Ecologic Institute

Science and Policy
for a Sustainable World

Water & River Basin Management and Policy

A EU shift in management culture - turning to natural solutions

Potsdam, 21 September 2015
Eleftheria Kampa, Ecologic Institute

Four key challenges for Europe's Waters

1. Overuse of **fertilisers and diffuse pollution** of surface & groundwater
2. **Barriers, structural changes**, flow regulation, dredging
3. **Climate change** challenges to quantity and quality, droughts, flood risks
4. **Systemic challenges** which require integrated advanced policy solutions; communication & solutions on river basin level

Evolution of EU water policy

- **1970s**: “First wave" with standards and setting binding quality targets for **drinking water;** quality objective legislation on fish waters, shellfish waters, bathing waters and groundwaters; **emission control** through Dangerous Substances Directive
- **1990s**: “Second wave” with **Urban Wastewater** Treatment Directive and **Nitrates** Directive
- **2000**: **Water Framework Directive (WFD)** adopted to bring about revolution in EU water management

Key elements of the WFD Revolution

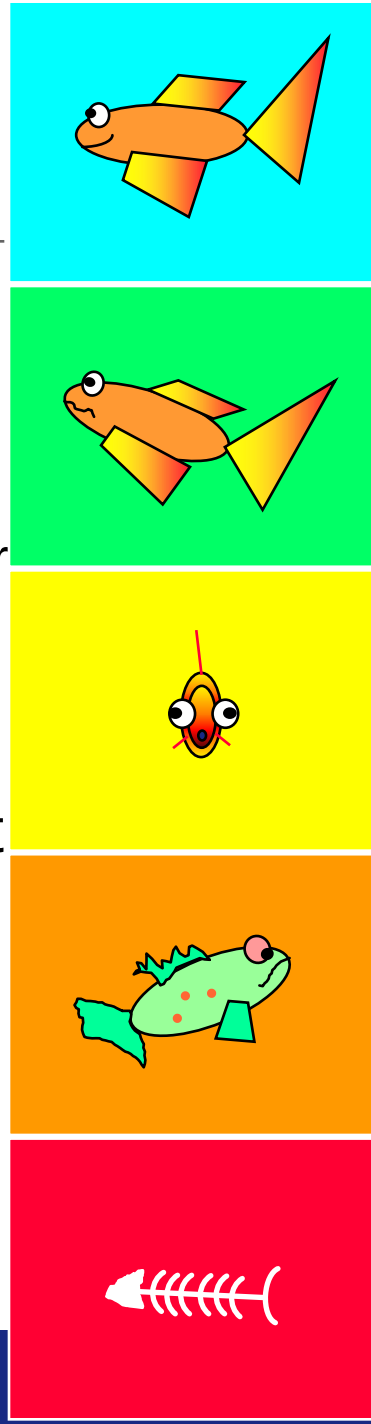
- **Good Status** for All Waters by Management Cycle
- **Scope of Water Quality Assessment** (all 3 elements)
- **Integrated River Basin Management** (administration)
  - Coordinated objectives - ecosystem approach
  - Catchment approach
- Policy **Integration** and Policy Conflicts
- **Economics** and Economists
- **Public Participation**

Also keep in mind…

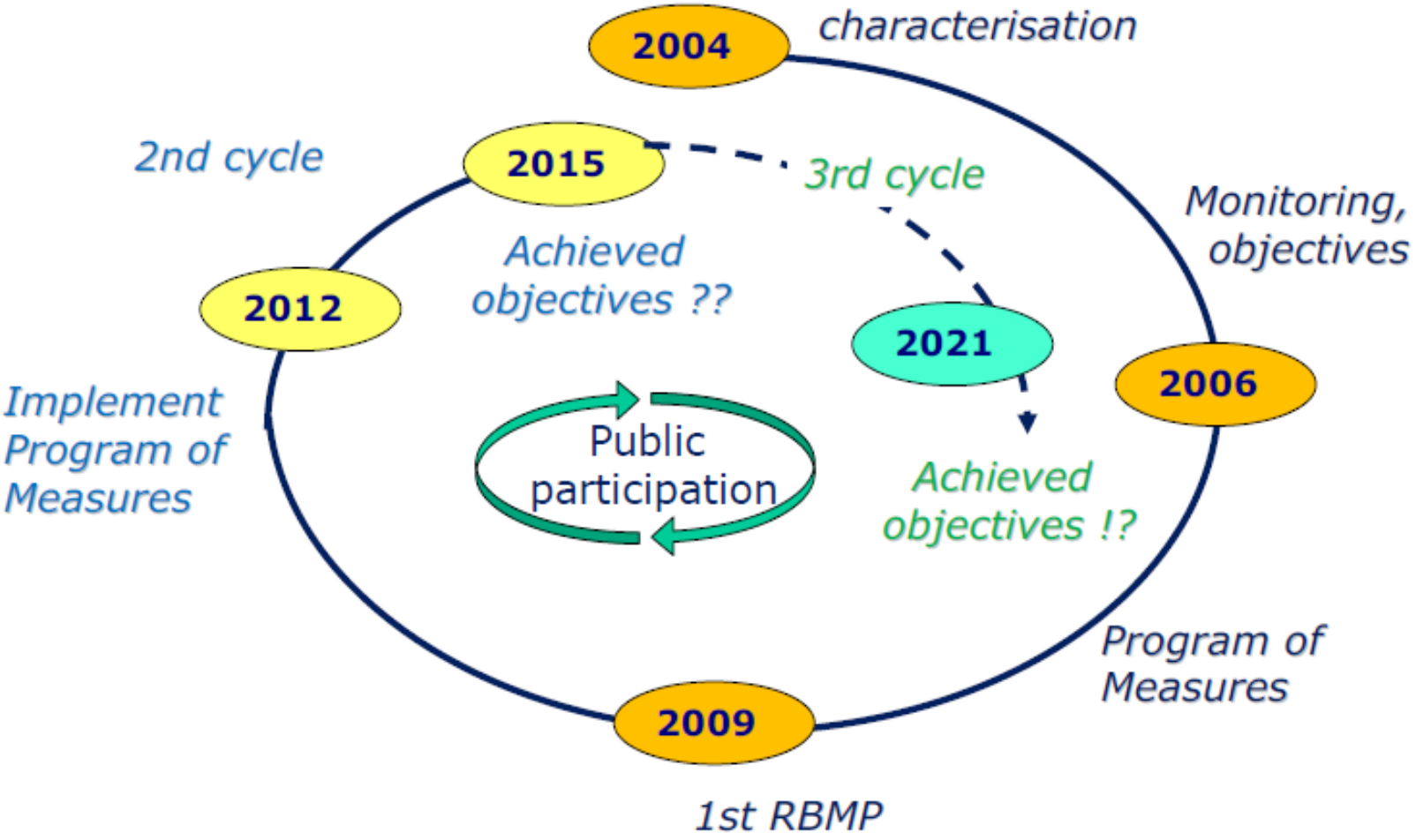
- *A Directive is a law of the EU that is binding in its objectives but leaves freedom for policy designs in the Member States; it is an instruction to all Member States to initiate policies and legislation.*
- "Water Directors" as a new transnational body
- Common Implementation Strategy (CIS)
  - Guidance Documents as technical support (non-binding)
- Reporting and Review Mechanisms: Policy Learning

Key objective of the WFD

- “Good status for all waters by 2015”
  - (or as soon as possible thereafter or perhaps never if you can justify that)
- Prevent any further deterioration of status
- Water bodies at the centre of water policies; not water uses or functions (**green revolution**).
- The WFD establishes a cyclical management (6 years) for continuous improvement of water bodies.



Planning cycle of the WFD



Water quality assessment on 3 elements

- Water Status (water quality) is defined for all types of waters (rivers, lakes, groundwater, coastal) based on:
  - **Biology,**
  - **Chemistry (pollutants, nutrients, pH, ...),**
  - **Hydro - Morphology.**
- Before the WFD, no Member State looked at all 3 elements combined in water policy and management.

River Basin Management

- **Integrated** River Basin Management (surface, ground & coastal waters, & wetlands)
- Perspective changes **from “lines” to “areas”.**
- Focus shifts **from point to diffuse sources**.
- Administration **from territory to bio-regions**.
- Towards an **overhaul of administrative structures** and procedures.

River Basins and States in Germany

Integration at the core of the WFD

- **Across sectors**
  (Environment, Shipping, Power, Public Works…)
  - Conflicts with agriculture (irrigation, chemicals)
- **Across fields of environmental policy**
  - Quantity & quality, morphology & dynamics
  - Integrating Environment & Nature Conservation

Economics entering water policy

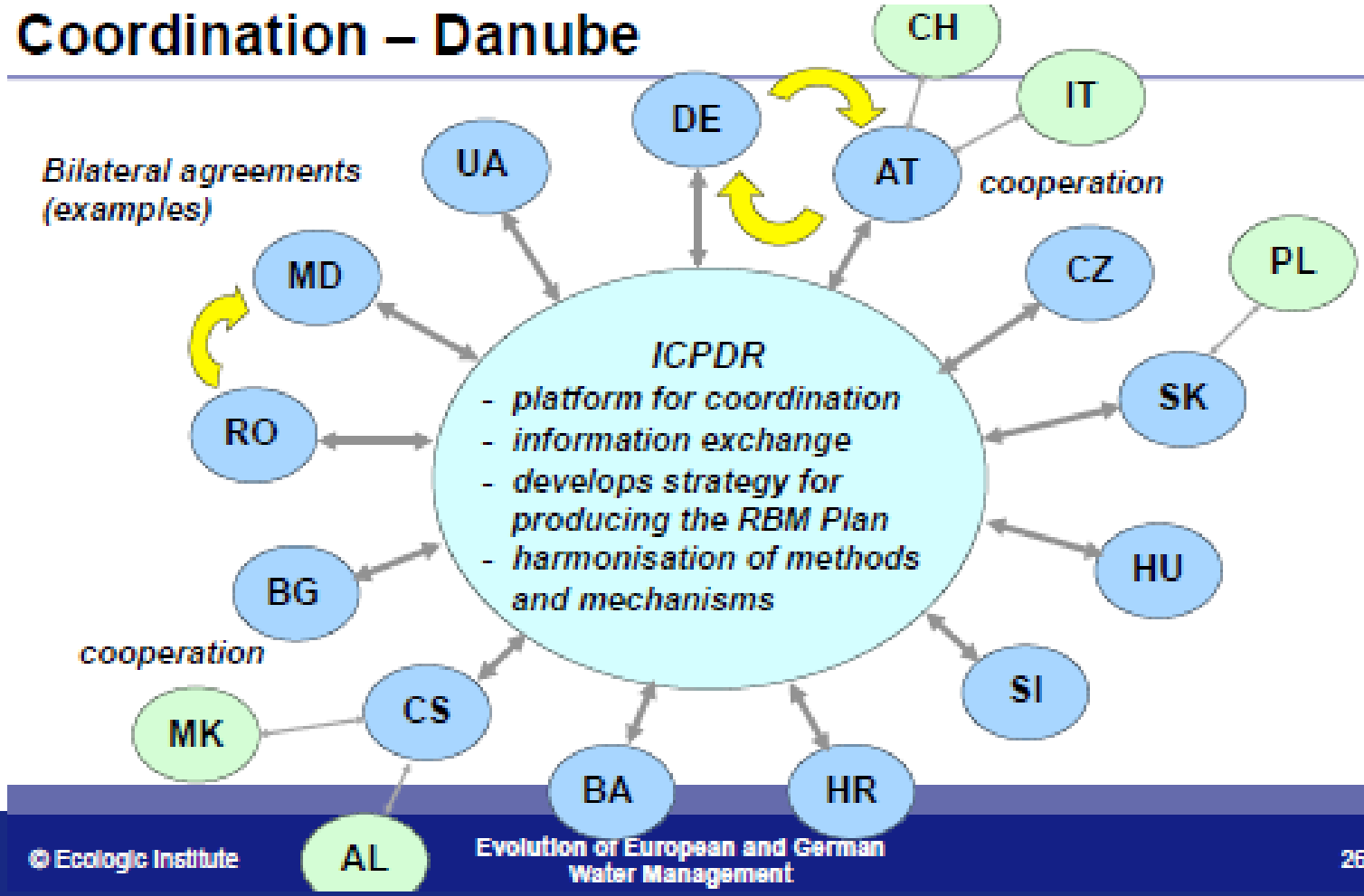
- Economic analyses
- **Cost recovery**; environmental & resource costs
- **Selection of measures** on economic considerations
- Justification of exceptions from objectives on the basis of socio-economic considerations and technical feasibility

Public participation, not just information

- Committees, commissions etc.
- Hearings and other public events
- Web Sites (visualization with GIS)
- Involvement of stakeholders (water users & public interests)
- *Opens up decision-making in a technocratic field*
- ***Requires water managers with new social and communication skills**.*

International coordination, e.g. Danube

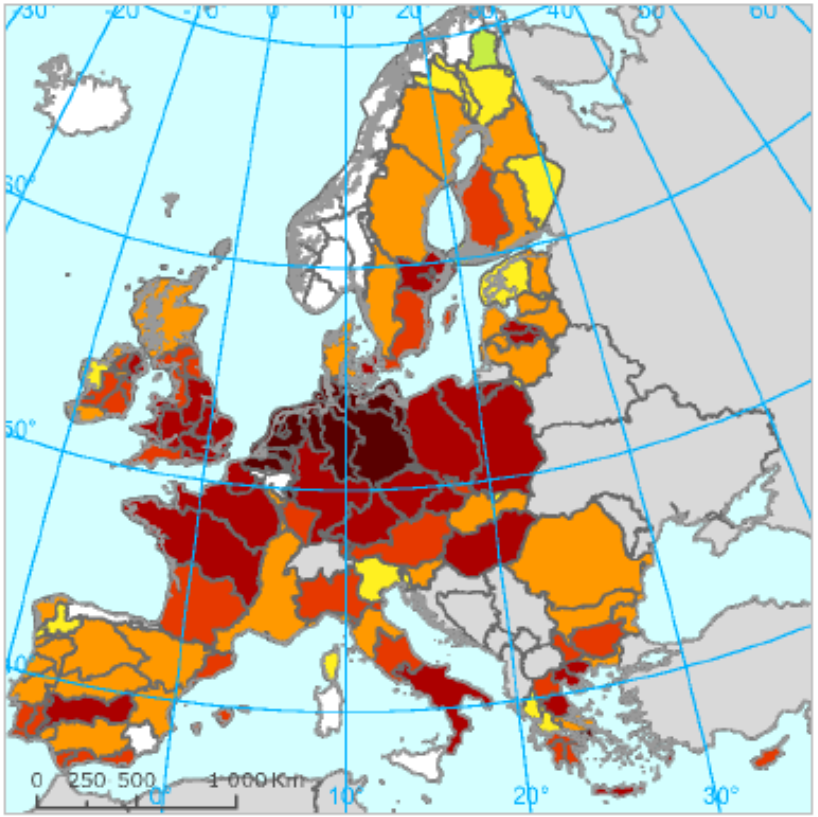
18 countries, 81 million inhabitants



WFD key achievements

- Expected result: **53% of EU waters in good status** by 2015 if measures implemented (up from 43% in 2009)
- WFD (and "daughter" directives) have contributed to **improving water protection** in EU
- **Effective dialogue with Member States** to improve implementation
- Increased **trans-boundary cooperation** in water management
- Much **improved knowledge-base** and data on water

Ecological status of Europe's rivers



Percentage of classified rivers and lakes in moderate-to-bad ecological status or potential

< 10 % | 10–30 % | 30–50 % | 50–70 % | 70–90 % | ≥ 90 % | No data

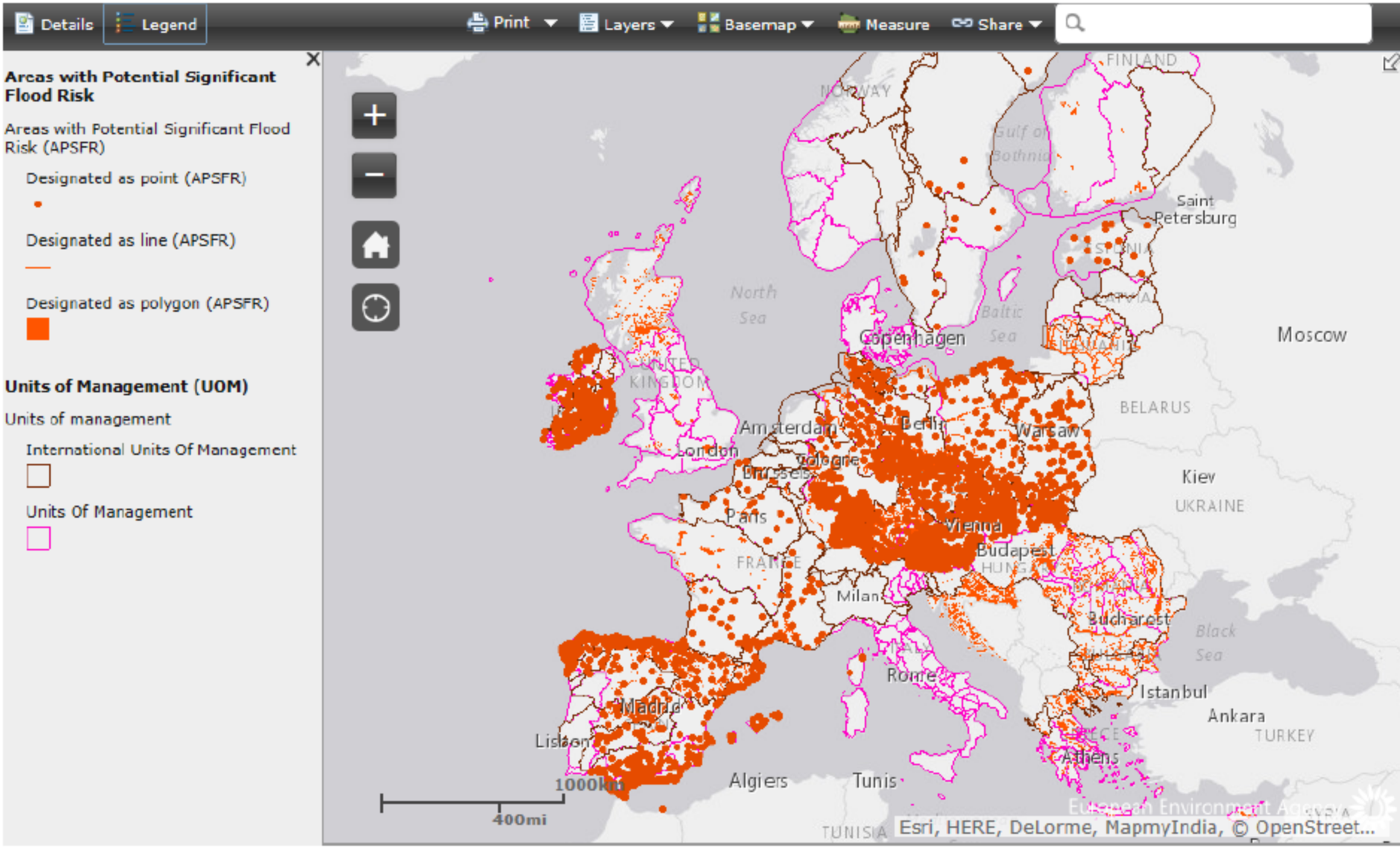
Source: EEA (2012) State of Water report

Floods Directive – Response to flood risks

- 2007: Adopted after catastrophic floods on Danube and Elbe rivers in summer 2002
  - Since 1980: 325 major river floods, 2500 fatalities, economic losses of 90 billion Euro.
- An integrated approach to managing flood risk; river basin-scale approaches; work with nature
- Based on 6-year planning cycle; European framework to identify, evaluate and address flood risk

Key results so far

- Significant progress in the implementation (most MS have done **Preliminary Flood Risk Assessment**)
- **Flood Hazard and Risk Maps** provide a wealth of info on flood risks in EU
- Good basis to develop **Flood Risk Management Plans** (FRMPs - by 12/2015)
- Member States have a **better understanding of the origin and the extent of risk**



http://www.eea.europa.eu/themes/water/interactive/floods-directive-pfra-apsfr

Some Flood Hazard and Risk Mapping numbers

- More than 20 million people potentially affected by medium probability fluvial flooding in the EU
- Almost 4,500 industrial installations potentially affected by fluvial floods
- Around 2/3 of increases in economic damages from floods are attributed to socio-economic growth (infrastructure/assets in floodplains), with the remaining third due to climate change

.. Improvements needed

- Need to **ensure better coordination between FD and WFD** (e.g. use of Natural Water Retention Measures)
  - Strengthen **natural retention** and storage capacity of aquifers, soils and ecosystems
  - E.g. **reconnect floodplain to river**, re-meandering, **wetland restoration** can delay/ reduce flood peaks
- It is of utmost importance to apply **land use** strategically
- Flood risk reduction should consider natural solutions to a natural phenomenon

Good practice: Netherlands

From decades of closing dikes

1916
Closure dike

To Room for the Rivers

https://www.ruimtevoorderivier.nl/english/

Concluding thoughts

- Transition in water and flood risk management;
- Decades of engineering and landscape transformation towards **use of natural processes**
- WFD and FD **changing culture of water management**
- Key to **act cross-cutting** (link water management to nature protection policies, rural development, climate change adaptation & mitigation)

Ecologic Institute

Science and Policy
for a Sustainable World

Thanks! Your Thoughts?

Dr. Eleftheria Kampa
Eleftheria.kampa@ecologic.eu

Ecologic Institute

Pfalzburger Str. 43/44
10717 Berlin
Germany

Tel. +49 (30) 86880-0

ecologic.eu