

River Witham tree works

Who: Lincs & Northants - Fisheries, Biodiversity and Geomorphology Team

When: September 2015 – October 2016

Quote: “The Environment Agency are committed to improving habitat on the Upper River Witham. One of the ways we can do this is by combining our existing maintenance activities with habitat enhancement works”

Where: River Witham, Westborough, Lincolnshire

NGR: SK8524044343 - SK8665645058

What: To take advantage of regular maintenance activities and utilise existing woody materials to reduce bank side erosion, whilst creating a better riverine habitat.

Wider context: The River Witham has been historically modified with many natural features removed. By adding these features back to the river it will help it to return to a more natural state, promoting a better ecological balance within the river whilst retaining the same level of flood protection.



Above - Image taken during the works

Objectives:

- Increase riverine diversity
- Stabilise eroding banks
- Reduce sediment input in to the river
- Provide fish refuge areas
- To explore environmental options whilst undertaking regular maintenance activities
- Bring multiple benefits through a joined up approach.
- Reduce ongoing maintenance cost

- Utilise existing materials
- Meet Water Frame Work Directive objectives

Outputs and Outcomes: Phase 1 of the project delivered works along a section of bank 300 metres long, initially 40 meters have been reveted and a number of trees pinned. Phase 2 increased the length of works by a further 1.5km and included bank protection and tree pinning.

Cost: This was a low cost solution, with all the required woody material being taken from site. The only cost was that of internal staff time in phase 1 and £15k for a local contractor in phase 2.

Benefits:

- Increase in riverine habitat
- Increase bank protection – reducing flood risk
- Extending the life of the river bank
- Reduced future maintenance costs
- Created high flow refuge areas for fish
- Improve habitat for native crayfish



Above - Finished reveted bank

Tips and lessons learnt: That by looking at our existing maintenance works; we can promote best practice by delivering cost saving initiatives that have a wider benefit on river ecology with minimal cost implications.

Pre-post project appraisal: Fisheries, Biodiversity and Geomorphology staff conducted an initial walkover survey of the site to provide advice to our Flood and Coastal Risk Management and Operations Delivery teams. These walkover surveys will be periodically carried out to see how the structure is performing and if further maintenance work is required. Fixed

point photos are being taken to monitor changes over time.

Next steps: We are looking at using soft engineering techniques in other similar situations when we carry out our routine maintenance.

Below - Image showing hinged and pinned material in a range of flow conditions

