



Friends of the Upper Wye

Citizen Science – the story so far
Catchment Monitoring Collaboration Forum, Dec 2021

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Background



Group informally congregated in July 2020

- Response to media reports and obvious visible blooms in River Wye Apr – Jun 2020
- Mostly based around Hay-on-Wye initially

Now a formally constituted organisation

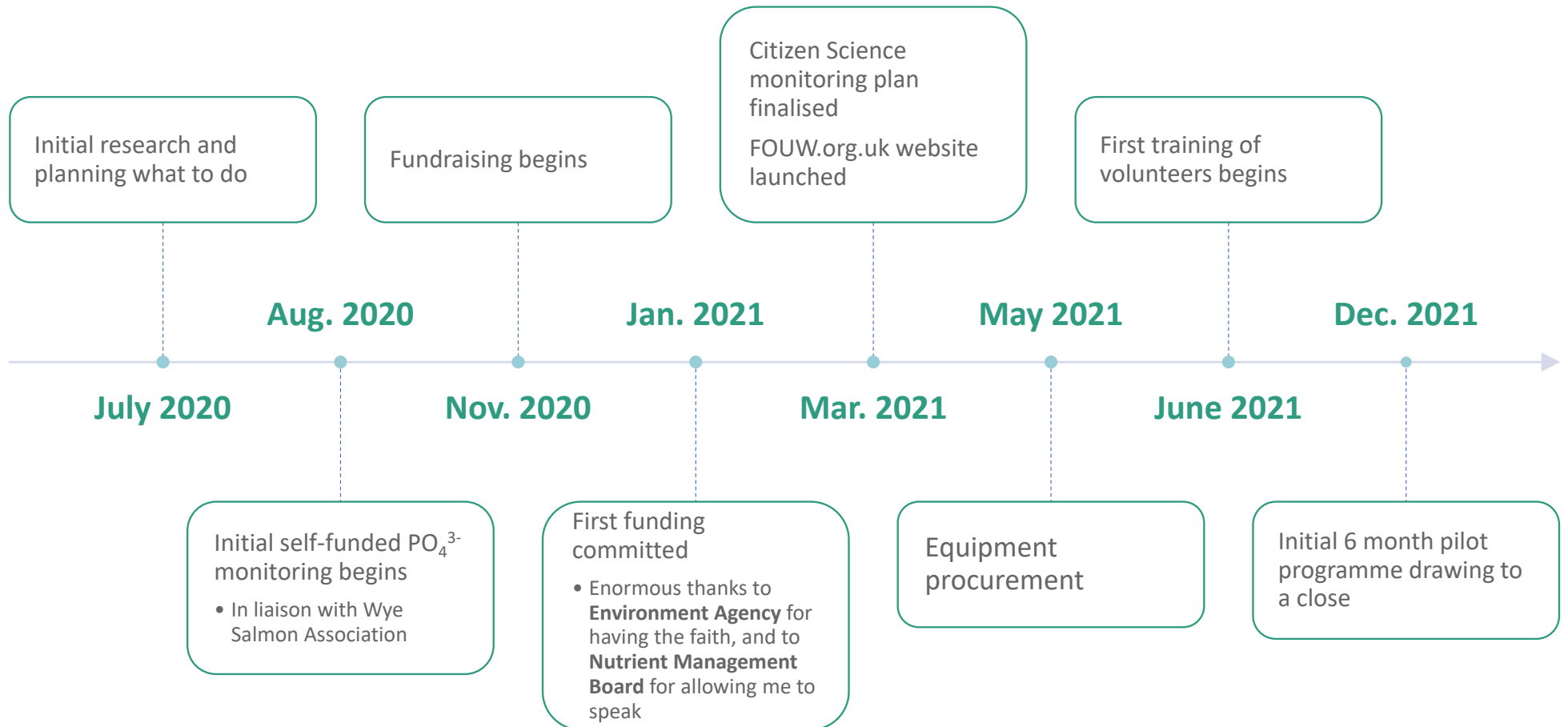
- Committee of 12 volunteers, inc four Officers
- Bank account and constitution

Geographical reach

- We deliberately chose a cross border area, to cover the Wye from its source (and all tributaries) to confluence with Lugg in Mordiford, Herefordshire.



Timeline





Partners

- Friends of the Upper Wye is delighted to have partnered with
 - Cardiff University School of Earth and Environmental Sciences
 - Wye Salmon Association
 - Environment Agency
 - Campaign for the Protection of Rural Wales
 - Wye and Usk Foundation
 - RiverActionUK
 - Herefordshire Wildlife Trust
 - Radnorshire Wildlife Trust
 - NRW

to help us deliver our programme of citizen science water quality monitoring.

Some of best advice has come from West Country Rivers Trust!



Other activities

Alongside the water quality monitoring, we are also:

- **Running an artistic/creative community outreach program: #LiftTheRiver**
 - Engaging the hearts and minds of local river residents
 - Bringing the cultural value of the Wye to the forefront of collective consciousness
 - Creating “river samples“ which are creative pieces that can be uploaded to social media so a broad section of society can interact on social media with the Wye
- **Actively seeking opportunities to obtain Designated Bathing Water status for popular stretches used for wild swimming.**
- **Regular meetings for membership with**
 - Farming groups
 - Campaign groups
 - Statutory bodies, Welsh Water, MPs etc



Citizen Science: What we measure

- Turbidity
- Electrical conductivity
- Temperature
- NO₃-N (strips)
- PO₄-P (strips and LED-based colorimetry)
- Photographic observations
- Flow conditions (subjective analysis)
- Signs of pollution

WHY:

- In God we trust; everyone else must supply data!
- To find sources of diffuse pollution into Wye
- To support EA / NRW / other statutory bodies in regulatory enforcement
- To do something to help and to feel useful
- To “save the River Wye“



Team philosophy

- Each volunteer is assigned a tributary team
 - Team leader is found from group
 - Normally team leader has “roving” Hanna low range Phosphate checker to check high readings, corroborate anomalous measurements etc.
 - Group communication through WhatsUpp groups
- Hope this approach fosters intra-team working together, motivates other team members, and helps alert monitoring response in case of an incident.

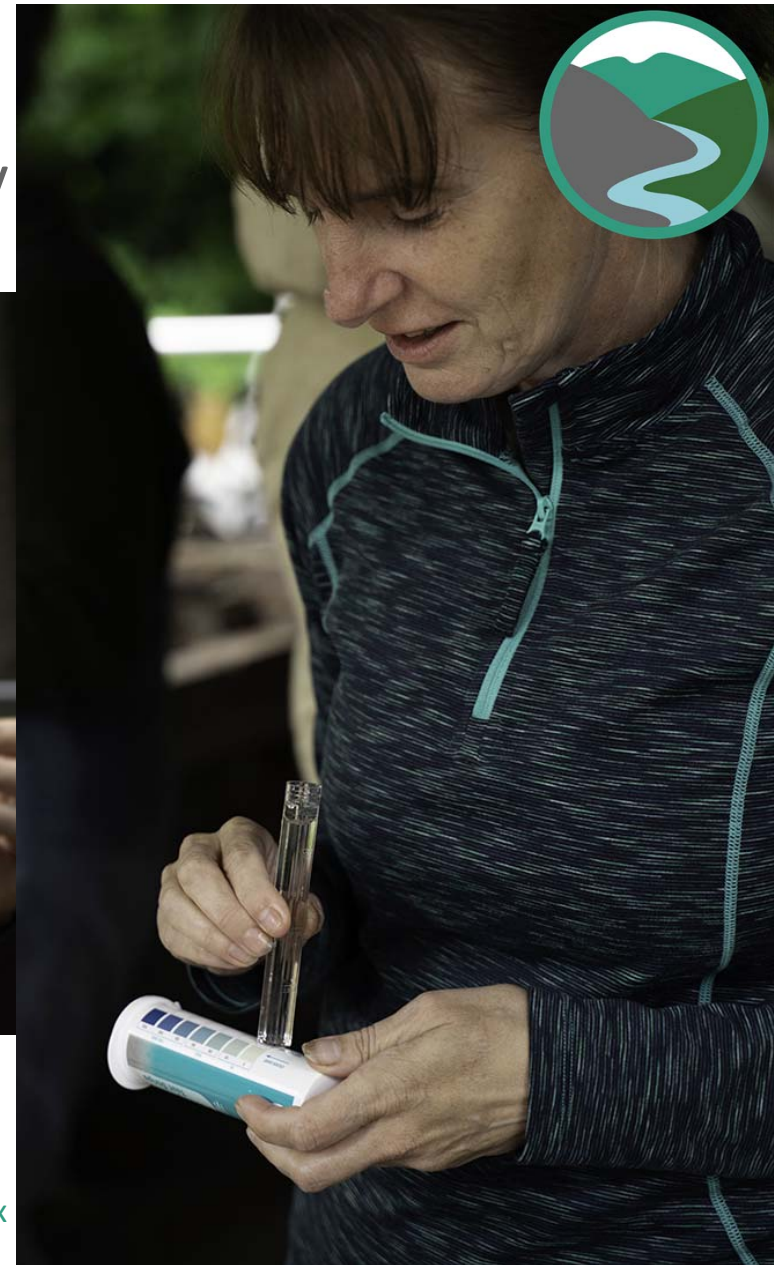


Training in Hay



June 2021

©Photos by Richard Greatrex





Glasbury Training

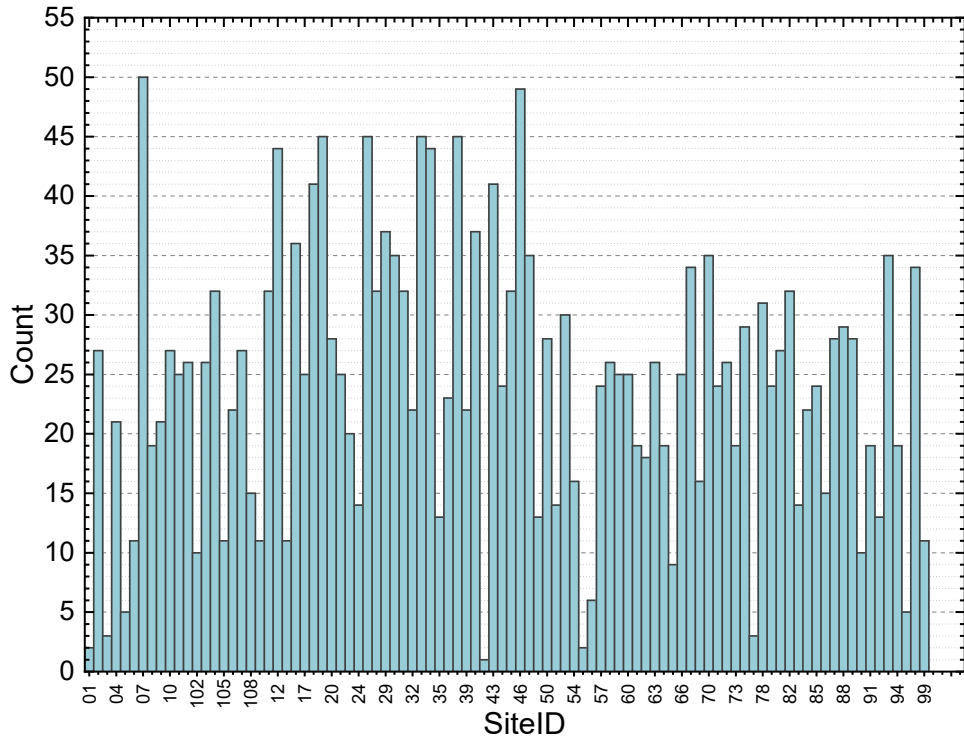
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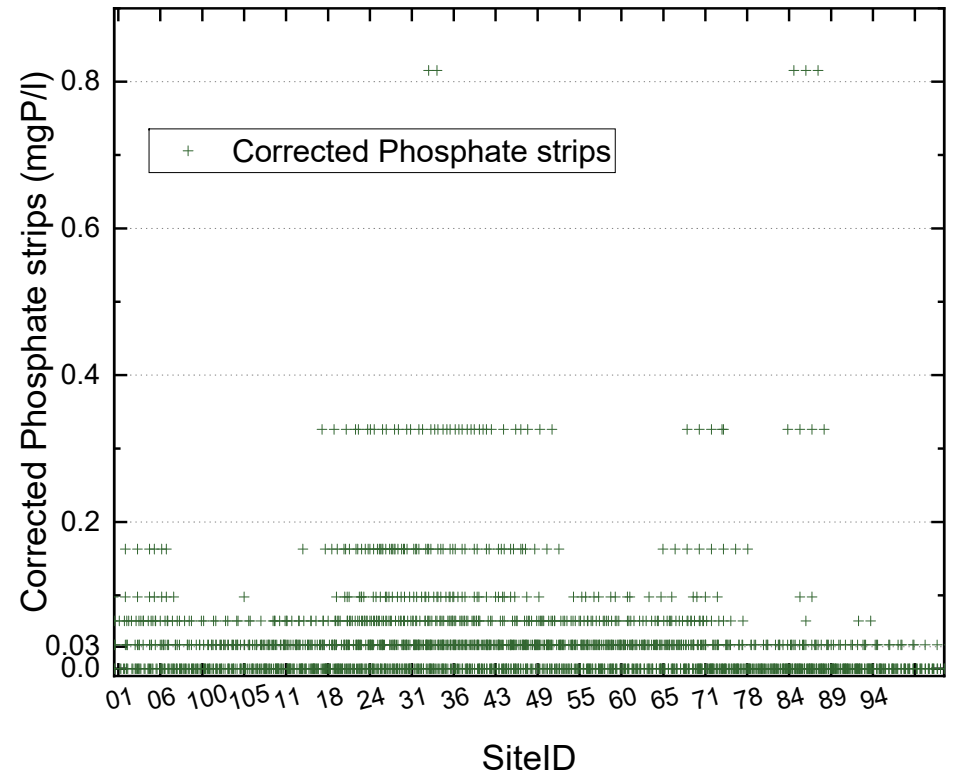


Basic Statistics (09/12/21)

SiteID

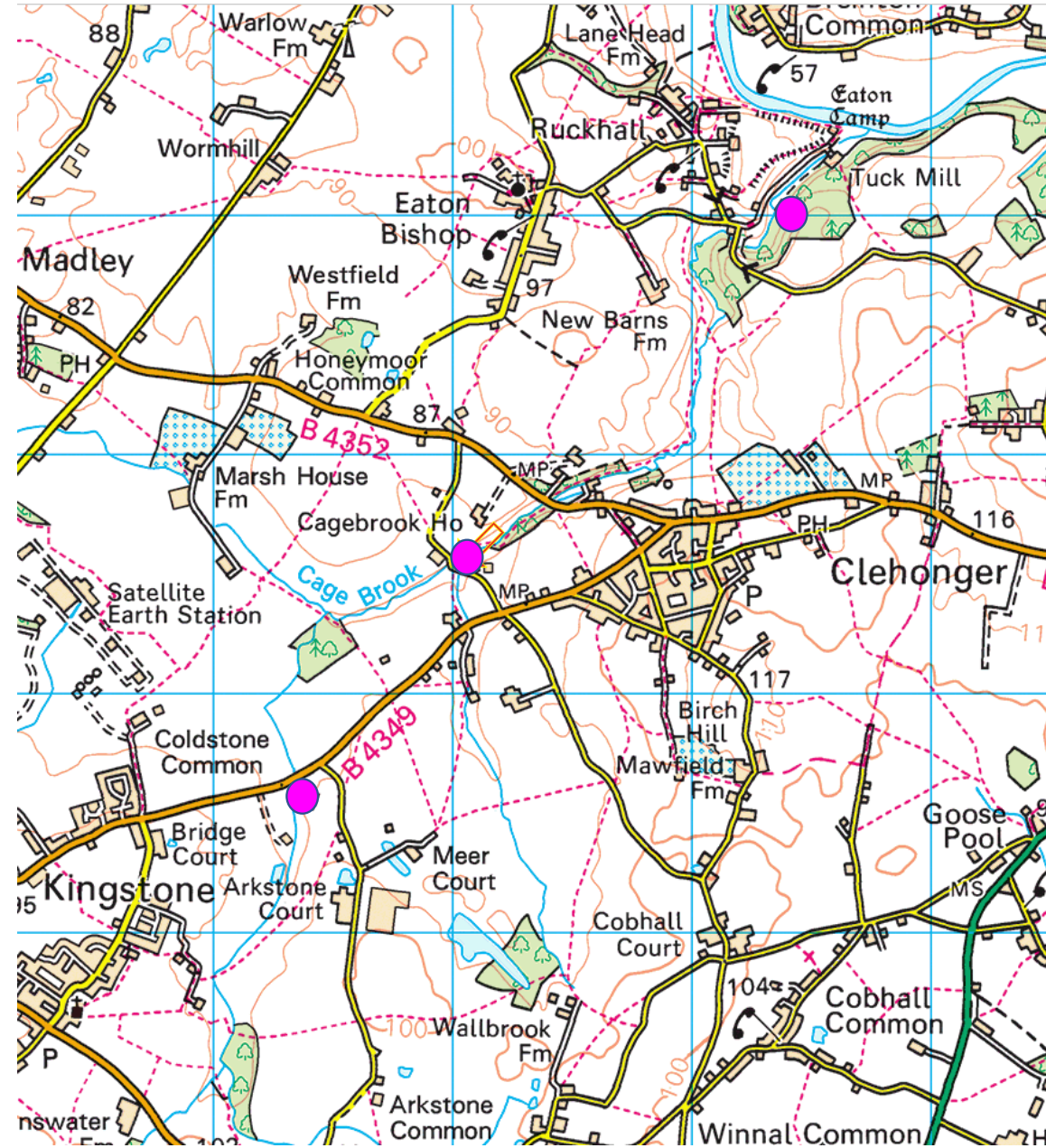
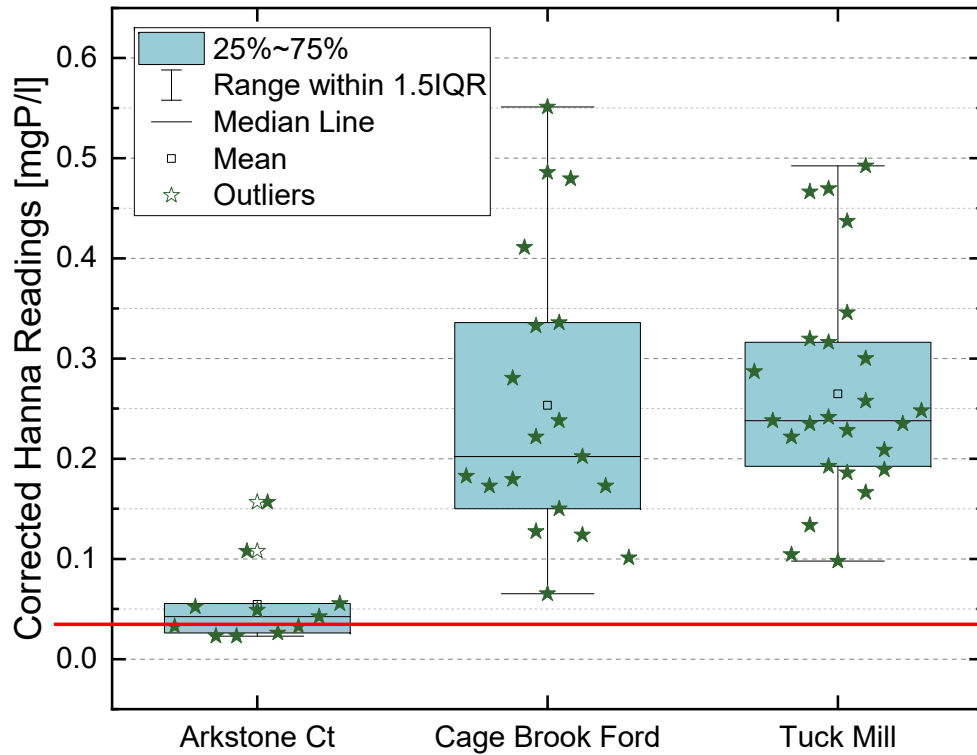


8/110 failed to engage <10 measurements after training (~7%).
Most measurements taken at one spot = 50
2136 measurements uploaded so far



N = 2136
Mean reading = 0,035 mgP/l

Case Study: Cage Brook





What we've learnt so far

- **Running this project is a full time job!**
 - Volunteers' management effort is epic, but we all have other jobs!
 - Maintaining engagement needs work.
- **Data is being produced**
 - Analysis can begin.
 - Everything is open source – contact science@fouw.org.uk to get access
- **At the moment we have a ~7% drop out rate after training, which isn't great, but could be worked on.**



Future ambition

- **Following unsuccessful fundraising efforts, we plan:**
 - Emergency fundraise to obtain equipment to keep our volunteer teams stocked up with kit
 - Includes a proposed crowdfunder, so please spread the word when it's live!
 - Enter into partnerships with other bodies, such as Universities or large corporate entities with ESG budget and expertise in hydrology
 - Deepen our links with Wildlife Trusts as they are well aligned with motivating the public to volunteer for the natural environment.
- **IF POSSIBLE and funds allow**
 - Employ a 0.6FTE administrator for the science project
 - Employ a 0.4FTE administrator for the #LiftTheRiver project
- **ABOVE ALL:**
 - **Make the best possible use of the data that we collect to effect change for the River**

Thank you

For more information about citizen science on the River Wye, please contact

science@fouw.org.uk

For general enquiries, please contact Tom Tibbits, Chair, on
fouw@artistraw.co.uk

For artistic content, creation, feedback and #LiftTheRiver please contact:

arts@fouw.org.uk

We are always happy to give full details of what we are doing to other groups trying to do the same