SENS
Sustainability & Energy Network in Staveley

CLEAN RIVER KENT

An introduction to our Clean River Kent Campaign

5 April 2022

Kendal Town Council

Burneside Community Energy

Burneside Parish Council

Staveley with Ings Parish Council

Lake District Foundation
visit.give.protect

Community Fund

CLEAN RIVER KENT

WHO WE ARE

- A coalition of communities living along the River Kent, in Staveley, Burneside and Kendal.

- Established in Autumn 2021.

WHAT WE WANT TO DO

To keep the River Kent clean for water-based recreation and to protect ecology and wildlife.

OUR OBJECTIVES

CLEAN RIVER KENT

1. Reduce the amount of effluent discharged into the River Kent from a variety of sources

2. Ensure that wastewater treatment facilities meet:
   - current needs
   - the needs of new housing development
   - the additional pressures which will result from climate change

3. Work with people and organisations who use the river

4. Work with local councils, organisations and potential funders

5. Protect the ecology and wildlife of the River Kent

WHAT WE'VE DONE SO FAR

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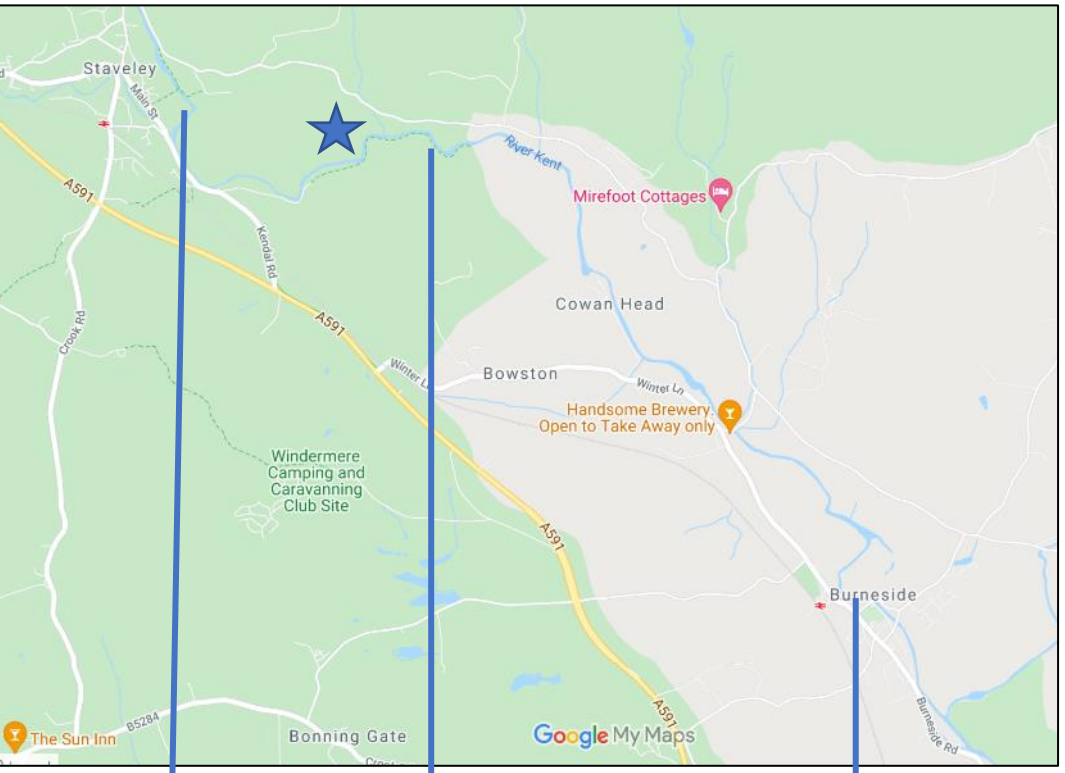
- Pilot monitoring to get an idea of water quality at sites along the River Kent
- Produced a short, introductory film
- Working with University of Cumbria research student
- Set up a Facebook page, web page & spoken to local media
- Engaged with stakeholders, groups and residents
- Raised funds to cover costs of pilot testing

PILOT MONITORING (February to March 2022)

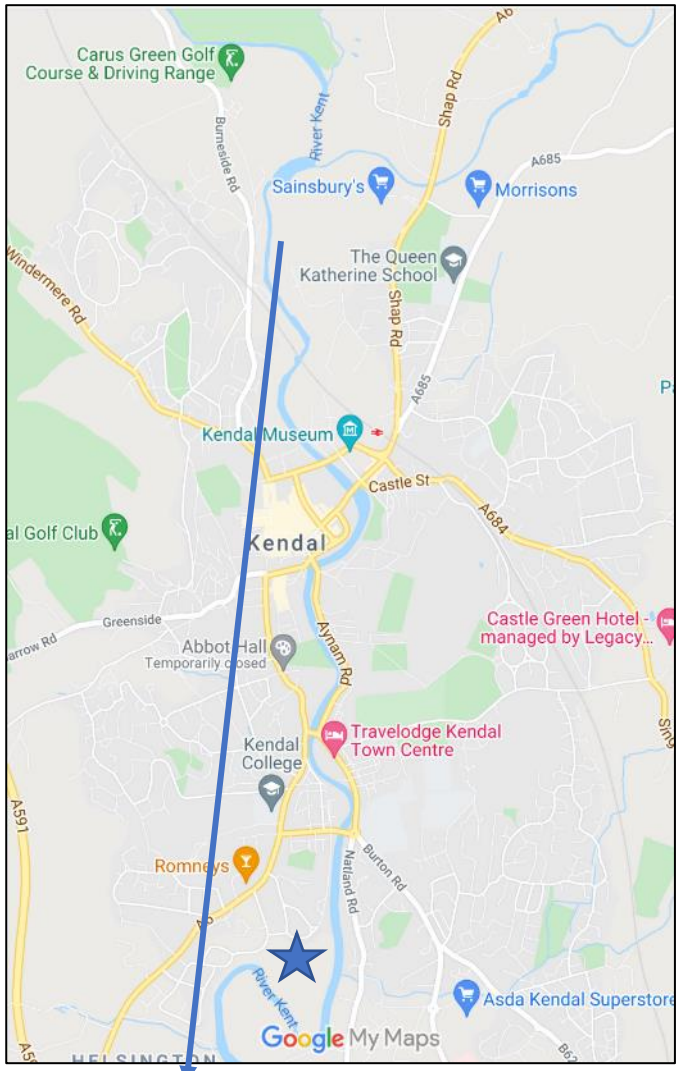
CLEAN RIVER KENT



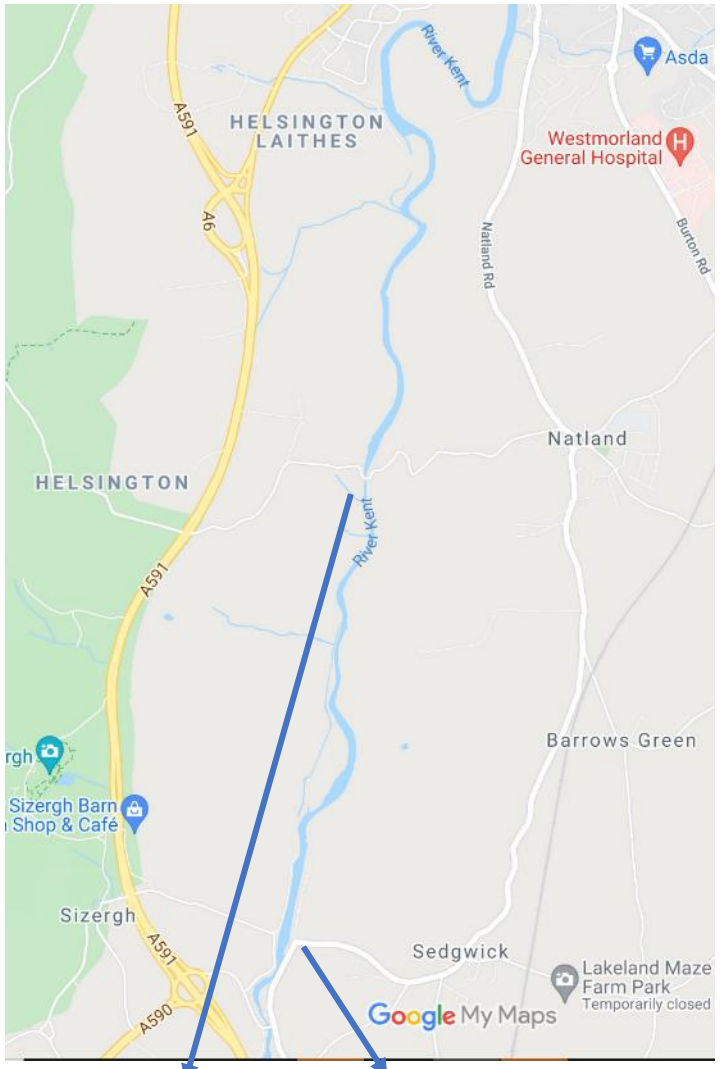
SITE 1
Staveley Recreation Ground

Site 2
Beckmickle Ing Woods

SITE 3
Burneside Millennium Green



Site 4
Sandy Bottoms, Kendal



SITE 5 - Hawes Bridge, Natland

Site 6
Sedgewick

★ = Wastewater Treatment Works

PILOT MONITORING (February to March 2022)

CLEAN RIVER KENT

- Collected 3 sets of water samples at each site for microbiological analysis at accredited laboratory (ALS) over 2 month period

- Tested for e-coli and enterococcus faecal bacteria

- Objective of pilot testing:
  - Test our methodology
  - Get an overall picture of the quality of the water at sample points along the river
  - Based on results decide where/how to test over the summer

WHY TEST FOR E-COLI & ENTEROCOCCUS FAECAL BACTERIA?

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1. High levels of faecal coliform bacteria (from excrement) are good indicators that there is untreated sewage, slurry or diffuse agricultural runoff in the river – either from a wastewater treatment works outfall, and/or storm overflow discharge.

2. High levels of faecal coliform bacteria, if ingested – even in relatively small quantities - can make humans sick.

3. Faecal bacteria can cause problems for wildlife. High bacterial counts usually mean low oxygen levels that can cause fish & invertebrates to suffer.

4. Nutrient pollution is also caused by effluent which creates additional ecological problems

PILOT MONITORING RESULTS

	11 February 2022		2 March 2022		15 March 2022	
	E coli	Enterococcus	E coli	Enterococcus	Ecoli	Enterococcus
Staveley Rec	N/A	43	24	15	12	9
Beckmickle Ing Wood	N/A	450	2500	2900	590	350
Burneside M/Bridge	N/A	210	1100	460	390	170
Sandy Bottoms	N/A	6	200	140	140	49
Hawes Bridge	N/A	190	310	150	150	30
Sedgwick	N/A	460	350	300	120	29

E coli: colony forming units per 100ml
Enterococcus: colony forming units per 100 ml

** NB - these figures are percentiles. E.g. 330 is a 90 percentile value whereas the other numbers in that column are 95 percentiles. Same for E. coli. So e.g. 900 as a 90 percentile is poorer water quality than 1000 as a 95 percentile.

EU Legislation regulated water quality at bathing waters throughout Europe based on monitoring faecal bacteria* (cfu/100ml) *

Parameter	E coli	Enterococci
Excellent quality	500	200
Good quality	1000	400
Sufficient quality	900	330

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UNIVERSITY OF CUMBRIA MONITORING (February to April 2022)

CLEAN RIVER KENT

Part 1- data collection:

- Using a probe to measure specific levels in the water including: PH, PPM, temperature and conductivity

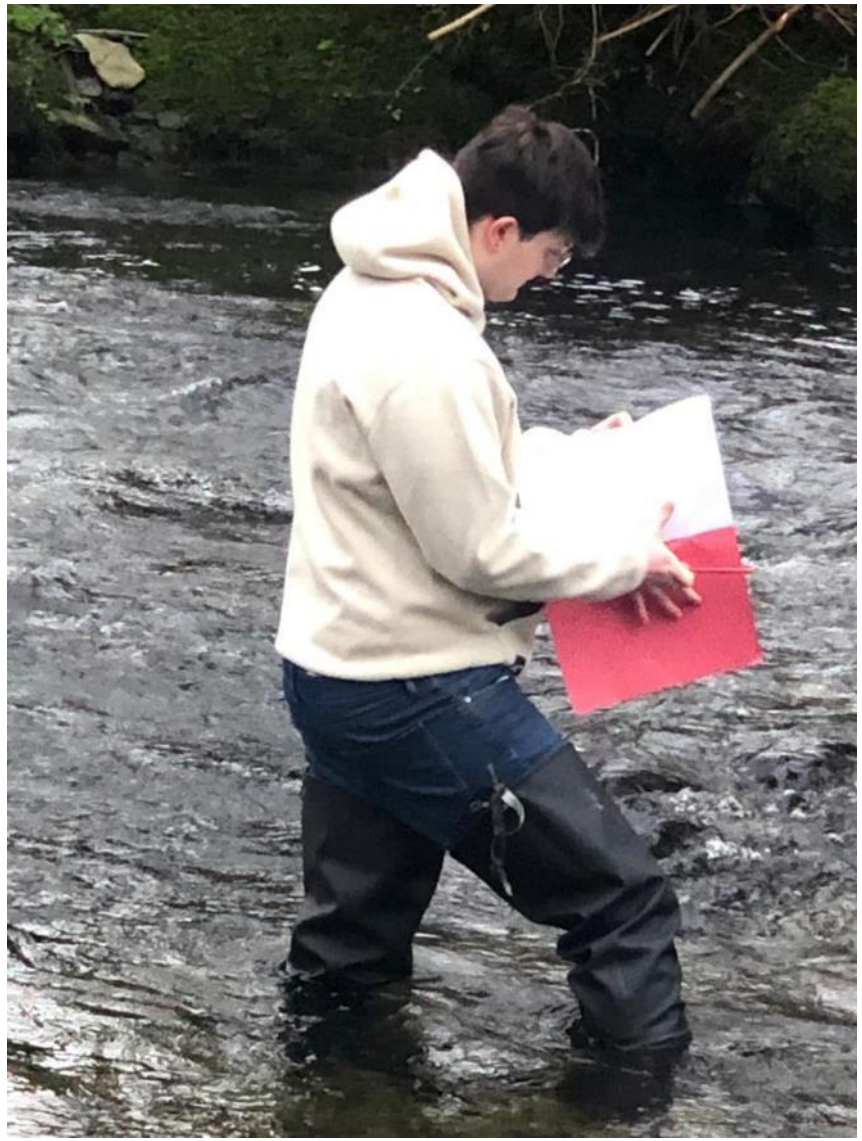
- At each site collecting 1 litre water samples to take to the labs

Part 2- sample analysis

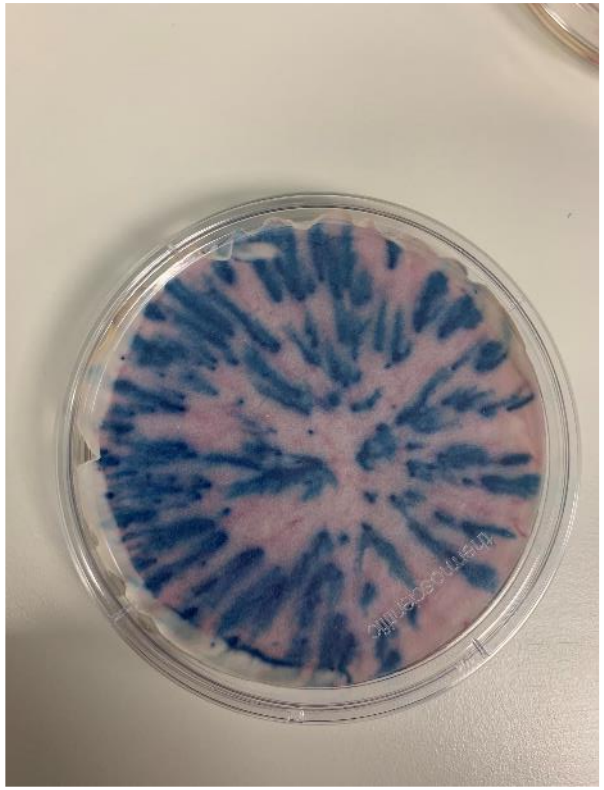
- Measured phosphate and nitrate levels using a Palintest kit done in the Ambleside Labs

- In Carlisle I took both fresh and frozen samples and filtered this water through filter paper and then used this to inoculate a chromocult agar.

- After 24 hours the inoculated agar plates would have supported the growth of any coliforms and E *coli* that was caught on the filter paper.

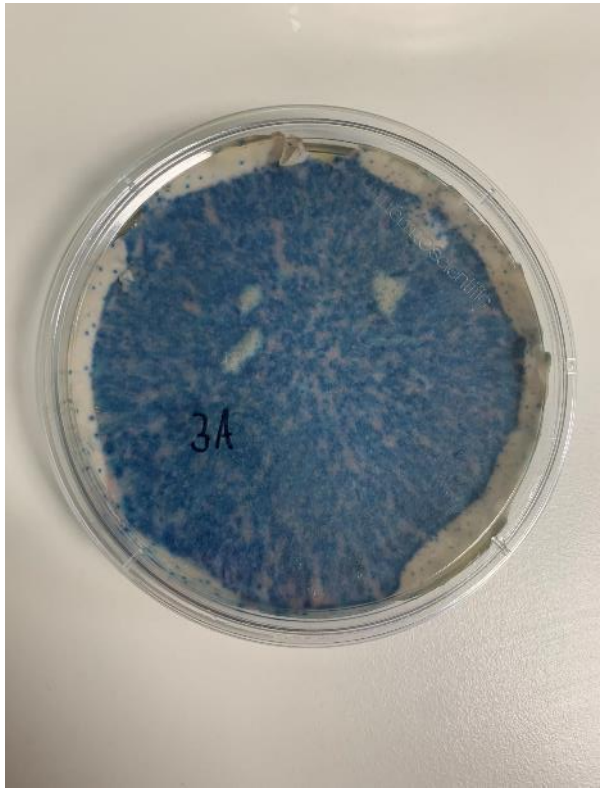


UNIVERSITY OF CUMBRIA MONITORING (February to April 2022)



Site A - Scroggs Bridge
Before Staveley waste water treatment plant

Site B – Stock Bridge Farm
Before Staveley waste water treatment plant



Site C – Dales Way
After Staveley waste water treatment plant

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UNIVERSITY OF CUMBRIA MONITORING (February to April 2022)

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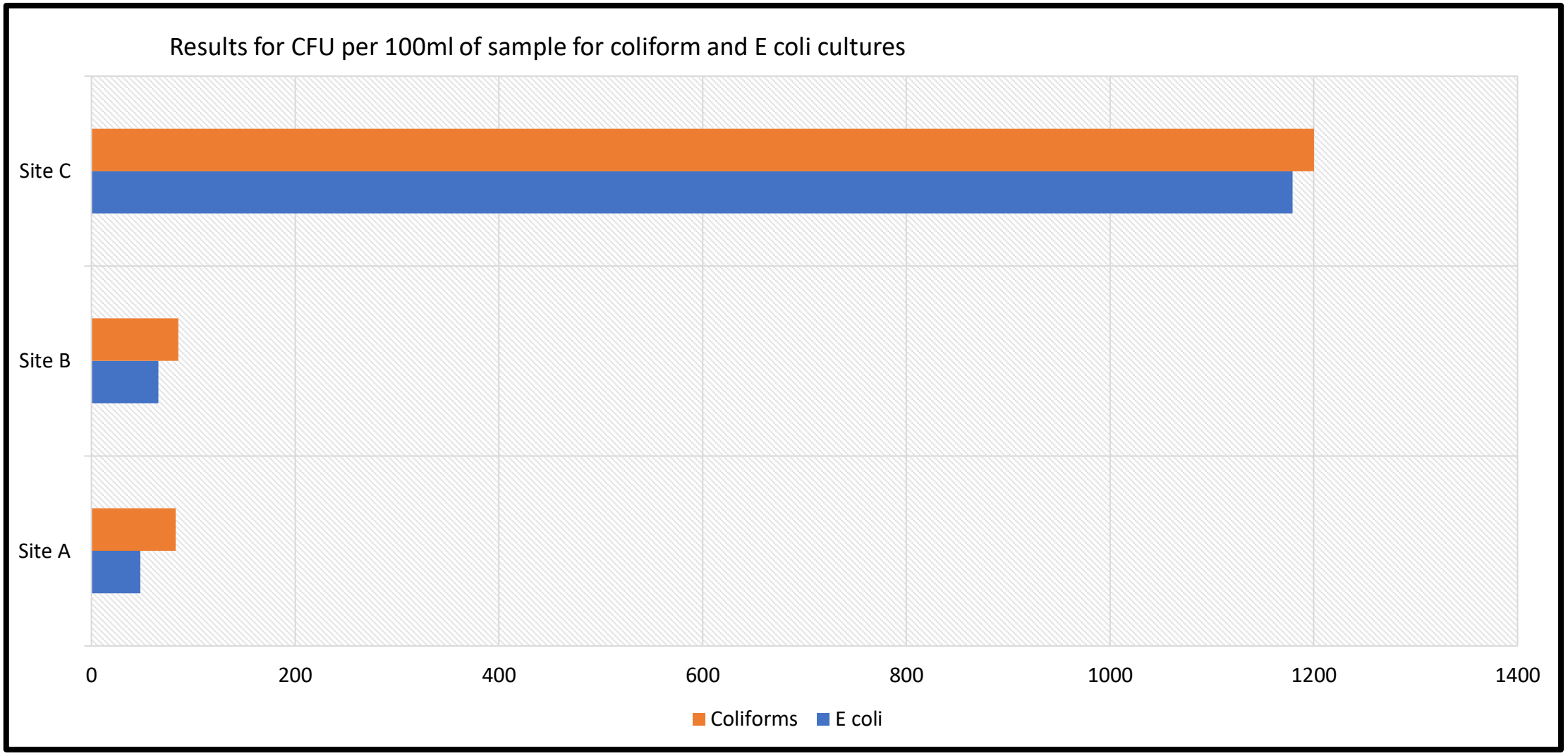

STAVELEY-WITH-INGS SEWAGE & FLOOD MANAGEMENT GROUP TESTING

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March 2022

- Volunteers are gathering photographic evidence of the dates/times that the untreated effluent overflow is discharging into the river.

- This information, combined with our lab test results will help build a more comprehensive picture of what is going on at the Waste Water Treatment Works.

STAVELEY WITH INGS PARISH COUNCIL

SUMMER PROGRAMME (May to September 2022)

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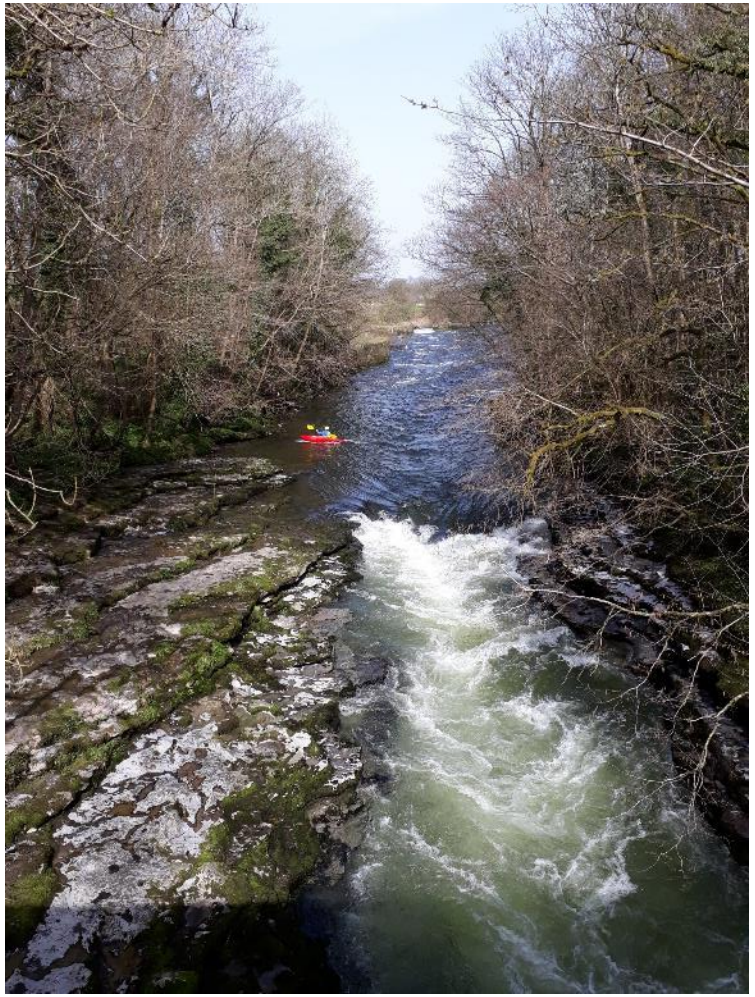
- Monitor Staveley Rec, Burneside and Sandy Bottoms 10 times through the summer, including during different weather conditions if possible.

- Monitor Beckmickle Ing Wood, Hawes Bridge and Sedgwick up to 5 times through the summer.

- Conduct surveys and monitor usage (counts, photographs) at Staveley Recreation Ground and Burneside Millennium Green to collect data for an application to DEFRA for safe bathing water status.



WHY APPLY FOR 'BATHING WATER STATUS'?

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- The Environment Agency (EA) monitors ecology as well as a range of chemicals, but is not required to monitor bacteria levels in river water unless a stretch of water is designated for safe bathing status.

- If this is granted, then the EA has to regularly undertake microbiological monitoring of that stretch of river.

- The local authority needs to display signs if the water isn't safe which should enable people to use the water more safely

- Thus the application to DEFRA is a means to an end - to enable safe water based recreation and to protect wildlife.

LIFE R4ever KENT

Restoring, **Revitalising** and **Reviving** to ensure a more **Resilient** River Kent and its species

Emma Wright and Katherine Andrews

What will we cover?

- Who are we?
- What issues are we addressing?
- What are we doing to fix it?
  - Captive breeding
  - River restoration
  - Reinforcements
  - Research

What issues are we addressing?

- Land-use intensification
  - Siltation
  - Eutrophication
- River modification
- Acidification
- Decline of host fish
- Pollution incidents
- Climate change
- Poaching

Target Species

- *Freshwater Pearl Mussel*:
- *Bullhead:*
- *White Clawed Crayfish:*
- *Ranunculus:*

Species Profile

Linnean Name: *Margaritifera margaritifera*

Common Name: Freshwater Pearl Mussel

Classification: Bivalve Mollusc

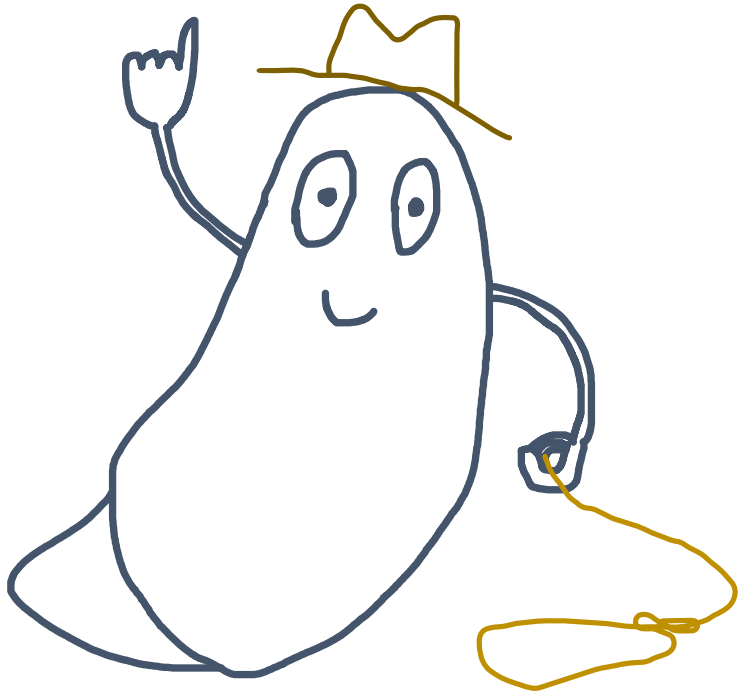
Max size: ~ 17cm

Lifespan: Over 100 years

Habitat: Freshwater streams and rivers, clean & flowing

IUCN: Critically Endangered

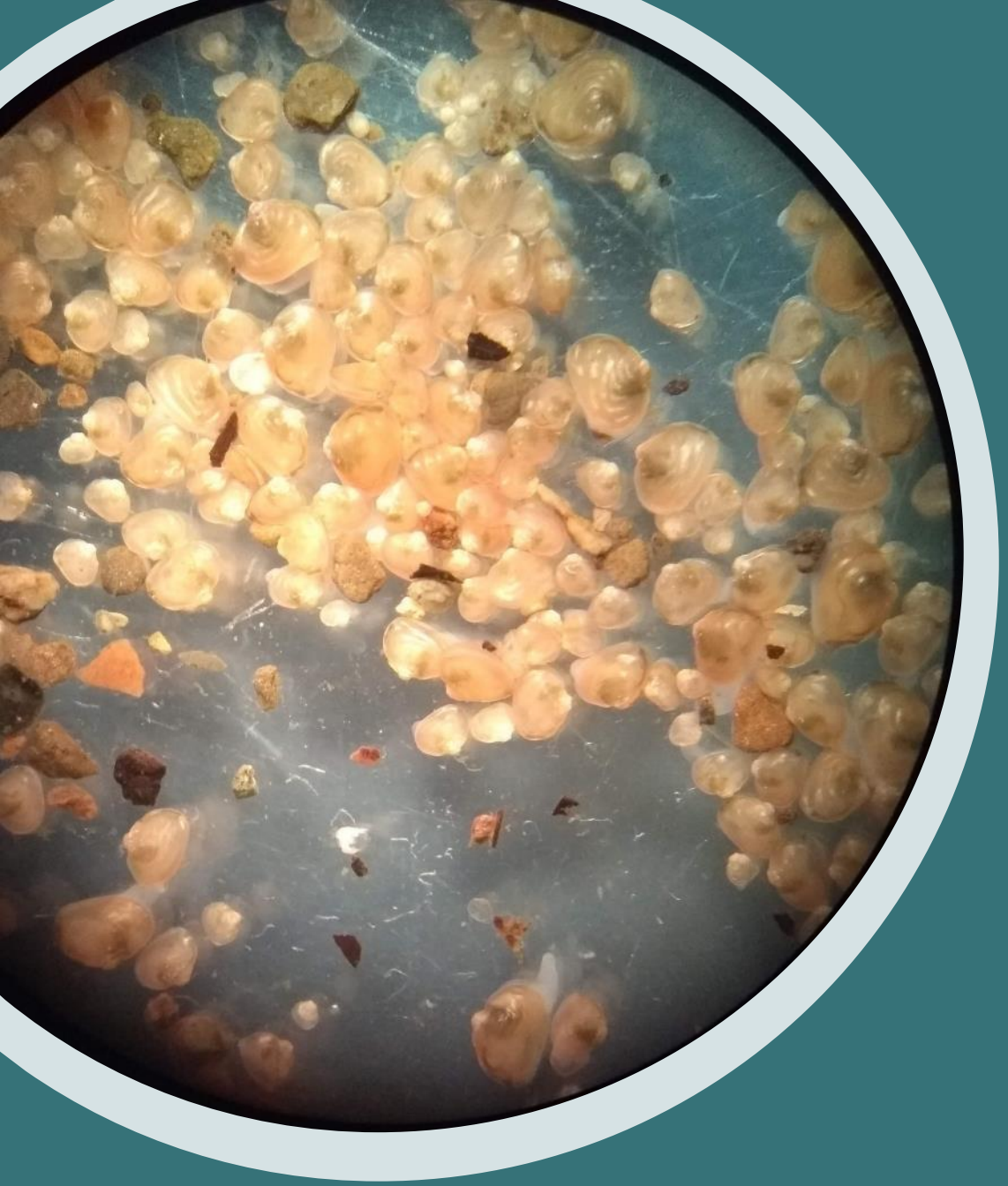
WANTED



CRITICAL ENDANGERMENT

What are we doing to fix it?

Research: Donor population viability



Captive breeding: Freshwater Pearl Mussel Ark

River Restoration

- Removal of redundant revetment
- De-culverting of small tributaries
- Bank stability

Habitat Restoration

- Improving flows/increasing flow diversity
- Improving fish habitat
- Riparian habitat – tree planting
- Animal interaction management (fencing)

Long term: Population Reinforcement

Any Questions?

Find us on

- Instagram @LIFE_R4everkent
- Twitter @LIFER4everKent
- Facebook LIFE R4EverKent
- FBA website: www.fba.org.uk
- SCRT website: www.scrt.co.uk

- Volunteer with SCRT contact:
- emma@scrt.co.uk

SOUTH LAKELAND DISTRICT COUNCIL

CLEAN RIVER KENT

Dyan Jones
South Lakeland District Council

STAVELEY WITH INGS PARISH COUNCIL

CLEAN RIVER KENT

Mark Kidd - Chair
Staveley-with-Ings Parish Council

Staveley with Ings Parish Council is actively working in partnership with SENS to improve the quality of water in our local rivers and in so doing: ensure the safety of our community, protect vulnerable species and enhance the enjoyment of river users.

Central to this is the resolution of the cause of unpermitted discharges both from: manholes within the village and Staveley Waste Water Treatment Works.

In order to achieve these aspirations, we work closely with SENS by:

- maintaining a supportive and cooperative relationship
- holding regular discussions with United Utilities
- monitoring and recording sewage discharge within the village and at the WWTW
- supporting the sampling of river water undertaken by SENS
- working with Cumbria County Council to identify infiltration from ground and surface water
- liaising with other partners with responsibility for environmental protection
- providing information together for the local community by regularly reporting on activity
- making joint use of media outlets to highlight the problems and expose unacceptable practice

Staveley Sewage Task Group, working together for a better Staveley

in support of the Clean River Kent Campaign

CLEAN RIVER KENT

Burneside Community Energy

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Quentin Merritt
Director
Burneside Community Energy

HOW TO GET INVOLVED

CLEAN RIVER KENT

- Sign up to receive our newsletters & our online survey
- Sign up to become a **Clean River Kent volunteer** over the summer (tasks include water sampling, taking photos, recording numbers of users at Staveley or Burneside sites, litter picking, marketing, promotion, helping with film clips for **#myriverkent**)
- Join our Facebook page to get regular updates - **@cleanriverkent**
- Tell your friends, family, colleagues and networks of contacts about our campaign

SENS
Sustainability & Energy Network in Staveley

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JOIN US!

Email: senstaveley@gmail.com

Facebook: @cleanriverkent

www.sustainablestaveley.org.uk/clean-up-the-kent/

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