United Utilities Integrated Catchment Approach

Addressing water issues as part of a catchment based approach

Institute of Water Autumn Seminar – Thursday 23rd November 2017
United Utilities Integrated Catchment Approach – Collaborative Water Management

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United Utilities are the North West's water and wastewater company serving 3.4 million households.

**Key Facts**

- We look after >55,000 hectares of catchment land
- We manage around 120,000 km of water pipes and sewers
- 570 wastewater treatment works
- 179 reservoirs and 93 water treatment works delivering 1.7bn litres of water a day.

**Our vision is to be the best UK water and wastewater company, providing great service to our customers.**
The benefits of an integrated approach

- Delivery of an affordable business plan that is inline with customer expectations and UU customer promises
- Realising business and regulatory requirements by:
  - Promoting holistic ways of working, bringing together water quality and quantity drivers in delivery of combined asset and non-asset interventions
  - Prioritised sustainable and innovative solutions delivering more for less
  - Partnership working
- Formation of an evidence-based approach to developing solutions and reducing risk and uncertainty in partnership.

The next slide includes a video summarising activities we’ve undertaken to deliver an integrated approach in the River Petteril catchment.
United Utilities Integrated Catchment Approach

A developing way of working

• A way of managing integrated (shared) risk with external stakeholders
  • Water quality issues
    • To meet legislative drivers (e.g. Water Framework Directive, Bathing Water Directive, safeguard zones, etc.)
  • Flood Risk
    • Sewer flooding linked to other flooding mechanism (surface water, groundwater, fluvial)
  • Supply and Demand
    • Creating capacity in Ww networks and treatment processes to accommodate future development
  • Resilience
    • Improved resilience of assets
Background to UU Integrated Drainage Area Strategies (IDAS)

The Origins of IDAS

**Drainage Strategy Framework**
- Guidance for WaSCs to develop a more strategic and collaborative approach to drainage management. Delivering more for less.
- WaSCs cannot develop drainage solutions on their own.

**United Utilities Wastewater Network Management Programme**
- UU strategic initiative with internal focus
- Back to basics approach to understanding Ww network
- Introduced principal of *Systems Thinking* and increased monitoring and control.

**United Utilities IDAS**
- Risk based approach using network performance data, modelling and operational feedback to assess incidents and develop prioritised ‘catchment’ interventions
- External facing Drainage Plans to be produced including proposed opportunities to manage integrated risks
- Partnership working used as mechanism to prioritise interventions and identify alternative delivery routes.
IDAS – Inputs and Outputs

**Inputs**

- Modelling
- Engineering Support to develop opportunities
- Assessment of development plans
- Operational feedback
- LLFA flood data
- 3rd party investment needs
- Ww Network Performance Data
- UU SuDS opportunity tool
- External Flood Risk Plans
- Feedback from external stakeholders and 3rd parties (e.g. RT NFM modelling)

**Outputs**

- Holistic, sustainable long term plans to inform future investment
- Development of solutions and funding opportunities in collaboration
- Opportunities for Flood risk reduction
- External facing Document
- Opportunities to remove Surface water from combined sewers
- Opportunities to increase Asset protection
- Opportunities for Surface water management through SuDS
- Opportunities for Environmental improvements and no deterioration
- Opportunities to feed into Price Review/Business Plan build
Development of United Utilities IDAS
Activity to date

For 20 pilot IDAS studies

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
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<tbody>
<tr>
<td>Initialize/prepare</td>
<td>Risk assessment</td>
<td>Options appraisal</td>
<td>Intervention</td>
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<td>COMPLETE</td>
<td>COMPLETE</td>
<td>TO BE COMPLETE</td>
<td>TO BE COMPLETE</td>
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<tr>
<td>Establish partnership and consultation process</td>
<td>Consultation on risk issues</td>
<td>Consult on options</td>
<td>Aligned delivery &amp; collaborative solutions</td>
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<td>Define uncertainties</td>
<td>Quantify uncertainties</td>
<td>Plan for uncertainties</td>
<td>Innovative and sustainable</td>
</tr>
<tr>
<td>Prepare risk data</td>
<td>Quantify risks</td>
<td>Demonstrate whole life cost and benefit</td>
<td>Live and visible</td>
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- Consultants have now completed risk quantification piece to prioritise ‘clusters’ for interventions
- Ops inputs – risk assessments and connectivity review etc.

- Reports due highlighting course interventions to include in PR19 planning
- Stakeholder engagement to identify multi beneficial collaborative solutions (e.g. SW removal) to follow
- Aim to publish IDAS ‘plans’ as live documents on external website

Ofwat/EA DSF Plan
Natural Course

Better implementation of WFD by working in a more **integrated** way to address the **barriers, gaps and shortcomings** preventing achievement of Good Ecological Status.

An opportunity to tackle challenges in **partnership**. The Collaborative team has a shared office space with GMCA in Churchgate House, Manchester.
Natural Course

The North West River Basin District will be used to test and explore best practice in urban and rural environments, with an intensive focus on the Irwell.

Natural Course has strong ties to the ‘Pioneer’ projects and DEFRA’s 25 year plan.

UU deliverables include:

- Creation and embedment of the Integrated Catchment Strategy Team
- Working with partners to address contaminated surface waters
- Engaging with businesses to invest in sustainable water management

Currently investigating multiple benefit partnership opportunities in the Upper Irwell (Rossendale), including:

- Optimisation of reservoirs
- Surface water management / removal
- Natural Flood Management to help communities at risk
- Countryside stewardship & Facilitation Funds
- Tree planting opportunities
Thank you

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