

Eddleston Water Catchment Laboratory, Scotland



Background – Why Eddleston?

- Scale – 70 km²
- Variety of land use types
- Good source-pathway-receptor model
- Substantial modification over time – ‘bad’ status
- Flooding issues in Eddleston and Peebles

Core aims

- Investigate the potential of **reducing the risk of flooding** to the communities of Eddleston and Peebles by **restoring natural features** within the catchment.
- **Improve the river habitat** for wildlife and fisheries;
- Work with **landowners and communities** in the Eddleston valley to maximise the benefits they would gain from such work, **while maintaining farm business productivity/profitability**

Summary of practical outputs and outcomes

- 142 hectares of riparian woodland created
- 16,000 metres of fencing erected
- 2.2km of river re-meandered
- 2900m of floodbank removed
- 101 ‘flow restrictors’ installed
- 22 leaky ponds created (8000 square metres)
- Over 200,000 trees planted
- **Waterbody status under WFD has gone from ‘Bad’ status to ‘Poor’, to ‘Moderate’**
- Initial measured results show log jams causing a **delay in the flood peak** (by up to an hour); and **enhanced**

Monitoring network – establishing the baseline and measuring impact

- Surface water
- Groundwater
- Ecology – fish, invertebrates, macrophytes
- Ecosystem services
- Economic

Achieving multiple benefits

Diagram illustrating carbon capture: Disposed CO₂ is captured and stored in peatlands. Carbon dioxide uptake by trees, biomass production and degraded peatlands that are restored. Capture and storage of carbon in peatlands.

Graph showing discharge (m³/s) over time (hours) for a river. The graph shows a peak flow (red line) and a through flow (blue line). The peak flow is delayed and reduced in magnitude compared to the through flow. The x-axis is labeled 'Hours from start of rain burst' and the y-axis is labeled 'Discharge (m³/s)'.

