

Community action on the River Wharfe

Rick Battarbee

Ilkley & Addingham Community Groups

Outline

- Addingham Environment Group
- The Wharfe
- Addingham 4Becks
- Ilkley Clean Rivers Group
- Conclusions



Addingham Civic Society Environment Group – established April 2016

Our aims

- To raise awareness about the environmental problems we face globally and locally
- To encourage our local community to adopt more sustainable life-styles
- To act locally to protect our natural environment



Progress so far

- A website: <http://addinghamenvironmentgroup.org.uk/>
- A membership of over 200 residents (within a village of 3,500)
- A Facebook page with over 400 followers
- Over 50 regular volunteers
- A youth group (Addingham Saplings)
- Some local publicity



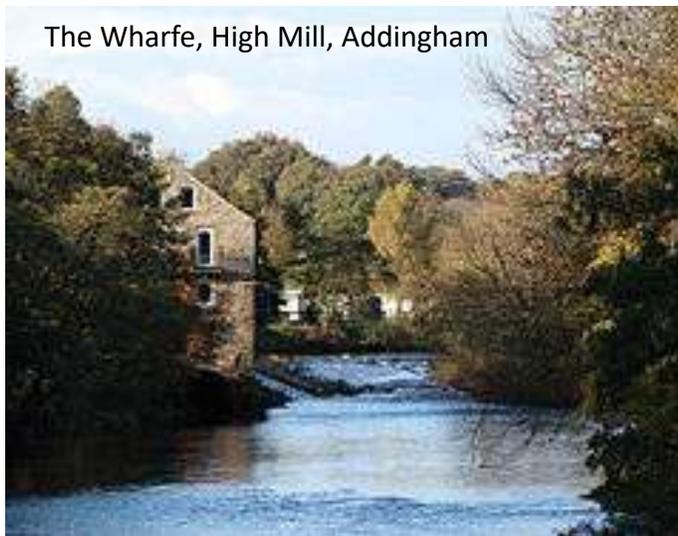
Wharfe and Lower Ouse Catchment divided into WFD Water Bodies

Wharfe and Ouse Lower

Management Catchment

Summary

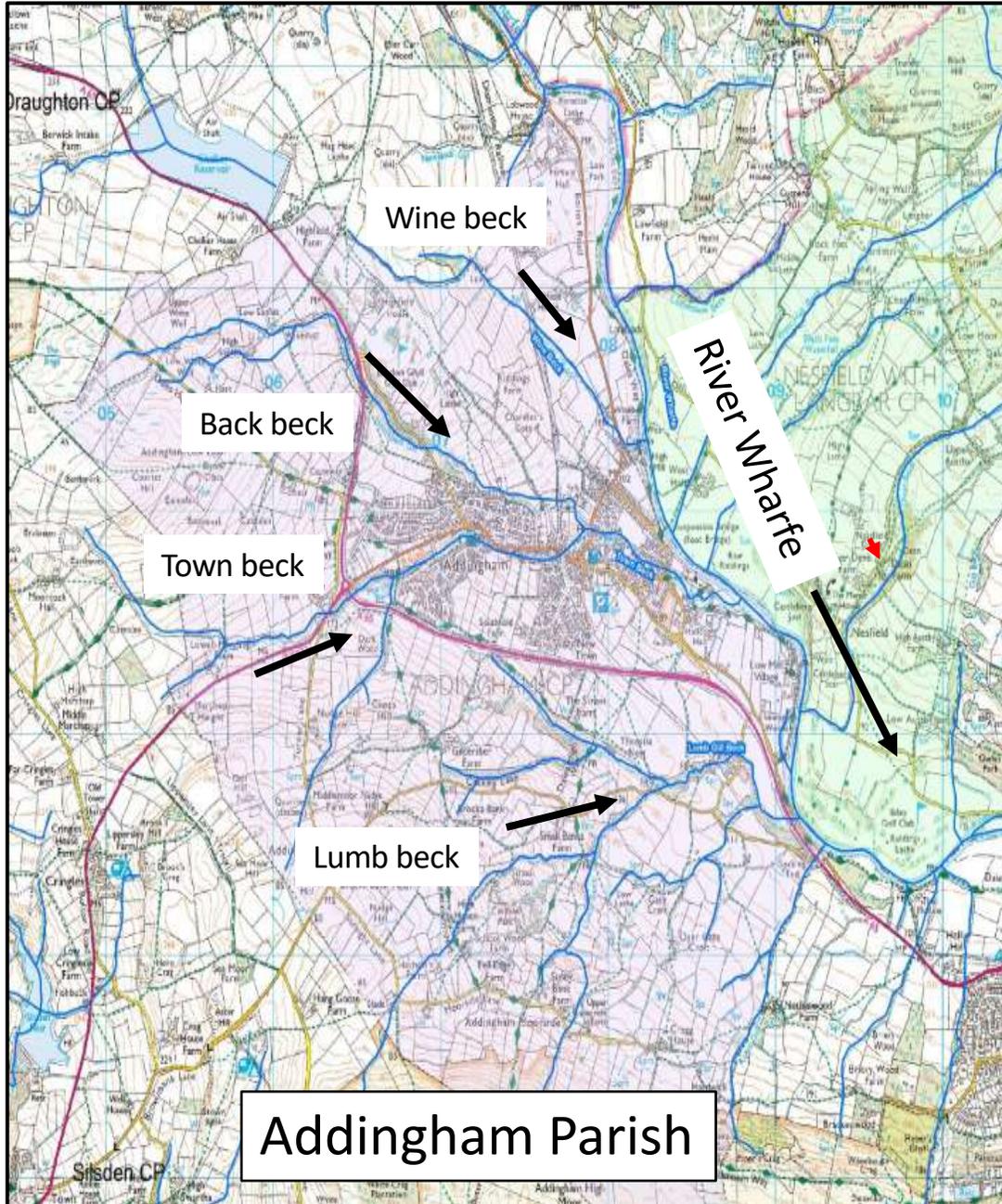
- Download Classification Data
- Download Measures Data
- Download Reasons for not Achieving Good Data
- Download Objectives Data
- Download water body to protected area links data



- surface water operational catchment
- surface water management catchment



The 4Becks Project



- **Aims:**

- Reducing flood risk
- Improving water quality
- Restoring wildlife habitats
- Enhancing biodiversity

- **Volunteers:**

Beck Stewards monitor pollution, litter pick, clear culverts, record wildlife and engage with local residents

- **Funding:**

£20,000 from the Wharfe Flood Partnership

- **Research design:**

Upstream and downstream comparisons and use of Lumb Beck as a control

Composition of the 4Becks Steering Committee

Agencies

- **Charlotte Simons** (Chair) – Yorkshire Dales Rivers Trust and DVRN
- **Marie Taylor** – Project Officer, YDRT
- **Conor Scholey** – Assistant Project Officer, YDRT

- Kirsty Breaks – Bradford Metropolitan District Council
- Kathy Stevenson – Environment Agency
- Andrew Walker – Yorkshire Water
- Jon Grey – Wild Trout Trust

Local Community

- Catherine Coates – Addingham Parish Council
- Tony Brady – Addingham Anglers Association
- Jessica Penrose – Addingham Environment Group
- Jan Hindle – Addingham Environment Group
- Peter Miller – Addingham Environment Group
- Rick Battarbee – Addingham Environment Group



Beck stewards at work

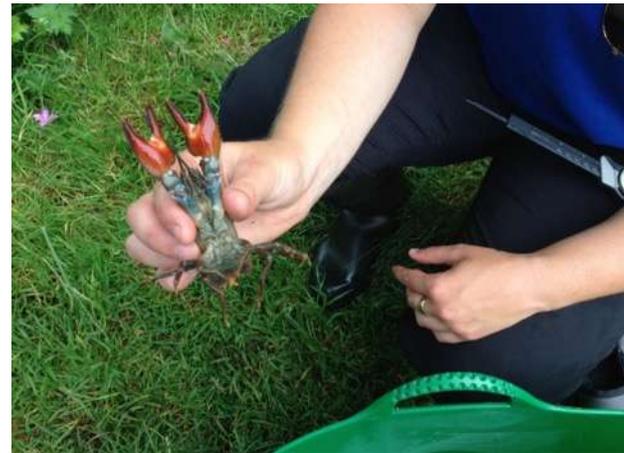


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BECKS**

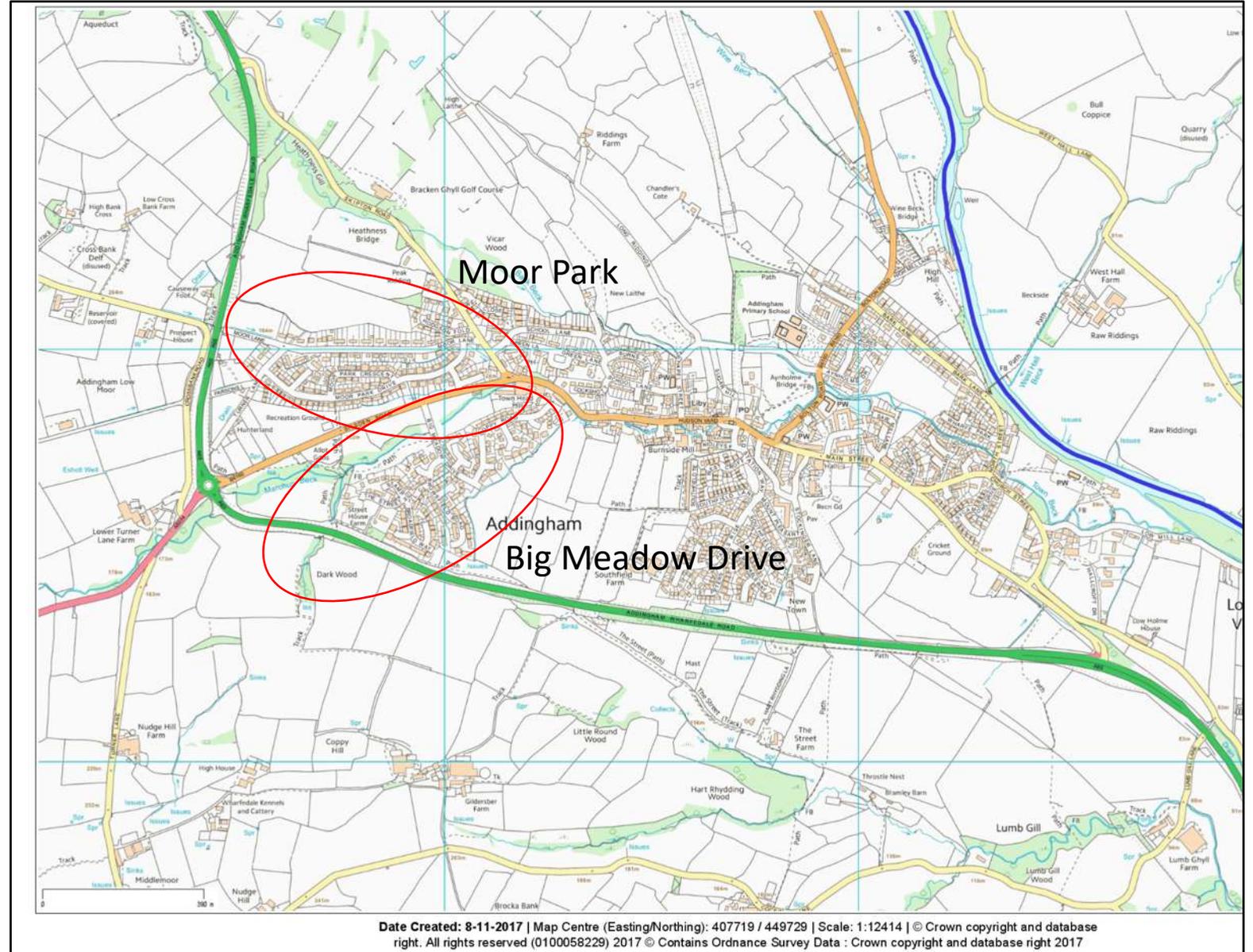
Beck Steward Handbook

Town Beck

Town Beck in particular suffers from flooding, unnatural hydrology, relatively high nutrient concentrations, invasive species including Himalayan balsam and signal crayfish, and poor brown trout populations

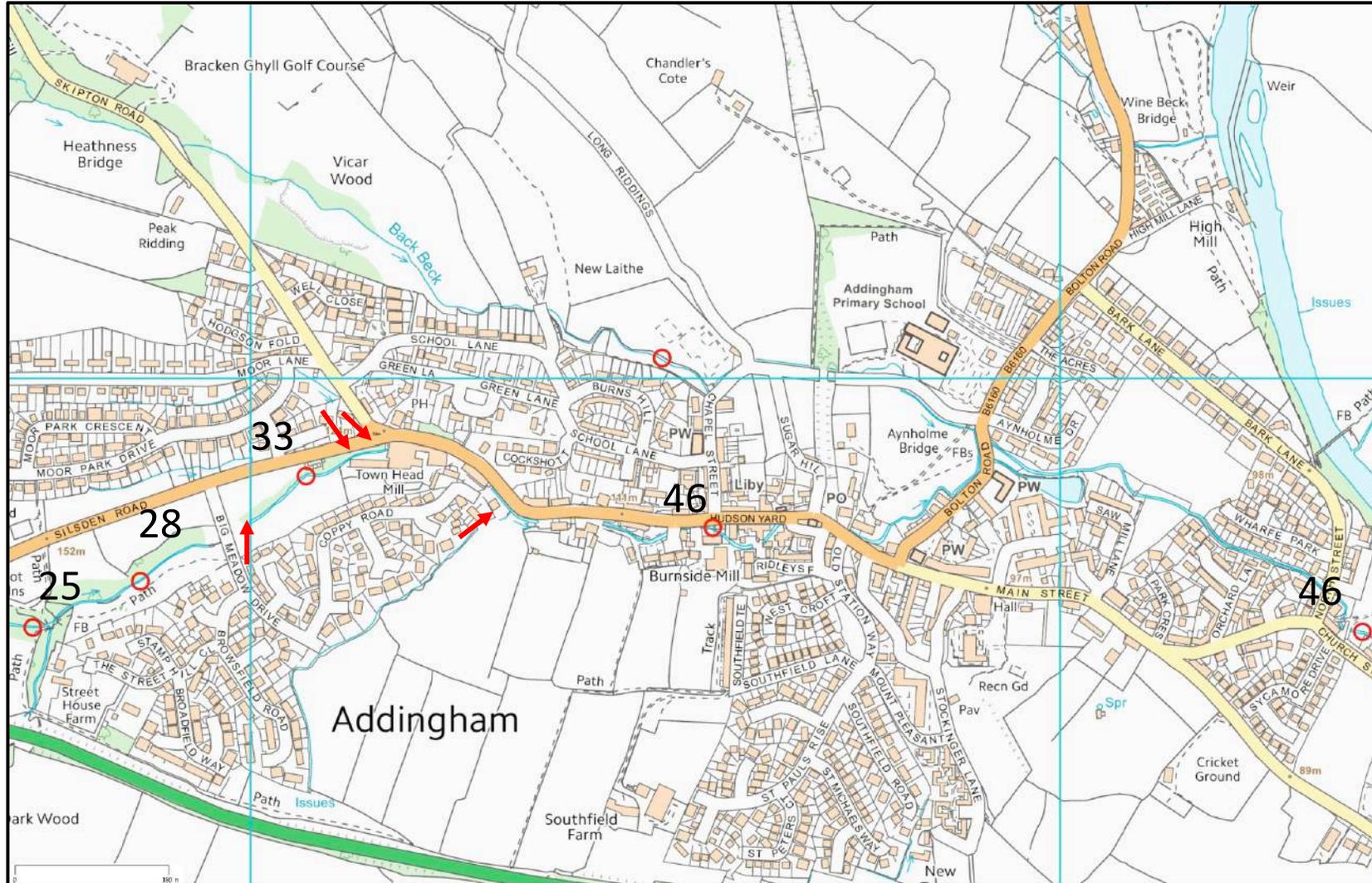


Surface water run-off from housing estates

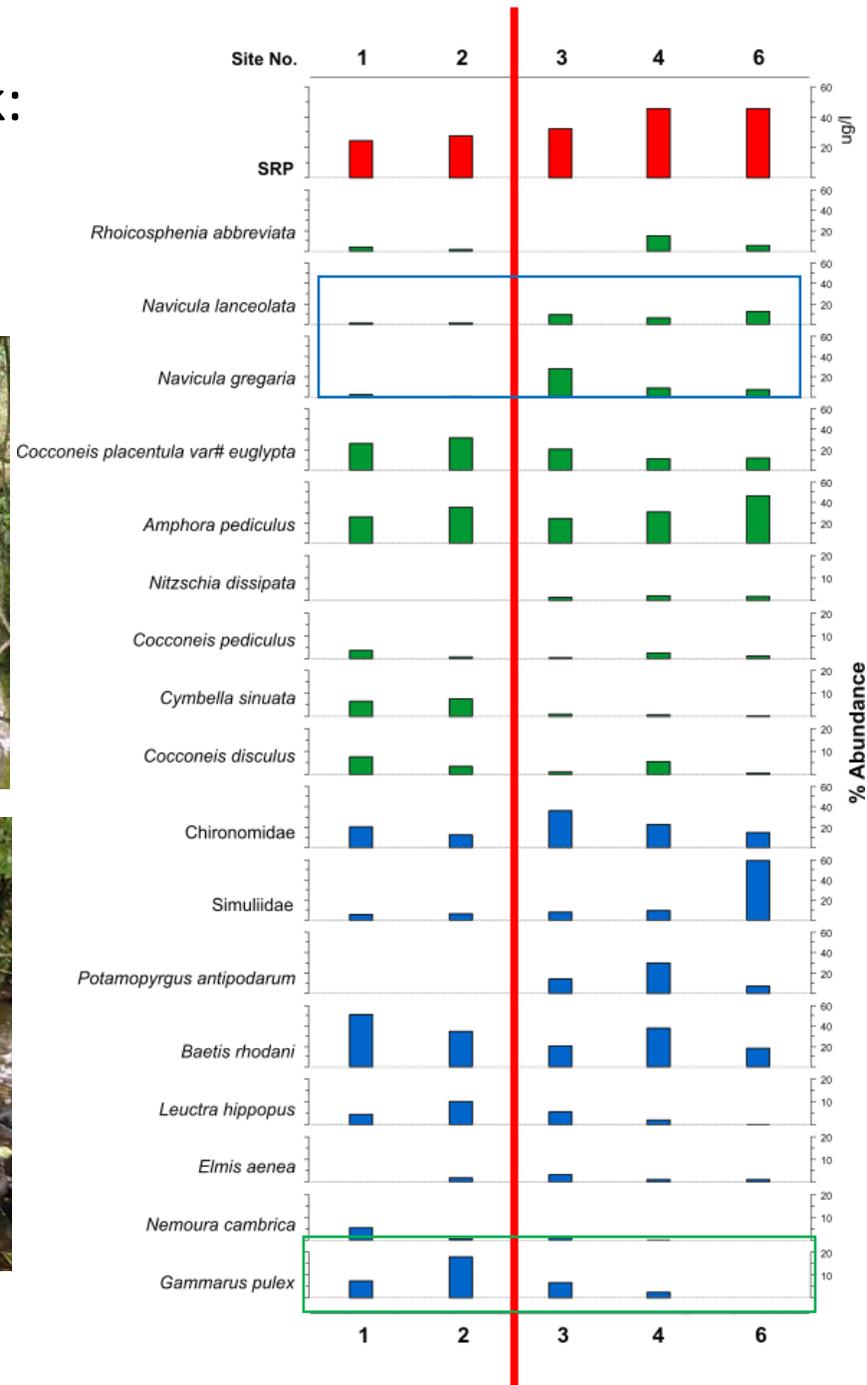


Soluble reactive phosphorus (SRP) ($\mu\text{g}/\text{l}$)

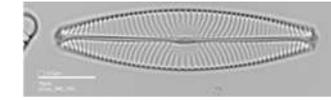
Tuesday 19th December 2017



Water quality in Town Beck: SRP, diatoms and inverts



Sampling diatoms



Navicula lanceolata

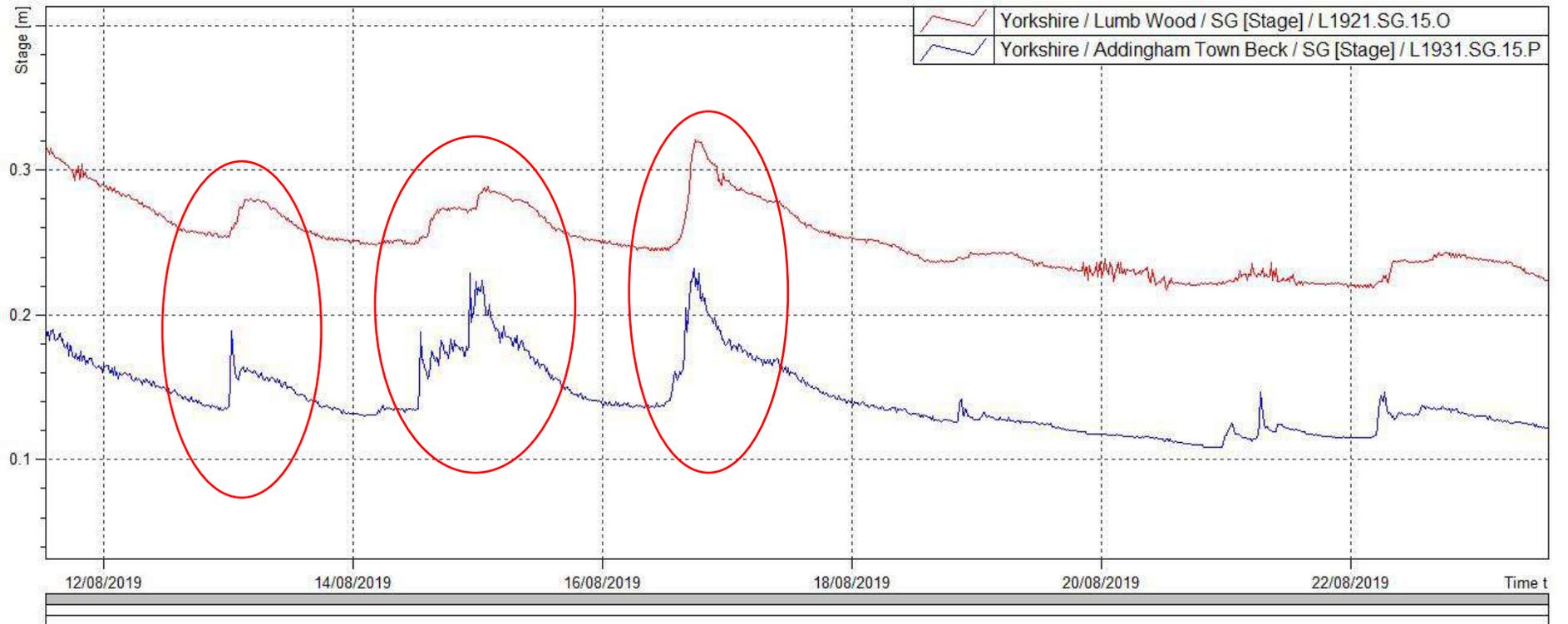


Sampling inverts



Gammarus pulex

Monitoring water-levels: Town Beck vs. Lumb Beck

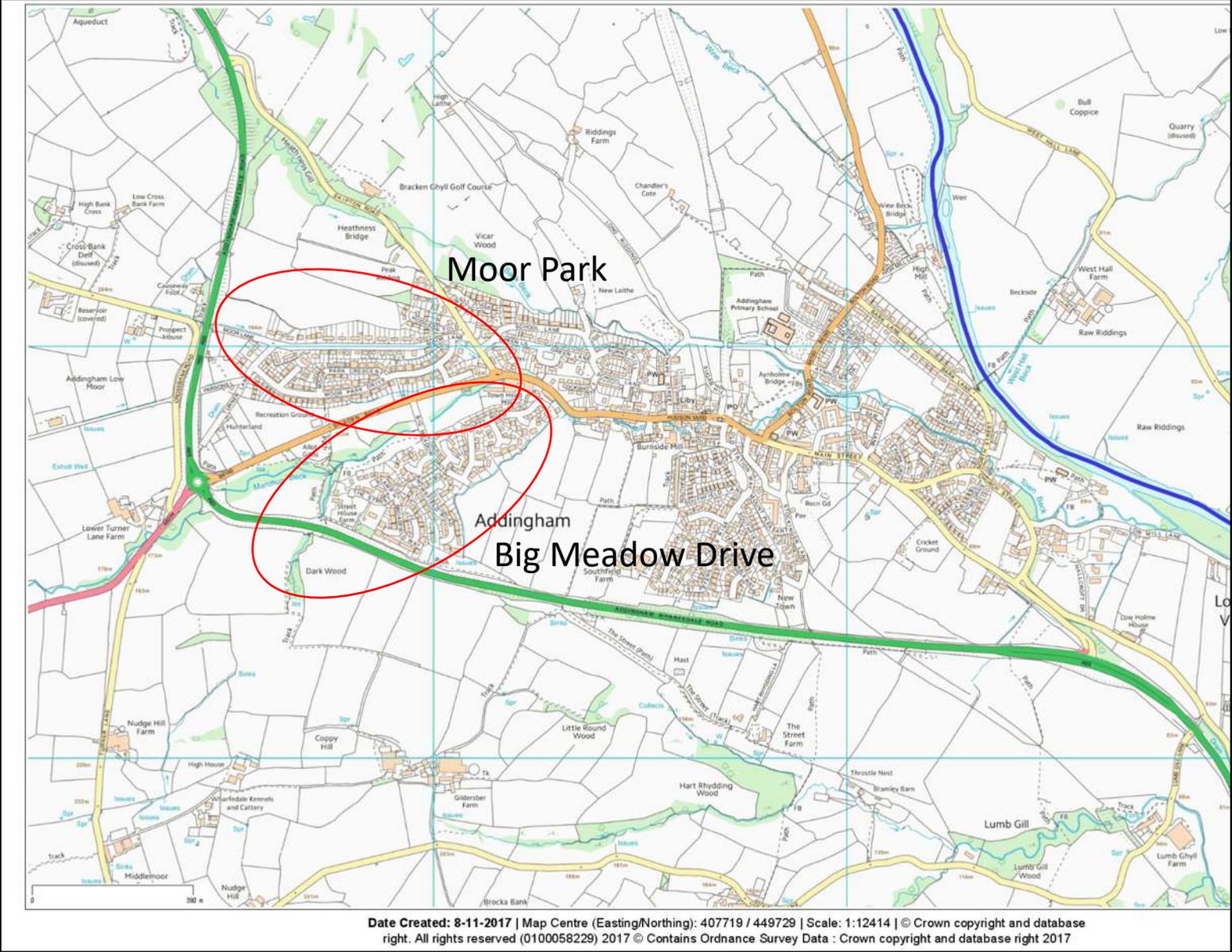


The Town Beck river level recorder shows an almost instant response to rainfall reflecting the speed of surface water runoff from the impermeable surfaces of the village housing estates

The high velocity inflow from surface water drains causes resuspension of organic sediments from plunge pools and pulses of turbid water down through the village



Can we solve the problem by retro-fitting SuDS to improve water quality, slow the flow and restore a more natural hydrological regime?



Ilkley Clean River Group

Ashlands Sewage Treatment Works: Ilkley



Untreated sewage spilling into the Ilkley Wharfe after (heavy?) rainfall



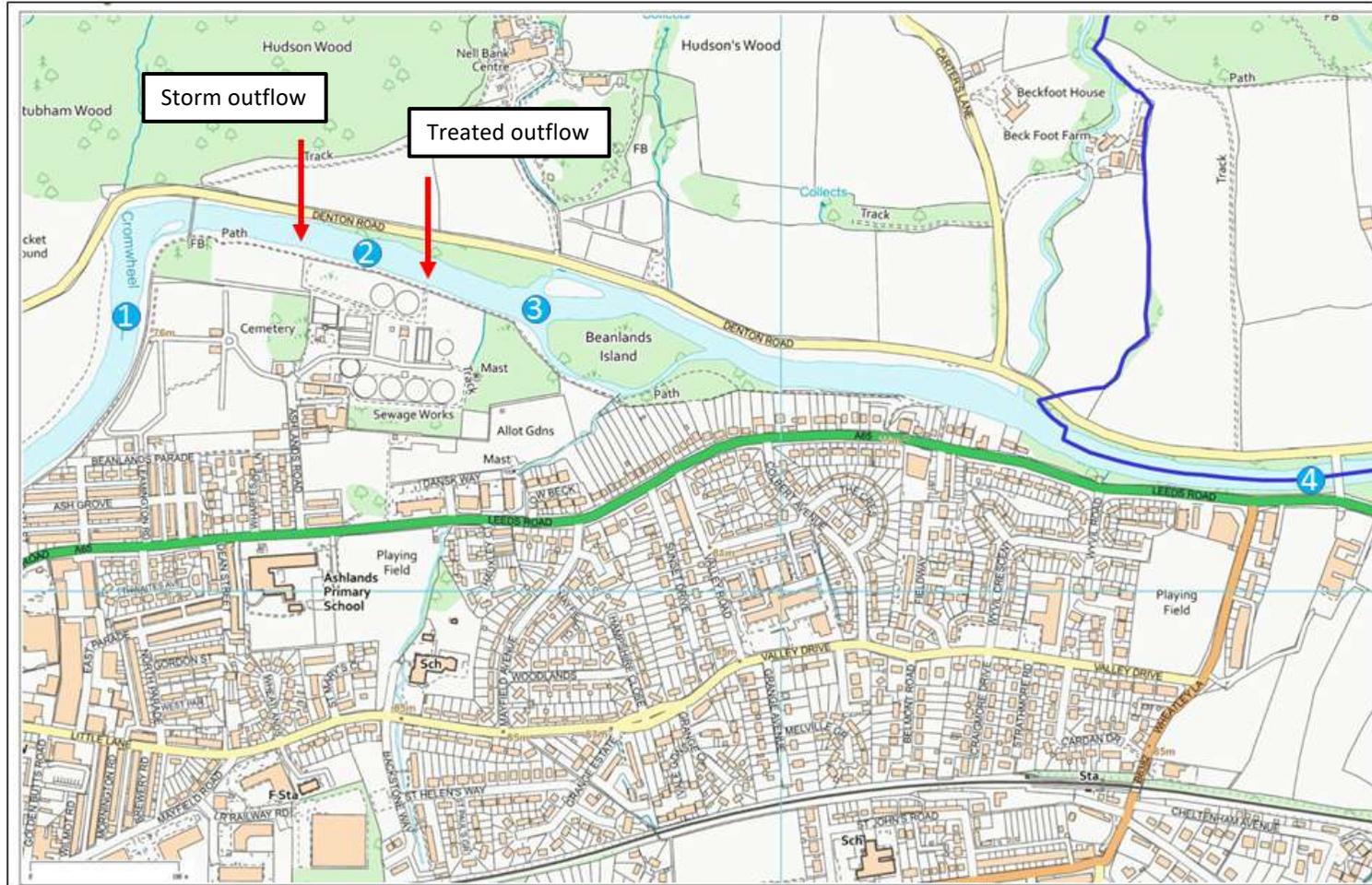
Recreation on the Ilkley Wharfe



Stormwater spills

Untreated sewage is very unsightly, but what is the threat to the river and to people using the river?

Ashlands Waste Water Treatment Plant: Sampling Sites

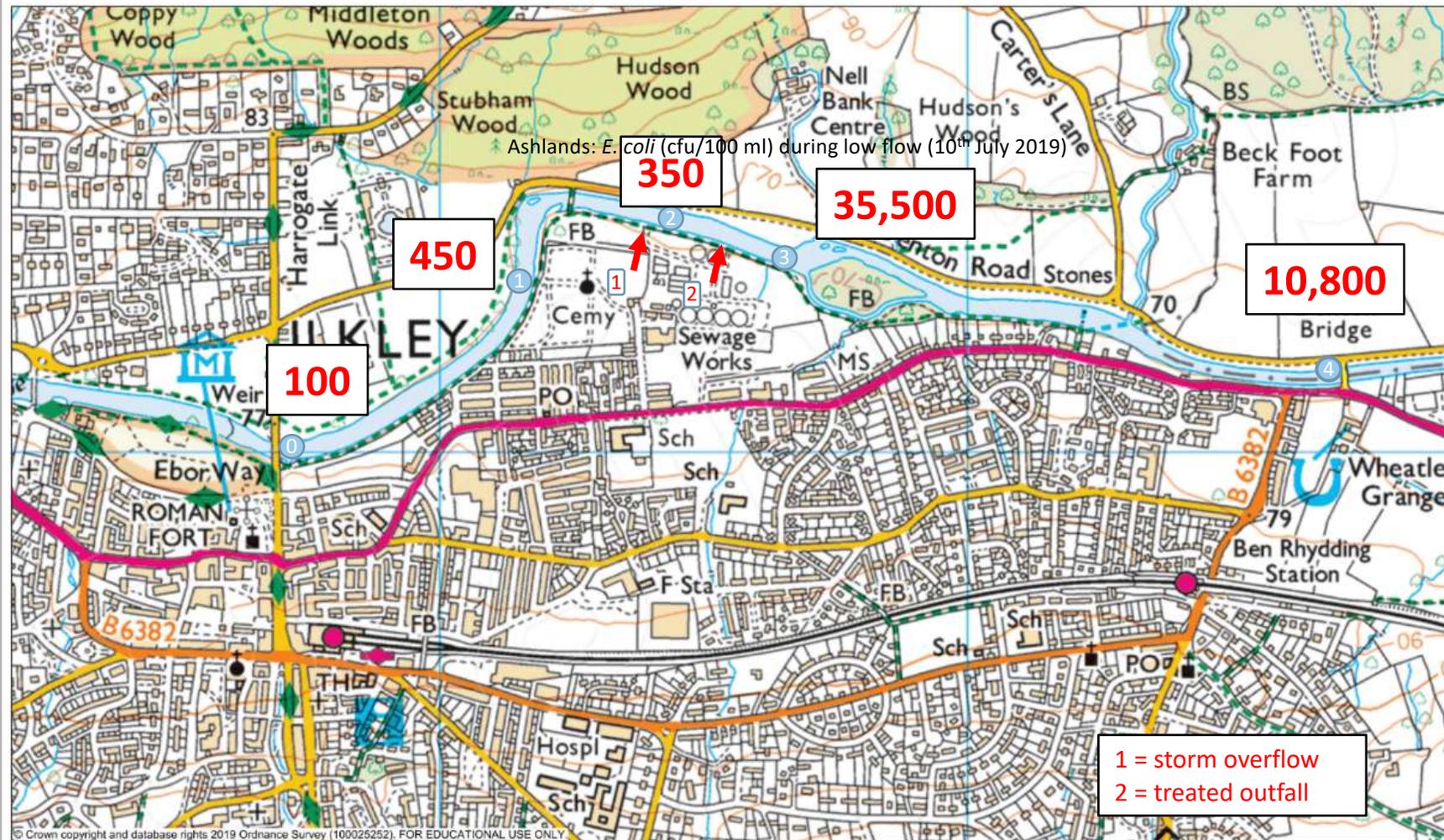


Faecal coliform sampling

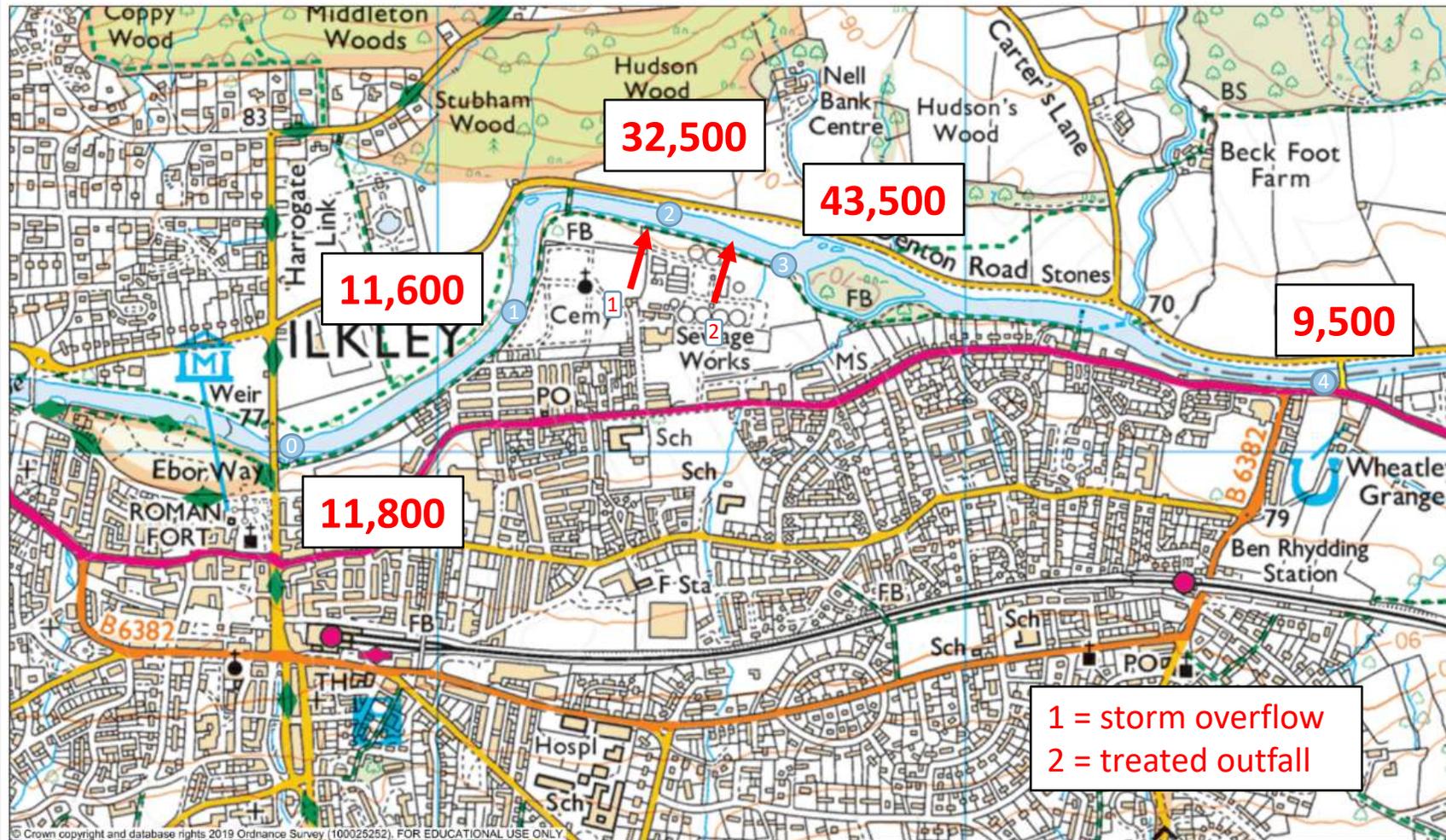
With the help of **citizen scientists** and funding from the **Rivers Trust, Wharfedale Naturalists and Ilkley Town Council**



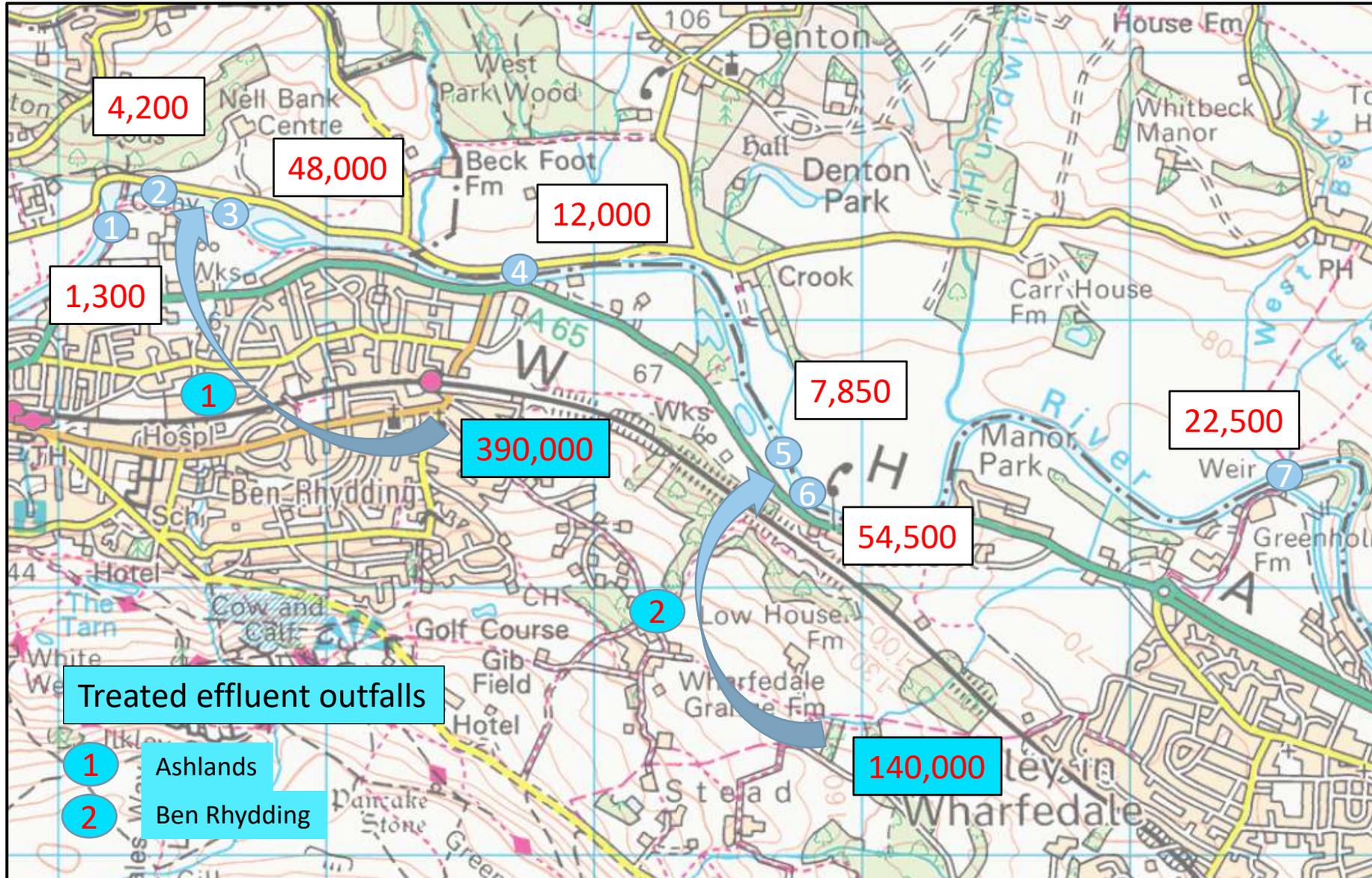
Ilkley Wharfe: *E. coli* (cfu/100 ml) during low flow (10th July 2019)



Ilkley Wharfe: *E. coli* (cfu/100 ml) during high flow and a spill (13th June 2019)

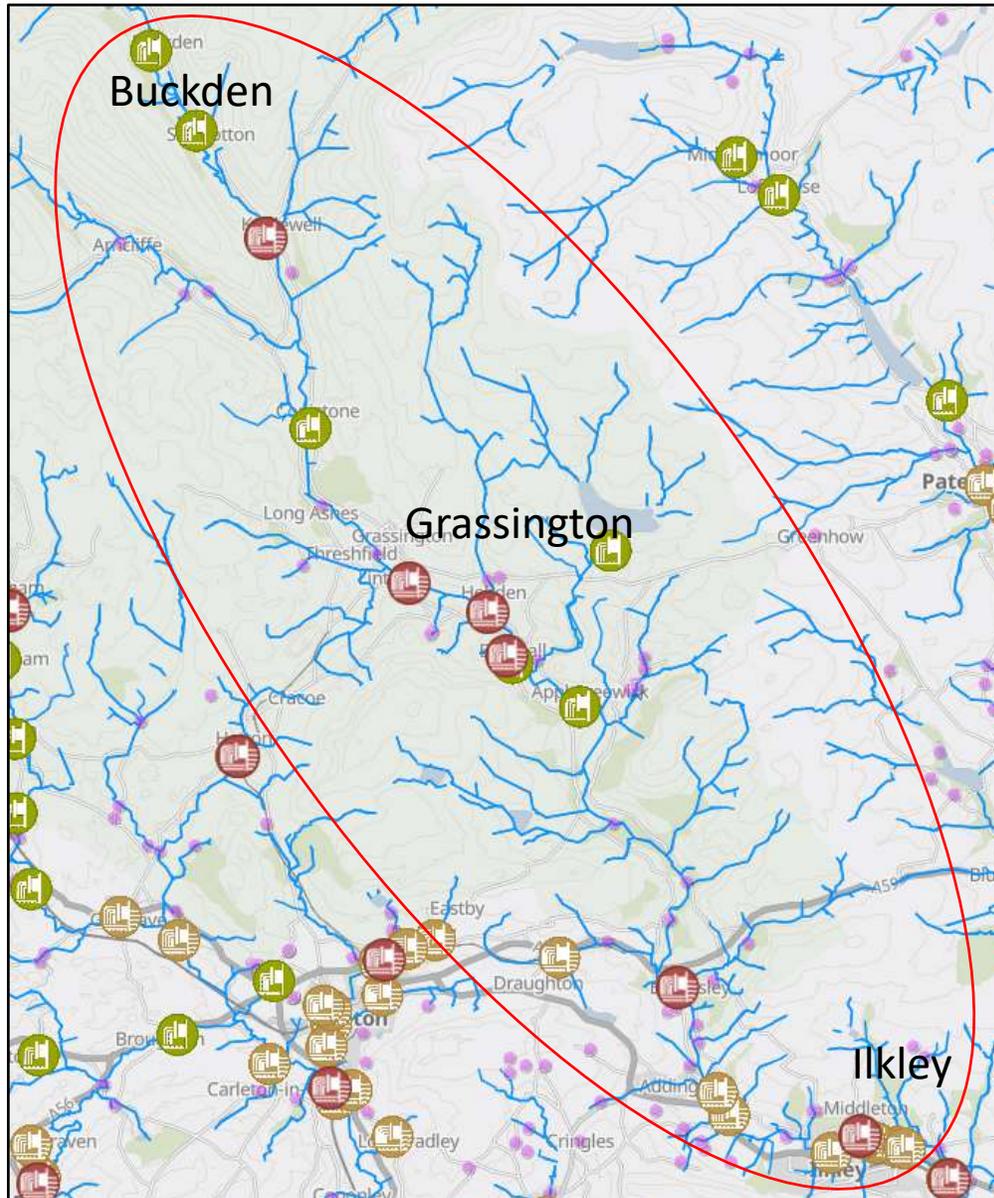


Ashlands and Ben Rhydding: *E. coli* (cfu/100 ml) on 7th August 2019 (medium flow, no storm overflow)



Rivers Trust: Is my river fit to swim in? <https://arcg.is/1P4Cfu>

Next steps



What are the sources of high faecal coliform numbers arriving in Ilkley in wet weather?

Upstream SWTs and CSOs?



But there are also plenty of livestock sources



O'Callaghan et al. 2018 EPA Report

Can the Ilkley Wharfe be the first river in the UK to be designated for bathing under the EU Directive?

Conclusions

- To make the Wharfe fit for **wild trout and wild swimmers**, there is a clear need for a catchment-scale management approach integrating both rural and urban surface-water pathways
- In towns and villages **retro-fitting SuDS** is essential to reduce and slow down discharges of surface water into becks from impermeable surfaces, thereby improving hydrological regimes, reducing nutrient pollution and reducing spills of untreated sewage from overloaded waste-water treatment plants
- In the countryside, **NFM measures**, especially the creation of fenced riparian zones, is essential, not only to slow the flow but to reduce soil erosion, minimise nutrient inwash and minimise the inwash of pathogenic bacteria from livestock
- Quite separately **waste-water treatment plants** throughout the catchment need modernising to cope with increasingly high surface water flows entering the combined sewer network, to reduce nutrient pollution and to reduce the discharge of pathogenic bacteria from treated effluents.

With thanks to all Addingham and Ilkley volunteers, YDRT staff especially Charlotte, Marie and Conor and funders The Rivers Trust, Wharfedale Naturalists Society, Ilkley Town Council and the Wharfedale Flood Partnership