

Haltwhistle Burn; a risky and challenging total-catchment approach

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Background

Haltwhistle Burn is 18km long draining a catchment of 42km². Although the official reason for failure (according to Water Framework Directive criteria) concern pressures on fish, the local community are aware of multiple pressures, each creating 'sub-lethal' but chronic stresses. This project, brings together organisations and individuals to tackle issues of water quality and flood risk management as well as collectively improving our understanding of this sub-catchment and river processes, notably at a catchment scale. The project has been funded by **Catchment Restoration Fund, Defra** and supported by many different organisations.

Project Aims

- A joined up approach to improving the burn for all local inhabitants across many interested groups
- To alleviate water quality stresses in a SSSI landscape
- To further control diffuse nutrient pollution from livestock farming
- To promote woodland habitat management and repairs to river banks
- To improve fish passage
- To promote better management of urban runoff, STW and CSOs
- To improve flood awareness and increase flood resilience throughout the catchment

Progress to date

The map opposite shows the extent of the project work so far, including practical works, monitoring sites and community engagement. Two outputs of the project are discussed in more detail.

- An important output of this partnership project has been to share Tyne Rivers Trust's approach to green-engineering techniques as developed with key contractors over several years and different locations, with statutory bodies, local organisations and interested residents.
- Essential to this project and its legacy has been engagement with all. Co-produced data and sharing the interpretation takes time and trust which has been the challenge set to Eleanor Starkey for her PhD.

Green-Engineering Techniques

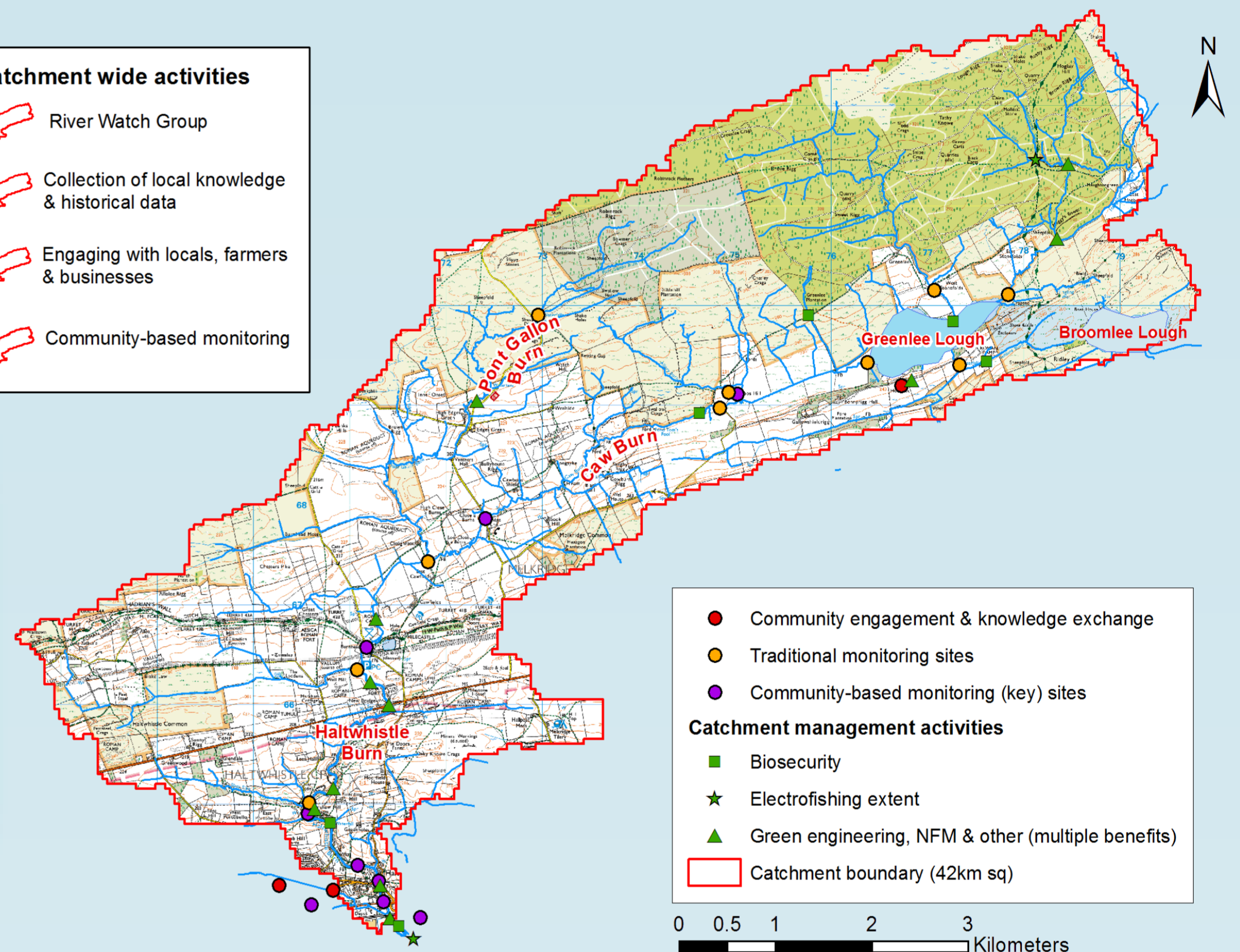
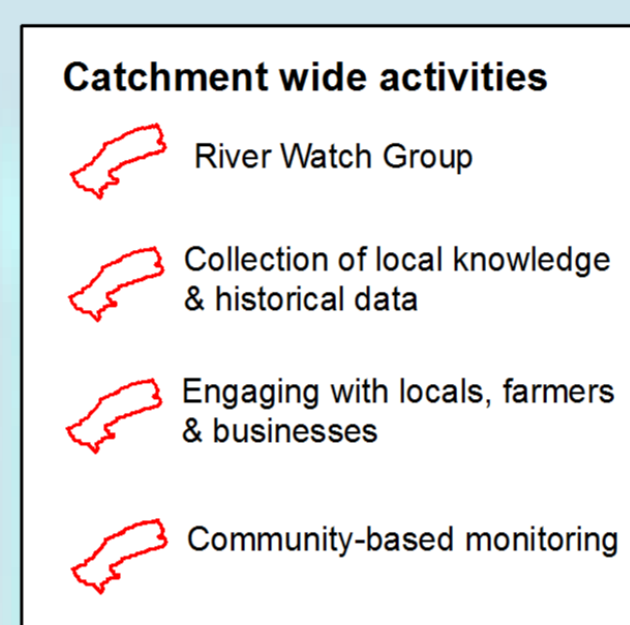
Using living material from the work site reduces cost of transport of materials and avoids introducing non-native provenance. Live material often 'gives' more in high flow conditions and is less likely to fail catastrophically. Some examples used in this project are explained below.

1. Securing a cut trunk using high-tensile cable and a slot ensures that habitat features are not flood risk threats. A similar method is to hinge and lay riparian trees rather than cut through completely.



2. Locally cut wood is used to hold back silt and gravels keeping the mouth of the burn open to allow fish passage up and STW effluent out. This saves the local land owner a lot of effort in repeatedly digging a channel to prevent a stagnant pool developing.

3. Simple timber sluices and secured brush bundles take the power out of the water in storm conditions, pushing sediment onto the floodplain. These forms of interventions are easily installed and maintained by trained volunteers.



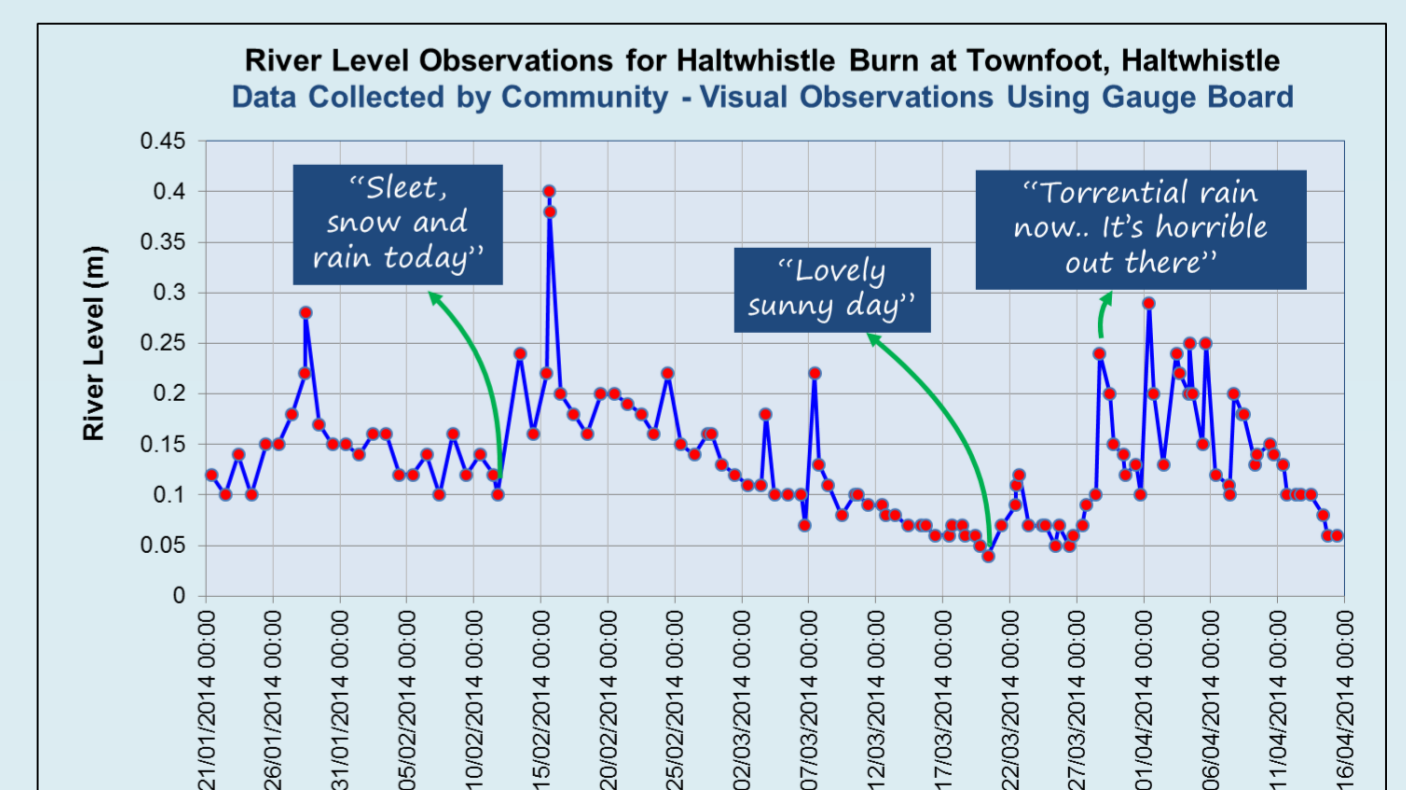
Community Monitoring and Modelling

This project has part-funded a PhD to encourage the local community to monitor a range of catchment parameters with the aim of using the data collected to improve the performance of catchment models and present meaningful information back to the community. Initial findings are that volunteers 'are starting to understand the bigger picture', they appreciate the importance of baseline and extreme river levels and have collected local data which is often unavailable for small rural catchments.

Community groups contributing to this project:



Community Flood Partnership
Haltwhistle & District AA
Haltwhistle Partnership
Town Foot flood group



<http://research.ncl.ac.uk/haltwhistleburn>

