

Different ways in which Wessex Water values nature in our day to day activities

Ruth Barden – Head of Environment & Catchment Strategy

Agenda

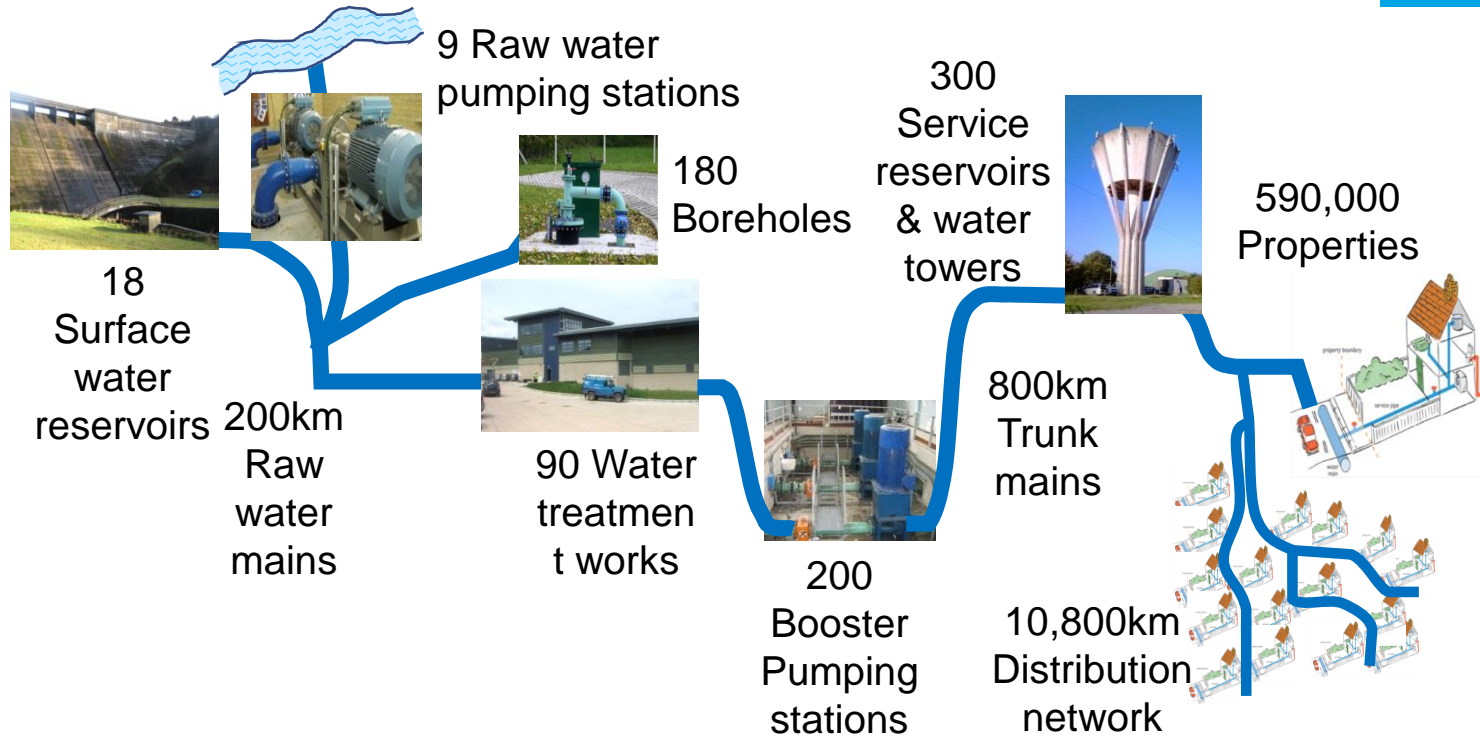


- Scene setting
 - About Wessex Water
 - Our duties
 - How we do this- BAP, CAR, Partners
- Understanding our environment
 - Investigations
 - Surveying
 - Quantifying, demonstrating impact and change
- The future

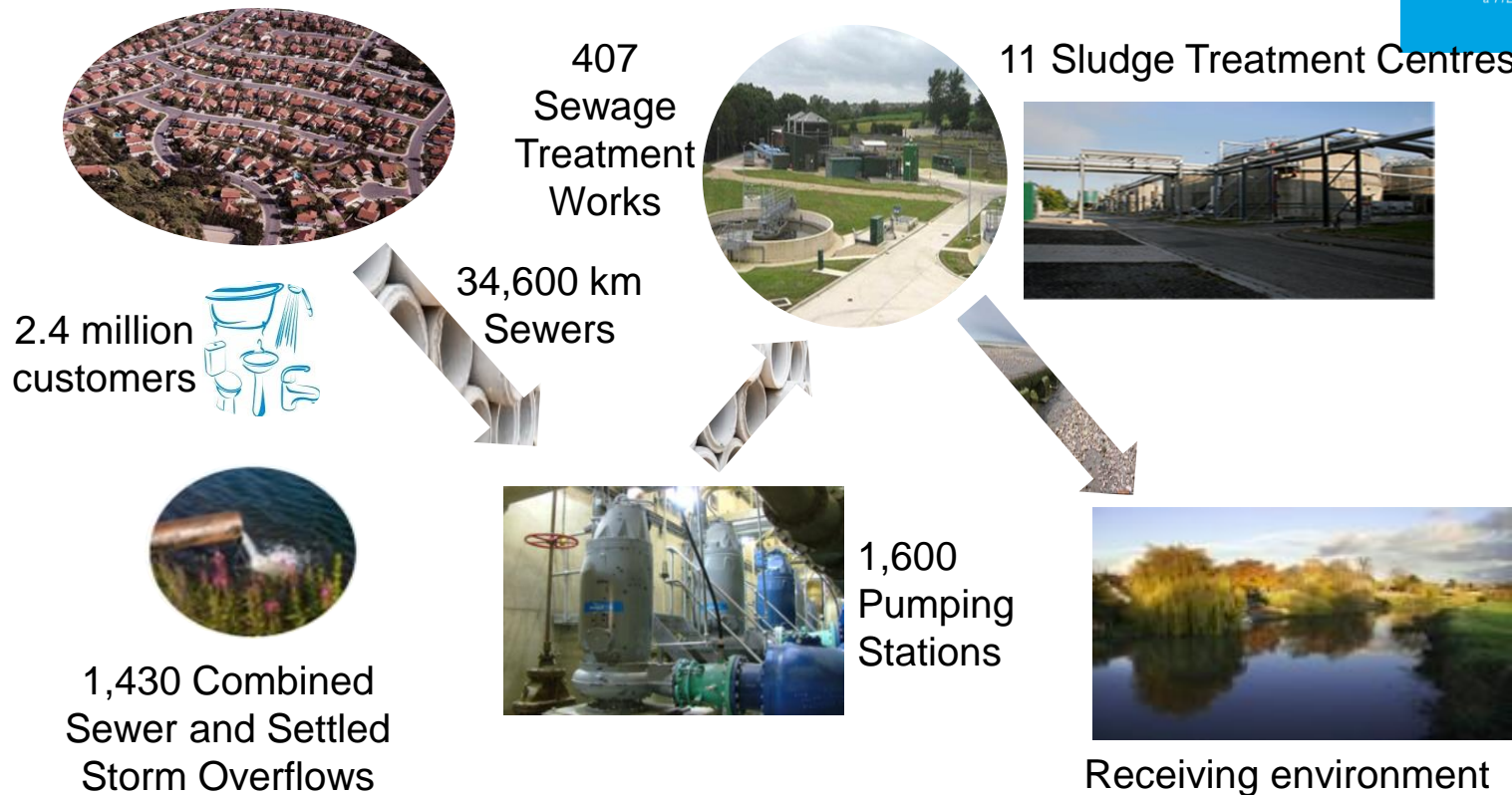
Wessex Water Services Ltd.



Our supply business

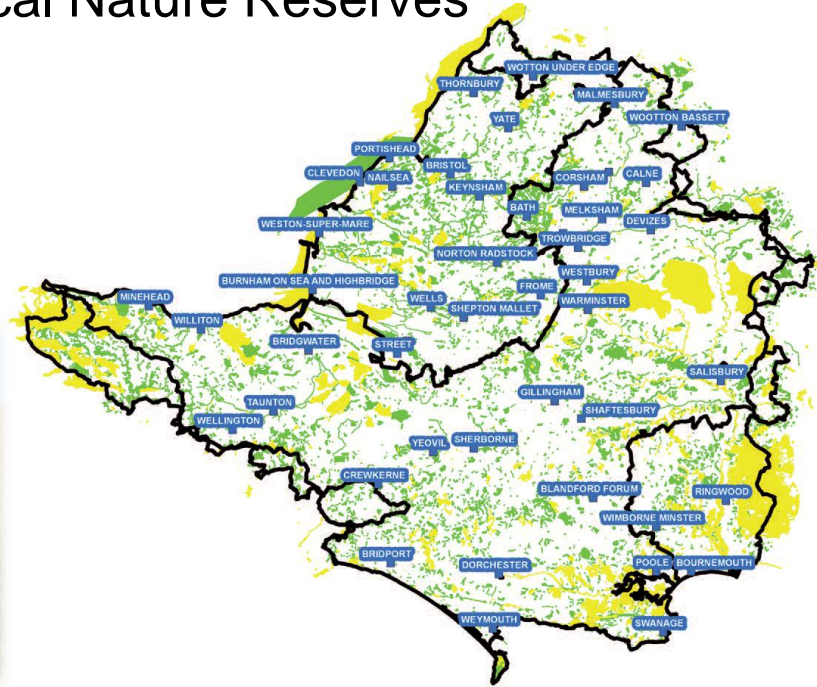


Our wastewater business



The Wessex Water Region

- 7 Ramsar protected sites
- 50 Special Areas of Conservation and Special Protection Areas for Birds
- 23 National Nature Reserves and 128 Local Nature Reserves
- 538 Sites of Special Scientific Interest
- 6,819 regionally important sites



Statutory Duties

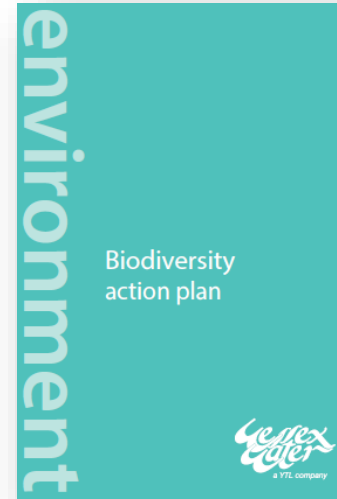


- **Water Industry Act 1991 & Environment Act 1995**
 - general duty in respect of conservation, access & recreation
- **Water Industry CoP**
 - conserve & enhance with regard to local or national targets
- **Natural Environment & Rural Communities Act 2000**
 - conserve, restore & enhance biodiversity, and incorporate in our business policies, management, planning & education, sets targets
- **Biodiversity 2020 & Environment White Paper**
 - halt the loss of biodiversity, better protection of important habitats & targets for SSSIs

Our Biodiversity Action Plan



- First water company to produce a BAP in 1998
- 5 areas:
 - Management of our land
 - Minimising impacts of our activities
 - Supporting external partners & projects
 - Landscape scale work
 - Reporting
- Key themes:
 - No net loss of biodiversity habitat
 - Ecosystems services / offsetting



Wessex Water has a duty to enhance and protect biodiversity...



Conservation, Access and Recreation



Our duties

We have conservation, access and recreation duties under the Water Industry Act 1991 to:

- conserve and enhance wildlife, geology and archaeology
- maintain public access to places of natural beauty
- make water and land available for recreational purposes.

These duties are combined with additional responsibilities under the Natural Environment and Rural Communities Act 2006 which require us to conserve, restore and enhance biodiversity when carrying out our work.

Methods of delivery:

- Fishing and water sports
- Walking trails and bird watching
- School educational visits
- Maintaining historic buildings as museums



Working with Partners



| Project and partner | Aim |
|--|--|
| Dorset Wild Rivers - Dorset Wiltshire Trust | To take a catchment wide approach to restoring and recreating wildlife habitat along Dorset's rivers - this will also improve water quality, flood storage and community involvement in water issues. |
| Wessex Chalk Stream project - Wiltshire Wildlife Trust | To help improve the iconic River Avon chalk streams in Wiltshire and safeguard their rare biodiversity. |
| South Wiltshire Farmland Conservation - Cranborne Chase Area of Outstanding Natural Beauty | To work with land managers in Wiltshire and Dorset to create bigger and better habitats on agricultural land, reduce pollution going into rivers and enhance wildlife populations including declining arable bird species. |
| North Somerset Levels and Moors Grazing Marsh - Avon Wildlife Trust | To restore and manage grazing marshes on the North Somerset Levels and Moors to benefit aquatic plants and invertebrate; habitats for otters, water voles and bats; and flood alleviation. |

Environmental Investigations

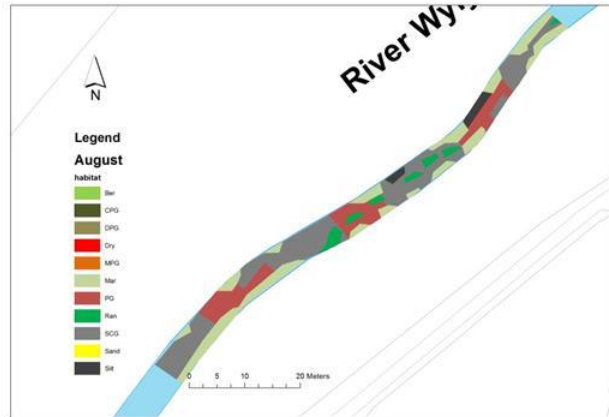
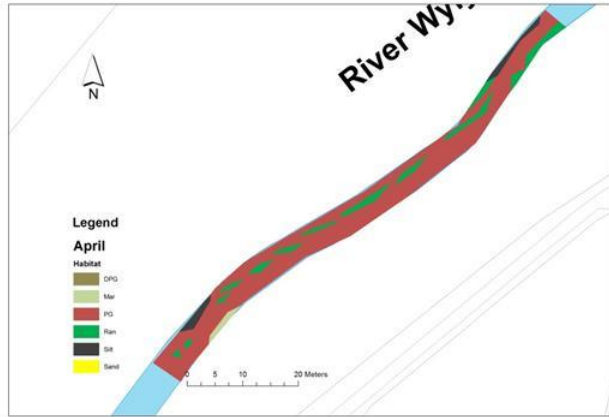
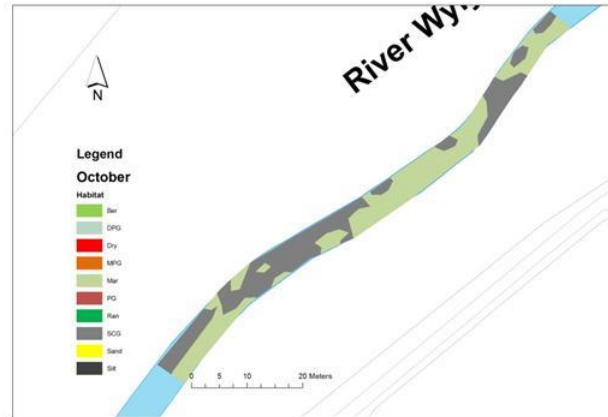
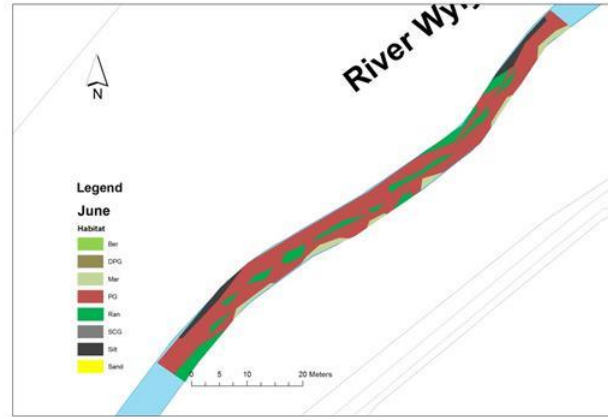
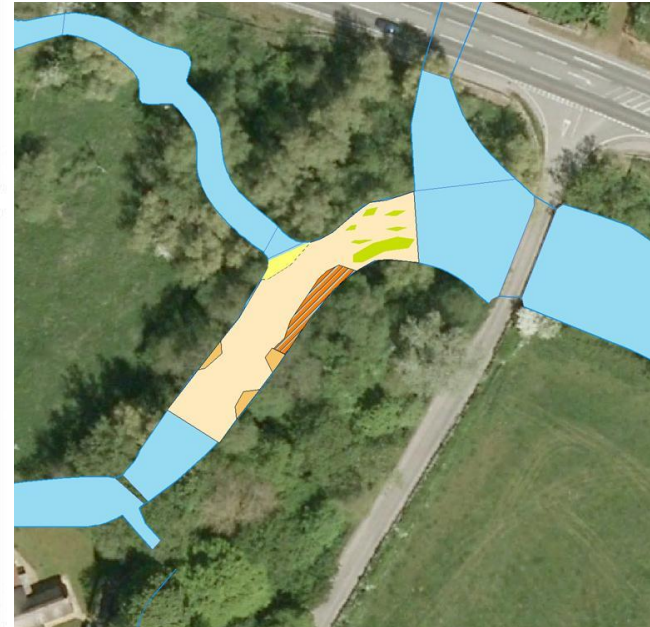


Case Study 1 – Impacts of abstractions

Measuring the ecological benefits of reduced abstractions

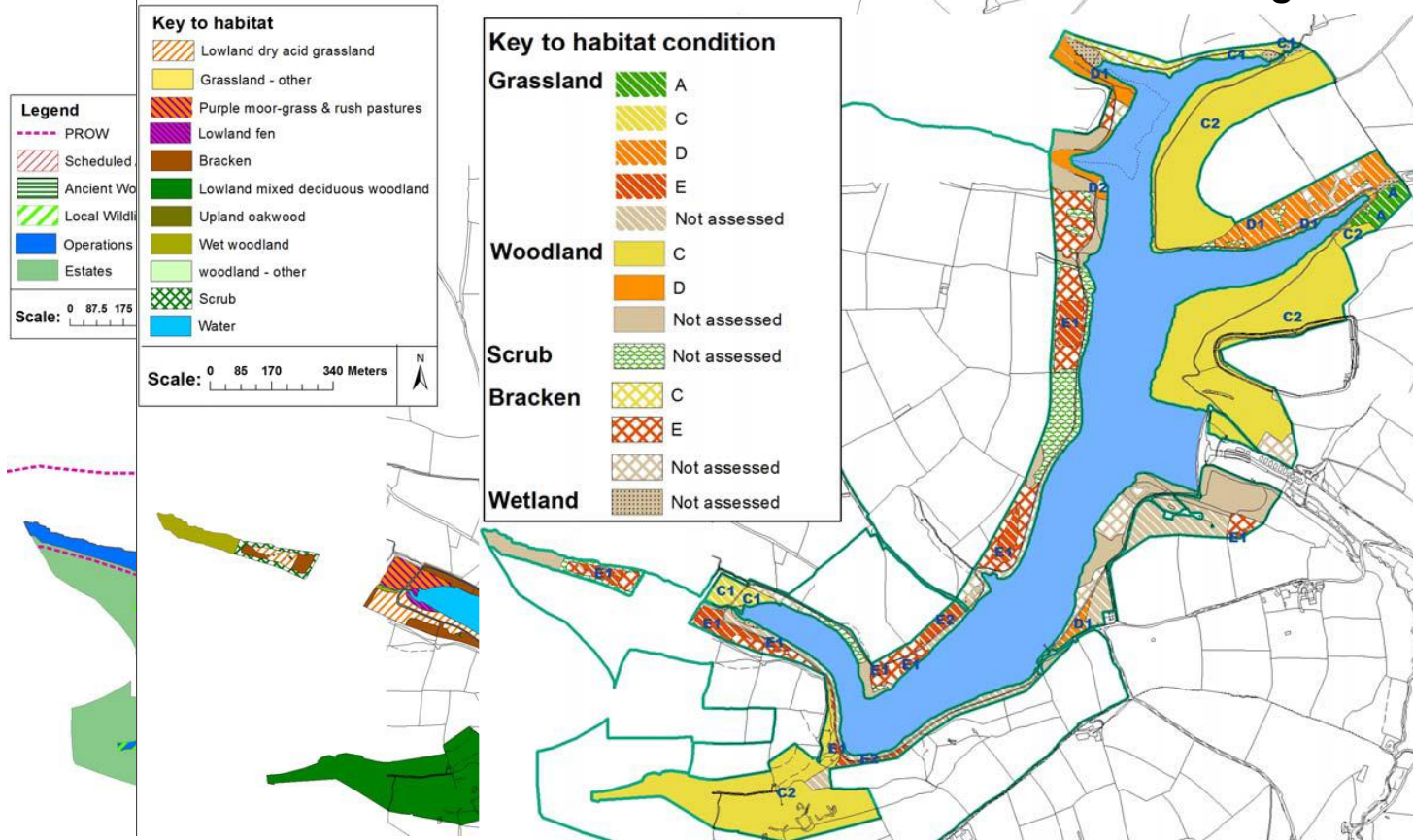


Hampshire Avon Catchment:
23.5MI/d abstraction reductions by
2018



Case study 2- Biodiversity management

Assessing the extent and condition of habitats on our landholdings

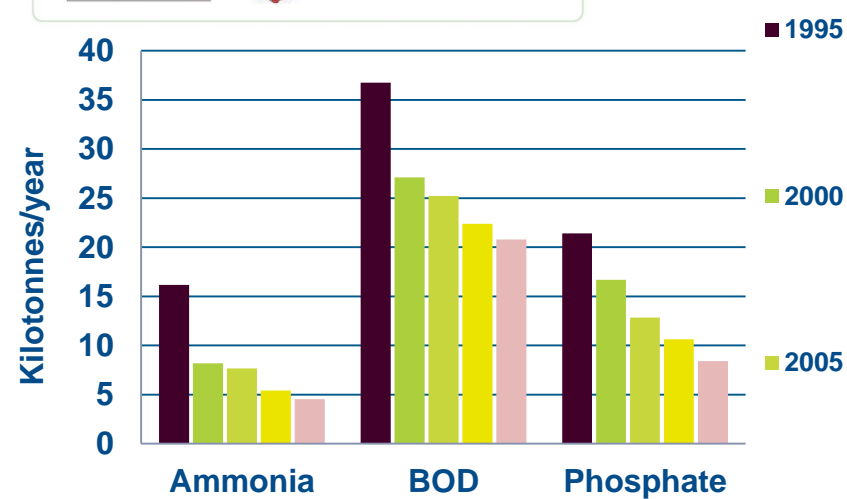
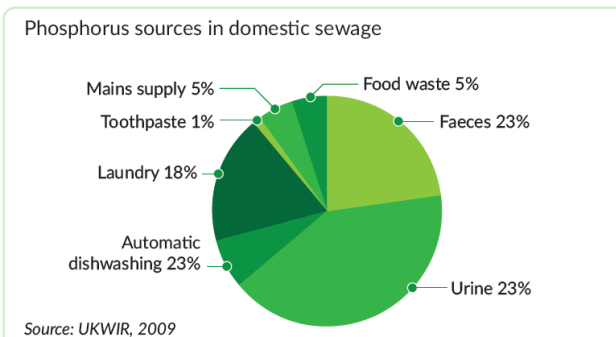
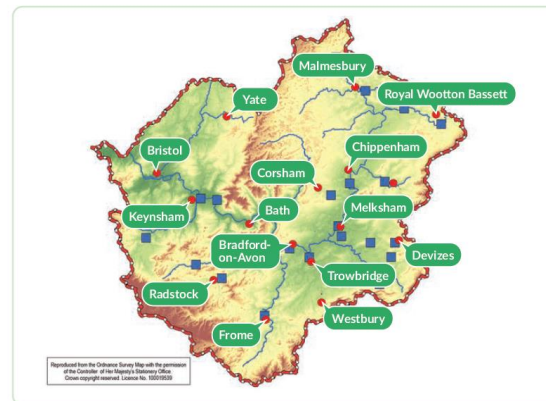


Case study 3- Phosphorus

Monitoring the impact of our discharges



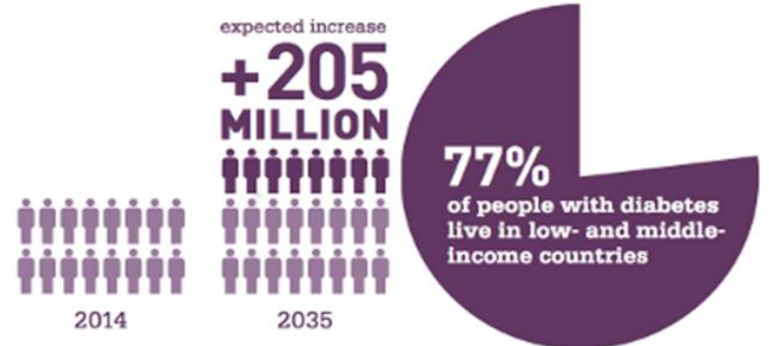
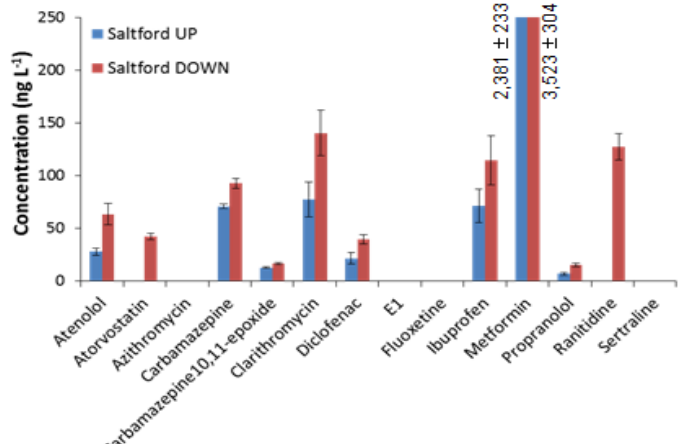
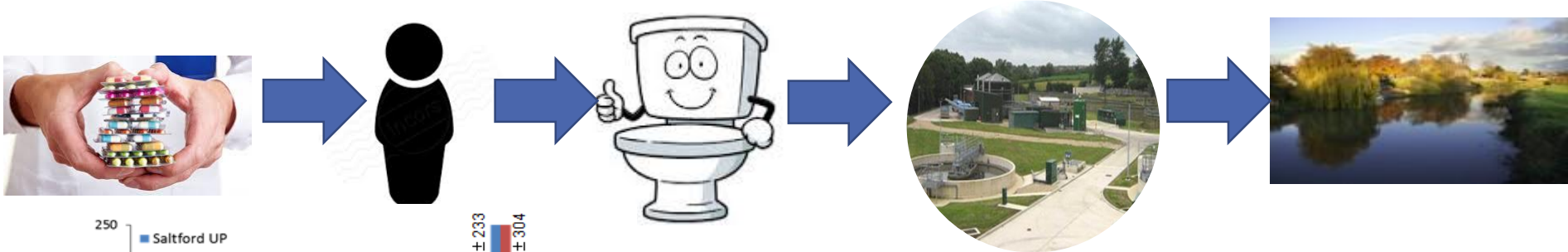
15
P
Phosphorus
30.9738



Case Study 4: Chemicals and public health



- Greater understanding on chemical composition of sewage
- Links between societal health and river health
- Transport mechanisms and removal rates



Data & valuation



So what do we know.....or are beginning to find out?

- The ecological response to changing river flows
- The relative importance on chemistry, flow, temperature
- Our contribution to nutrient and chemical loadings in watercourses
- The ecological importance of our landholdings, in a landscape context
- The rate of change- decline and improvement
- The financial cost of solutions

New opportunities (or challenges)



- Increasing emphasis on valuation- natural capital / ecosystems services
 - Beginning to look into this- carbon capture of habitat types
 - Moving forward expectation to demonstrate no net loss of natural capital
- Recognition that we can't build solutions to address all problems, leads to other approaches:
 - Catchment management / EnTrade- trading & offsetting
 - Catchment approaches
 - Innovative source control
 - Can deliver multiple benefits, e.g. improved biodiversity

Conclusions

- By quantifying our environmental impacts and the services provided by our landholding, we can:
 - Understand where we have positive and negative effects
 - Confidently explore solutions based on sound science and evidence
 - Identify solutions which deliver multiple benefits
 - Develop a natural capital accountancy system encompassing our landholdings and activities
 - Be mindful of how our customers' money is spent
- Value nature (and the environment) within the geographical area which we serve





Thank you

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Back up slides



Aims & Principles

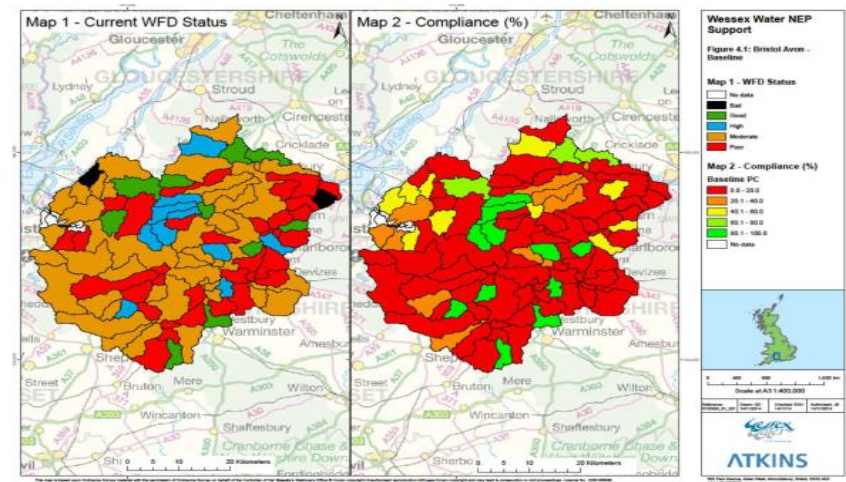


MOTIVATION: To deliver the greatest phosphorus reduction for the least cost whilst improving the environment

Innovative permitting, enables a different approach to risk, with more appropriate and focussed capital investment.

Delivering the greatest benefit:

- Length of river improved
- Greatest tonnage reduction
- Data, evidence, modelling
- Replicability in other catchments
- Sustainability



How will this work?

- **Permit under EPR will remain**
- **Operating Techniques:**
 - All sites included in the trial to be listed
 - Performance targets for phosphorus
 - Description of assessment
- **Site Measurement:**
 - Against phosphorus stretch target
 - Against phosphorus load target
 - Against overall catchment target
- **Compliance:**
 - Numeric conditions remain- OSM sampling and recording
 - Missing a stretch target will not impact company performance
- **Ongoing discussions with the Environment Agency & water industry**



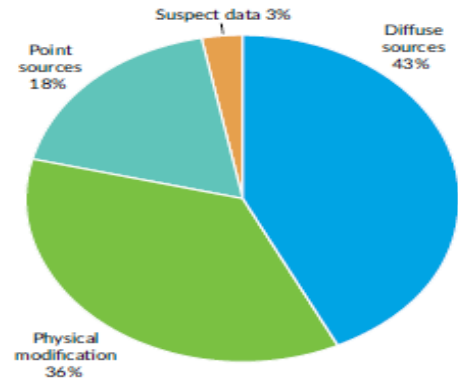
| |
|------------|
| phosphorus |
| 15 |
| P |
| 30.974 |

Catchment Permitting - reductions



| Year ending | P load contribution from WwTW (tonnes/year) | Target annual P load reduction (tonnes/year) |
|------------------|---|--|
| Baseline | 134.3 | Not Applicable |
| 31 December 2017 | 109.1 | 25.2 |
| 31 December 2018 | 103.2 | 31.1 |
| 31 December 2019 | 88.3 | 46.0 |
| 31 December 2020 | 87.6 | 46.6 |

Reasons for not achieving WFD status Bristol Avon



Source: EA Catchment information pack

Reporting



[Home](#) [Catchments](#) [Reports](#) [Audit](#)



Catchment Permitting Application

Calculating average load for the catchment – based on the average load of all sites within a catchment.

[Learn more »](#)

Getting started

Notice of variation and consolidation with introductory note.

[Learn more »](#)

Environmental management

Water discharge returns.

[Learn more »](#)

Policy

Water quality.

[Learn more »](#)

- Annual reporting confirming the annual load reduction vs target (46.6tpa)
- Current performance:
 - 42 sites contribute c. 30% of total catchment load
 - After 6 months at c.80% of baseline load (lower summer flows)

Lessons Learnt (or Learning!)

- Data! Requires all STWs in the catchment → baseline load
 - Increased sampling burden- fortnightly composites
- Combining data systems to enable reporting:
 - Analytical and flow data talking to each other
 - Development of a reporting tool rather than manual process
 - Data appropriate for EA systems
- Permitting:
 - Updating all EPR permits in the catchment- some very old permits!
- Operating Techniques document needs updating! [Expected]

