Districts are close to the aim of WFD of achieving at least good status

% of classified water bodies in less than good ecological status or potential
(left map: rivers and lakes, right map: transitional and coastal waters)

□ no data reported □ <10 % □ 10-30 % □ 30-50 % □ 50-70 % □ 70-90 % □ >=90 %



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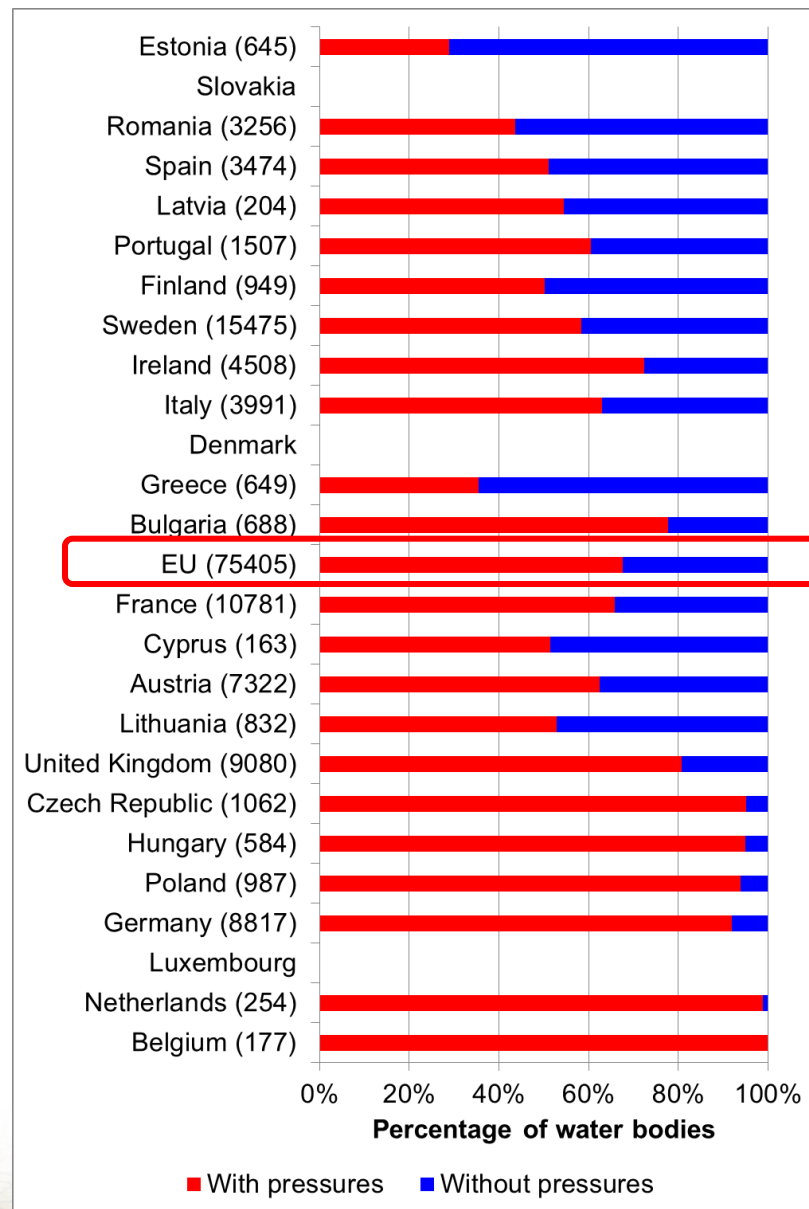
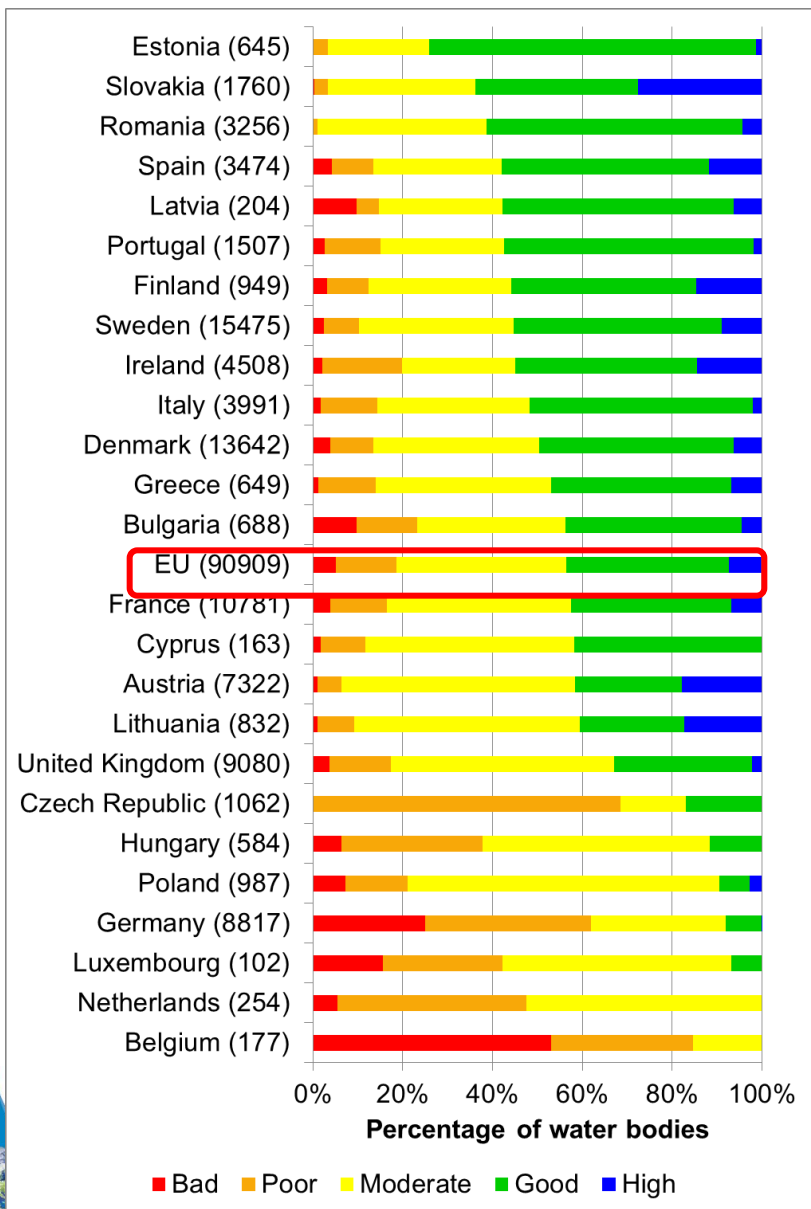
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Rivers ecological status and pressures in different countries

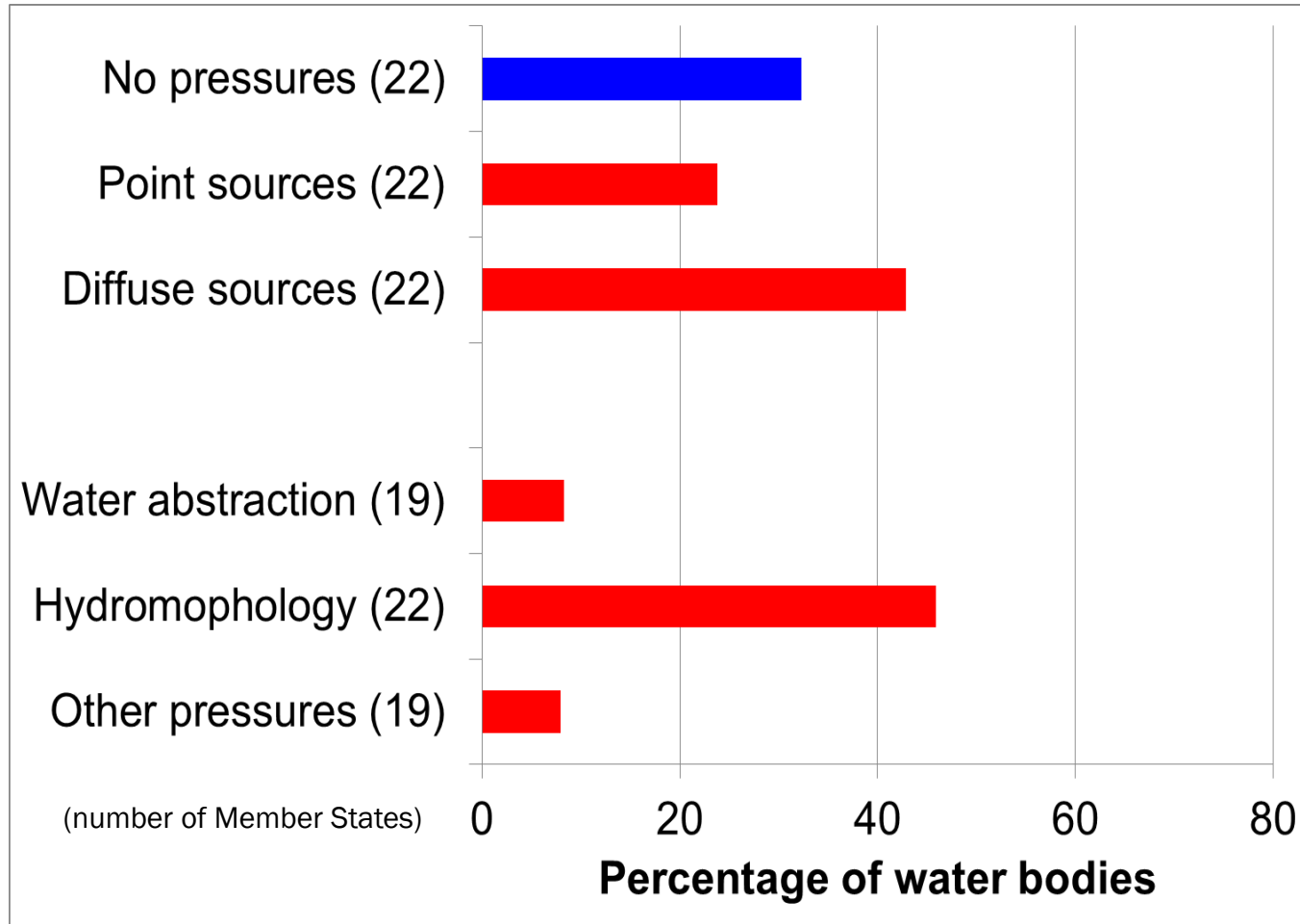
Ecological status/potential

With and without pressures



Significant pressures affecting rivers

% of river water bodies (75 000) being affected by pressures



Pollution from diffuse and point sources are still affecting many European surface waters



Downward trends in water quality determinants related to urban and industrial wastewater are evident in most of Europe's surface waters, although these trends have levelled in recent years. Agricultural inputs of nutrients both nitrogen and phosphorus are still important and need increased attention to achieve good water quality and ecological status

Hydromorphological pressures are causing altered habitats and affecting the ecological status.



Barriers and transverse structure

Morphological changes

Abstraction and flow regulation and water level regulation



Key findings

- Water is a key resource for our quality of life, industrial and agricultural production as well as the condition of many ecosystems in Europe.
- Europe's waters are affected by several pressures including water pollution, water scarcity, floods; and by major modifications affecting morphology and water flow.
- Clear downward trends in water quality determinants related to urban and industrial wastewater are evident in most of Europe's surface waters
- Water scarcity has severe consequences for most sectors, particularly agriculture, tourism, energy, and the provision of drinking water.



Key findings

- More than half of the surface water bodies in Europe are reported to be in less than good ecological status or potential, and will need mitigation measures to meet the Water Framework Directive objective.
- The pressures reported to affect most surface water bodies are pollution from diffuse sources causing nutrient enrichment, and hydromorphological pressures causing altered habitats.
- The worst areas of Europe concerning ecological status and pressures in freshwater are in Central Europe, while for coastal and transitional waters the Baltic Sea and Greater North Sea regions are the worst.
- To maintain and improve the essential functions of our water ecosystems, we need to manage them well.



Questions? Comments?

Thank you for your attention!

