Urban diffuse pollution – the challenge

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Date:

Pollution Sources

- Diffuse source: 25%  
- Flow: 21%  
- Invasive non-native species: 23%  
- Natural: 2%  
- Other pressures: 1%  
- Physical modification: 4%  
- Point source: 1%  
- Suspect data: 0%  
- Other: 0%

2010 RFF data v.03.02.2011
Diffuse Pollution

- Agriculture and rural land management: 24%
- Coal mining: 4%
- Forestry: 6%
- Industry: 2%
- Non coal mining: 6%
- Unknown: 0%
- Urban: 1%
- Water industry: 4%
- Other: 1%

2010 RFF data v.03.02.2011

Complex in nature
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Ecological status

Manchester

Kendall

Urban runoff

FP, BOD, nutrients
Metals, priority pollutants, sediments
Priority pollutants
BOD, nutrients, solids
Road salt, herbicides, PM$_{10}$ trapping
BOD, nutrients
Nutrients, chemicals, metals, BOD
Priority Pollutants, nutrients
Metal, Paints
Nutrients, pesticides

Animal fouling
Vehicles
Spillages
Littering
De-icing and other spreading
Transient traders
Washing and cleaning
Leaching
Airborne Deposits
Horticulture

Runoff
When it rains

Risk assessments

Example DEHP data

Significant inputs at WBS "at risk/prob at risk"
Some of the Challenges

- Variable and widespread with no one major cause.
- Embedding behavioural change in the public in difficult
- Capital works in urban areas are expensive.
- There is no one party responsible to deliver, there is multiple ownership. Multiple reasons for failure.
- Those best placed to act may not be the most responsible or be resourced to act
- People paying want ‘Beyond reasonable doubt’
- Current regulatory powers were not designed to tackle the problem
- Who should pay?
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Example – Road Runoff

Responsibility

Department for Environment, Food & Rural Affairs
Value of an urban river - who pays?

Why should I invest no one goes there

I don’t go there because it is horrid

Is treating the symptoms the best solution?
Multiple Benefits

- Water depth: slow, nine
- Water velocity: slow, sparse
- No substrate / habitat
- Water quality: problems

- Water depth: varied
- Water velocity: varied
- Substrate: varied
- Habitat & refuge
- Some water quality improvements

Multiple Benefits

- Green Space De-stress
- Improved Habitat
- Increase House Price
- Water resources
- Reduce Urban Heat Island
- Improved Flood defence
- Carbon reduction
- Recreation opportunities
- Improved Water Quality
- Reduced burden on infrastructure

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Update on progress with development of SuDS policy

- Defra is working collaboratively with stakeholders via Task and Finish Groups.
- CIRIA and a team contracted to help develop the National Standards for SuDS.
- Local Authority capacity building workshops are taking place in October/November.
- Aim to implement in April 2014, subject to cross-Whitehall and Parliamentary approval.
- Defra SuDS team can be contacted at SUDS@defra.gsi.gov.uk

No regrets and Low regrets
It is not a cost it is a benefit

• A property located on the edge of a park compared to one 450m away could increase by up to 19% (Neil Dunse et al., 2007).

• A view of forest can raise house prices by 7% and water by 5% (Garrod and Willis, 1992).

Conclusion

• It is a complex policy area
• There are huge opportunities
• Defra and the Environment Agency are actively pursuing this area of policy
• We all must focus on multiple benefits to maximise the return on investment
• Partnership approach is key
• It doesn’t have to break the bank
• The rewards are worth having
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