Institute for European Environmental Policy

Challenges of Implementing European Water Policy

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Overview

- Fitness check – the current “agenda item”
- Implementation issues
- Problems facing EU waters – chemicals and nutrients
- Economic challenges

Fitness Check

- The Water Framework Directive, the Groundwater Directive, the Environmental Quality Standards Directive (or Priority Substances Dir.) and the Floods Directive (legal obligation to review by Dec 2019)
- Also evaluation of the Urban Waste Water Treatment Directive (UWWTD)
- Ex-post evaluation centred around:
  - Effectiveness – delivering its objectives
  - Efficiency – costs, benefits, cost-effectiveness
  - Relevance – meeting todays problems, etc.
  - Coherence – with other law and policies
  - EU added value – justified action at EU level
- Not just about directives as a whole, but individual elements, instruments, etc.

Fitness Check Progress

- 2018-2019
- Supported by:
  - Implementation reports (2nd RBMPs, 1st FRMPs)
  - EEA report on state of waters
  - Consultant work on key FC themes
  - Public and stakeholder consultation
- Drafts of both went to the Regulatory Scrutiny Board in July
- Comments being addressed
- Expect both later this Autumn
- Links to other evaluations, e.g. current one on IED

Implementation: WFD

- 2nd RBMP reports (2015-2021)
- Water status: Groundwaters: 74% good chemical status; 89% good quantitative status
- Surface waters: 40% good ecological status or potential
- Art. 4 exemptions covered about half of water bodies – “an indicator of the significant efforts still needed to achieve good status or potential by 2027”
- Measures: key ones defined but implementation uneven:
  - Small abstractions poorly controlled
  - Poor assessment (and adoption) of measures to tackle agricultural pressures – link to reliance on CAP measures
  - Little progress on drinking water protected areas
  - Drought management plans not produced in all relevant river basin districts
- More positive progress on hydromorphological pressures, water pricing
- Monitoring: improved but still gaps

Chemicals

- Widespread EQS fails across Europe for mercury (but very low EQS)
- Persistent pollutants within sediments and ‘natural conditions’
- Atmospheric concentrations have been slow to fall. Deposition from road to water is an issue
- Pharmaceuticals in water – development of a pharmaceuticals strategy with actions well beyond water policy
- A small number of pollutants cause the majority of water of water bodies in poor status. This group of pollutants termed ‘uPBT’ are substances which are ubiquitous in the environment, often from historic releases of highly persistent chemicals or diffuse releases following complex pathways. If these substances are removed from the equation that the number of water bodies in good status would rise from 38% to 81%

Show:

Measure
Number

Water bodies
(All)

Filter by:

Category
(Multiple values)

Type
(Multiple values)

Filter by spatial unit:

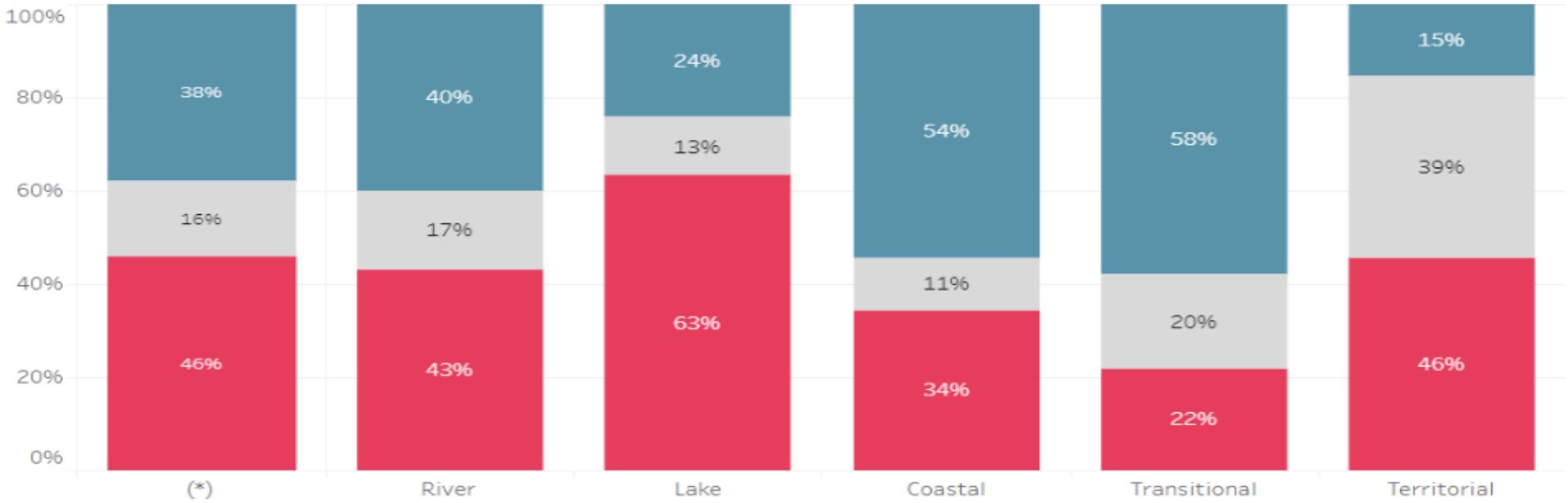
Country
(All)

River basin district (RBD)
(All)

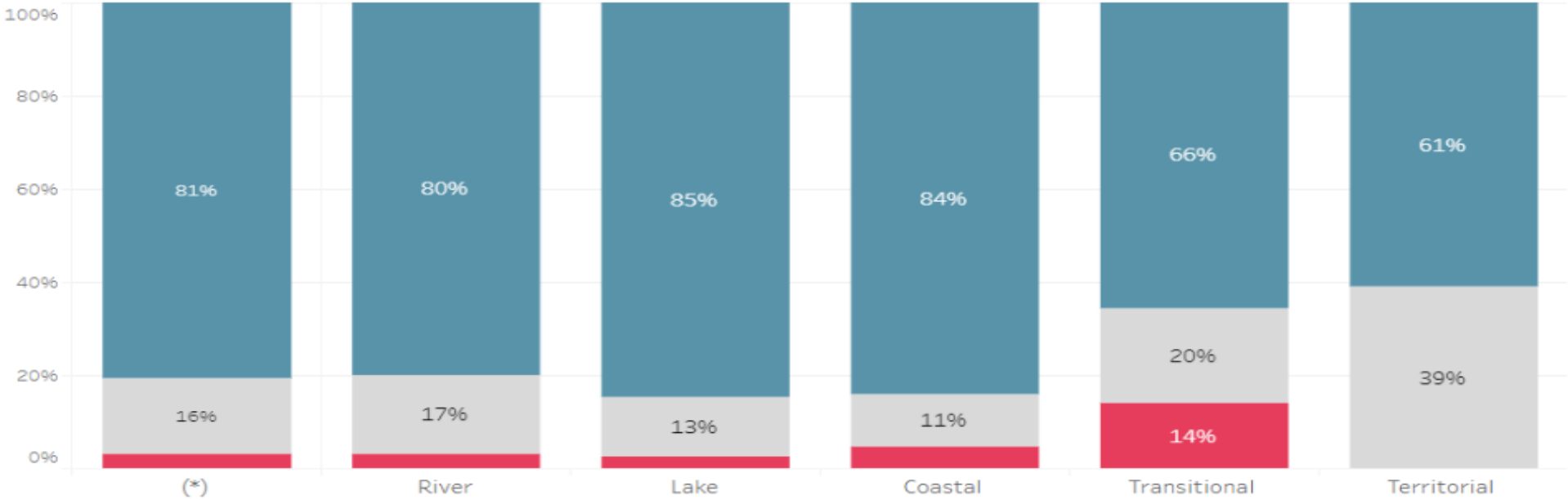
Sub-unit
(All)

Chemical status
- Good
- Unknown
- Failing to achieve good
- Unpopulated

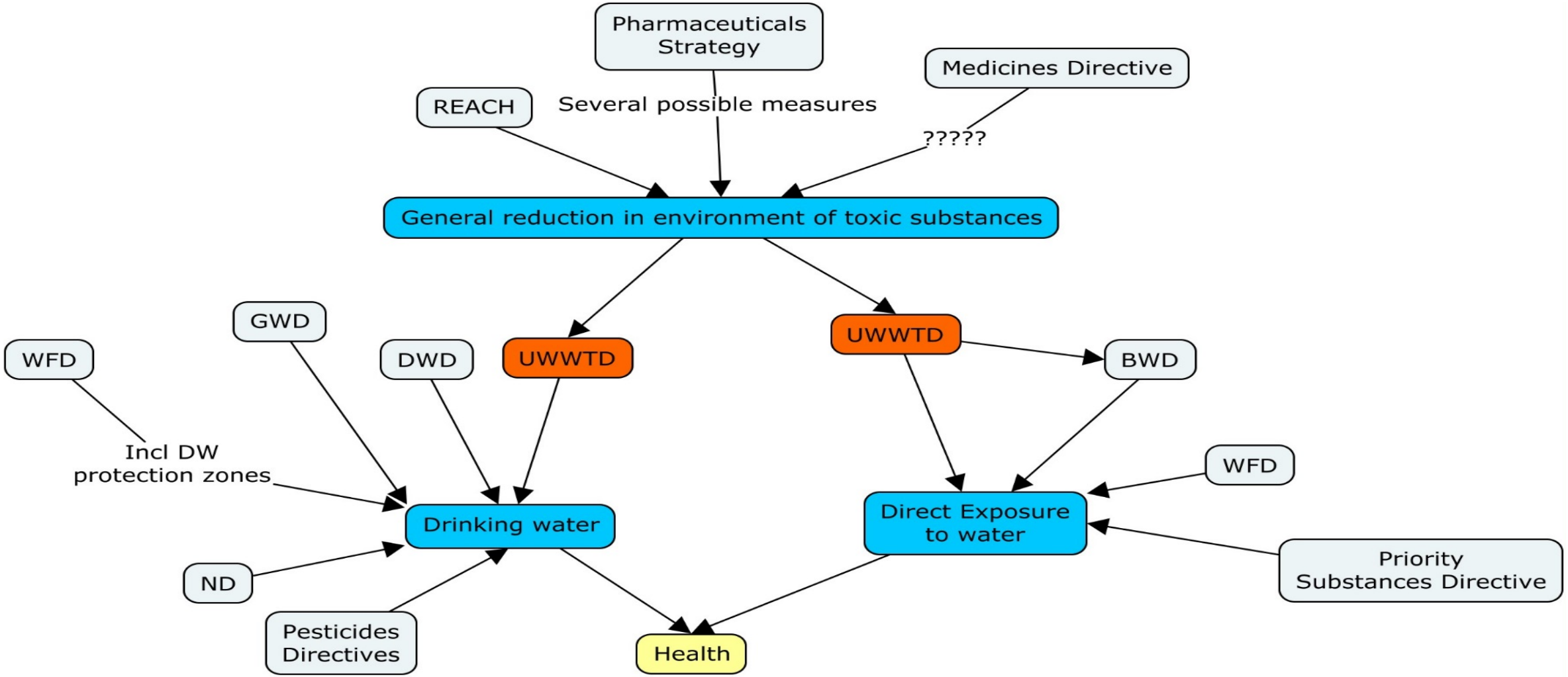
Surface water bodies: Chemical status, by category (2nd RBMP)



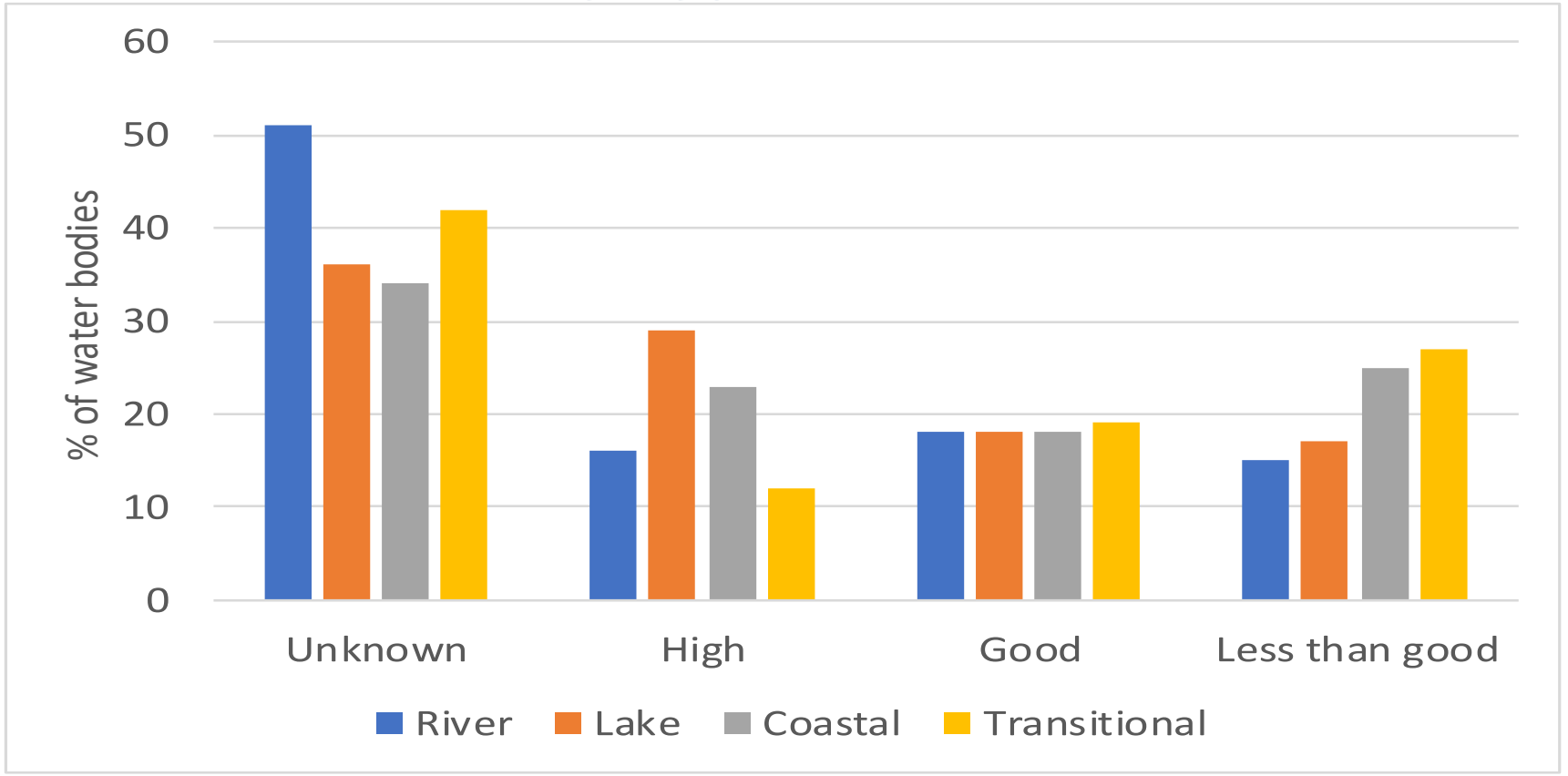
Surface water bodies: Chemical status without uPBT, by category (2nd RBMP)



Health


Pharmaceuticals Strategy
Medicines Directive
REACH
Several possible measures
?????
General reduction in environment of toxic substances
GWD
WFD
DWD
UWWTD
UWWTD
BWD
Incl DW protection zones
WFD
Drinking water
Direct Exposure to water
ND
Priority Substances Directive
Pesticides Directives
Health

Nutrient conditions by type of water bodies (EEA)



The MS reporting over 40% of GWBs affected include the Belgium, the Netherlands, Luxembourg, Czech Republic and UK, which are all intensively farmed.

Nutrient challenge

- Point source nutrients fallen in many MS – mainly sewage (so link to UWWTD implementation and issue of small sources)
- Agriculture a major concern – nitrogen (partially) limited by Nitrates Directive, but phosphorus a challenge
- Gap assessment: How much nutrients should be removed to achieve Good Status?
- Some Member States have done quantitative gap assessment
  - Estimation of how much load or concentrations should be reduced (few examples with quantitative gap assessment)
  - Much work in all MSs to improve the understanding and to develop models for risk or gap assessment
  - In most MSs the gap is **not** presented in a form where the specific reduction needs are quantified

Gap assessment – DK example

- Coastal waters is a focus area
  - Natural conditions with many shallow fjords
  - Intensive agriculture
  - Quantification of reduction need = the gap to be closed

	Amount of Nitrogen tons per year
Current load	56,800
Baseline projection – net effects	1,200
Projected load	57,800
Target load	44,700
Gap = Reduction need	13,100
Agreed measures in PoM	6,900
Postponed effort to next planning cycle	6,200

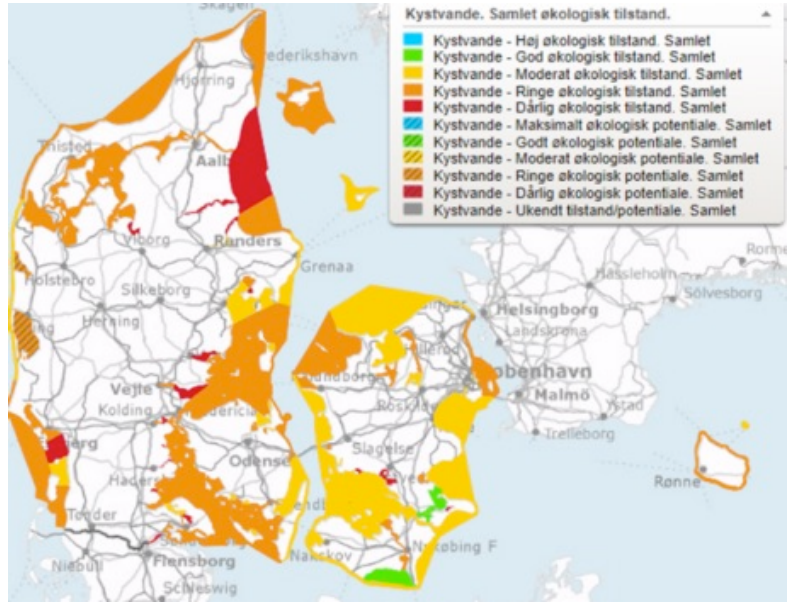
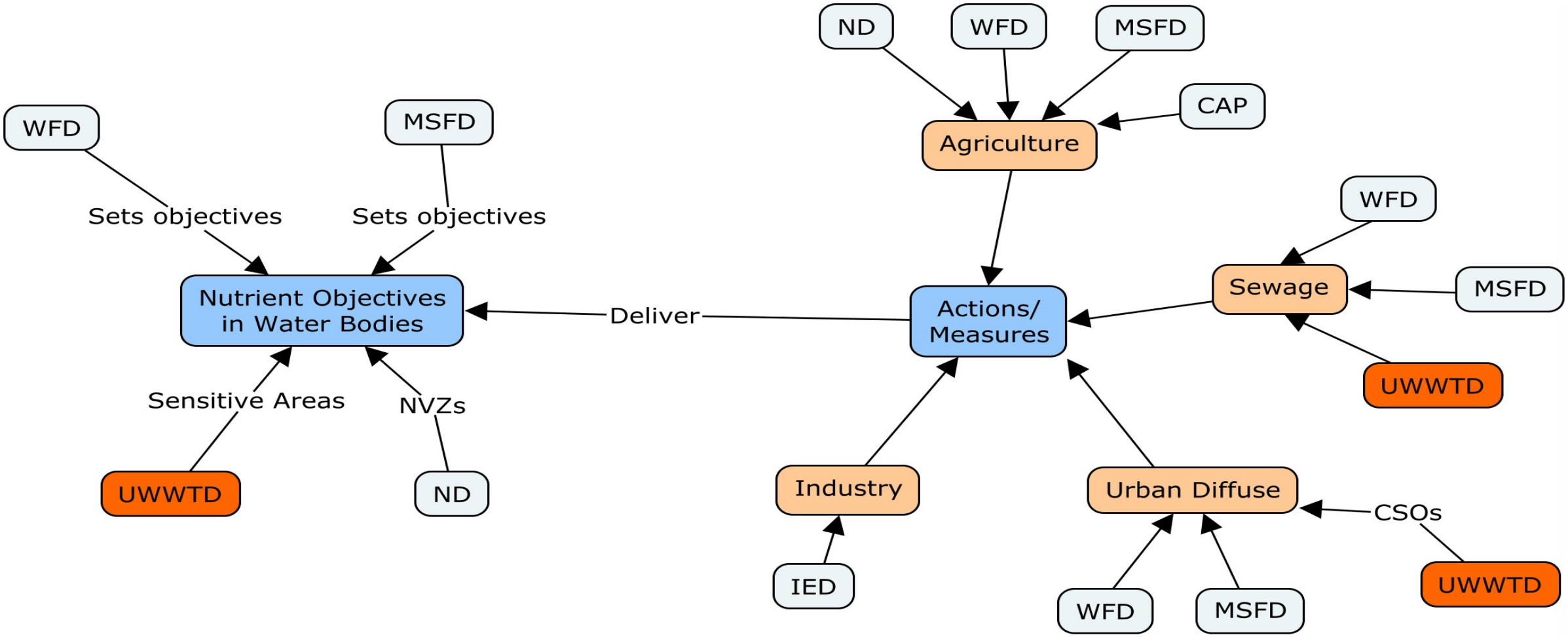


Figure 1 Status of coastal water bodies

- The estimated gap is about 22% of baseline load
- The PoM will "close" around 50% of the gap

Nutrients


ND
WFD
MSFD
CAP
Agriculture
WFD
MSFD
Sets objectives
Sets objectives
Nutrient Objectives in Water Bodies
Deliver
Actions/ Measures
WFD
Sewage
MSFD
UWWTD
Sensitive Areas
NVZs
UWWTD
ND
Industry
Urban Diffuse
CSOs
IED
WFD
MSFD
UWWTD

Economic questions relevant to WFD

- Several interacting, but with different purposes:
  - Cost assessment of measures
  - Benefit assessment
  - Cost effectiveness
  - Cost recovery
  - Payment for ecosystem services
- Purposes:
  - Informing planning
  - Informing stakeholders
  - Delivering cost efficiency
  - Tools for sharing economic burden

Cost assessment of measures

- Surely a basic element of planning
- RBMPs do contain cost information – but sometimes limited to parts of operational or capital costs
- Only 1/3 MS reported all information requested and only 3 MS provided full information for all RBDs
- Analysis of alternative measures with alternative costs is much harder to find

- Why has this measure been chosen?
- Why have measures not been adopted?

Cost-effectiveness

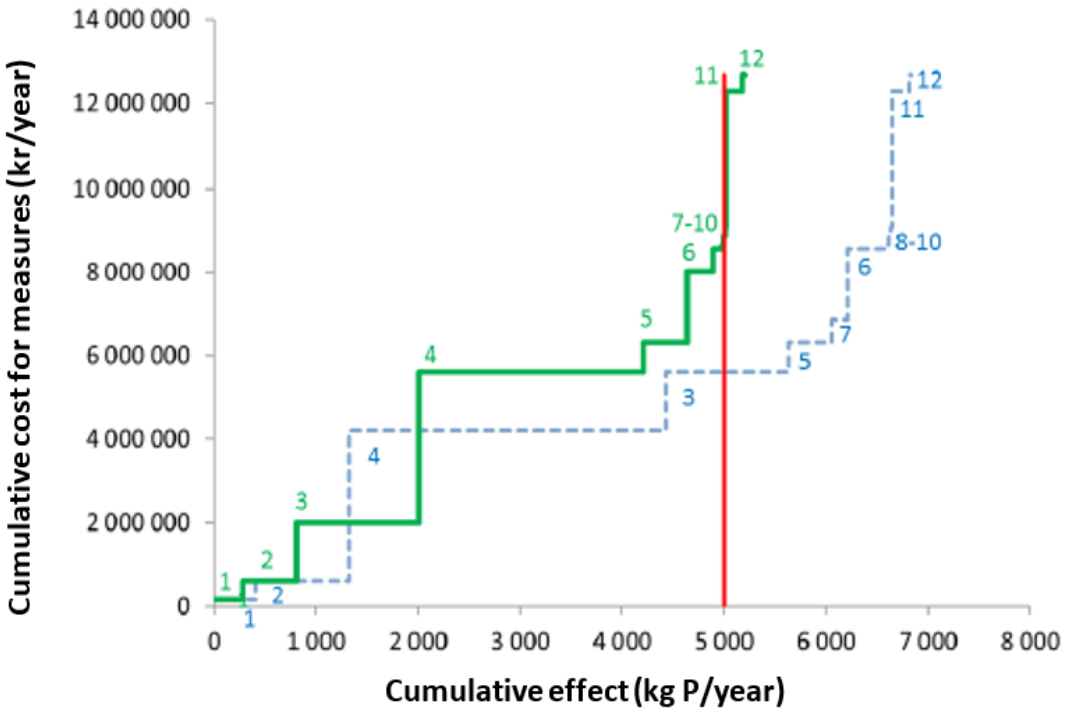
- The assessment of relative costs of alternative approaches (what, when, where, etc) is basic.
- Not much information is made available on this (probably more behind the scenes)
- Heavy reliance on measures under other EU law avoids the problem – having to build a WWTP under the UWWTD (why worry about effectiveness!)

- But the much stronger focus on WFD delivery for 2027 should challenge RB managers in determining if measures will deliver – will they be effective? Cost questions are then readily linked.

- But good cost-effectiveness analysis is a good communication tool and can be powerful if alternative measures affect different sectors

Cost-effectiveness: Sweden

- For SWB failing due to nutrients:
  - 15 measures identified and assessed
  - Selection of cost-effective measures considering downstream effects of each measure



1. Adapted bufferstrips
2. Phosphorus pond
3. Structural liming
4. Wetlands
5. Adapted spreading of manour
6. Limed ditches
7. Segmented ditches
8. Bufferstrips (0-2m)
9. Increased P-retention in UWWTPs
10. Bufferstrips (2-6m)
11. Small sewages, adjusted to normal protection level
12. Small sewages, adjusted from normal to high protection level

Figure 5. Cumulative costs and reduction potential for 12 measures aimed at nutrient emission reduction in an example river basin. The 12 measures are applied in order of cost efficiency, starting with the lowest cost measure. The non-solid line indicates cumulative potential from all identified measures in the basin without correction for upstream effects (marginal affect). The solid line represents the reduction potential adjusted for marginal effects. The vertical red line indicates the reduction needed to achieve the environmental goals in all the waterbodies.

Costs and benefits – a driver for action under the WFD?

- 2012 Water Blueprint – concluded that the WFD would deliver significant benefits, so comparing these to costs of measures should provide a justification for applying measures where these were lacking.
- Evidence from analysis of 2nd RBMPs suggests that there is still a lack of analysis of the costs of possible measures compared to the benefits they might bring.
- Where disproportionate cost arguments are made, this is usually about absolute cost rather than costs being significant higher than benefits, etc.

Linking costs and benefits of measures

- A key challenge in arguing for spending on measures to deliver benefits is how the law prescribes what exactly is to be delivered
- EU water law aims to deliver a range of benefits (health, biodiversity, economic, etc.)
- BUT few items of law have the benefits as the legal obligation. Instead they may set:
  - A technical obligation (e.g. levels of water treatment)
  - An environmental quality objective (chemical standard, Good Ecological Status, etc.)
- Meeting the legal obligation requires measures, but the link (or perceived link) to the benefits may not be clear
- Indeed – most RBMPs do not describe benefits from achieving good status
- Hence the justifying costs of measures is not always easy

Conclusions

- Major challenges remain to implement EU water law – WFD as well as older directives
- Challenges are cost, political will, analytical/technical
- So, the economic analysis in implementing the WFD must be strengthened

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