

Case Study – Friends of the Lugg, Citizen Science River monitoring project

Introduction

In the spring of 2021, following the formation of the Friends of the Upper Wye and the Citizens Science project, set up in response to deteriorating water quality in the river Wye catchment, there was concern that an important tributary of the Wye, the river Lugg, had been omitted from the study. The committee contacted Green Connections seeking advice on setting up a Friends of the River Lugg group.

Background

Citizen's Science Project – Investigating water quality in the Upper Wye

Over local concerns for the quality and pollution of the River Wye catchment in Wales, including Herefordshire complaining they are getting 'dirty' water from Wales, potential run off from intensive poultry units, recent algal blooms, low oxygen levels and fish deaths, and the fact that NRW had recognised that certain subsidiary watercourses of the Wye were falling beneath their European Water Framework Directive criteria, a committee of local interested individuals was initiated and the Friends of the Upper Wye (**FOUW**) was formed in 2020. The FOUW set up a Citizen's Science project with the help of Cardiff University (School of Earth & Environmental Sciences). The University provided essential help and support in setting up the protocols for water monitoring and how to engage and train up volunteers. They also produced videos for each monitoring test.



All photos courtesy of Christine Hugh-Jones (CPRW)

Friends of the Lugg (FOL)

Through meetings with the FOUW committee and the Green Connections (GC) team they set up the FOL. Initial concerns from both FOUW and FOL was insurance for volunteers. This was overcome by Radnorshire Wildlife Trust (RWT) providing insurance for all volunteers within the groups.

Both groups applied for various and ongoing funding to buy equipment and supplies to support the ongoing volunteer monitoring.

The aims of the FOL were set up thus:

- To train volunteers in water testing (nitrate, phosphate, turbidity, electrical conductivity, temperature) to provide river monitoring programme over concerns of the deterioration of the River Wye and provide this data to NRW.
- To set up at least a year's length of monitoring of River Lugg catchment, train, support and provide feedback to volunteers throughout the programme.

Monitoring the River Lugg

Throughout the project GC staff worked in partnership with a CPRW (Campaign for the Protection of Rural Wales) officer and Cardiff University.

The RWT registered all the participants as RWT volunteers, thus providing insurance and provided training sessions in risk assessment, water testing, using sampling equipment correctly and using the online Epicollect app. The GC team also provided follow up, feedback, catchup and discussion with regular zoom sessions to maintain the volunteers' momentum.

Each volunteer was assigned a monitoring station. The GC team provided ongoing support for volunteers throughout the project.

During each in-person training session, GC staff ensured all volunteers were trained up in risk assessment, H & S, and undertook monitoring protocols safely.

In the early summer of 2022, working with the environmental charity River Action, FOUW secured funding to pay for a dedicated Citizen Science Coordinator (hosted by RWT) to continue the work and oversee the project. The GC team was able to hand over the reins, allowing it to concentrate on other projects.



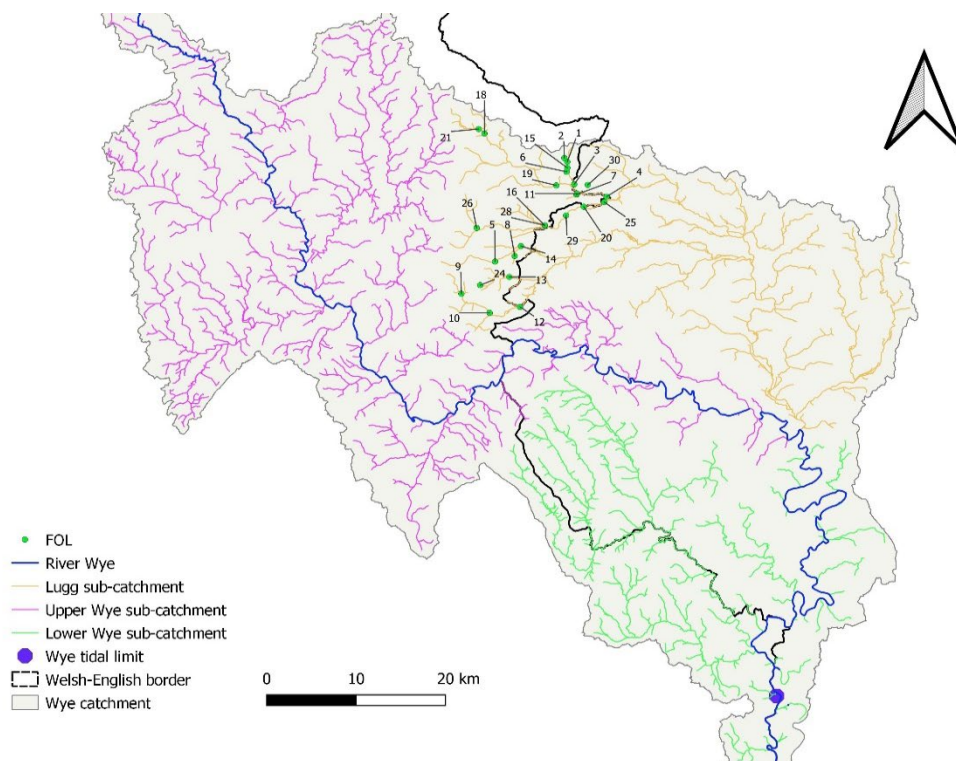
Project Outputs

Over the course of the project the GC team provided:

- 1 online introductory session for volunteers.
- 1 online training session.
- 4 practical in-person half day training sessions.
- Trained 55 volunteers.
- Set up 35 monitoring stations which were sampled weekly over 18 months resulting in the collection of 2,520 data sets over the whole project.
- Monthly evening zoom catchup sessions during first winter.
- Constant email support.
- Regular zoom feedback/discussion sessions were held, and constant email support helped to maintain a high volunteer retention rate.
- Volunteer in-person get together one year after starting, with feedback and catchup.
- Significant press coverage of the project resulted in an enormous increase in awareness of River Wye issues.

Project Outcomes

- A total of 55 people trained and empowered to be able to carry out weekly testing.
- Weekly monitoring has allowed volunteers to play an active role in recording verifiable data, reporting this to the statutory organisations, and contribute something positive towards restoring the river's health.
- Volunteer participation has allowed them to gain a much better understanding of river ecology and pollution issues.
- The FOL group formally merged with the FOUW winter 2022/23.
- The FOL (& FOUW) volunteers continue to monitor the catchment and will continue to do so after the GC project ends in March 2023.



Friends of Lugg sampling sites, courtesy of Cardiff University