


River Rhee Sampling and Testing for E-Coli around Haslingfield

Friends of the Rhee

Meeting with Cam Valley Forum and Anglian Water
17th July 2025
Dr Lara Hawkins, Nuala King, Dr Tudor Dawkins

Working together to Improve the River for Nature and the Community

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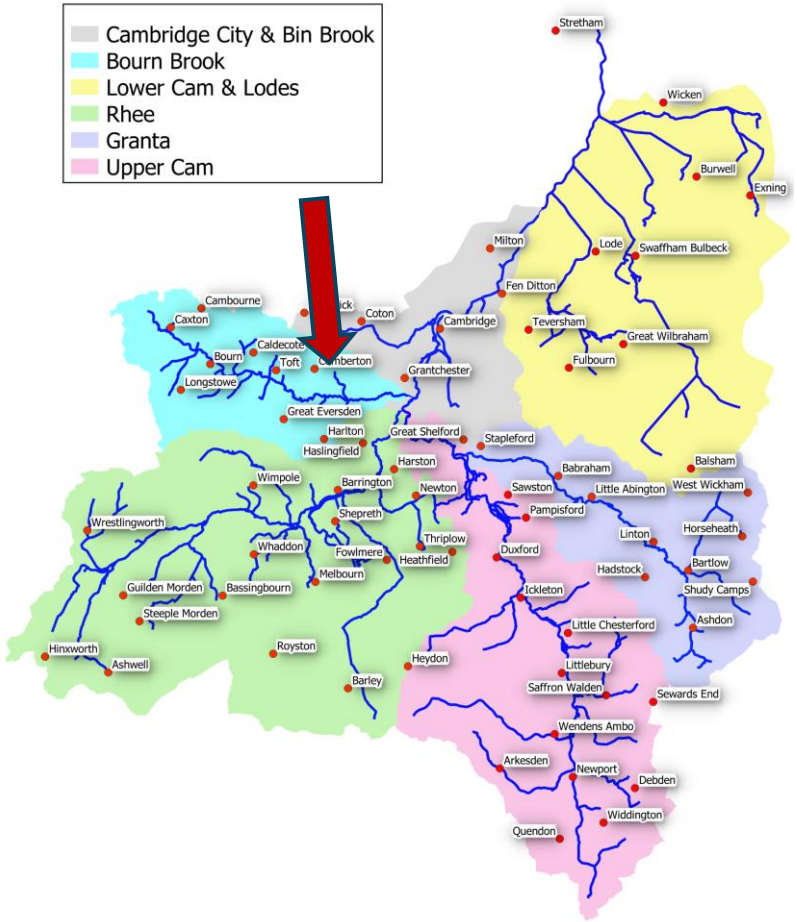
2. Intro to Friends of the Rhee
3. The E-Coli project – method, results, observations, questions

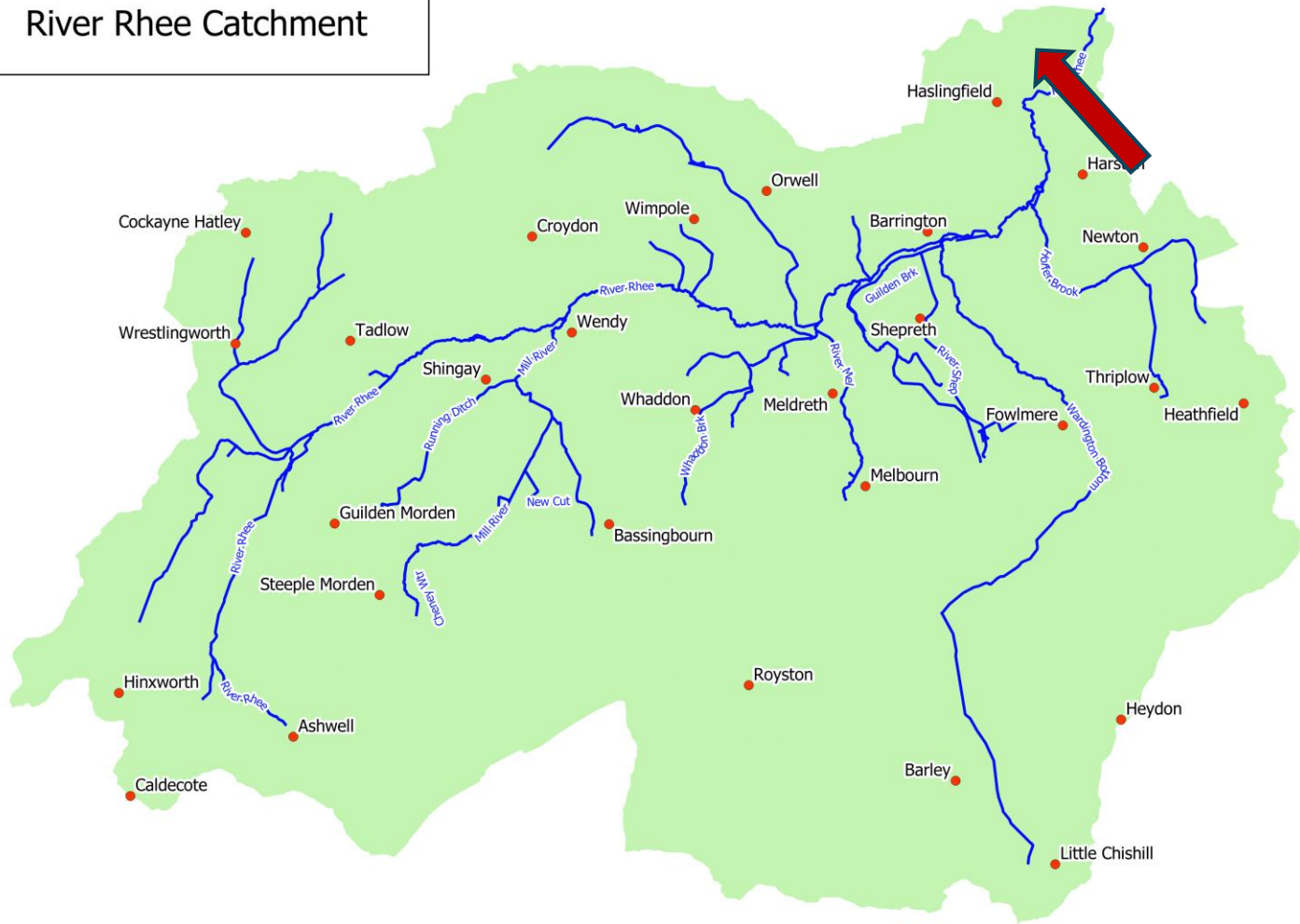
The Rhee

… is a tributary of the Cam and is part of the Cam Catchment, which is, in turn part of the Great Ouse Catchment

Map of the Cam Catchment Partnership

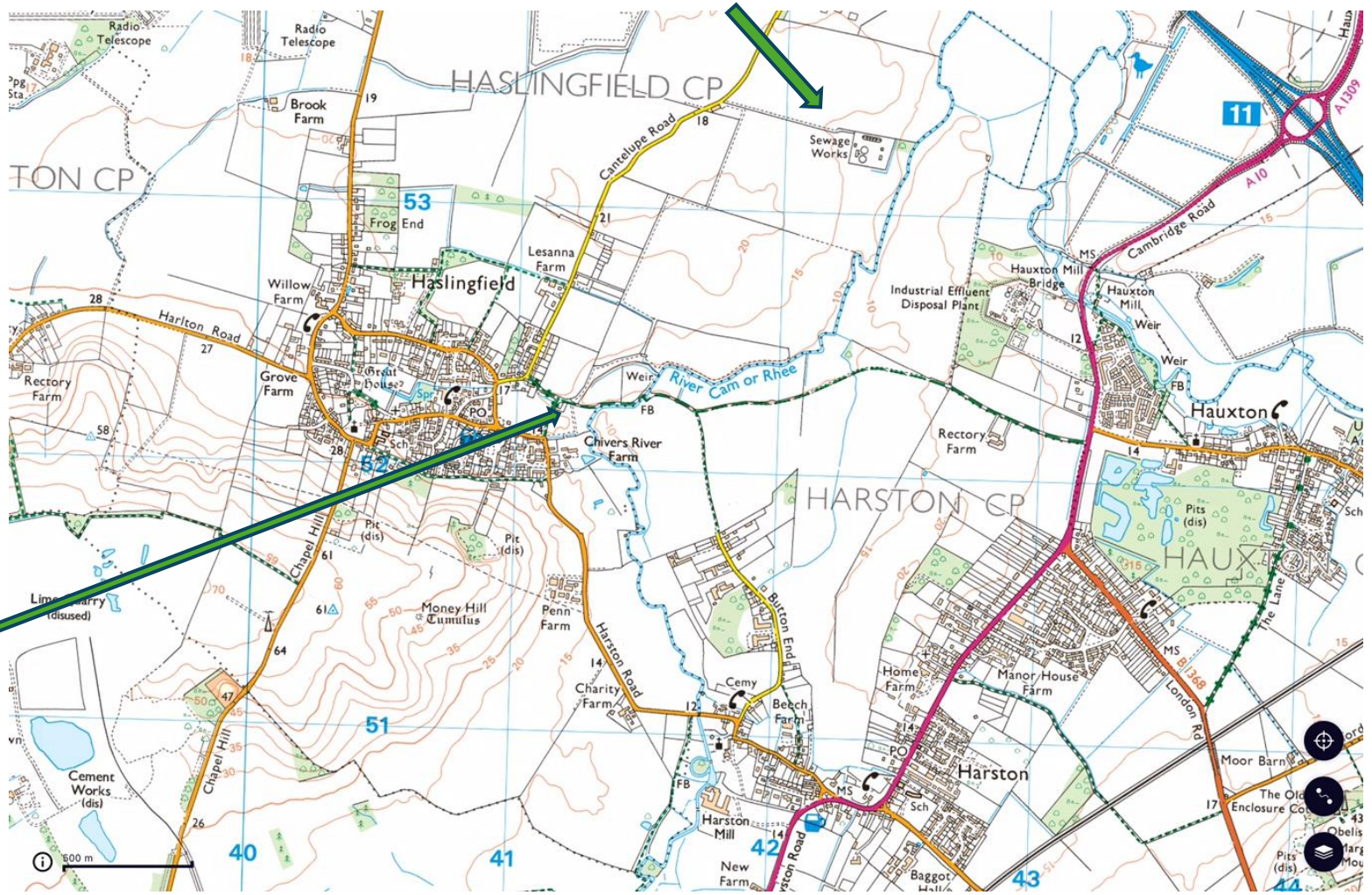


River Rhee Catchment



The Rhee near Haslingfield and Harston

Haslingfield Waste Water Recycling Centre



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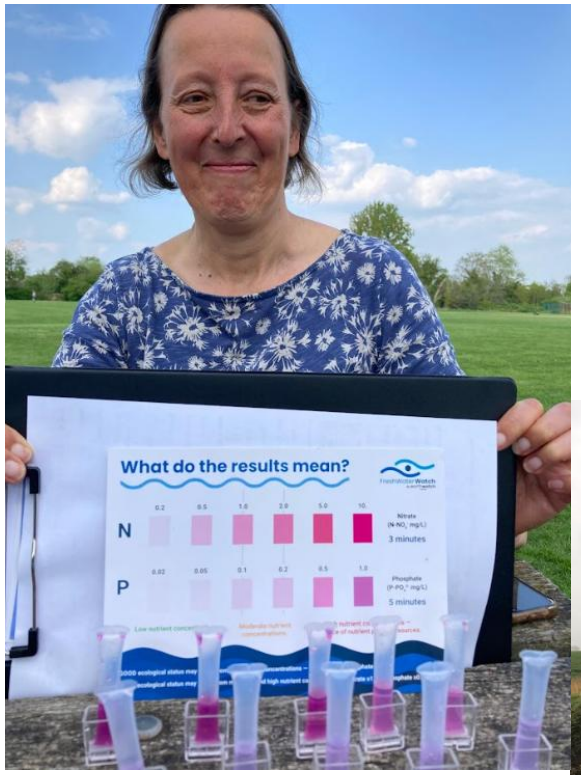
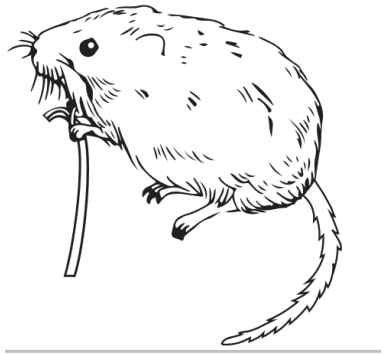
Friends of the Rhee





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Partners and Supporters

HH Eco Group

Haslingfield & Harlton Eco Group

Haslingfield Parish Council

Harston Parish Council

CVF

Cam Valley Forum

Protecting and enhancing the environment of the river Cam and its tributaries

Cam Catchment Partnership

Rivers matter

CamEO

CAM & ELY OUSE CATCHMENT PARTNERSHIP

Great Ouse Rivers Trust

The Rivers Trust

love every drop anglianwater

The Wildlife Trusts

Bedfordshire
Cambridgeshire
Northamptonshire

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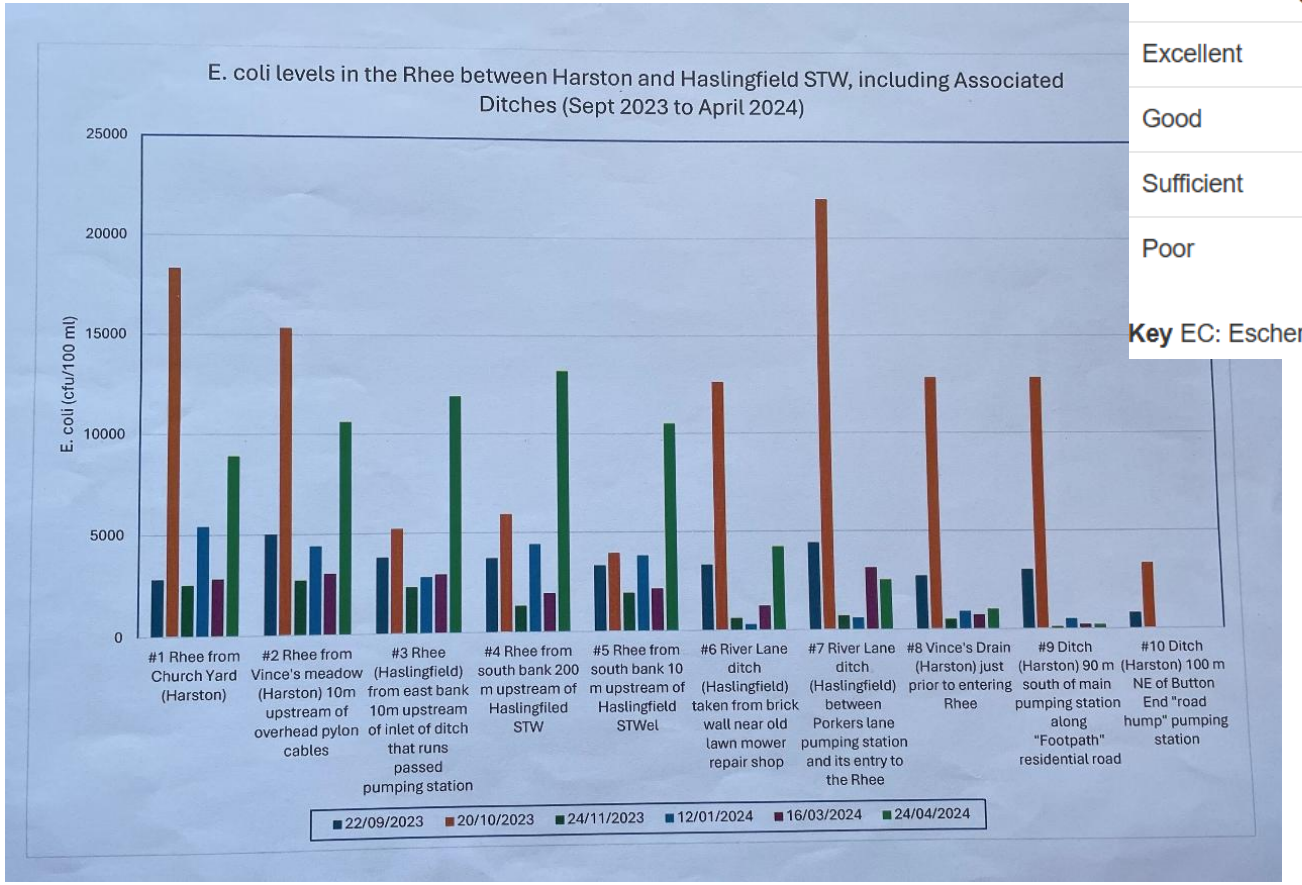
The Project - background



Inland Bathing Waters	
Excellent	EC: ≤500 cfu/100ml ; IE: ≤200 cfu/100ml (95th percentile)
Good	EC: ≤1000 cfu/100ml ; IE: ≤400 cfu/100ml (95th percentile)
Sufficient	EC: ≤900 cfu/100ml ; IE: ≤330 cfu/100ml (90th percentile)
Poor	means that the values are worse than the sufficient

Key EC: Escherichia coli, IE: Intestinal enterococci, cfu: Colony Forming Units

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The Project - objectives

The immediate and longer term objectives of this project are

i. Assess water quality: Conduct regular sampling of local stretch of river Rhee to monitor E. coli levels.
ii. Promote stewardship of local environment: Engage the community in pollution monitoring of the local river and empower individuals to take action.
iii. Protect public health: Provide data to inform local stakeholders regarding use of river.
iv. Raise awareness: Inform the community about the importance of water quality and the risks associated with contamination.

The first two objectives are within the direct scope of this proposal. The second two objectives would develop from the first two in consultation with the Parish Council and other stakeholders.

The Project - sampling

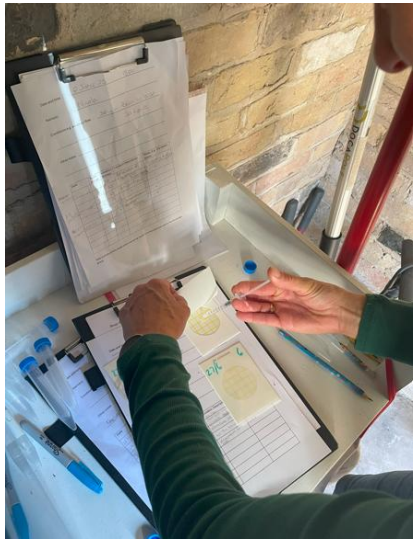
Water sampling from the River Rhee and surrounding ditches was conducted at nine sampling locations

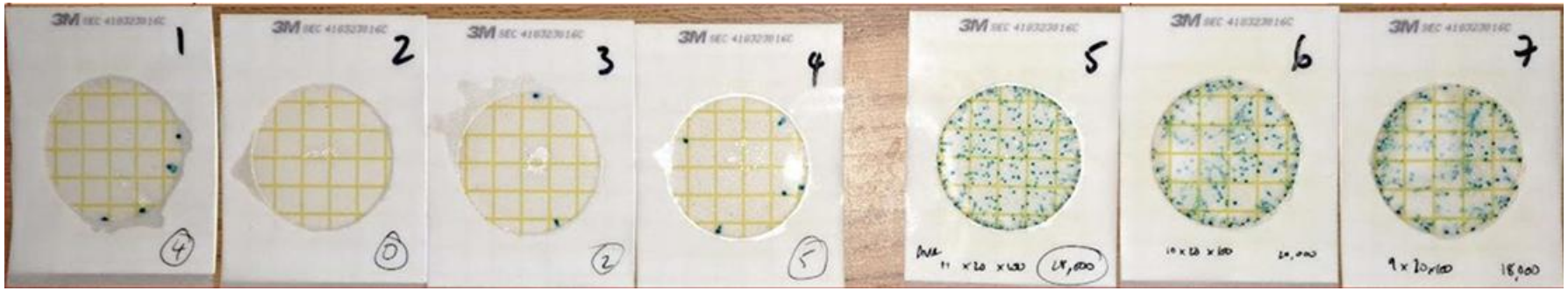
The sampling took place over a period March to June 2025 to establish protocols and ways of working, with the possibility of extending for a full year.

Samples were collected and tested as indicated in the standard operating procedures as used by the River Deben Water Testing Program

1 stream upstream of Porkers Lane
2 stream downstream of Porkers Lane
3 Rhee, upstream of Porkers Lane stream outlet
4 River Rhee, bench
5 River Rhee, Footbridge
6 River Rhee, downstream of the weir
7 and 8 not sampled in this
9 downstream of Haslingfield WRC
10 upstream of Haslingfield WRC
11 Haslingfield WRC outlet

The Project - testing





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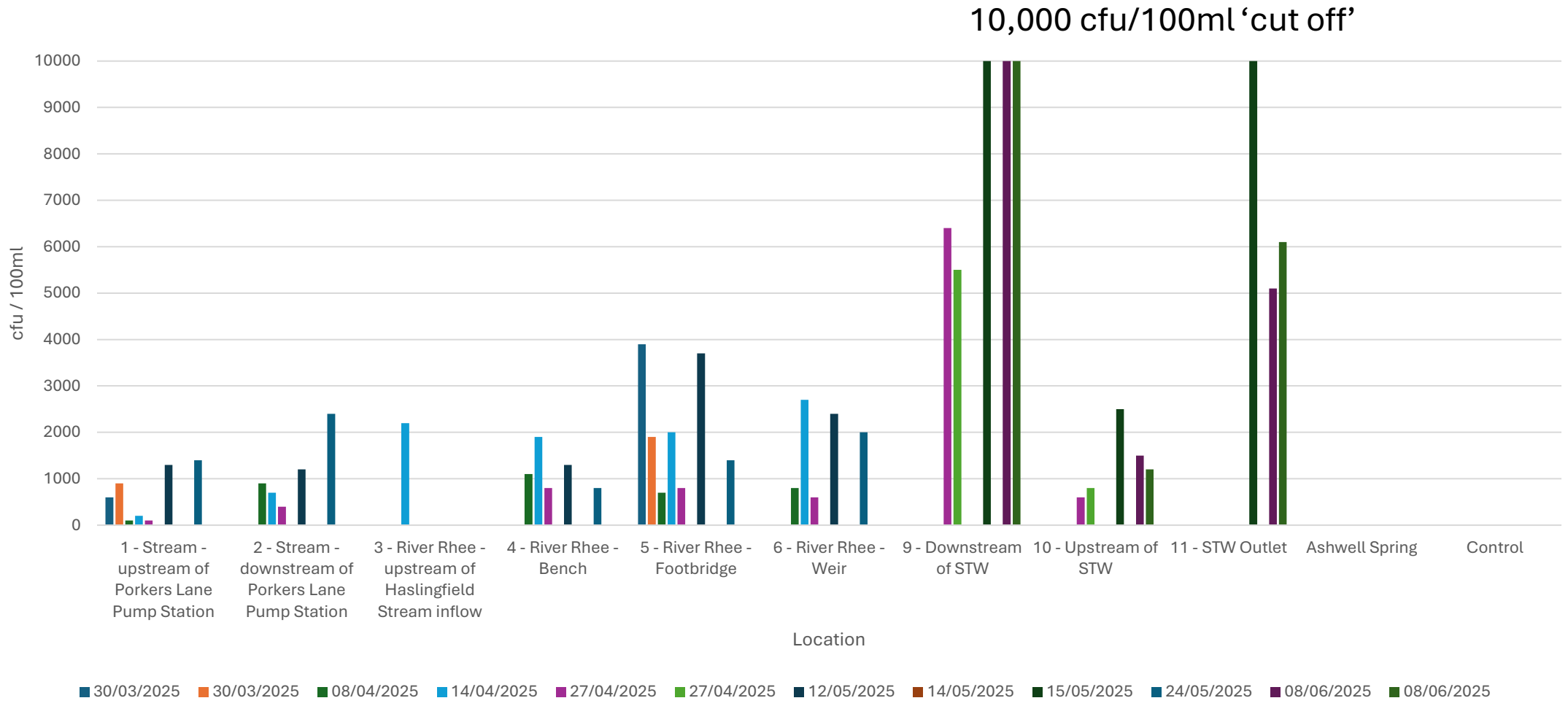
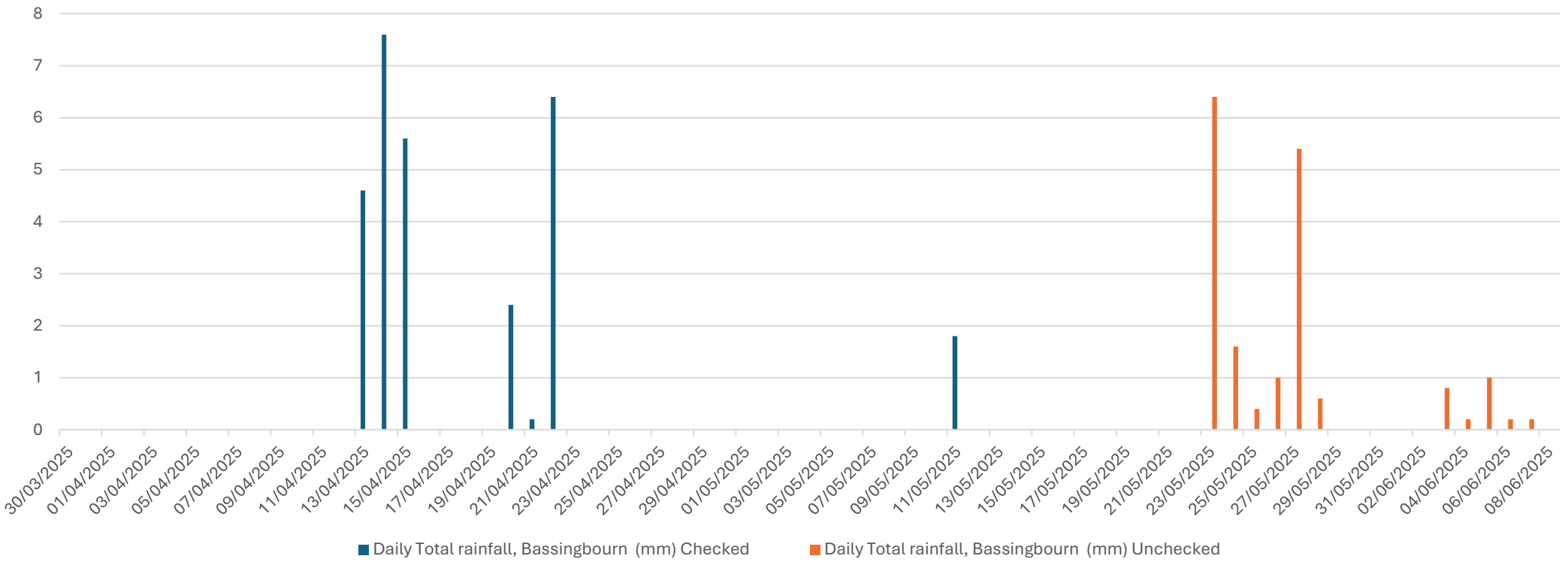
Results – March to June 2025

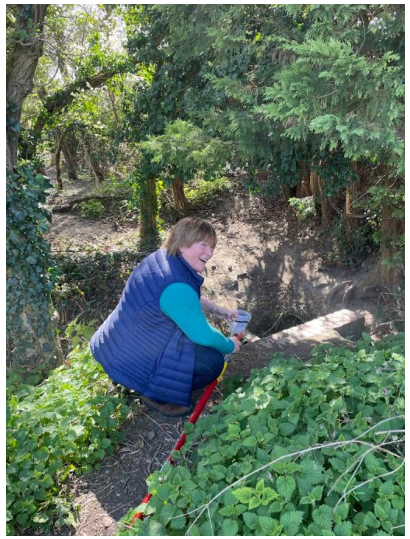


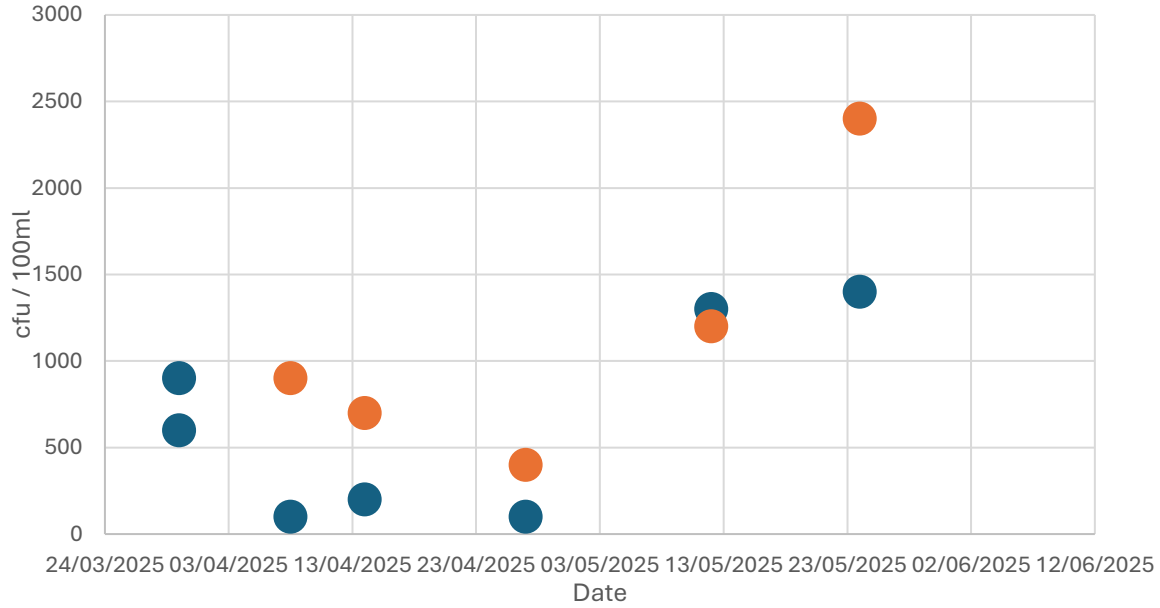
Rainfall – March to June 2025

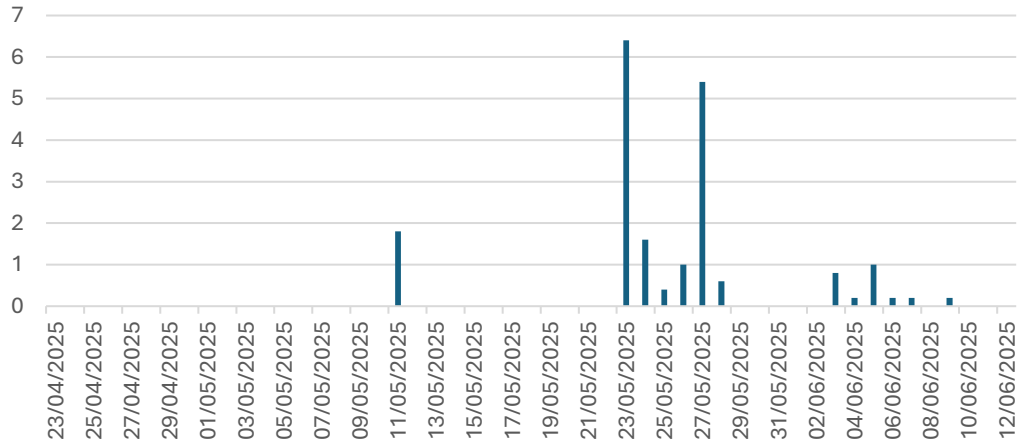
The sampling period (March to June 2025) has been a period of low rainfall. This chart shows total daily rainfall at Bassingbourn (mm) which is upstream and close to the sampling area.



Results – Porkers Lane – March to May 2025

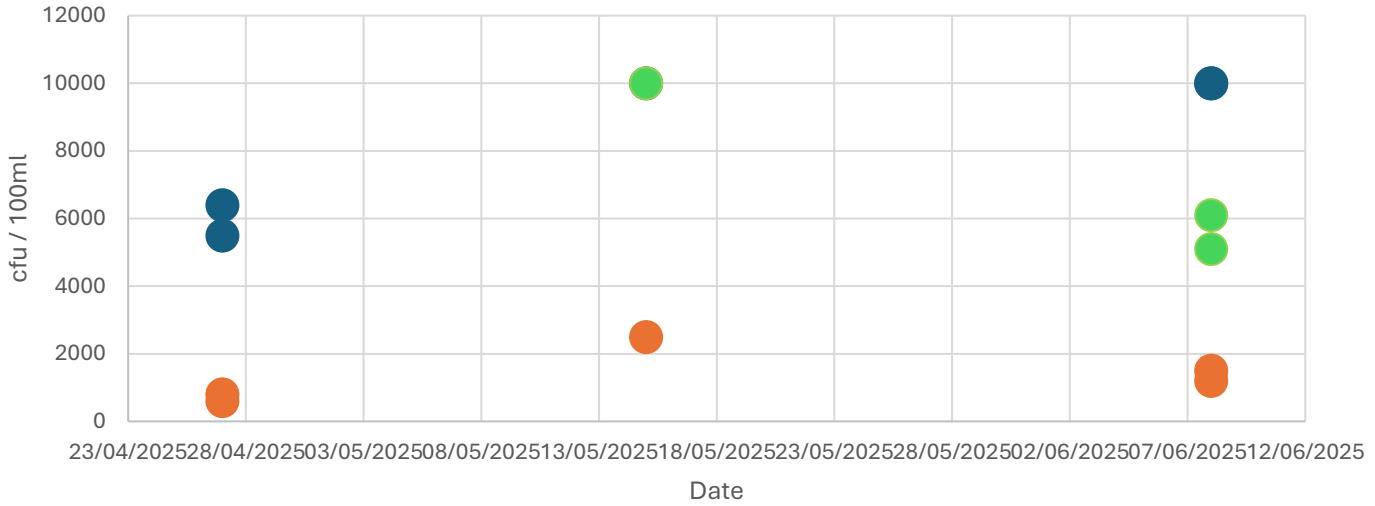






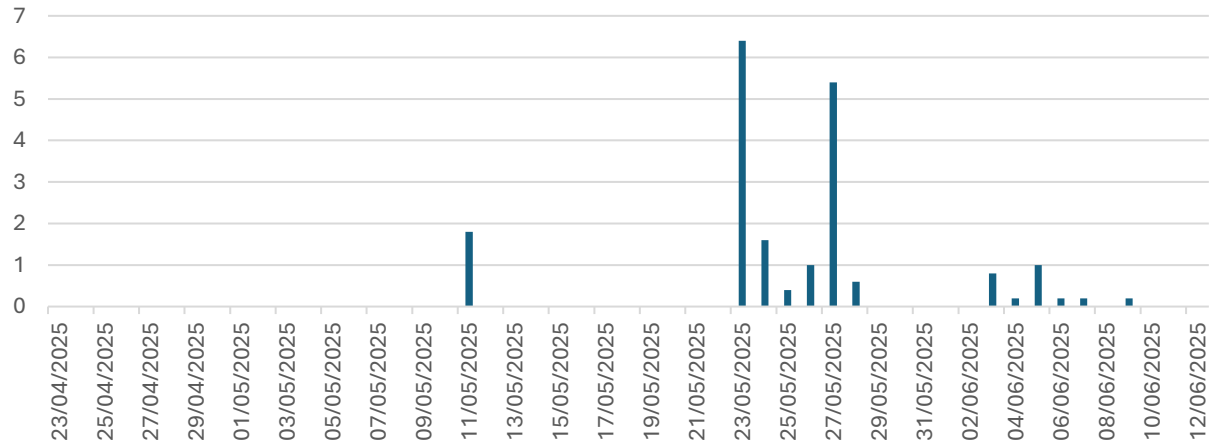
Daily Total Rainfall (mm) Bassingbourn (checked and unchecked)

Results – Haslingfield WWRC – April to June 2025



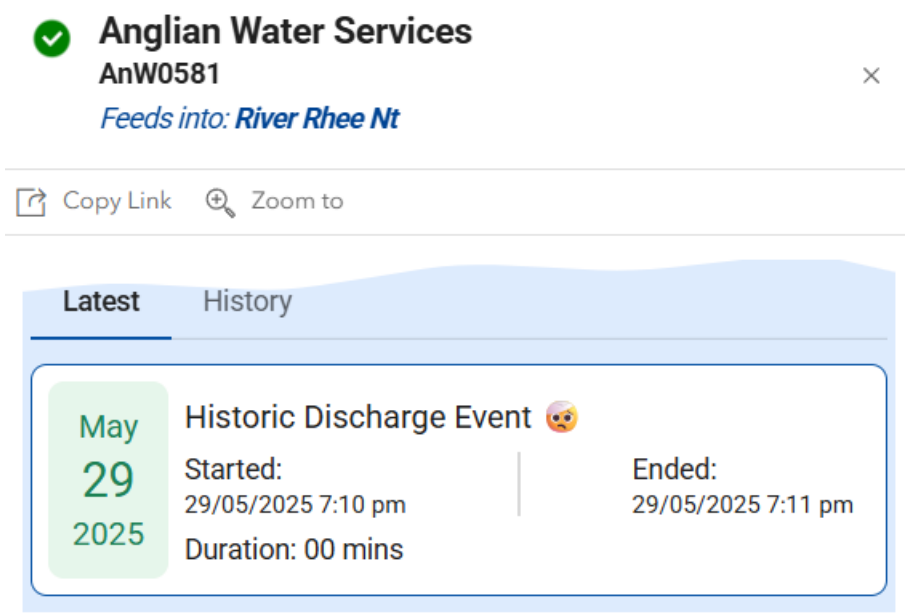
10,000 cfu/100ml 'cut off'

- 9 - Downstream of STW
- 10 - Upstream of STW
- 11 - STW Outlet

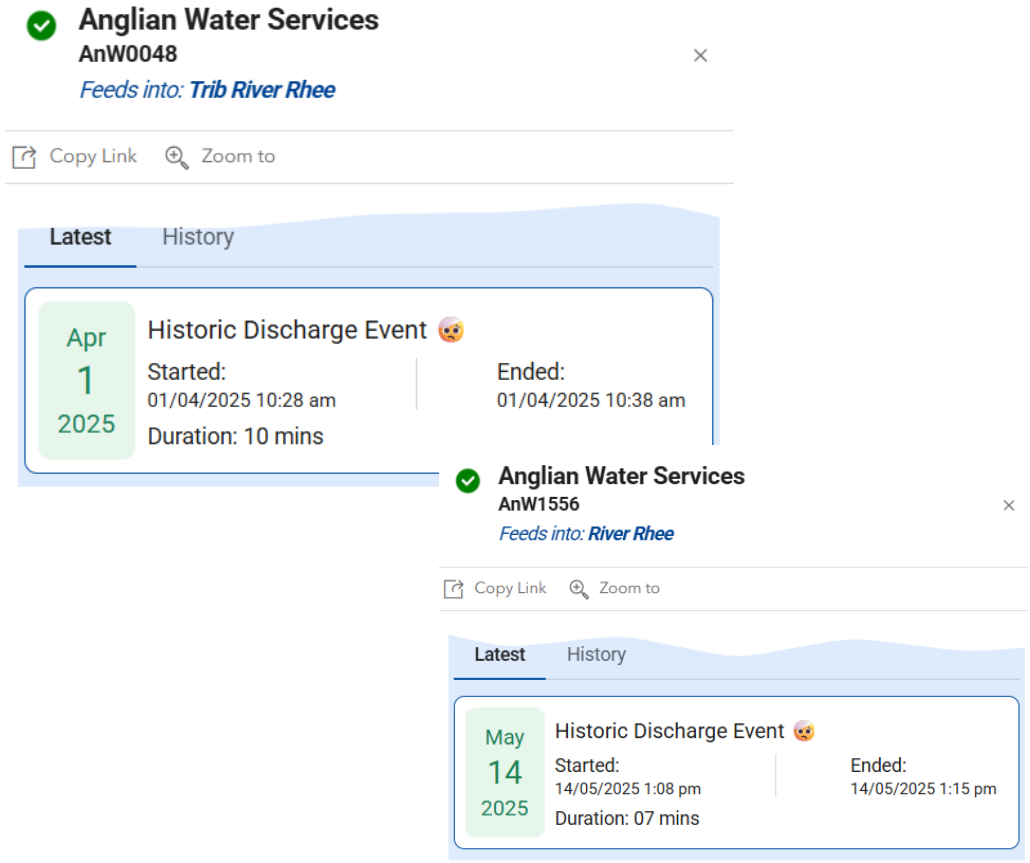


Daily Total Rainfall (mm) Bassingbourn (checked and unchecked)

No significant recent reported overflows



Haslingfield WWRC



Barrington WWRC

Observations and insights

It can be observed from the data collected between March and June 2025 that:

i. There has been little rain during the period of sampling.
ii. The River Rhee as it flows past Haslingfield and upstream of Haslingfield WWRC (locations 3, 4, 5 and 6 and 10) is generally of poor, occasionally good, water quality in respect to E-coli.
iii. Samples have been collected from the stream both upstream and downstream of the Porkers Lane Pumping station on five occasions (locations 1 and 2). On all but one occasion, the E-coli levels were higher in the sample taken downstream than that taken upstream of the Porkers Lane pumping station.
iv. Samples have been collected from the River Rhee upstream and downstream of the Haslingfield WWRC (locations 9, and 10), and from the outflow (location 11) on three occasions. All the outflow and downstream samples showed concentration of E-coli significantly higher than the upstream samples. Four samples from the outlet and from downstream of the WWRC were greater than the 10,000 cfu/100ml cut off.
v. Ashwell Springs was sampled on one occasion. There was no E-coli detected.

The sampling and testing protocol has been under development during this phase. The project is at an early stage and the data may not yet be statistically significant.

Questions?

1. Could Haslingfield WWRC be contributing to e-coli load even when it is not reporting Storm Overflow conditions?
2. Could Porkers Lane be contributing to E-coli load even when it is not reporting Storm Overflow conditions?
3. Where else could the E-coli be coming from, upstream of Haslingfield?
4. What is the situation in Barrington?

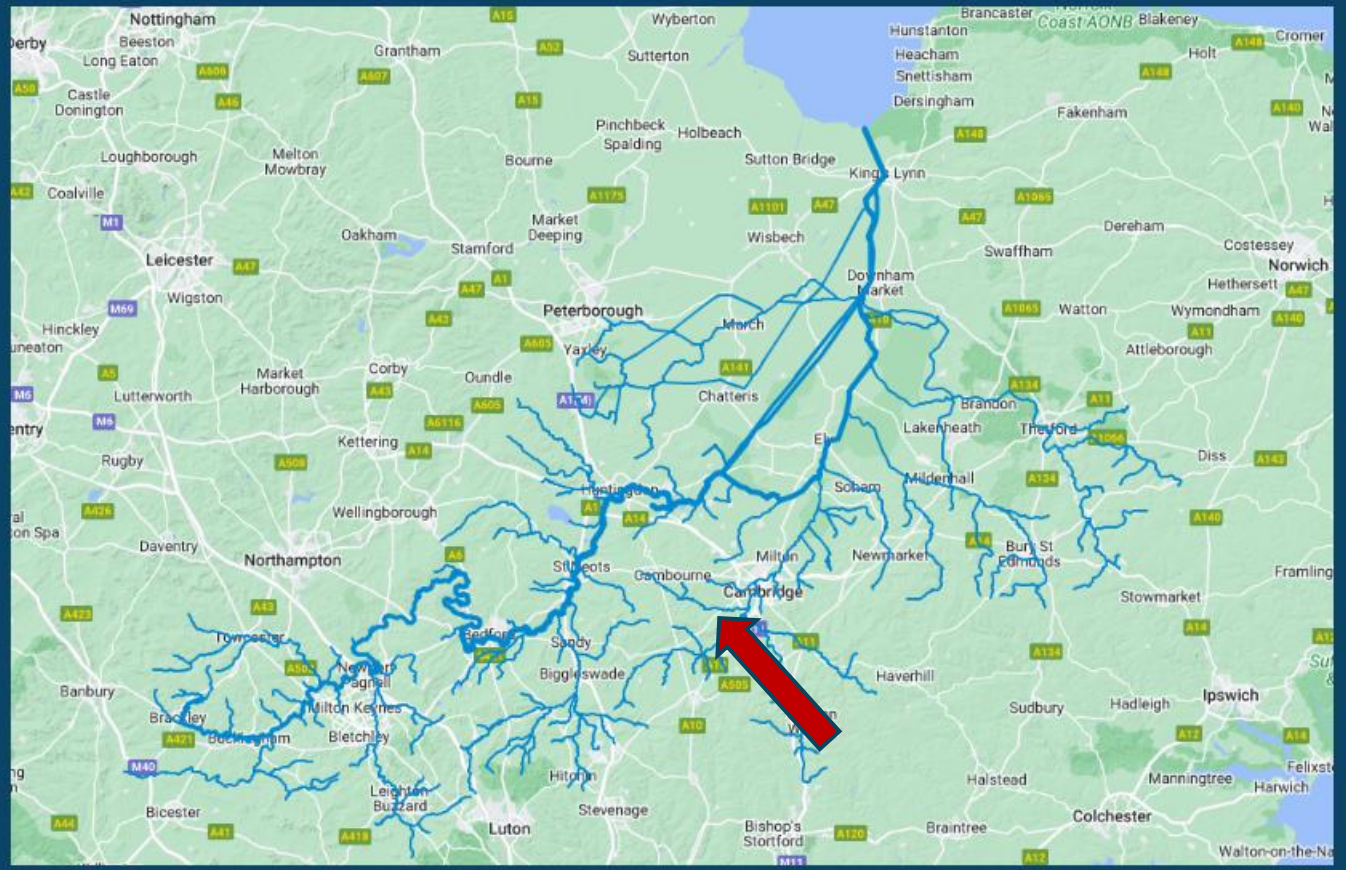
Questions and Comments

Backup Slides

The Rhee is part of the Great Ouse Catchment

The Great Ouse, the fifth longest river in the UK, together with its tributaries sustains people and nature across a catchment of 8,500 km2 stretching from Northamptonshire to the Wash.

While it is mainly rural, it's one of the fastest growing areas in the country with approximately 1.7 million people living in the catchment already. Its significant tributaries include the rivers Tove, Ouzel, Cam, Ivel, Lark, Little Ouse, Wissey and Nar.



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Haslingfield and Harlton Eco Group *hheco.co.uk*
Biodiversity Projects

- HPC Biodiversity Action Plan – input welcome
- Exploring Grant Funding for Biodiversity Improvements including to river and ponds, swift boxes on Village Hall – Donations Welcome!
- Neighbourhood Plan – Biodiversity, Resilience and Energy
- Let it Grow WhatsApp
- Wellhouse Meadow Project/Community Orchard
- Scything Workgroup
- Tree trail
- South Cambs Climate and Nature Group
- Cambridge Nature Festival – Orchid Walk/Bioblitz
- Newsletter, Facebook, WhatsApp
- Email: hnheco@gmail.com
- Website: hheco.co.uk

Dasgupta Review

Commissioned 2019 by HM

Treasury, final report published 2021

"The Economics of Biodiversity" by Professor Sir Partha Dasgupta (University of Cambridge).

Key points:

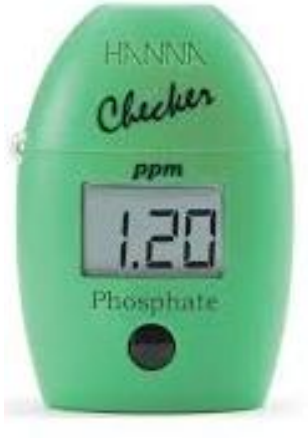
- Our economy is embedded within nature, not external to it. We are dependent on nature.
- Nature is an asset to be accounted for and invested in. Failing to account for the true value of nature has led to overconsumption of natural assets
- We are demanding more goods and services than nature is able to supply sustainably
- Addressing this imbalance means difficult decisions: what and how we consume, how we manage our waste, family planning and reproductive health
- Engaging sustainably with nature requires urgent action globally. Action now would be significantly less costly than delay

Cam Catchment Partnership

- Many organisations trying to care for our rivers
  - Nationally – Rivers Trusts, Catchment Partnerships, Surfers Against Sewage, Wildlife Trusts
  - Locally – Cam Valley Forum, Friends of the River Cam
  - Fellow river groups – Melbourn, Shepreth, Toft, CURAT, Wilbraham
- You are not alone! But …..
- Lots of pressures facing the River Cam – Growth, Poorly performing STWs, Invasive species, agriculture
- CCP is a newly organisation “Bringing together people and projects to improve water quantity and quality in the Cam Valley” (www.rivercam.org.uk)

Cam Valley Forum

- The Cam Valley Forum is a voluntary group, established in 2001.
  - We work with our extensive network of partners to protect and improve the environment of the River Cam and its tributaries. (www.camvalleyforum.uk)
- Current activities: Abstraction, Water Quality testing (eg Sheep's Green Bathing, Vicar's Brook), invasive species
- Knowledge and expertise in citizen science WQ testing
- Phosphate
- Turbidity
- Ammonia
- E. coli



The Project - background

River Rhee, Harston Mill to Hauxton Junction – rapid assessment of biodiversity and community value Watercourse length 4.3km		
River assessment feature	**Comment**	**Red/amber/green**
Species of biodiversity importance	Water vole and otter present, plus a variety of emergent vegetation including arrowhead. Brown trout and a range of coarse fish (although considered depleted). Mayfly present.	Green
Brown trout presence	Known population	Green
Community group present	No, but potential interest from staff at Harston Mill.	Red
Public access	Limited to footpath crossing at Burnt Mill, Haslingfield.	Red
Nature reserve / designated site	CWS	Green
Connectivity / fish barriers	Fish easement installed at Haslingfield gauging station by EA. Weir at Harston Mill has been removed by EA providing complete passage to upper Rhee.	Amber
Invasive species present	Water fern (*Azolla*) and signal crayfish present. Crayfish are believed to be a major source of the river's high turbidity as they constantly mobilise bed sediment.	Red
Presence of gravel / natural geomorphic features / mature trees with roots	Channel is over-deep, over-wide and silty, impounded by bur reed and the gauging station. General lack of gravel and bedform variation. Good number of veteran pollard willows.	Amber
Flow regime	Constant flow, suffers from turbidity, known to flood over agricultural land.	Amber
Effluent / run-off inputs	Sewage treatment works (Foxton and Haslingfield). It is assumed that phosphate levels will be high leading to excessive plant growth.	Amber
Watercourse receives management	Occasional management by EA.	Green
Habitat enhancement potential	Tree hinging, bed raising, LWM fixing, channel reprofiling, backwater creation. Reedbed for STW outflow (no Anglian Water driver). Levee removal downstream of STW. Silt traps / in-ditch wetlands on arable drains to improve quality of water entering river. Allowing more floodwater onto land at Hauxton Junction in combination with wetland creation.	Green
Supportive landowner(s)?	Multiple landowners, some potentially supportive	Amber

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The Project – values and ethos

- **Respect** – Fostering a courteous, compassionate environment for diverse views. Kindness. Assume that everyone is doing their best.
- **Teamwork** – Collaborating to achieve shared goals and creative unity.
- **Integrity** – Committing to honest, transparent communication at all times.
- **Inclusivity** – Celebrating diverse voices, backgrounds, and experiences.
- **Learning** – Building knowledge and understanding through open-mindedness.

The Project – Roles and Responsibilities

Volunteers will be needed as follows

- **Lead Coordinator**, recruiting and training volunteers, ensuring protocols are in place, communication with PC and CVF
- **Sampling Coordinator**, manages the sampling equipment, ensure that sampling is carried out at the agreed times and locations
- **Sampling volunteers**, takes the samples to the agreed protocol and to the risk assessments
- **Testing / Analysis** and recording data volunteer(s) , manages the testing equipment, carries out analysis, records the data
- **Health and Safety coordinator** (may be the Lead coordinator)

Cam Valley Forum have supplied data from their recent monitoring and continue to provide support on methods.

Haslingfield Parish Council will use the data to inform people who use the river.