EU Water policy

Energy Community Treaty

EU Water Framework Directive and its two 'daughter' directives

- Purpose = demonstrate what would be required to transpose the WFD into the EcT acquis

- The activities or projects falling under the EcT would need to be established and managed/operated in accordance with the requirements under the WFD and its two daughter directives

- This requires a broader effort :
  - Identify, characterize, monitor and classify all potentially affected water bodies (= all water bodies)
  - Identify and implement the measures required to bring the water bodies affected by energy related activities, to good status and avoid their deterioration in the sense of the WFD

1. Water Framework Directive 2000/60/EC

WFD - Scope, objectives and tools

- **Scope**
  - Covers ALL waters, including rivers, lakes, transitional-, coastal- and groundwater
  - Covers all impacts on waters (pollution, hydromorphology, physico-chemical)

- **Objectives**
  - **Protect and enhance water bodies**
  - **Achievement of good status / potential**
  - **No deterioration**
  - **Exemptions under certain conditions**

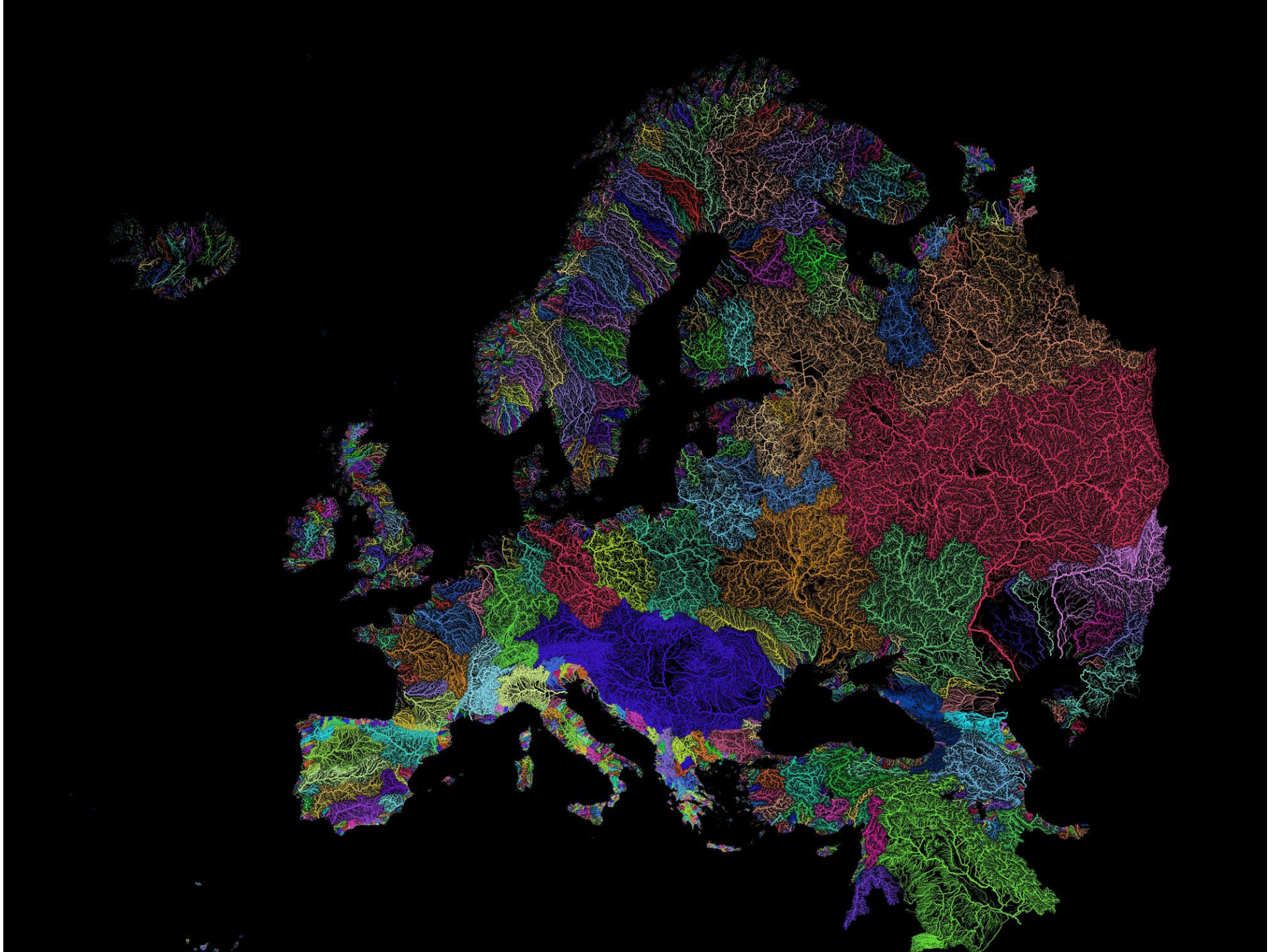
- **Tools**
  - River Basin management concept
  - Classify water bodies based on pressures – impacts – geolocation
  - Monitor and assess current status
  - Address impacts - six year cycle programs of measures in River Basin Management Plans

First step – set up water governance systems

- **Establish** and **implement** water policies, legislation and institutions
- Clarify **roles** and responsibilities of government, civil society and the private sector in relation to **water resources** and **services**
- Establish long term water management plans
- Assess water risks – water quality and quantity
- Protect water uses against pollution and excessive use
- Protect water-related ecosystems and their services

Characterisation River Basins

- Based on River Basin concept
- **Classify** water bodies based on pressures – impacts –hydro geological characteristics
- Consider presence of protected areas **(additional protection or measures)**
- Set **Reference conditions**
- Monitor water bodies
- Assess current status



The European river basins

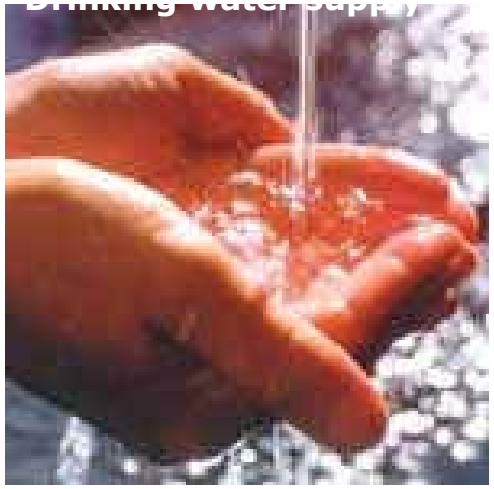
= very diverse regions

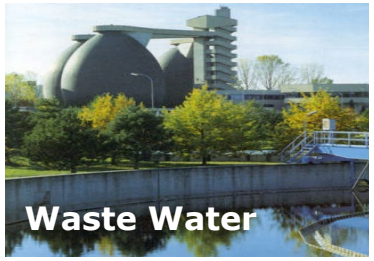
European Commission

River basins and catchment areas

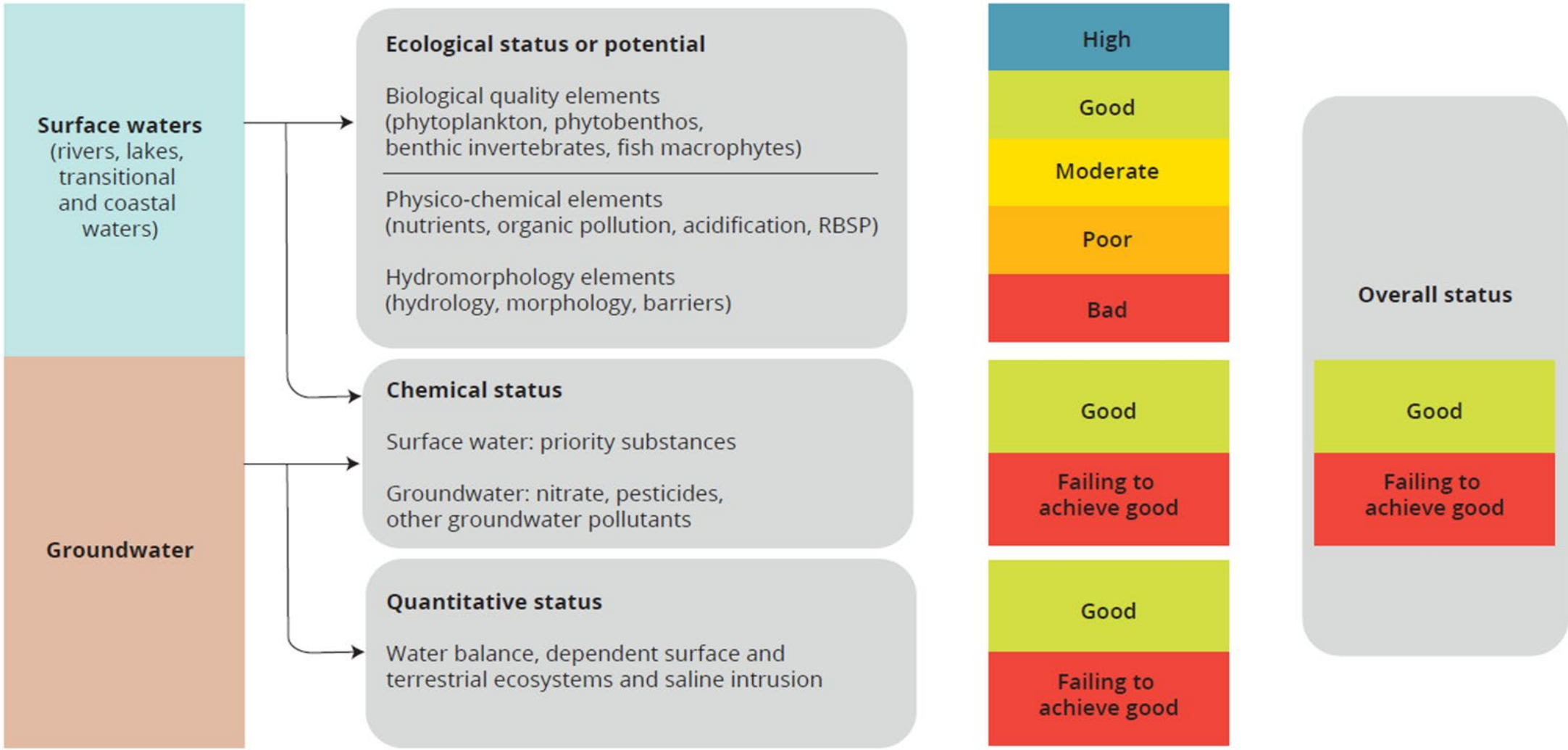
European Commission

Diversity of uses, aspirations, pressures and impacts





Assess status – identify gap to good status



Identify measures to reduce impacts

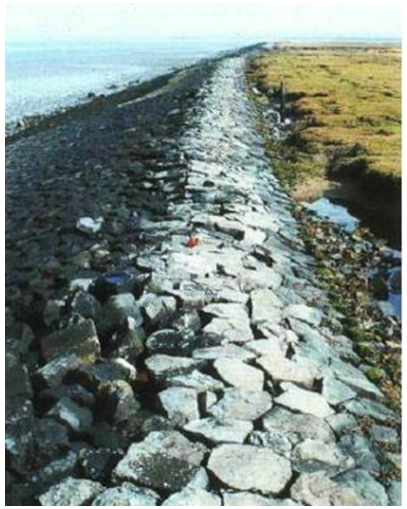
Measure to address **pollution** (nutrients, pesticides, chemicals) - many are mandatory and follow from related legislation (Urban Waste Water Treatment, Nitrates and Industrial Emissions Directives, Pesticides legislation, Pharmaceuticals..)

Measures to address **hydromorphological presssures** (caused by dams, reservoirs, hydropower, flood protection, canalization)

- ensure continuity (e.g. fish ladders, removal of weirs, bypass channels)
- sediment/debris management
- set ecological flows
- restore habitats and modified bed and bank structures

Measures to address pressures from **abstractions** = permits, registers, water meters

Additional measures to achieve the specific objectives of **protected areas** (eg areas subject to eutrophication; nitrate vulnerable zones; areas used for drinking water abstraction, natura 2000 protected areas)



Exemptions

- Art 4(4) WFD = time related exemptions (until 2027)
- Art 4(5) WFD = **less stringent objectives**
- Art 4(6) WFD = justify **temporary deterioration if result of** natural causes or "force majeure" – severe floods, prolonged droughts, accidents (unforeseeable)
- Art 4(7) WFD = in case of deterioration/prevention of good status as a result of **new projects/modifications** to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater

Exemptions

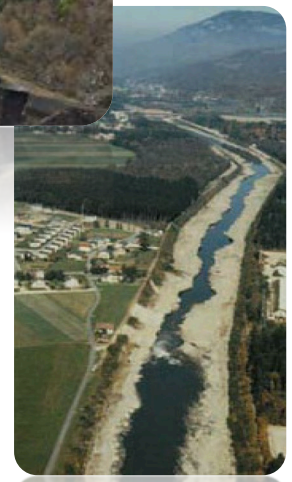
- SUBJECT to evidence of compliance with strict conditions
- SUBJECT to detailed justification in the River Basin Management Plan – evidence of all practicable measures being taken
- SUBJECT to no better environmental alternatives
- exemptions for one water body must not permanently exclude or compromise achievement of the environmental objectives in other water bodies

The case of hydropower projects - Article 4(7)

Disruption of ecological flow

Impoundment

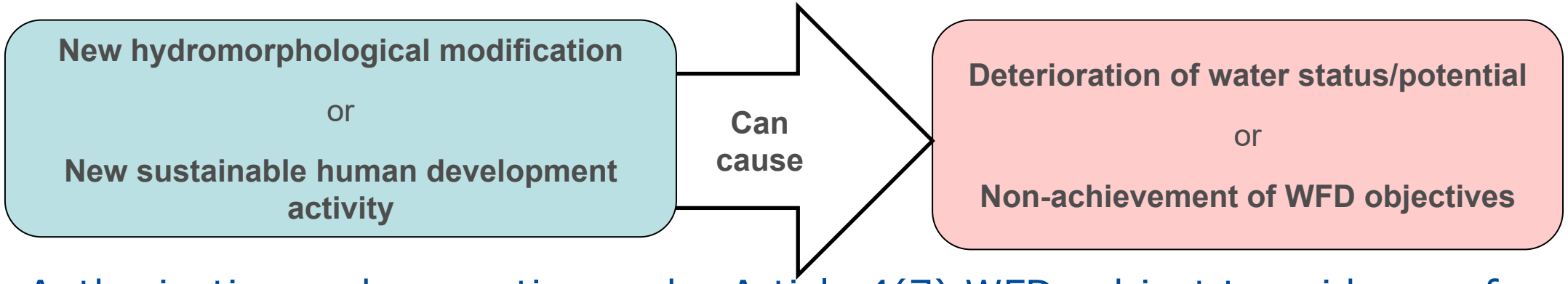
Interruption of fish continuity and sediment transport



Hydro-peaking

European Commission

New (hydropower) projects



➔ Authorisation and exemption under Article 4(7) WFD subject to evidence of

- ➔ prior assessment of impacts on all potentially affected water bodies
  - All practicable mitigation measures are taken
  - no significantly better environmental and not disproportionately costly options to achieve same objective
  - The benefits for human health/nature/ sustainable development outweigh the benefits of achieving the WFD objectives OR the project is of overriding public interest
  - The reasons are clearly explained in the River Basin Management Plans

Existing infrastructure (hydropower): Modernisation and improvement of ecological performance

- Measures to mitigate the impacts and reach good status
- Possibly apply Article 4(3) WFD: if the hydromorphological changes needed to achieve good status would significantly affect the use or wider environment:

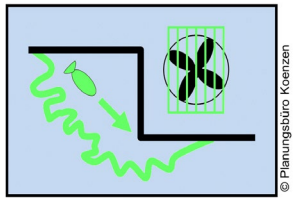
  → Classification of water bodies as Heavily modified

  → Objective « **Good Ecological Potential** » - best conditions achievable without significantly affecting use - needs to be defined by Member States

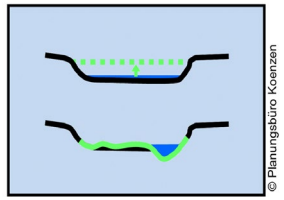
  → **Mitigation measures** to mitigate the impacts and reach good potential

  → **Best approximation of ecological continuum**

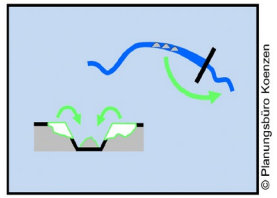
Example of mitigation measures



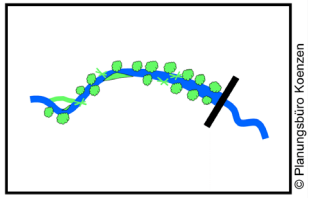
Fish migration aids



Environmental flow



Sediment management



Improvement of in-channel facility

2. Environmental Quality Standards Directive
Directive 2008/105/EC
Chemical status surface water

EQSD defines chemical status surface water

EQSD sets out a list of 'priority substances' and related Environmental quality standards (EQS)

Current list includes 45 priority (hazardous substances) and 8 'other pollutants' (legacy from existing legislation prior to WFD) = 53 substances to be monitored and assessed

EQS are expressed as annual averages and maximum concentration limits of substances in water (or biota)

Good chemical status = non exceedance of any of the EQS

EQSD defines chemical status surface water

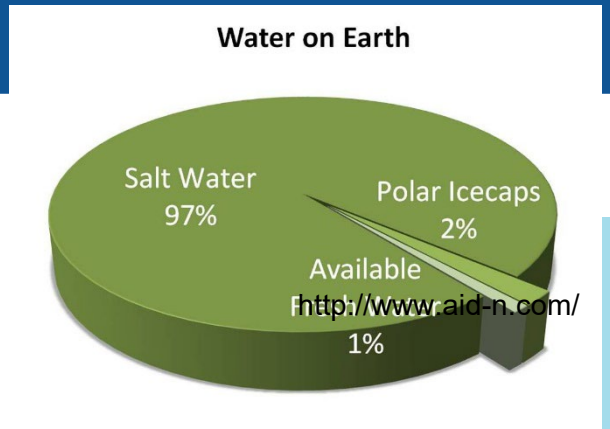
Alachlor	Di(2-ethylhexyl)phthalate (DEHP)	Nickel and its compounds
Anthracene	Diuron	Nonylphenols
Atrazine	Endosulfan	Octylphenols
Benzene	Fluoranthene	Pentachlorobenzene
Brominated diphenylethers	Hexachlorobenzene	Pentachlorophenol
Cadmium and its compounds	Hexachlorobutadiene	Polyaromatic hydrocarbons
Chloroalkanes, C_{10-13}	Hexachlorocyclohexane	Simazine
Chlorfenvinphos	Isoproturon	Tributyltin compounds
Chlorpyrifos (Chlorpyrifos-ethyl)	Lead and its compounds	Trichlorobenzenes
1,2-dichloroethane	Mercury and its compounds	Trichloromethane (chloroform)
Dichloromethane	Naphthalene	Trifluralin

EQSD defines chemical status surface water

In 2013, 12 additional priority substances were added and some EQS amended

Dicofol	Aclonifen	Dichlorvos
PFOS and its derivatives	Bifenox	Hexabromocyclododecanes (HBCDD)
Quinoxyfen	Cybutryne	Heptachlor and heptachlor epoxide
Dioxins and dioxin-like compounds	Cypermethrin	Terbutryn
Existing PS → PHS:	DEHP	Trifluralin

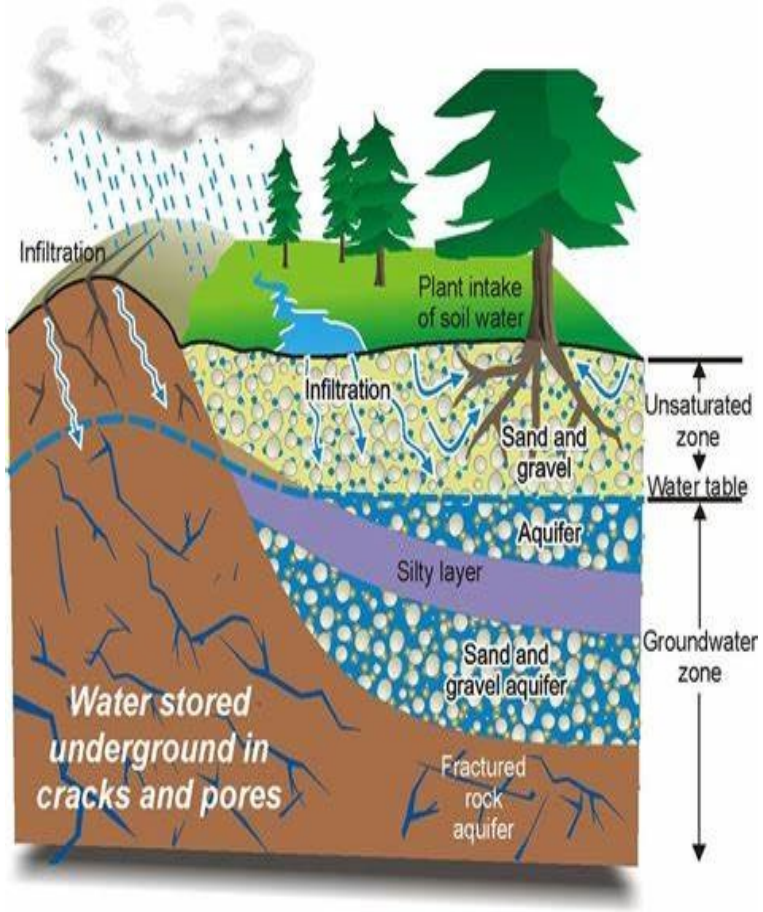
3. Groundwater Directive


Water on Earth
Salt Water
97%
Polar Icecaps
2%
Available
1%
http://www.aid-n.com/


Groundwater
makes up the largest reservoir
of freshwater in the world,
accounting for over 97%
of all freshwater available on earth
European
Commission

WFD and GWD environmental objectives for groundwater

- Prevent and combat groundwater pollution
- Achieve good status of all groundwater bodies by 2015
- Prevent and limit input of pollutants into groundwater
- Reverse any significant, upward trend of pollutants
- Meet requirements of protected areas
- GWD sets procedures to monitor and assess chemical status and measures to reduce levels of pollutants
- Main pressures: agriculture – urban – industrial - contaminated sites



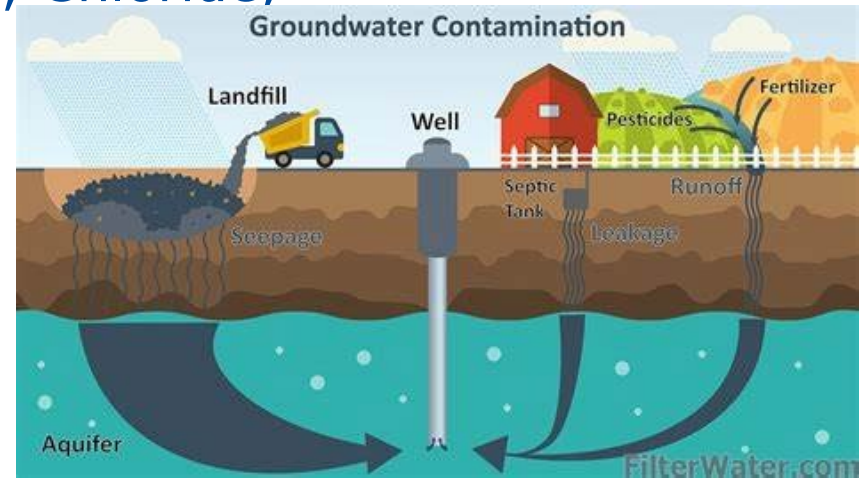
Good Groundwater chemical status

Compliance with EQS in **Annex I GWD**

- Nitrates 50 mg/l,
- Pesticides: individual 0,1 mikrog/l, total 0,5 mikrog/l

Compliance with **national threshold values** set for high-risk pollutants listed in **Annex II** – for MS to consider (if national risk)

- Arsenic, Cadmium, Lead, Mercury, Ammonium, Chloride, Sulphate,
- Trichloroethylene, tetrachloroethylene
- Conductivity
- Nitrites, Phosphorus (total) / Phosphates



Thank you

Please visit:

- Zero Pollution webpage
- Water - Environment - European Commission (europa.eu)

Contact: **ENV-ZERO-POLLUTION@ec.europa.eu ; ENV-WATER@ec.europa.eu**

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