

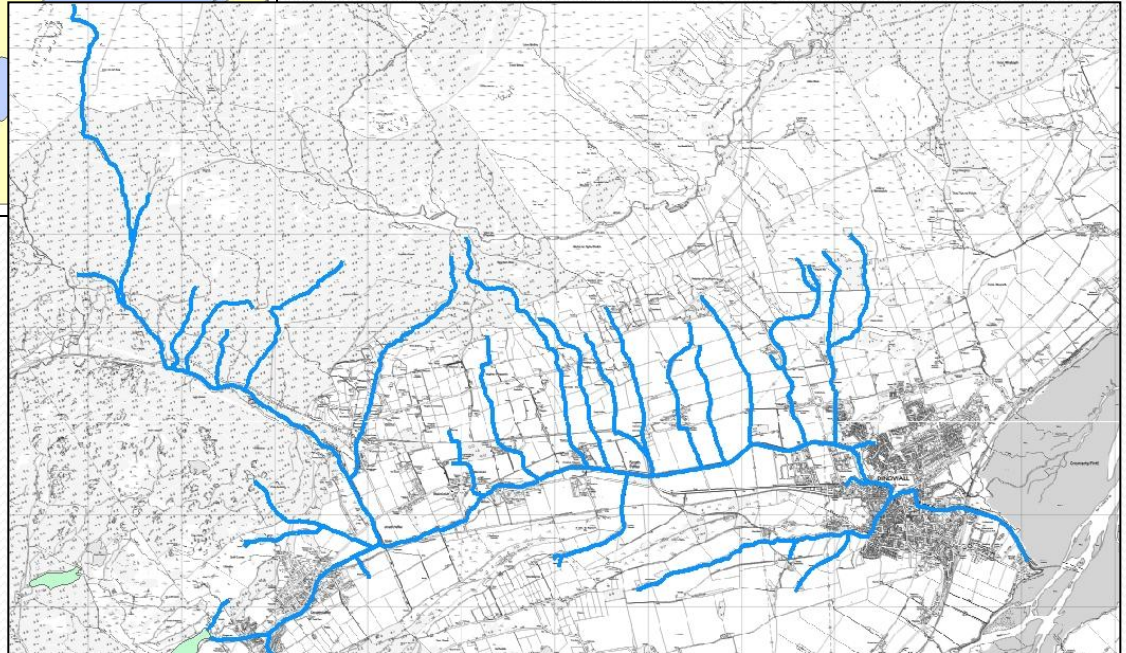
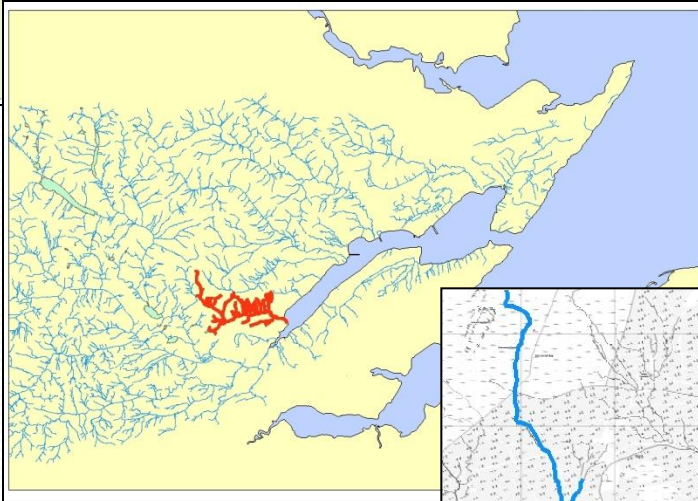
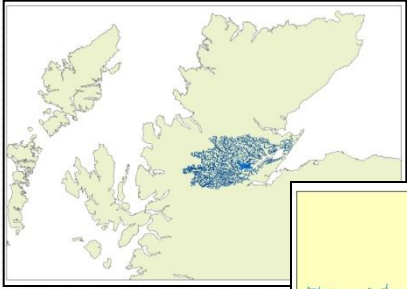
Catchment Scale Restoration on the River Peffery



Summary

- Collaborative
- WFD objectives
- Catchment Pressures
- Restoration solutions
 - Forestry
 - Barriers
 - INNS
 - Morphology
 - Amenity

The Peffery



Collaborative

- Delivery:
 - Cromarty Firth Fisheries Trust
 - Cromarty Firth Fishery Board
 - Moray Firth Sea Trout Project
 - Area Advisory Group
 - Scottish Environment Protection Agency
 - Scottish Water
 - Forestry Commission
 - Landowners
 - Local Councillors
- Professional Advice
 - River Restoration Centre
 - Wild Trout Trust
- Volunteers:
 - Dingwall Environment Group
 - Trust for Conservation Volunteers
- Funding
 - Water Environment Fund
 - Moray Firth Partnership
 - Patagonia

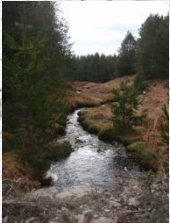


Water Framework Directive

- An opportunity for catchment scale management / restoration
- Can be achieved through the Area Advisory Groups (AAG)
 - River Basin Management Planning
- Peffery classified as Moderate (2008)
 - Morphological Alterations
 - Weir
 - Forestry
 - Agriculture – realignment and Channelization

Catchment Pressures

Intensive Forestry



Morphology



Amenity Value



INNS



Weir



Catchment Pressures



Catchment Pressures



Catchment Pressures



Catchment Pressures



Forestry Pressures

- Acidic run off
- Source of silt
- Flash flooding
- Limited diversity



Improved Forestry Management

- Achieved through AAG
 - Riparian planting
 - Blockage of forestry drains
 - Large Woody Debris Trials

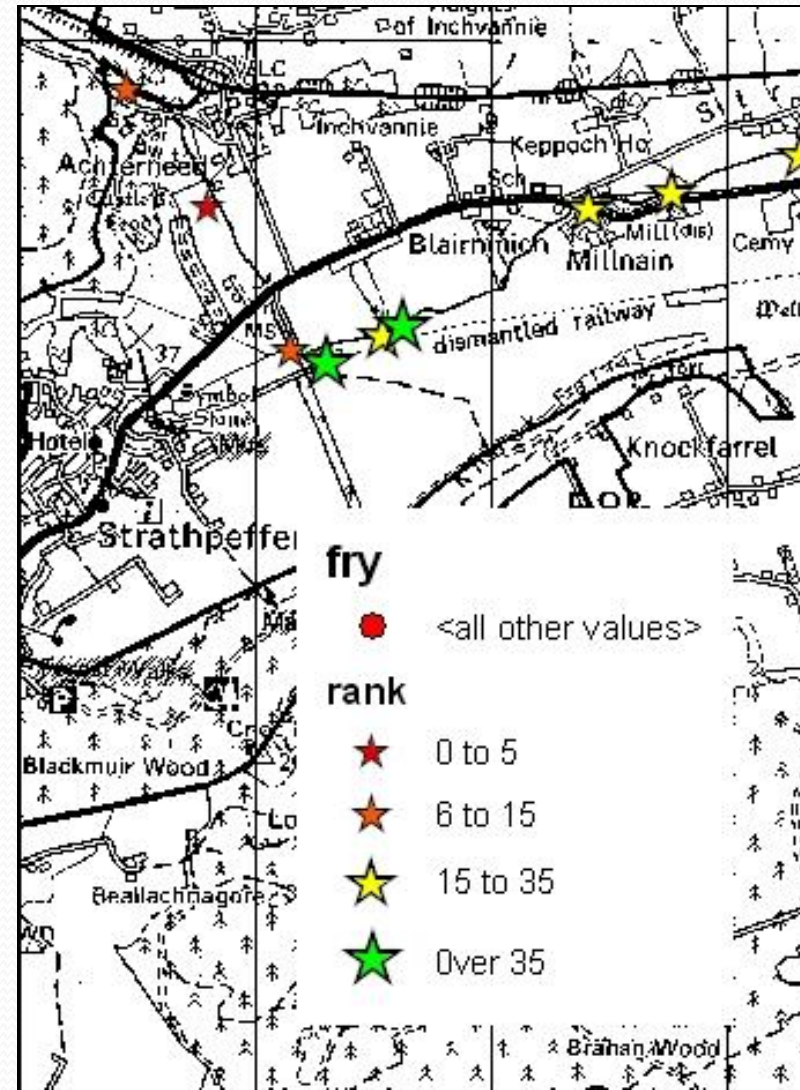


Barriers

- Scottish Water gauging weir (sewage works)
- Negotiated via SEPA for barrier easement in 2013



5 Min electrofishing results



Invasive Non Native Species

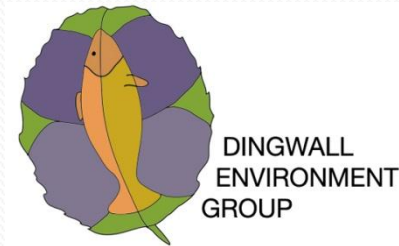
- Limiting bank side biodiversity
- Reducing amenity value
- Removed as part of larger RAFTS project
- Followed by bank side planting with local willow cuttings and alder saplings



Amenity Value



- Work to improve amenity value in Dingwall
 - Rubbish removal
 - Tree planting
 - INNS Removal



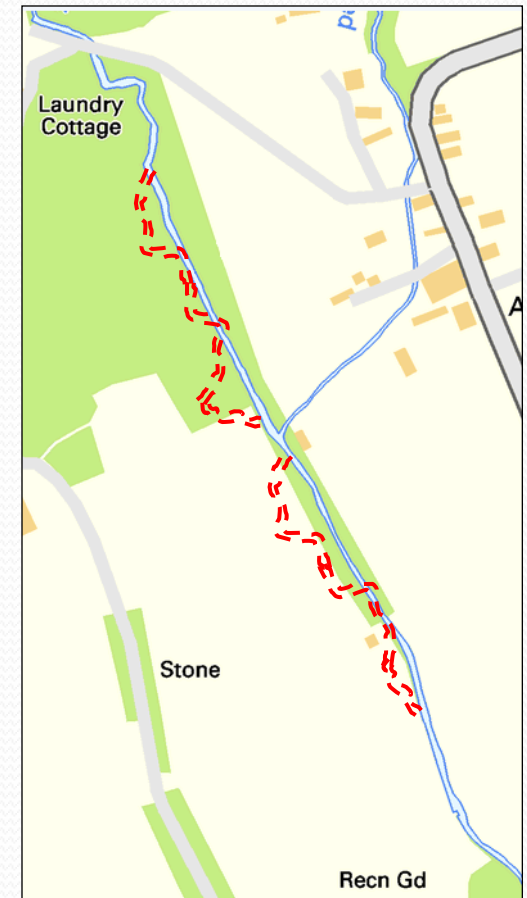
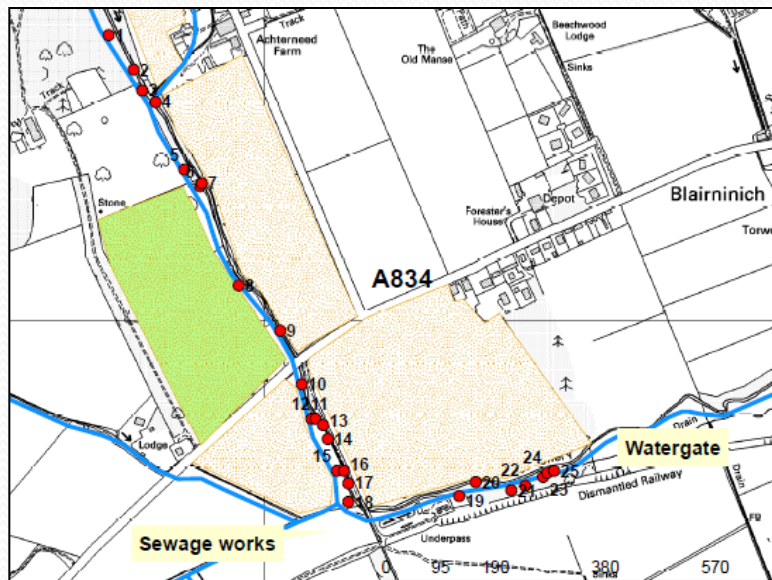
Morphology

- Historically straightened (1740s ?)
- Constrained between flood banks
- Limiting natural river processes
 - Over widened / incised
 - Shallow uniform depth
 - Compacted bed
 - Lacking in stream diversity



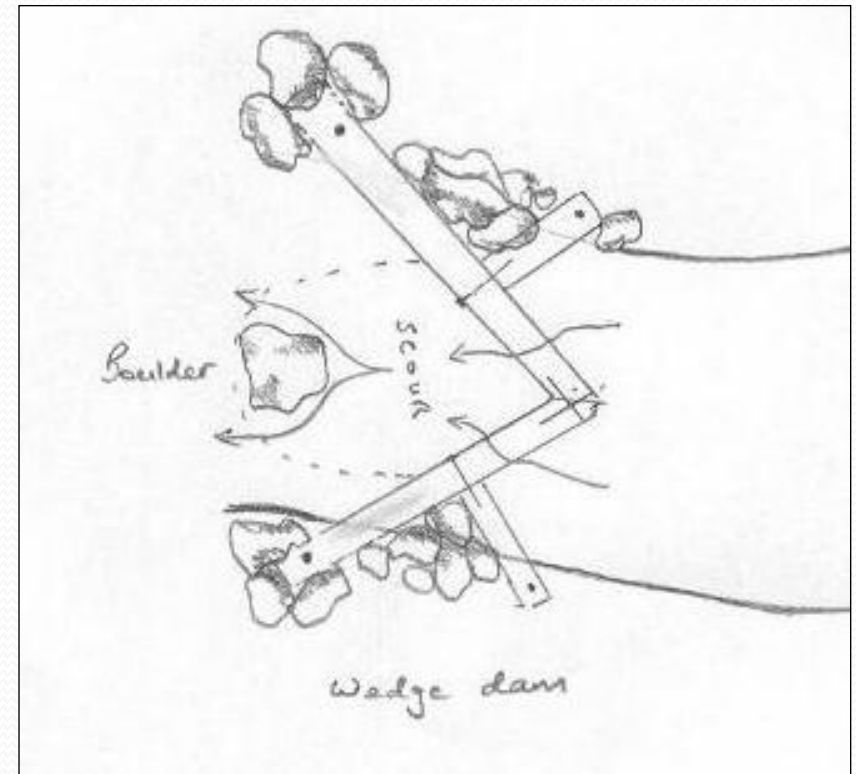
In-stream habitat restoration

- Options limited by
 - intensive agricultural land use
 - Landowner buy in
 - Perceived risk of flooding



In-stream habitat restoration

- Large Woody Debris (LWD) – perceived flood risk
- Used bed level anchored structures from WTT
 - Local Materials
 - No machinery
 - Don't cause flooding
 - Cheap
 - Installed by volunteers



Peffery Project

- 15 In stream structures
 - 84 pins
 - 33 logs
 - 30 + tonnes of stone??
 - 91 volunteer days
 - 39 staff days













Any Questions?

This project was coordinated, managed and delivered by the Moray Firth Sea Trout Project (MFSTP) and Cromarty Firth Fisheries Board and Trust (CFFB & CFFT) with much of the work done by Dingwall Environment Group and local Trust for Conservation Volunteers. The project was only made possible by funding from The SEPA Environment Fund & Patagonia World Trout Initiative and with the permission to trial these techniques on Cromartie Estates Land.

