



Código 7º Programa Marco → 294947



*Grupo de Investigación
Estructuras y Sistemas
Territoriales
Código PAIDI → HUM 396*

**Department of Hydrology and Water Resources
University of Arizona**

**Wednesday Weekly Colloquium
November 12th, 2014**

Developing a common framework for water resources management in the European Union: The experience of the Water Framework Directive

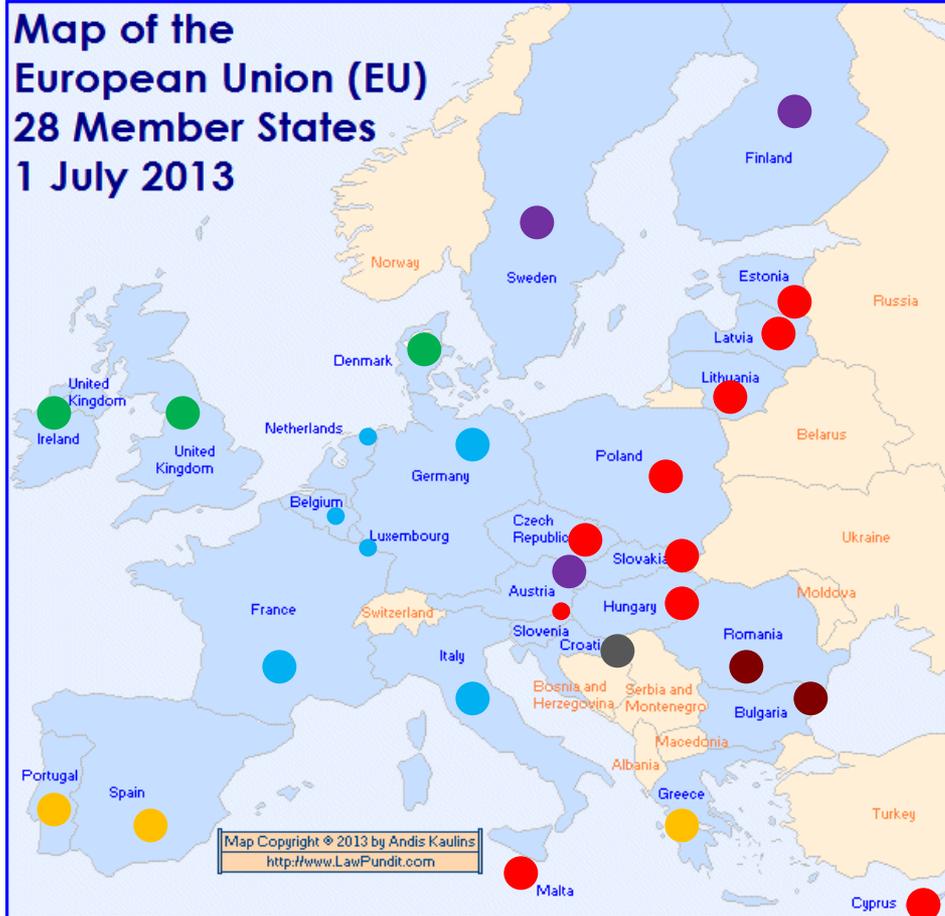
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Universidad de Sevilla**

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The European Union: An introduction

Evolution of EU Membership



Accession dates:

1952: Belgium, France, Germany, Italy, Luxembourg, The Netherlands

1973: Denmark, Ireland, United Kingdom

1981: Greece

1986: Portugal and Spain

1995: Austria, Finland and Sweden

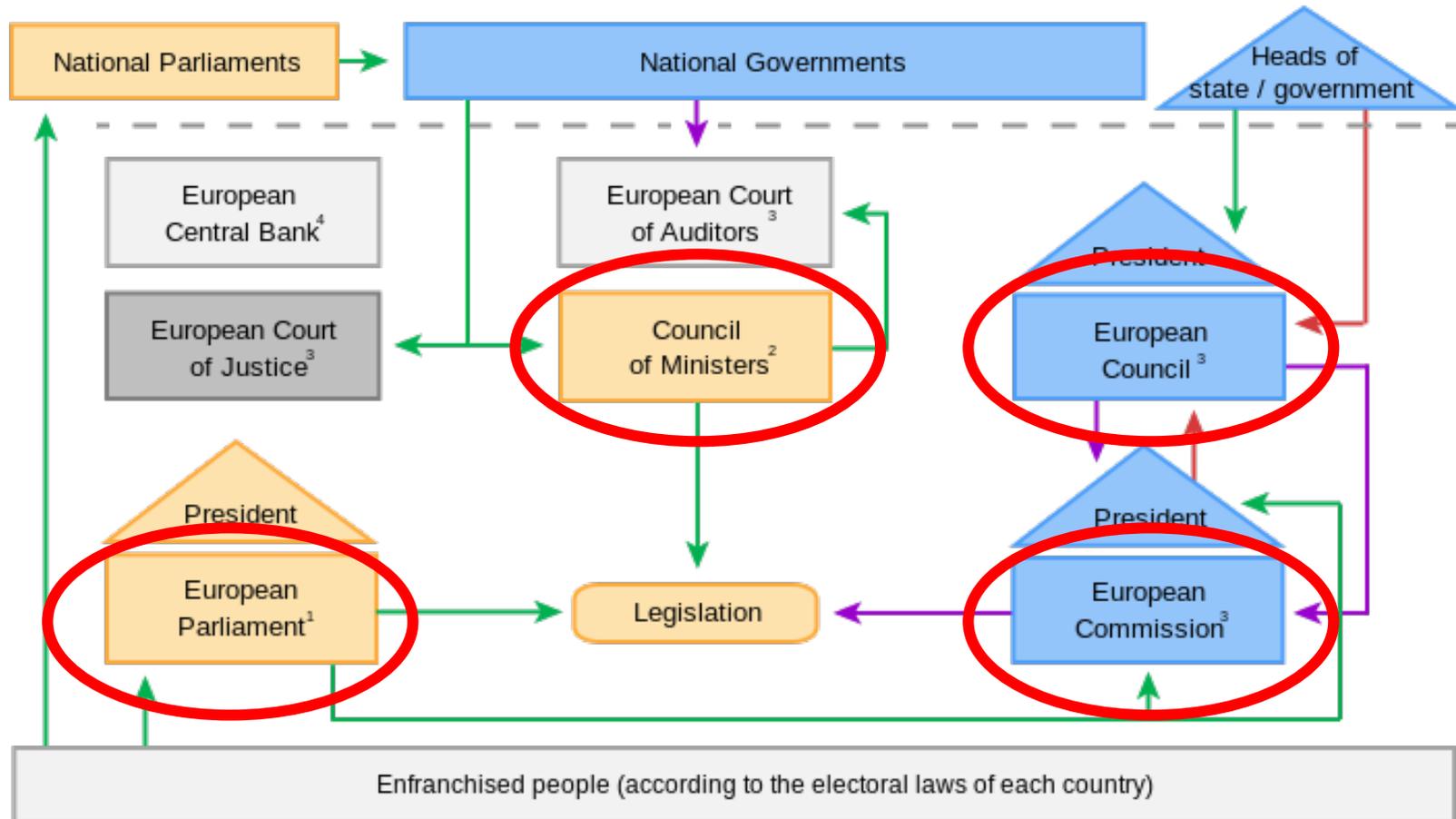
2004: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia

2007: Bulgaria and Romania

2013: Croatia

Candidate countries: FYR Macedonia, Iceland, Montenegro, Serbia, Turkey

Political system of the European Union



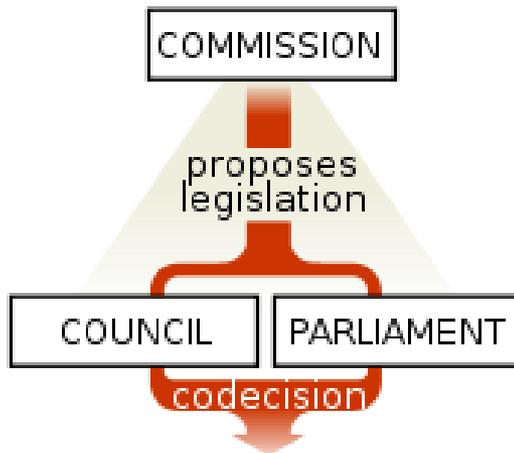
- Legislative branch
- Executive branch
- Judicial branch
- elects / appoints / decides on
- membership
- proposes

- 1: Elections are every 5 years. The right to vote may be different depending on the country
- 2: State chamber. Convenes in varying composition depending on the policy area. Each country is represented by one member per department
- 3: Each country is represented by one member
- 4: The European Central Bank is composed of representatives of the national central banks. Its Board is elected by the European Council on the proposal of the Council of Ministers

European Union Law

- **Primary law:** the Treaties that establish what the EU is and how it operates
- **Secondary law:** Regulations (directly applicable) and Directives (transposition)
- **Supplementary law:** case law of the European Court of Justice & international law & general principles of the EU

Ordinary legislative process



Evolution of water legislation in the EU: How does it compare to US legislation

Who has jurisdiction over water resources management: Decentralized systems

	Water quality	Water quantity (allocation)	Municipal water supply
UNITED STATES	Federal Government	States	Local governments
EUROPEAN UNION	European Union	Member States	Varied but mostly local governments
ARIZONA	Federal Government	State of Arizona	Various
SPAIN	National / Autonomous Regional Governments	National Government/ Autonomous regional governments	Municipalities

The challenge to harmonize national (state) water legislations

The EU is not a Federation:
28 member states with different political, legal and cultural traditions

The European Union



The USA: 58 federal states with a common Constitution, shared sense of nation and legal tradition.

The United States



Some landmark water-related legislation EU-USA

EU	Goal	Year	USA – Federal level	Year
Surface Drinking Water Abstractions Directive (75/440/EEC)	Public health/ Water quality objective Approach	1975/1979/ 1991	Water Resources Planning Act	1965
Bathing Waters Directive (76/160/EEC)		1976/ 2006	National Water Commission Act	1968
Drinking Water Directive (98/83/EC)		1980/1991/ 1998	National Environmental Policy Act	1968
Dangerous Substances Directive (76/464/EEC)	Emission control/ Emission Limit Value Approach	1976	Endangered Species Act	1973
Groundwater Directive (80/68/EEC)		1980	Safe Drinking Water Act	1974
Urban Wastewater Treatment Directive (91/271/EEC)		1991	Water Resources Development Acts	1974
Nitrates Directive (91/676/EEC)		1991/1996	Clean Water Act “fishable & swimmable waters”	1977
Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC)		1996/2008		
Water Framework Directive	Ecological quality/ Integrated approach	2000		
• Groundwater Directive (2006/118/EEC)		2006		
• Floods Directive (2007/60/EC)		2007		

The Water Framework Directive

**DIRECTIVE 2000/60/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 Oct. 2000
establishing a framework for Community action in the field of water policy**

**‘Water is not a commercial product like any other but, rather, a heritage
which must be protected, defended and treated as such’ (Statement 1, WFD)**

I

(Acts whose publication is

DIRECTIVE 2000/60/EC OF THE EUROPEAN

of 23 Octob

establishing a framework for Communi

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE
EUROPEAN UNION,

Having regard to the Treaty establishing the European
Community, and in particular Article 175(1) thereof,

Having regard to the proposal from the Commission⁽¹⁾,

Article 1

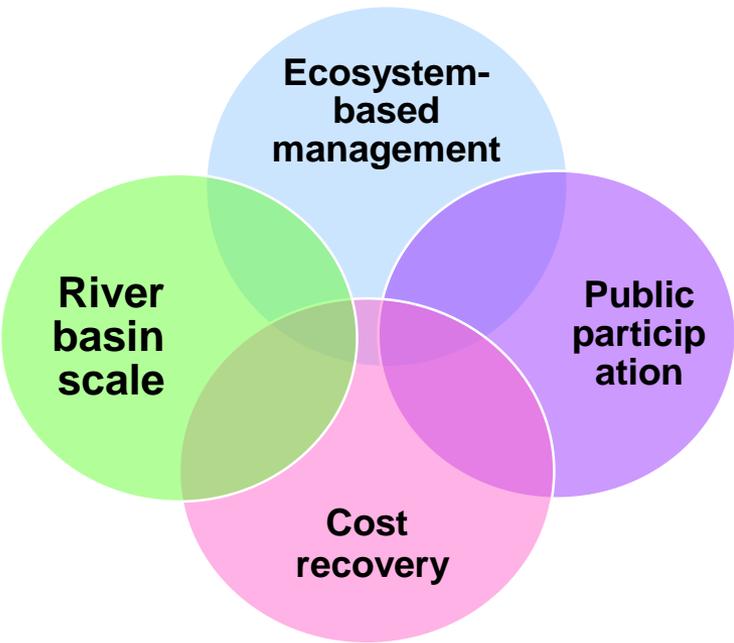
Purpose

The purpose of this Directive is to establish a framework for
the protection of inland surface waters, transitional waters,
coastal waters and groundwater which:

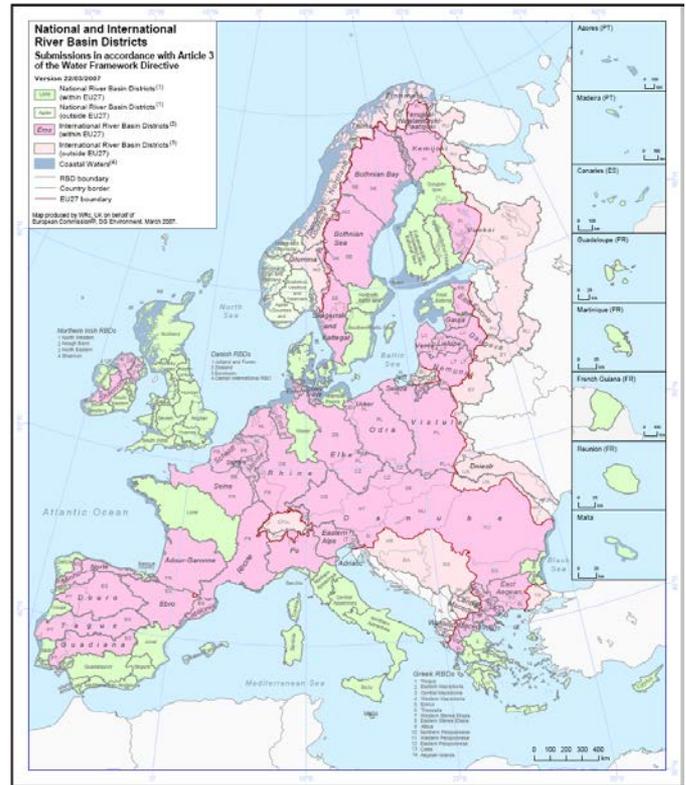
- (a) prevents further deterioration and protects and enhances
the status of aquatic ecosystems and, with regard to their
water needs, terrestrial ecosystems and wetlands directly
depending on the aquatic ecosystems;

1992...
requested an action...
and a revision of Council Directive...

The building blocks of the WFD



THE RIVER BASIN AS THE UNITY FOR HYDROLOGICAL ANALYSIS AND WATER GOVERNANCE



WFD ECONOMICS: Cost Recovery & polluter pays

Article 5:
economic analysis of water use

Article 9:
Water pricing policies that encourage efficient use
'adequate contribution' from water uses to water service costs

Member States shall take account of the principle of recovery of the costs of water services, including environmental and resource costs, having regard to the economic analysis conducted

INFORMATION & PUBLIC PARTICIPATION REQUIREMENTS

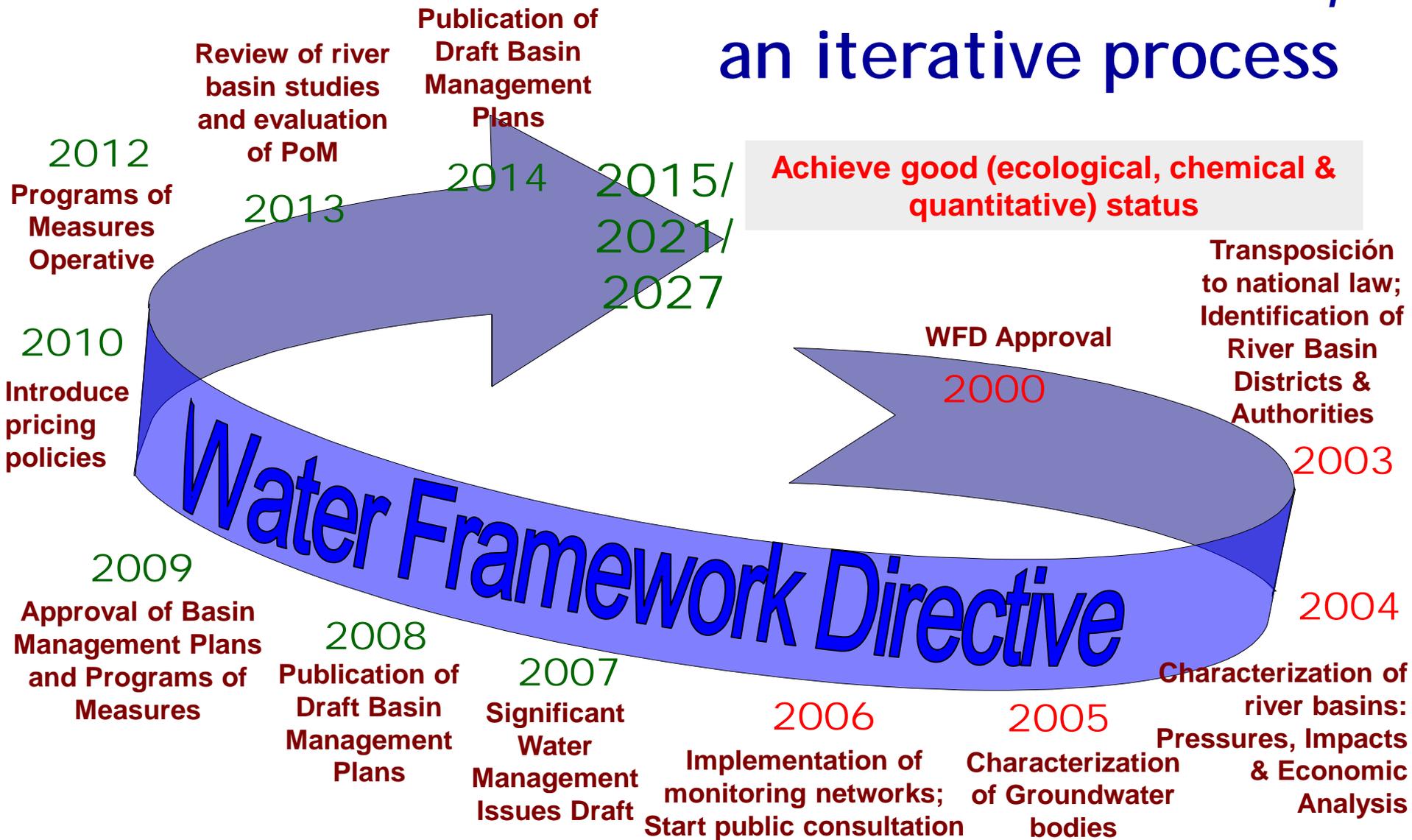
Whereas 14,

The success of this Directive relies on close cooperation and coherent action at Community, Member State and local level as well as on information, consultation and involvement of the public, "including users".

Article 14 Public information and consultation

1. Member States shall encourage the active involvement of all interested parties in the implementation of this Directive,

A common calendar, an iterative process

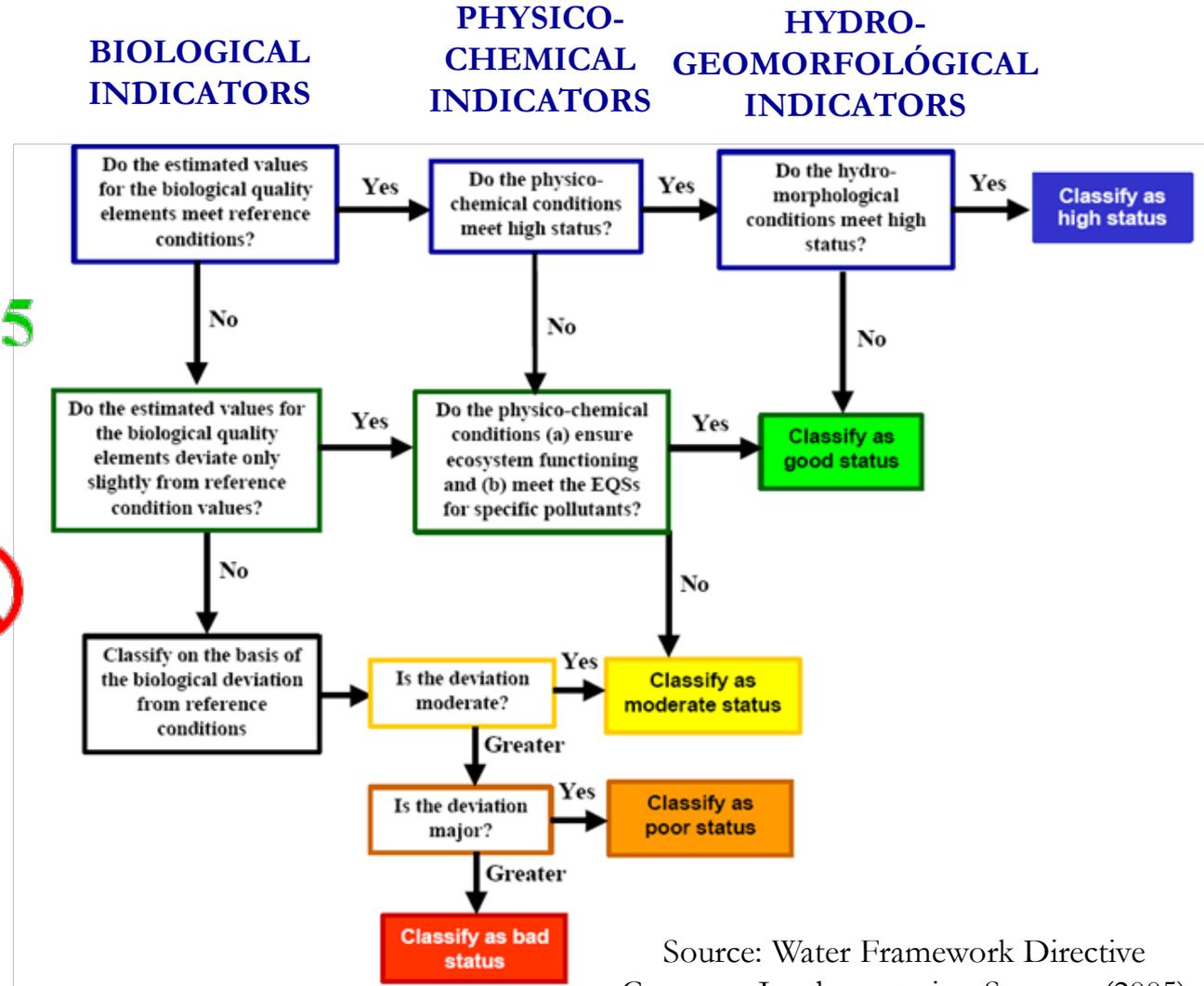


A Common Implementation Strategy

Approved in 2000 “to allow a coherent and harmonious implementation of the framework directive” (CIS, 2001)

- Work programs approved for two year periods – identifies key issues for the period with respect to implementation timeline and sets up working groups
- Key activities:
 - Information sharing
 - Develop guidance on technical issues:
 - Working groups led by member states or EU institutions
 - 29 guidance documents published to date
 - Information and data management
 - Application testing and validation – integrated testing in pilot river basins
- Expert advisory groups for a established on a number of topics
- More information: http://ec.europa.eu/environment/water/water-framework/objectives/implementation_en.htm

WFD Planning: Determining status and management goals



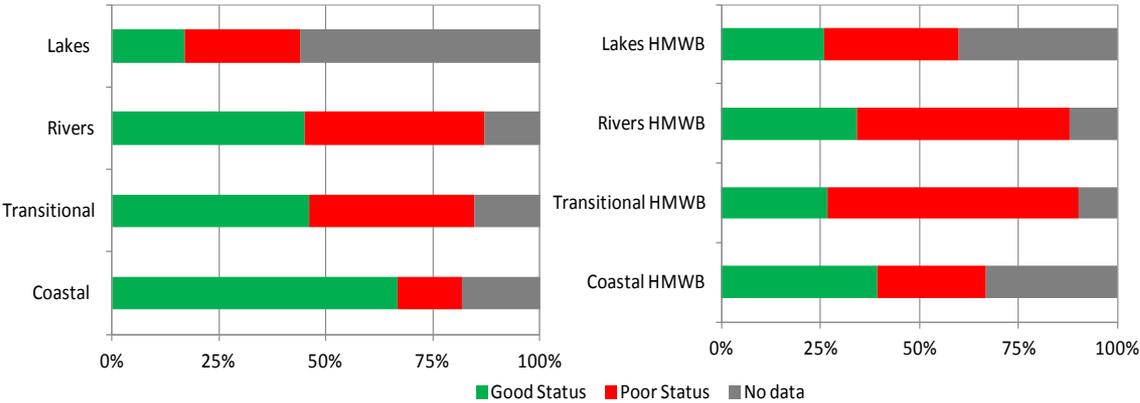
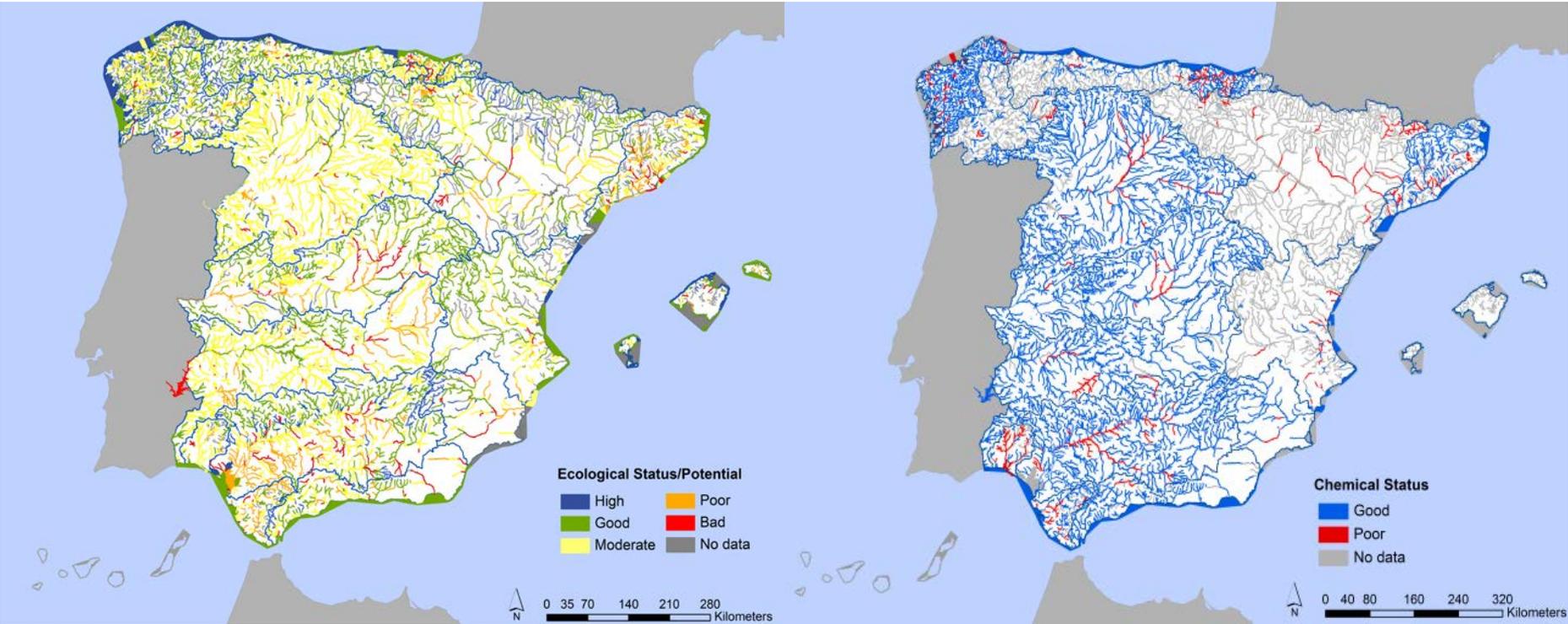
Fuente: Peter Pollard, SEPA citado por D. Howell. SEO/BirdLife

Source: Water Framework Directive Common Implementation Strategy (2005)

How do we determine status and management goals fairly and equitably across Europe?

- Delimitation of water bodies (surface, groundwater and transition and coastal waters)
- Establish **reference conditions** – water bodies in “natural” conditions
- **Characterize typology** of water bodies (central rivers, Alpine rivers, Mediterranean rivers, etc.) & identify most appropriate quality indicators
- Process of **intercalibration** of indicators for different water body types across EU member states: different indicators must measure pressures, impacts and “good status” goals comparably across river types

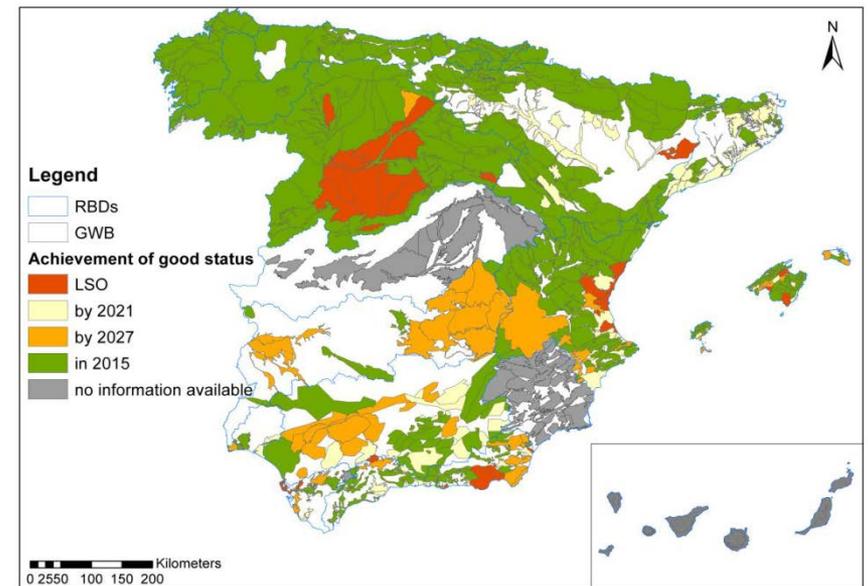
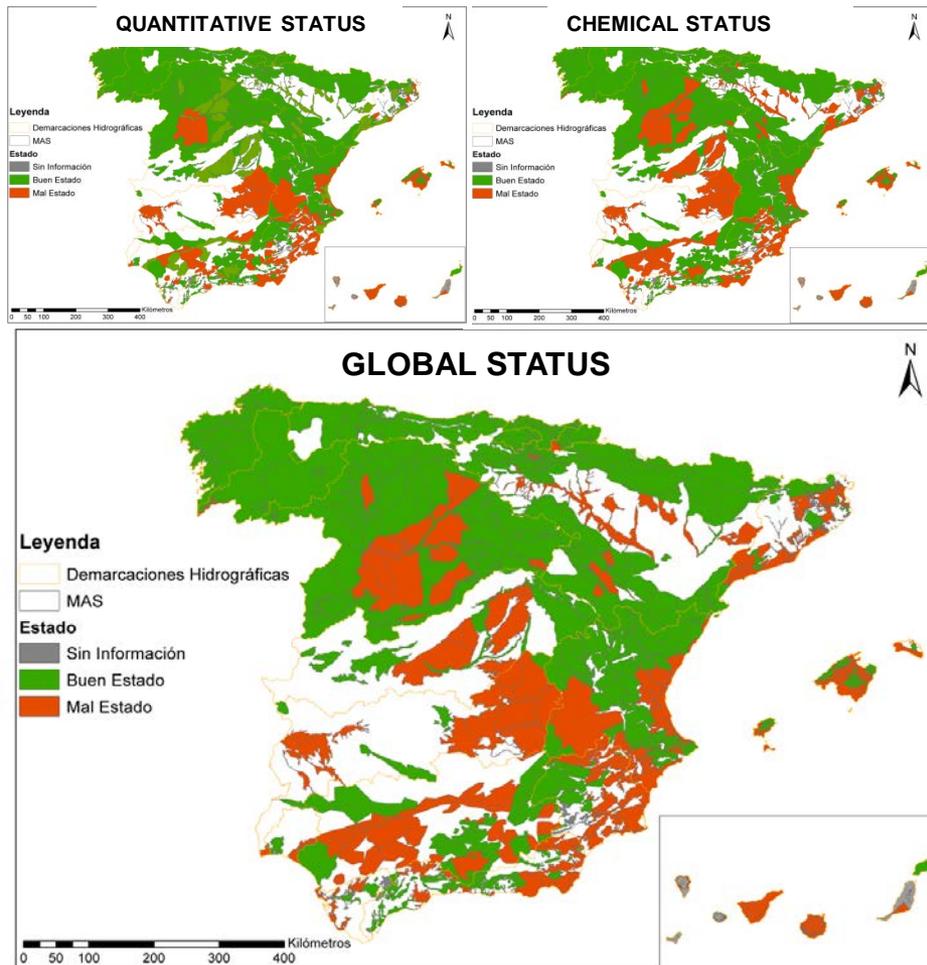
Status of surface water in Spain (2009-2015)



- Less than 50% in good status
- Insufficient information—water bodies with undetermined status (50% lakes, 20% rivers, 50% chemical status)
- Main challenge is ecological status of surface water bodies

Source: Willaarts, Ballesteros & Hernández-Mora (2013)

Status of groundwater in Spain and planning goals



PLANNING GOALS (2015/2021/2027)

80% in good status by 2027

16% insufficient information

4% less rigorous objectives

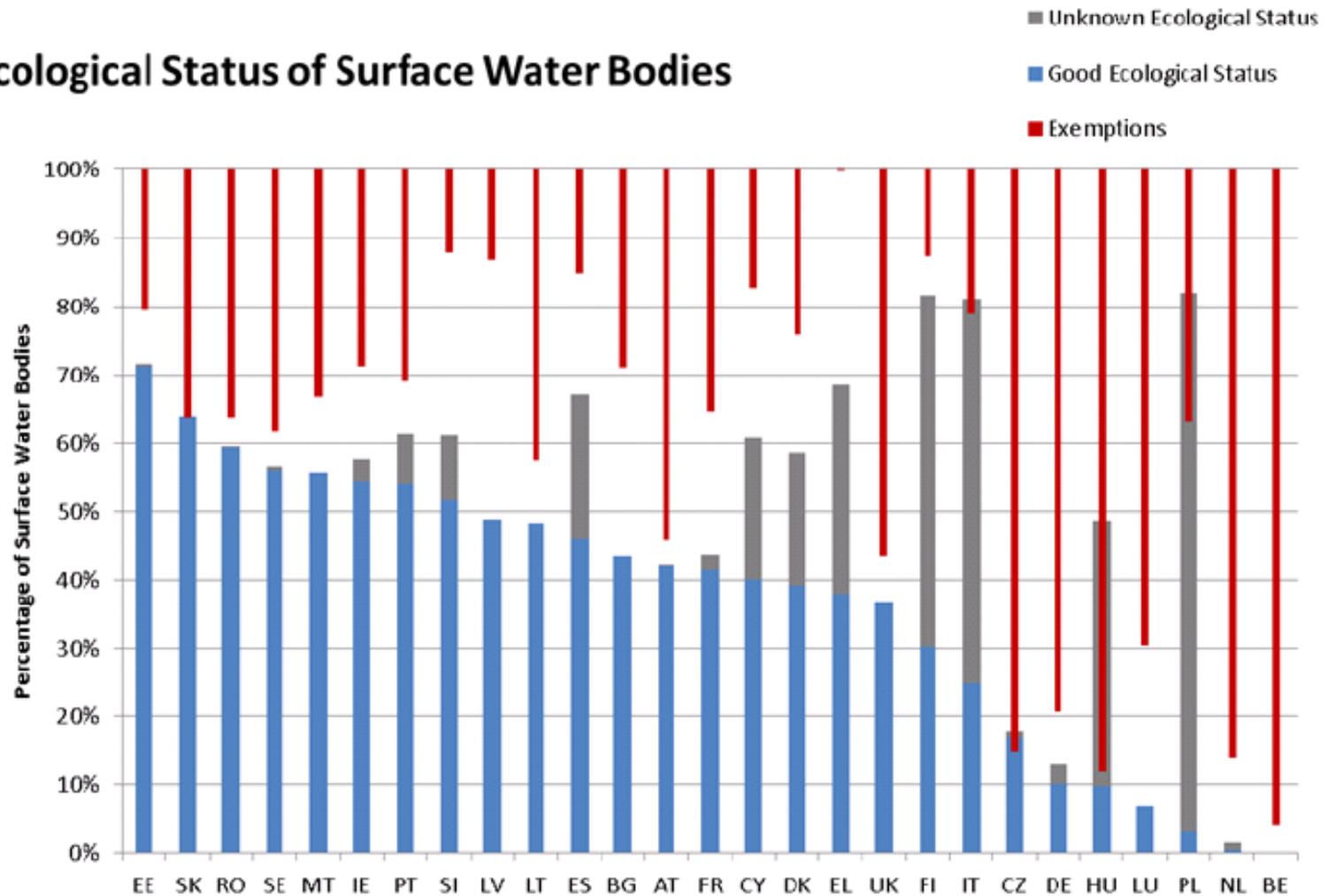
DIAGNOSIS

55% good status

42% less than good (88% poor/chemical status)

3% not enough information

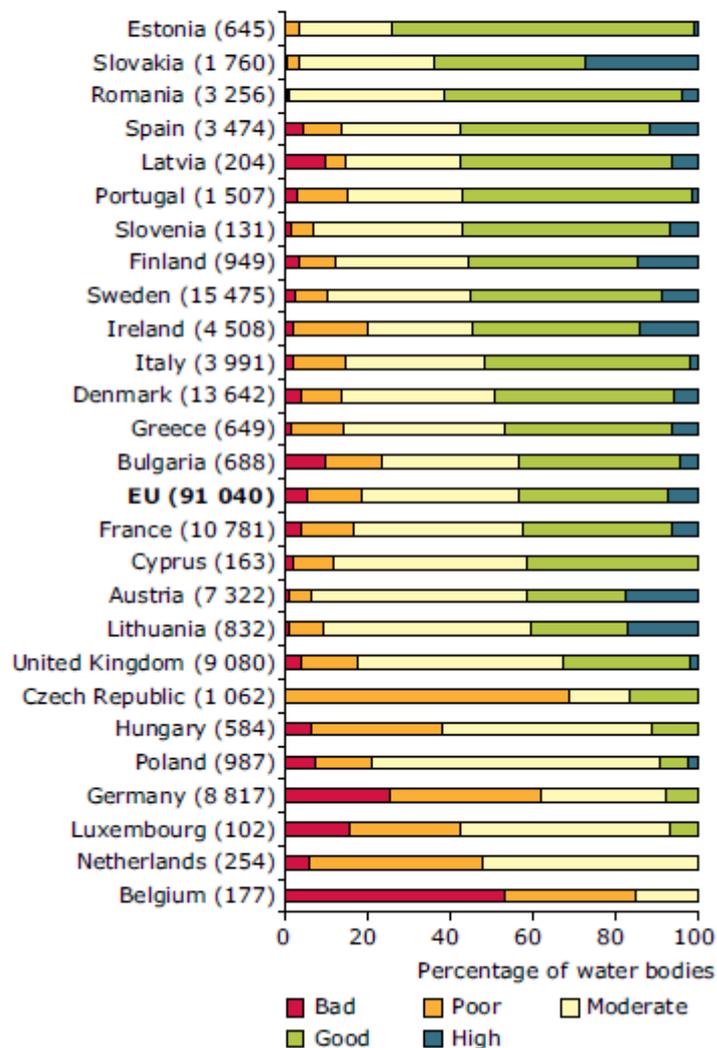
Ecological Status of Surface Water Bodies



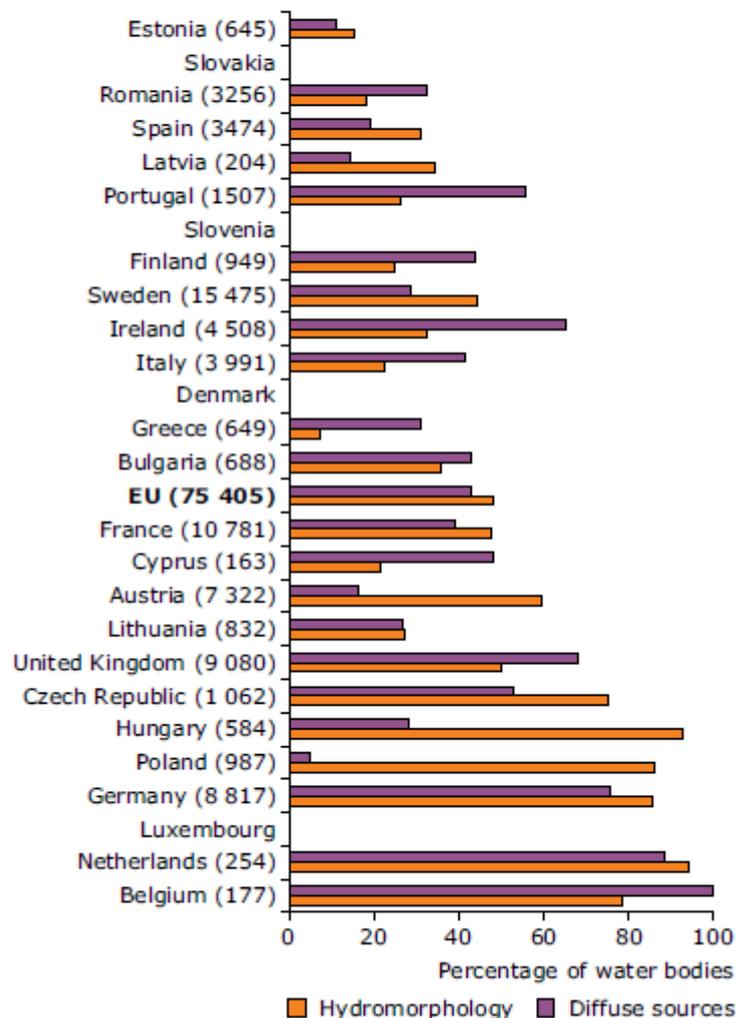
Source; RSPB, 2013, from WISE

Figure 4.5 Ecological status or potential of classified river water bodies in different Member States (a), and proportion of river water bodies affected by diffuse pollution and hydromorphology pressures (b)

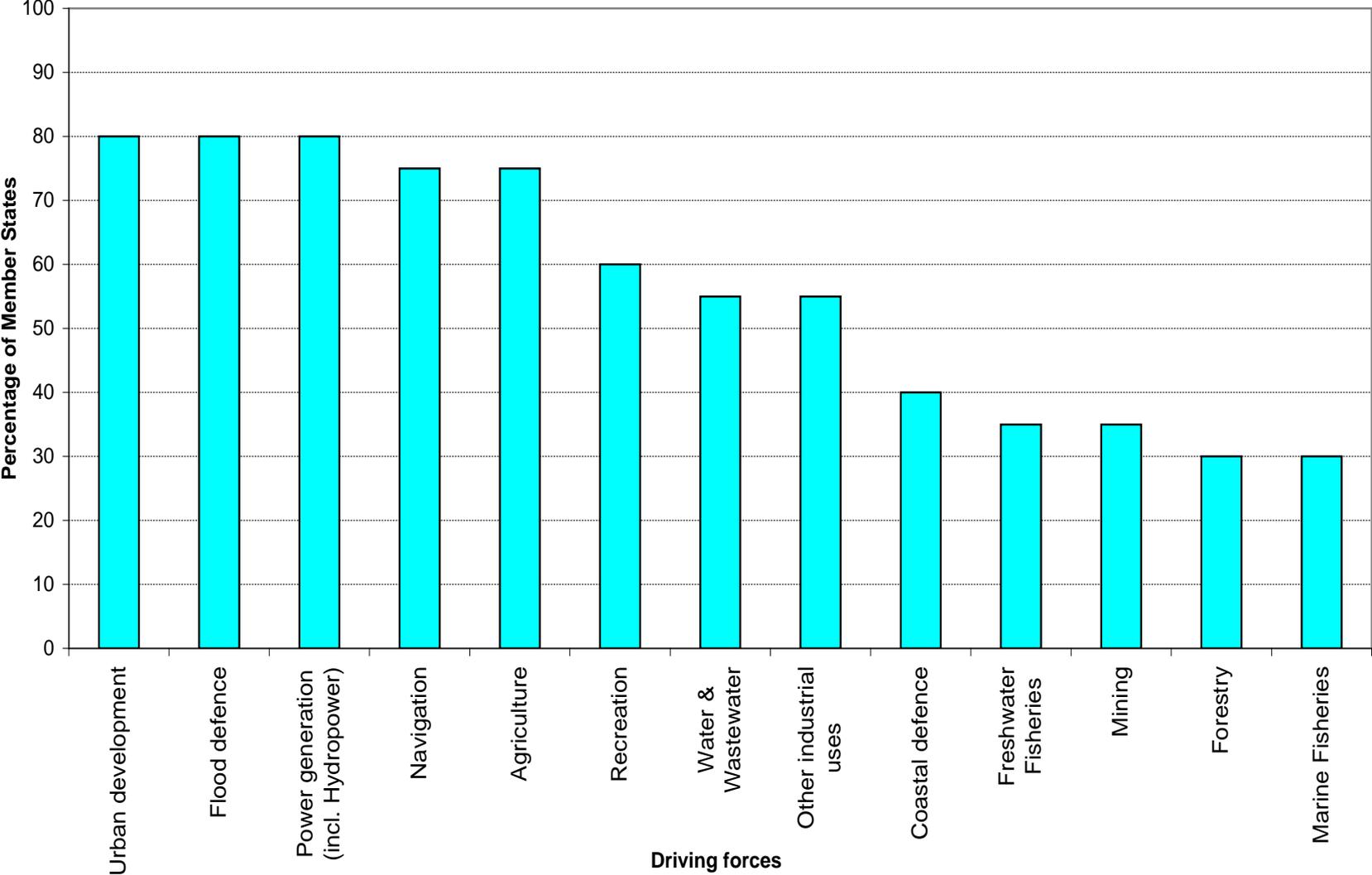
(a) Rivers: ecological status or potential



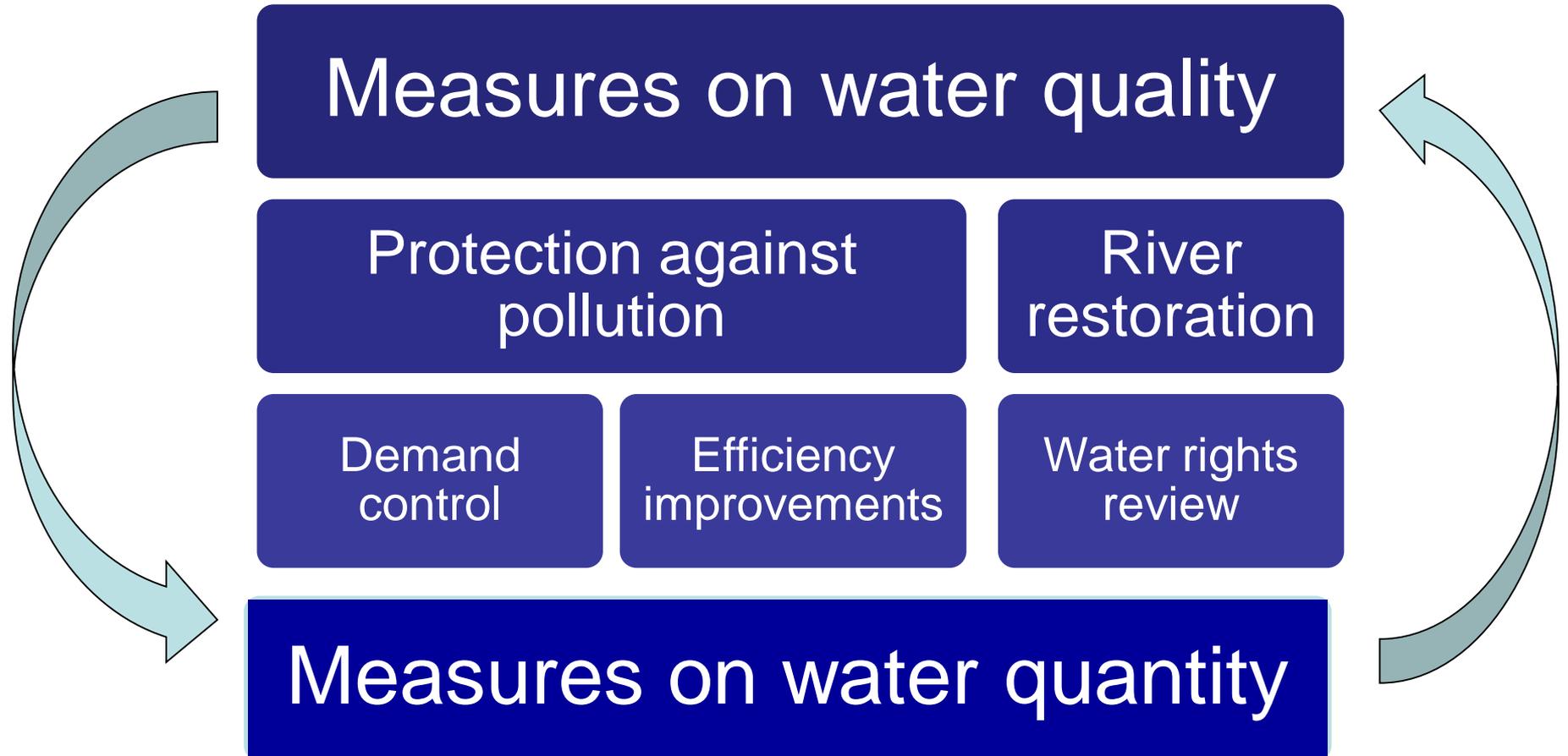
(b) Rivers affected by hydromorphology and diffuse pollution pressures



Driving forces concerning pressures on water bodies



How to achieve good status goals? The Program of Measures



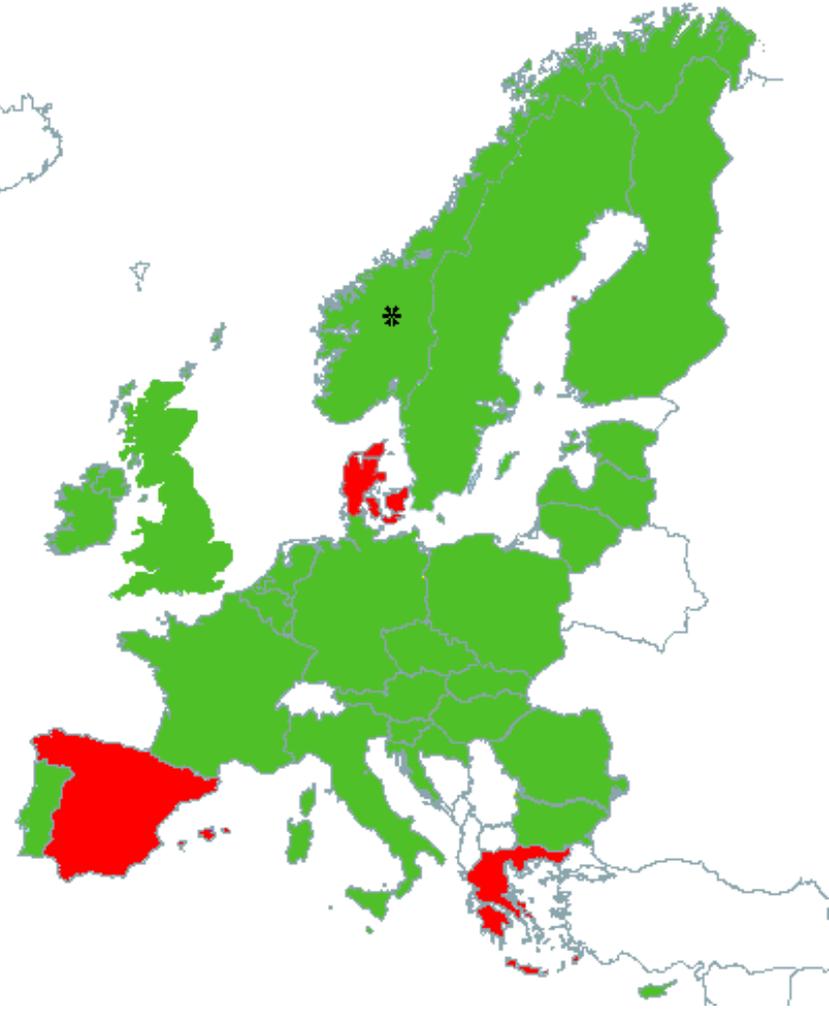
Lessons learned and next steps

Adaptive process under constant evaluation and reform

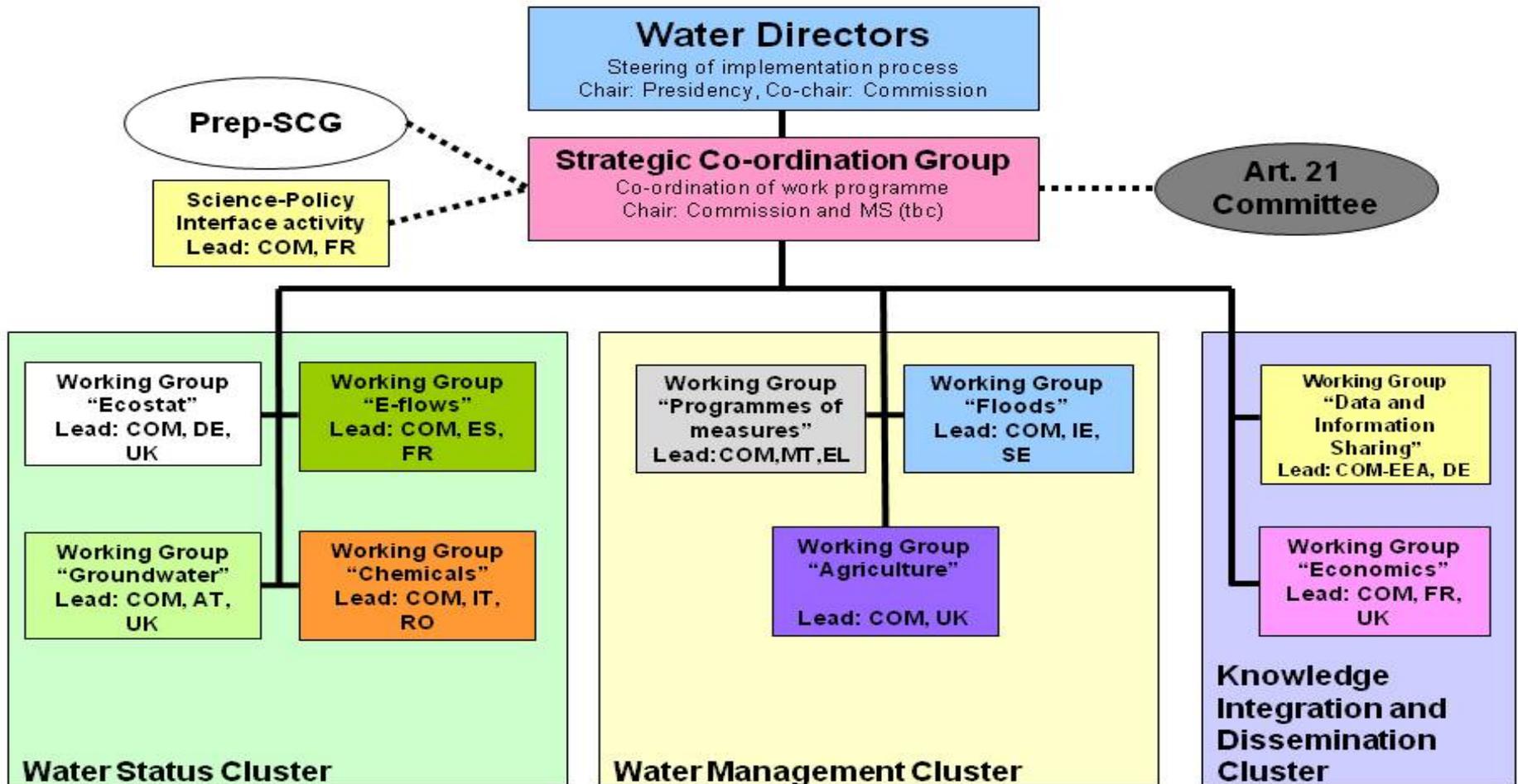
- Thorough evaluation in 2012:
 - Review of EU Strategy on Water Scarcity and Droughts
 - Periodic implementation reports(3rd report in 2012)
 - Blueprint to Safeguard Europe's Waters (COM(2012) 673 final)
 - outlines actions that concentrate on better implementation of current water legislation
 - Better integration of water policy objectives into other policies,
 - filling the gaps in particular as regards water quantity and efficiency.
- Review of individual plans and bilateral meetings with member states
- EC can initiate legal action against MS if it considers lack of compliance with WFD
- WFD will be thoroughly reviewed in 2018

What is the balance?

- Water ecosystems in Europe are in trouble - only 42% of surface water bodies were in good status in 2009
- Low ambition? Aim to reach only 53% good status in 2015. Objectives deferred to 2027
- Are the objectives achievable within a limited time-frame?
- There is still a lot we do not know: unknown status for 40% rivers, 30% lakes, 50% transitional waters and 35% of coastal waters
- Euroscepticism: less ambitious implementation zeal
- Inter-administrative coordinating challenges: sectoral policies (agricultural, industrial...), international river basins, etc.
- Unrealistic budgets of the Programmes of Measures - revised in current economic conditions
- Is full cost recovery approach advisable? Desirable?
- Ecosystem based management is on the agenda



CIS Organisation 2013-2015



Necessary integration with Floods Directive

- Flood risk assessment by 2011
- Public participation process starts by 2012
- Flood hazard and risk maps by 2013
- Flood risk management plans by 2015 (together with 2nd WFD River basin plans)
- Plans priorities: prevention, protection and preparedness

Some final thoughts

- WFD represents the most **ambitious and complex legal effort** to put the principles of Integrated Water Resources Management into practice at a continental level.
- However, the approach faces **resistance from the previously dominating “water elites”**
- There are real **contradictions that emerge from the practical experiences in its implementation** at different scales

Some of the main contentious aspects

- The **river basin as the undisputed scale** for integrated management and water governance: ideal scale of hydrologic characterization, but its role as scale for governance is under dispute.
- The larger **hegemonic economic thought** in which IWRM prescriptions are integrated, particularly the commodification processes and monetary reductionism of natural resources.
- The **weaknesses and failures of public participation** processes that have accompanied actual water resources planning and management experiences



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Thank you for your attention

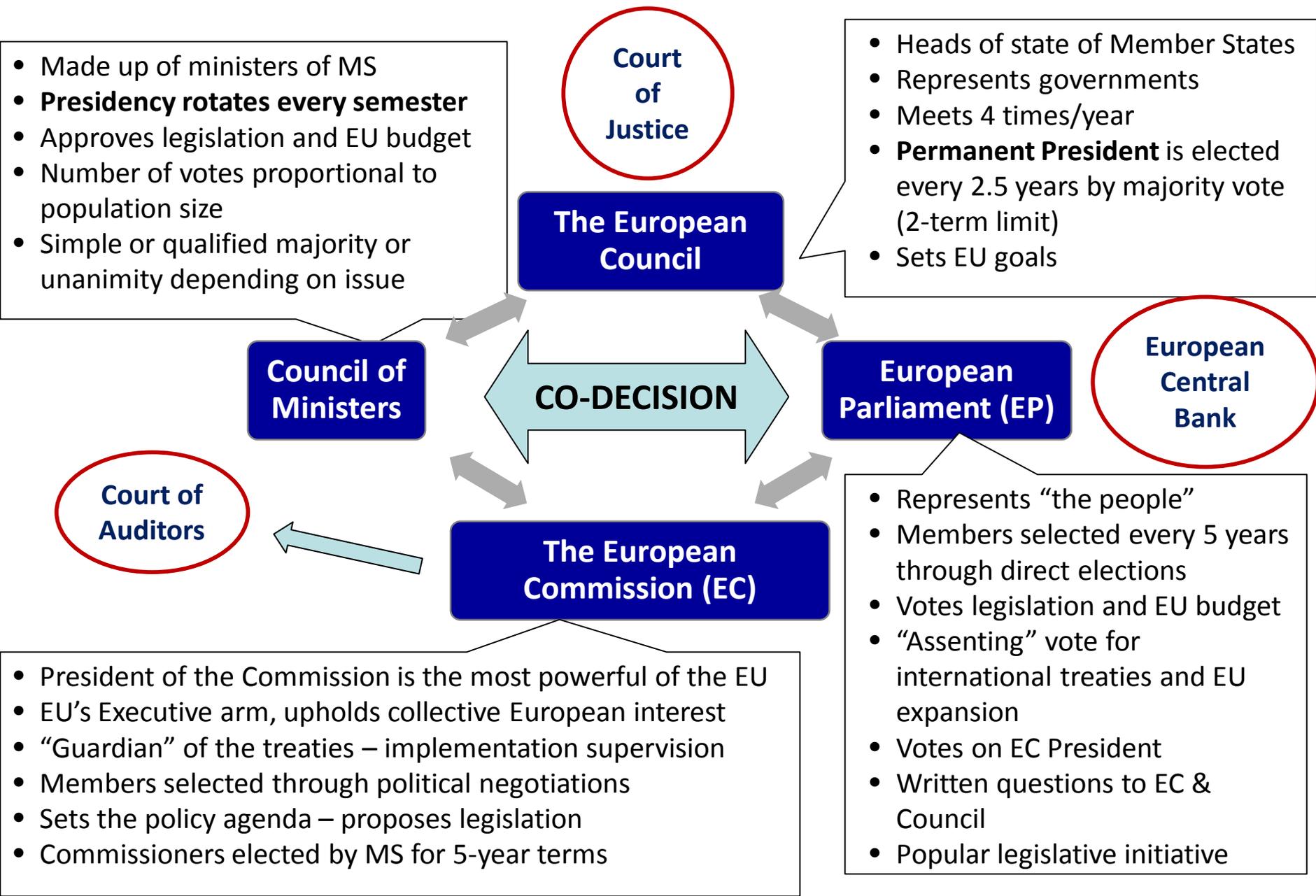
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<http://swanproject.webhost.uits.arizona.edu/>

For more information on the WFD implementation process:

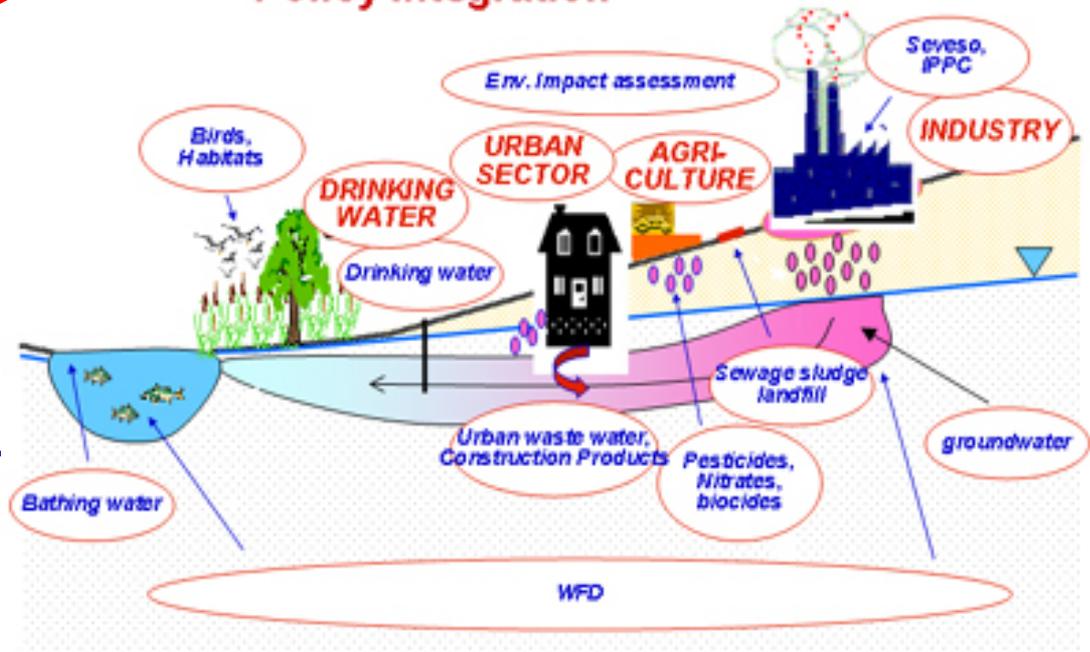
EU Institutions and Policy Making



Principles of EU Water Policy

- High level of protection;
- Precautionary principle;
- Preventive action;
- Rectification of pollution at the source;
- Polluter pays principle; and
- Integration of environmental protection requirements into the definition and implementation of other
- Community Policies - e.g. industry, agriculture, transport and energy
- The promotion of sustainable development.

Policy integration



Exceptions

Article 4:

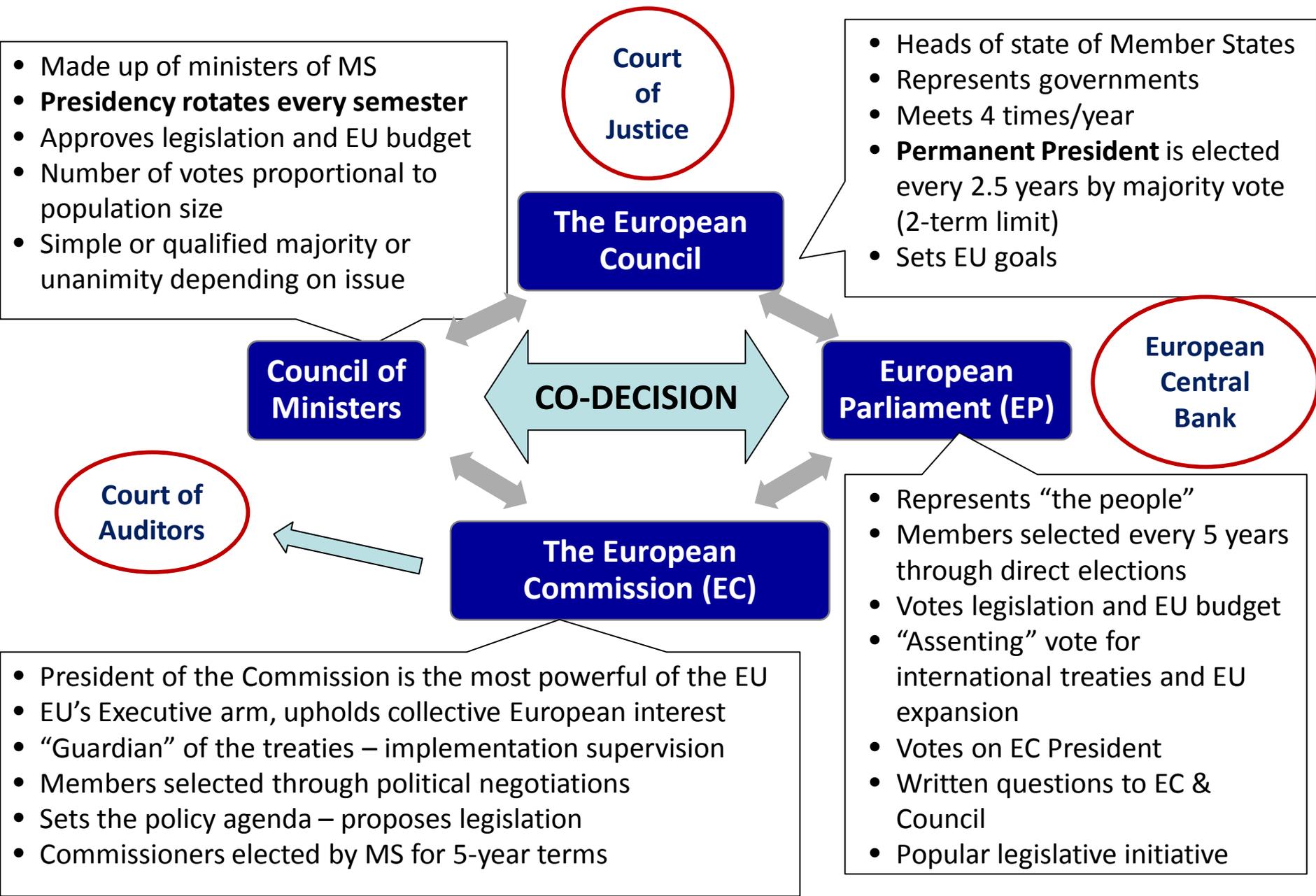
4(3) Heavily modified or artificial water bodies –less stringent objectives good ecological “potential” (4(5))

4(4) Extended deadlines for achievement of good status goals

4(6) Temporary deterioration

4(7) Further deterioration due to new developments under certain conditions

EU Institutions and Policy Making



European Union Treaties:

The process of creating an (imperfect?) Union

- **1951:** European Coal and Steel Community – Common market
- **1957: Treaties of Rome:**
 - European Economic Community (EEC) and the European Atomic Energy Community (Euratom)
 - 1960s: Common Agricultural Policy (1962) and Abolishment of customs duties (1968)
 - 1973: The Communities expand to nine Member States and introduce more common policies
- **1993: Treaty of Maastricht establishes the European Union (EU)**
 - Introduced common monetary policy and the Euro
 - Set up the institutional structure of the EU (policy making, foreign policy, justice)
- **1999: Treaty of Amsterdam shifts balance of power between EP, EC and CM**
 - **Introduced co-decision between EC and EP**
 - **EC President to be ratified by EP**
- **2002:** The euro comes into circulation in 12 countries (all but Denmark, Sweden and UK). In 2014 only 18 countries in the “eurozone”
- **2004: Proposed EU constitution rejected** in Denmark and France.
- **2009: The Lisbon Treaty comes into force**, changing the way the EU works:
 - Permanent President for the EU Commission
 - High Representative of the EU for Foreign Affairs and Security Policy
 - Ratifies co-decision and shifts required majorities and unanimity for different policy areas