

Overview of current and potential future challenges in implementing the priority pollutant provisions of the WFD

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Royal Society of Edinburgh, 23rd November 2015

Disclaimer

- Views expressed are personal, largely gained from my experience as policy lead on priority substances at Defra, UK.

Structure

- Water Framework Directive
- Priority Substances and Environmental Quality Standards
- Relationship to EU source control legislation
- 2008 directive
- 2013 directive
- Broader context

EU Water Framework Directive

22.12.2000

EN

Official Journal of the European Communities

L 327/1

I

(Acts whose publication is obligatory)

DIRECTIVE 2000/60/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

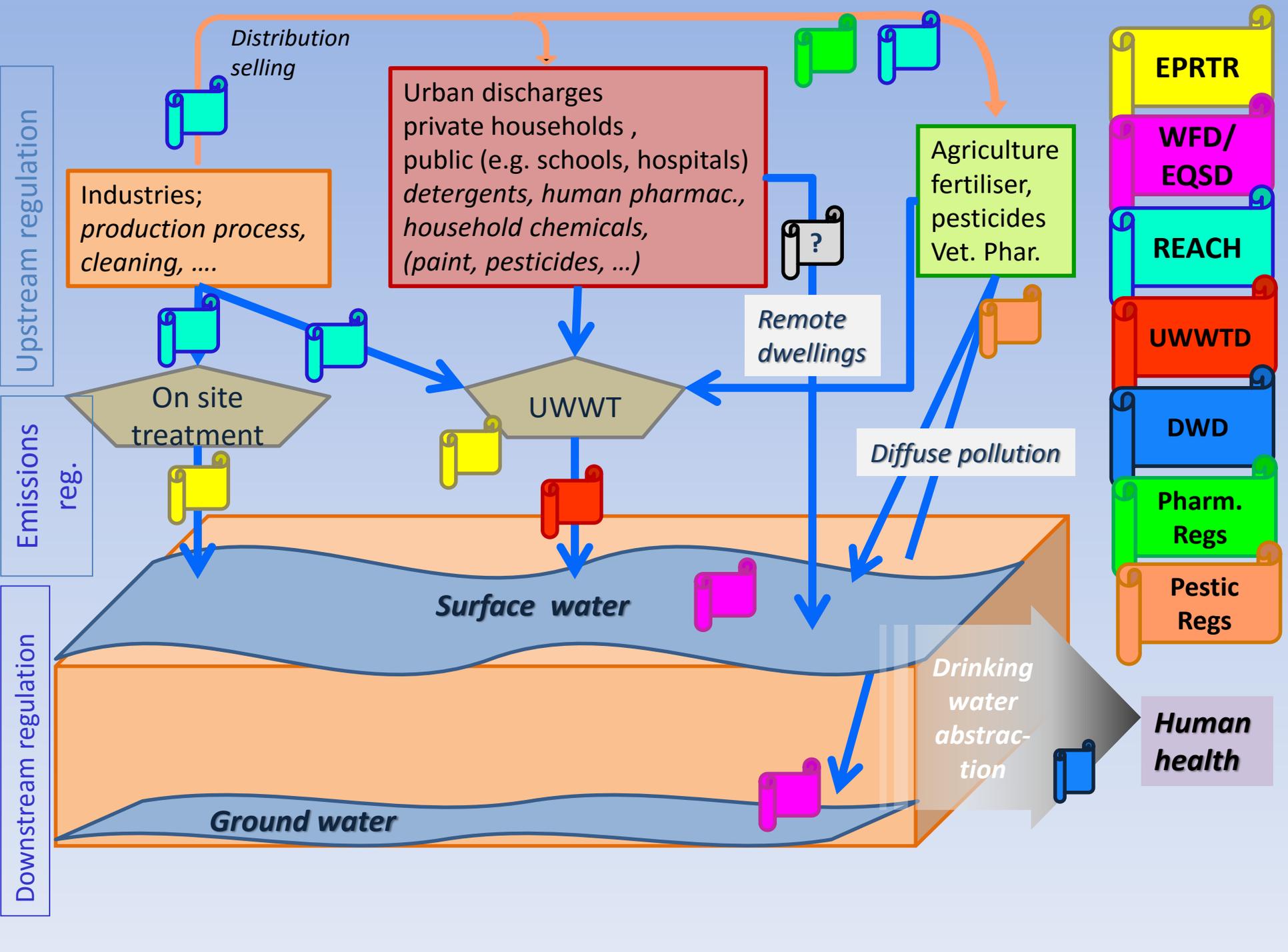
of 23 October 2000

establishing a framework for Community action in the field of water policy

- Agreed by European Parliament and Council (Member States) in 2000
- Ambition for all surface waters to be at good status by 2015
- Framework Directive

WFD chemicals

- EU surface waters out to 1nm in coastal waters, except for chemical status → 12nm
- Groundwaters
- EU action relevant – Transboundary pollution; level trading environment
- Precautionary principle
- Links to chemical source control legislation



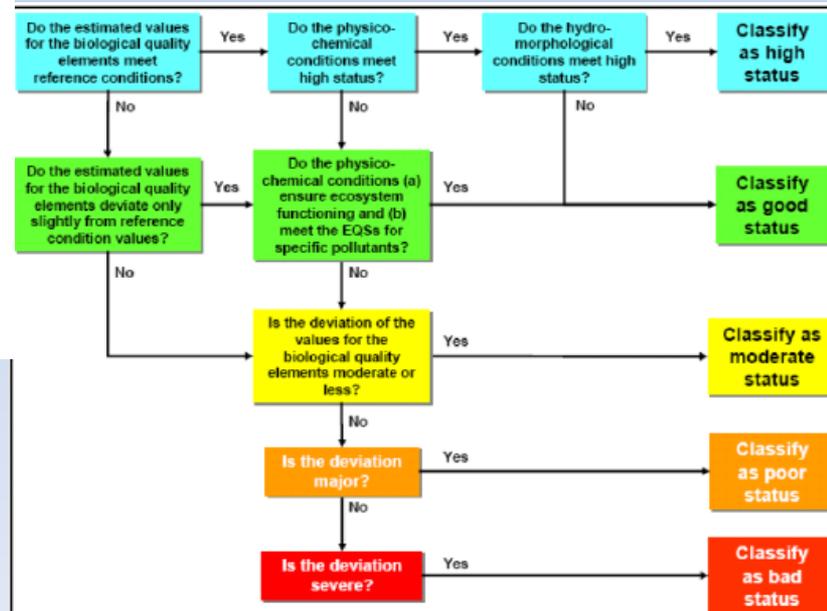
Good status in surface waters

Good ecological status

- Biology
- Hydromorphology
- Physico chemical...
- All above assessed on scale of 5 (high, good, moderate, poor, bad)
- River basin specific pollutants (pass / fail)

Good chemical status

- Pass / fail of 33 environmental quality standards



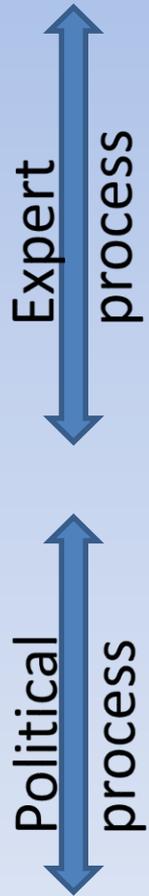
Priority Substances

- WFD established priority substances and priority hazardous substances but detail set by...
- Environmental Quality Standards Directive 2008/105/EC
- QA/QC Commission Directive 2009/90/EC
- Priority Substances Directive 2013/39/EU
- Next revision expected 2017-18...

How do we get to an EQS?

(in brief...)

- Collaborative process between European Commission, their experts (JRC) and Member State experts
- Use available monitoring and or modelling data
- Based on ecotoxicological thresholds to sensitive species (including humans)
- Based on expert advice, COM make proposal and this is negotiated in Council with Member States, and in Parliament with MEPs.
- Agreement needed between all 3 groups on the final wording of the Directive



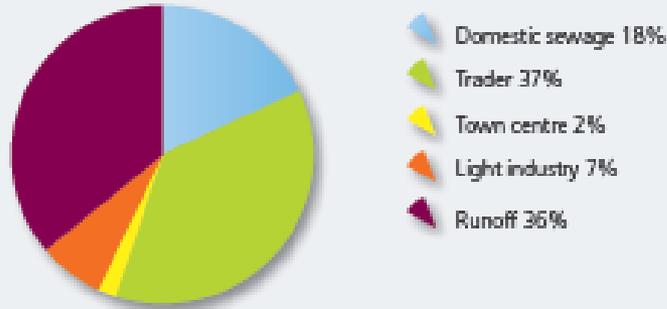
2008 EQSD challenges – Part I

- One out all out
- Diffuse pollution
- Transboundary pollutants, natural sources
- UK – especially England – densely populated, industrial history
- Wales and mines

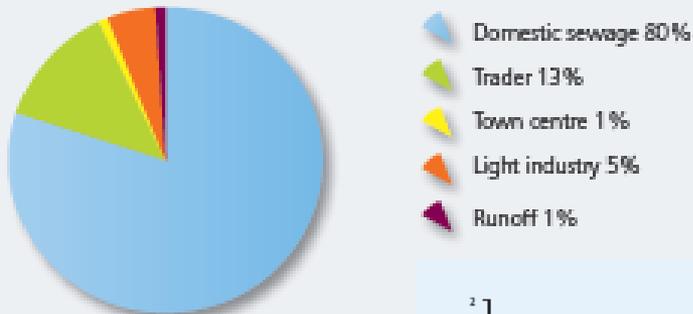


2008 EQSD challenges – Part II

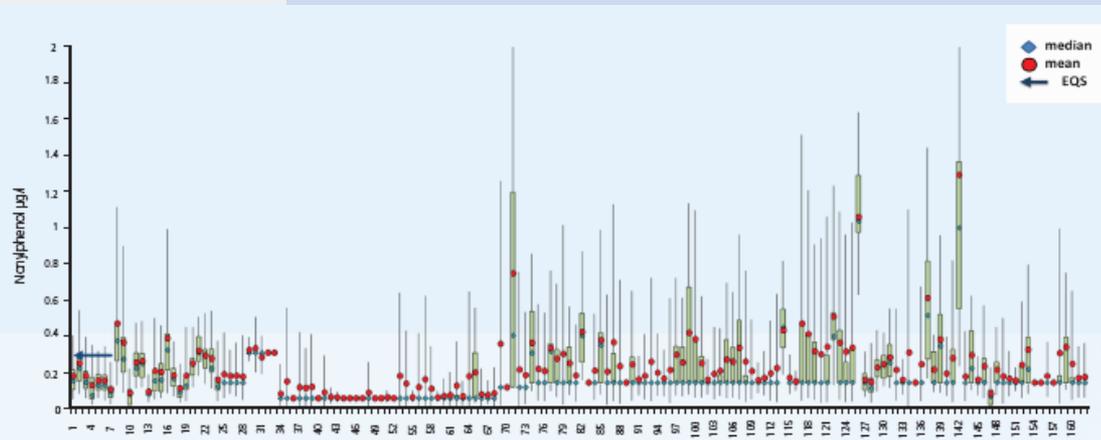
benzo(a)pyrene % contribution



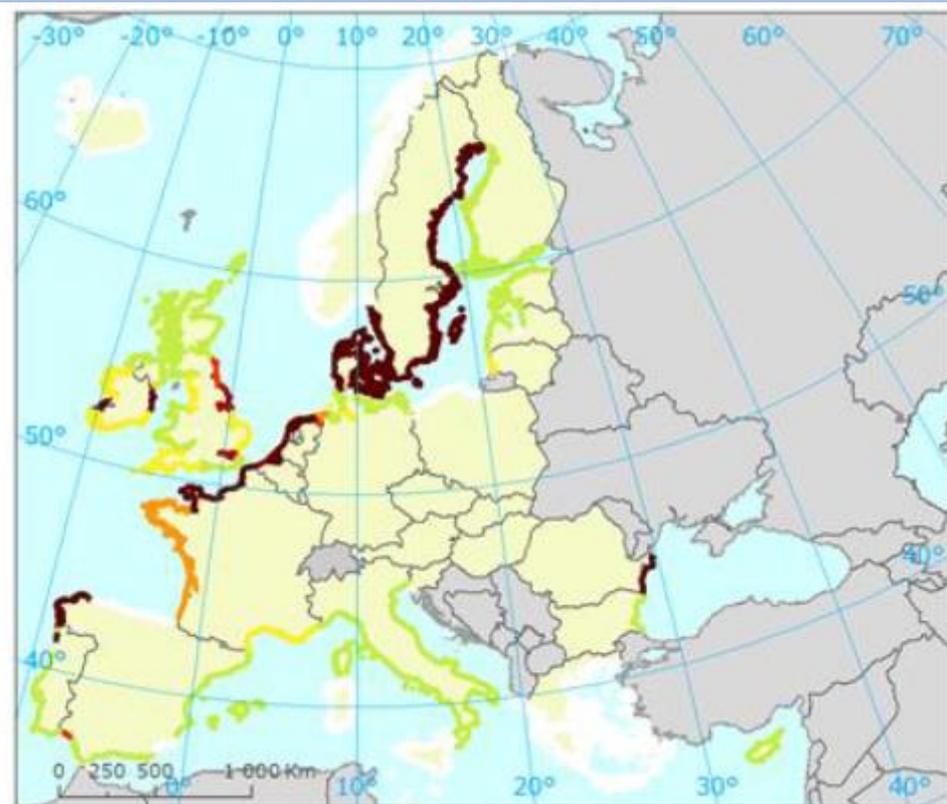
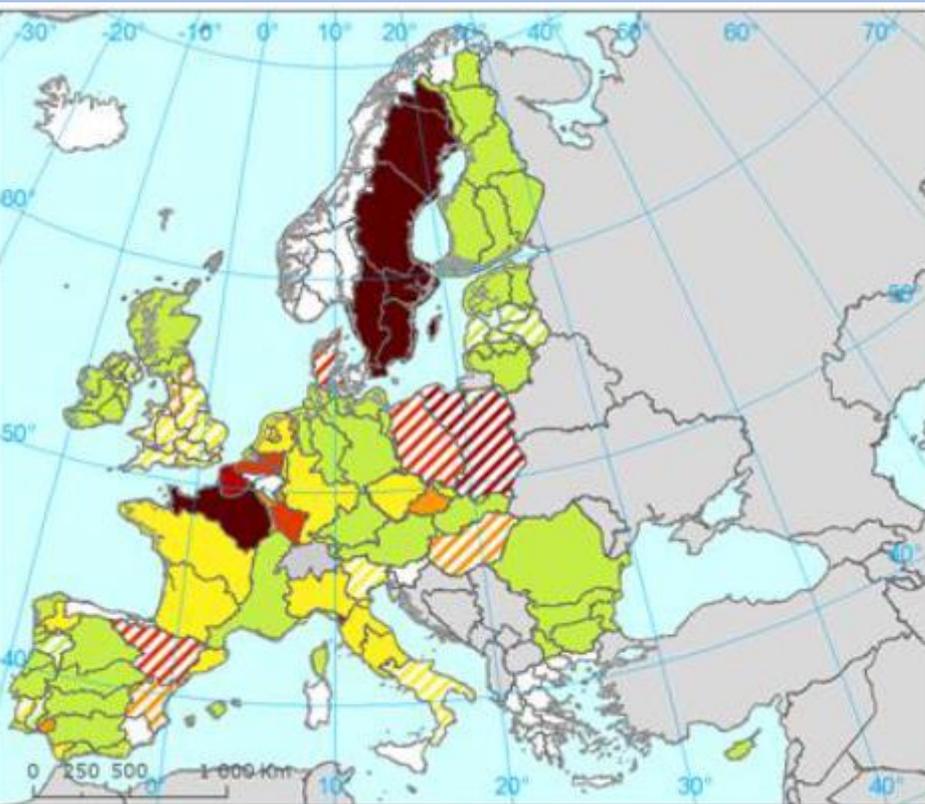
BDE47 % contribution



- Monitoring “burden”
- Analytical detection
- Costs and prioritisation
- Learning how to report
- CIP – significance of domestic discharges



Chemical status of rivers and lakes and transitional and coastal waters per RBD – percentage of water bodies not achieving good chemical status are shown



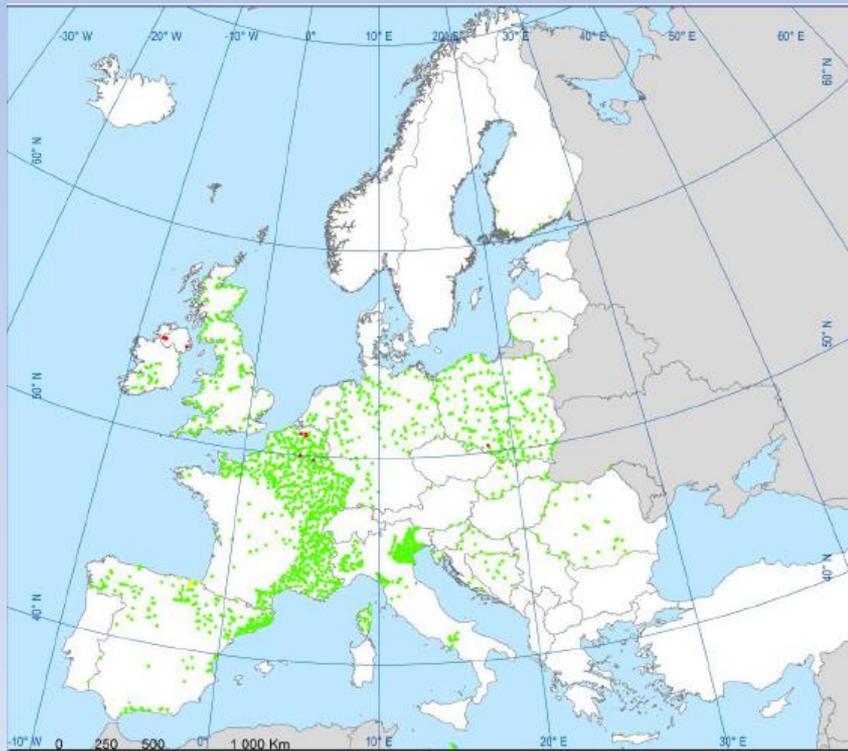
% of surface water bodies with failure to achieve good chemical status

(left map: rivers and lakes, right map: transitional and coastal waters)

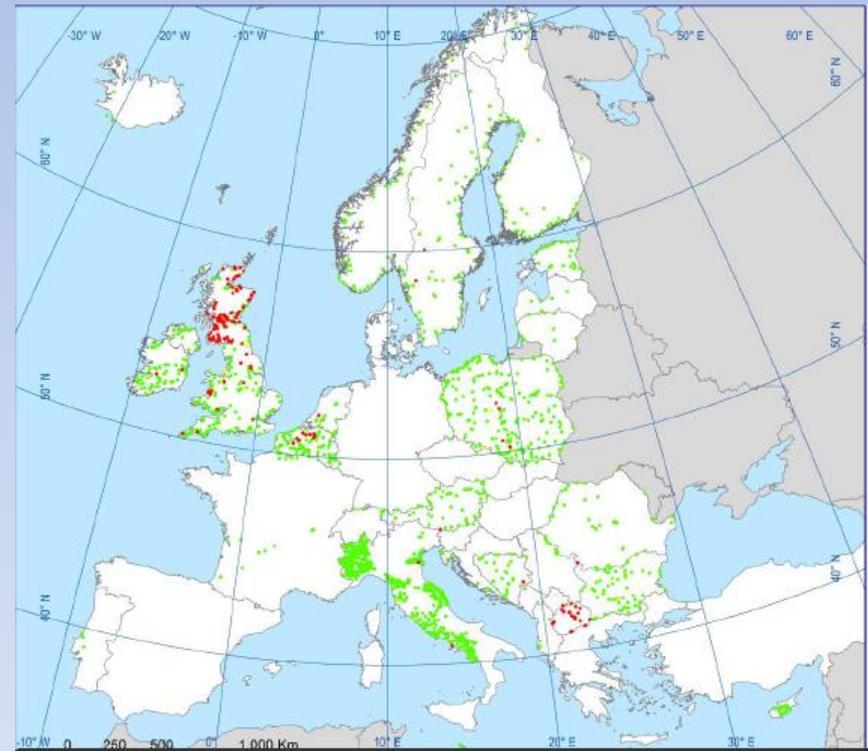
□ no data reported ■ <10 % ■ 10-30 % ■ 30-50 % ■ 50-70 % ■ 70-90 % ■ ≥ 90 %

SoE-WISE reporting

Benzo(a)pyrene in rivers for 2010-2011.



Lead and its compounds in rivers for 2010-2011



2013 Priority Substances Directive – EQS in “fish”

Improvements...

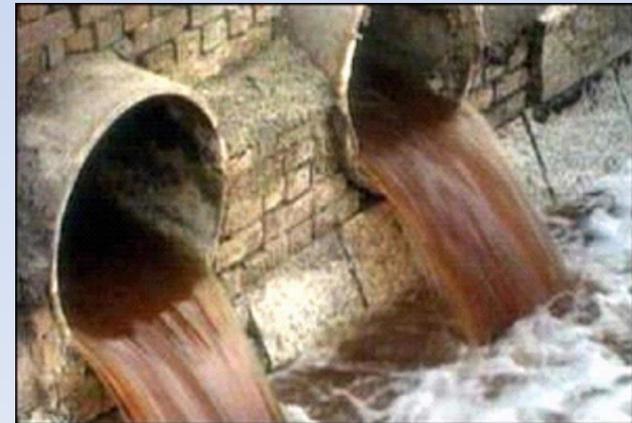
- Higher concentrations – ease concerns of low LoQs...
- ...and so lower risk of non-reporting in adjacent countries
- Measuring in a protection target, not proxy
- Allows flexibility in choice of “eurofish”

Difficulties...

- Ensuring comparability between trophic levels
- Sustainable sampling
- Modelling water quality and permitting

2013 PSD – other challenges

- Watch list to gather info on emerging pollutants
- uPBTs recognise communication issues
- Importance of socio-economic considerations
- Prospect of more demanding EQS with each revision of the EQSD – implications for ever achieving good chemical status
- Costs, including energy, of clean-up – innovation opportunity



Local vs global

- WFD, through River Basin Management Plans, is bottom-up;
- Reality for delivering improvements relies on funding (and political will) – often top-down;
- Prioritisation of activities not a part of WFD;
- Sub-optimal for some chemicals: global pollutants need international action.



How might priority substances legislation be improved...?

For example...

- “Action levels” for EQS, to prioritise where we should act?
- Emissions/Load reduction to assume greater focus?
- Others...?
- Opportunity provided by review of WFD expected 2019

MP Science and Technology Inquiry, 2013

- Gammeltoft – “the pressures in each Member State are different....the UK is on top in terms of pressure from population density.”
- Recommendations eg "Chemical pollution can poison aquatic organisms, damage ecosystems and threaten human health...the Government and water industry should take steps to prepare for priority substances."



House of Commons
Science and Technology
Committee

Water quality: priority substances

First Report of Session 2013–14
Volume I

Report, together with formal minutes

*Oral and written evidence is contained in
Volume II*

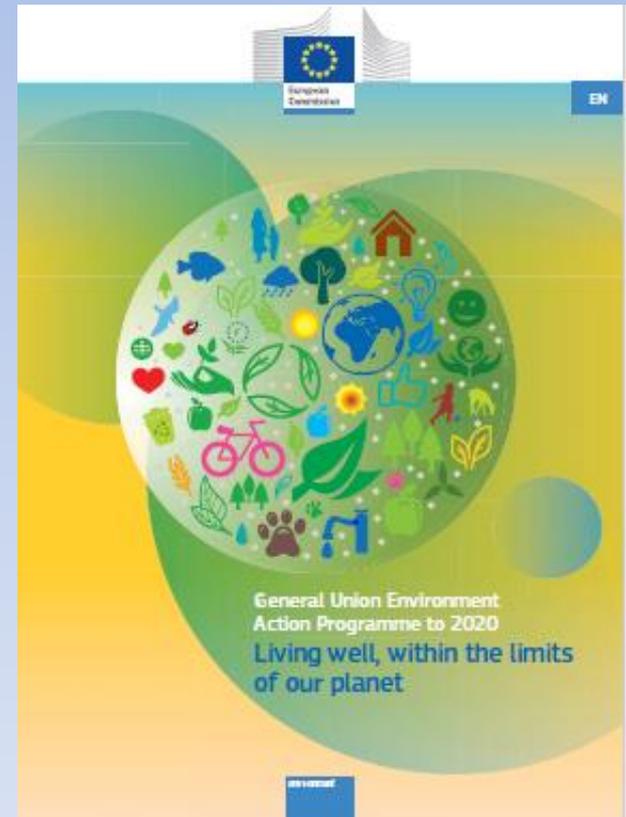
*Additional written evidence is contained in
Volume III, available on the Committee website
at www.parliament.uk/science*

*Ordered by the House of Commons
to be printed 5 June 2013*

7th Environment Action Programme 2014-20

LIVING WELL, WITHIN THE LIMITS OF OUR PLANET

- 1: To protect, conserve and enhance the Union's natural capital;
- 2: To turn the Union into a resource-efficient, green and competitive low-carbon economy;
- 3: To safeguard the Union's citizens from environment-related pressures and risks to health and well-being





Where is the EU headed?

EU Commission

Juncker priorities, Sept 2015:

- “Environment and Maritime Affairs and Fisheries portfolios [combined] to reflect the twin logic of "Blue" and "Green" Growth – environment and maritime conservation policies can and should play a key role in creating jobs, preserving resources, stimulating growth and encouraging investment. **Protecting the environment and maintaining our competitiveness have to go hand-in-hand, both are about a sustainable future.**”



Where is the EU headed?

EU Parliament



Vella to EP Water group Nov 2015:

- “we all understand the 'double-challenge' increased water pollution on one hand increasing demand for water on the other.
- ...the re-use and recycling of water for example in industrial processes are an essential part of the circular economy. It reduces the costs of water input, and it reduces the pressure on water resources. It can also prevent industrial harmful emissions through untreated industrial waste water. Not to mention that water treatment offers a number of new opportunities.
- Similar benefits could also be achieved by re-using and recycling also water in community processes. In fact the ***greatest potential*** in relation to the Circular Economy is in the reuse of municipal waste water.”

Looking forwards for priority substances

- Scientific improvements showing effects at lower concentrations
- Concerns about mixtures
- Better recognition of costs and benefits
- Continual pressure to reduce chemicals in environment
- Links to circular economy and resource efficiency
- Innovation opportunity



River Irwell 2008

Thanks for listening