

# CASE STUDY: High Ash Farm

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**High Ash Farm** is a sympathetically managed landholding comprised of cattle grazed rush-pasture, species-rich hay meadows and woodland units in the headwaters of the Manifold Valley, Staffordshire. A number of tributaries flow through the farm via pockets of Priority Habitat Deciduous Woodland and out into open pasture.

**Location:** High Ash Farm, Leek Moors  
**Water course:** Unnamed tributaries of River Manifold  
**Sub-catchment:** Manifold, Upper Dove



## Ownership:

The farm is owned and managed privately.

## Access:

High Ash Farm can be accessed by public and permissive footpaths. Some of the interventions can be seen from the footpaths.

## About the project:

This project has delivered a plethora of benefits and is a flagship site for the South West Peak Landscape Partnership. In the 1920's the river at High Ash Farm was straightened and rerouted along the margin of the field, and field drains were installed to drain the land for agricultural purposes. Present day land use at the farm has now seen the return of sympathetic conservation farming with low-density cattle grazing and hay meadows. To improve the site for wildlife this project has worked closely with the landowner to deliver a suite of interventions to bring back wildlife to the river and surrounding farm fields. The river has been remaindered to its former channel and fenced out in 1.3 hectares, large woody debris has been installed in the river and over 500 native white-clawed crayfish have been returned to the site. A new pond has been installed and the herring-bone drainage has been disrupted with the installation of a series of scrapes for wading birds.

## How it was achieved:

The work at High Ash was achieved by obtaining baseline surveys which informed the design and capital delivery. After securing consents and consultation the work was undertaken. The large woody debris, remaindering, scrapes and the fencing were each delivered using specialist local contractors. Tree felling into the stream at High Ash Farm created log jams with the intention of mimicking the natural processes such as windblown trees and deadwood in rivers. Each log jam created a lattice of interlocking branches and woody material. This interlocking mass creates a heavy, dense structure which doesn't mobilise in high flows. The trees were also back-tethered to their stumps using wire rope and cable clamps. This prevents them from mobilising in high flows but also acts as a fixed debris trap to collect any material should it come loose from upstream. The technique used here has been described as the 'Chop n Drop' approach which seeks to mimic windblown trees enabling the aquatic habitat to be restocked with woody material. LWD not only helps to reduce peak flows but it also has a crucial ecological role in freshwater rivers and streams. The natural process of LWD in rivers is called the 'Riparian Wood Cycle'. To achieve the remaindering the original paleochannels were excavated to the depth of the paleogravels before 'plumbing in' the river from the straightened section back into the meanders. Once the river was flowing through the meanders, timber and earthen bunds were used to block off the straightened section. This area of the farm was then fenced off to facilitate controlled conservation grazing. The historic herringbone drainage was then disrupted to revert the impacts of diverting water off the land and instead, scrapes were strategically dug across the field allowing both the drainage system and overland flow to feed the scrapes with water creating ideal foraging ground for wading breeding birds.



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natural-heritage/slowing-the-flow



## Denis Moors, Landowner

### Why have you allowed this work in your woodland?

After seeing the devastation caused by flash floods around the country recently, I wanted to contribute, however little, to help alleviate the problem. I am interested in encouraging wildlife on the farm so the work delivered through the Slowing the Flow Project ticked both boxes.

### What impacts has it had on the environment and habitat in your woodland?

The re-meandering of the river has created a wider channel, deposited gravel and allowed the water to flood surrounding areas in times of heavy rainfall. The leaky dams and felled log jams temporarily hold water back and slow it down. Plus the trees felled in to the river also provide new habitats for wildlife. The fencing around the ponds and re-meandered river prevents cattle treading the banks down thus keeping the water cleaner. It was a pleasure to work with Ashley on the project. Such an enthusiastic and knowledgeable Project Manager and I look forward to any future projects that she might be able to get us involved in.

#### Consents:

##### Land Drainage Consent

Under Section 23 of the Land Drainage Act 1991 permitting works that may impede the flow of a water course. Issued by Staffordshire County Council.

##### Felling licence

Issued by the Forestry Commission under the Forestry Act 1967 permitting the felling of trees for any purpose that falls outside the exemptions listed by the act. In this case, the felling licence was part of an existing woodland management plan agreed with the Forestry Commission.

##### Section 28 of the Wildlife and Countryside Act

This act is in place to ensure wildlife, species and habitats are protected against disturbance and habitat degradation. As the work was also within the Peak District National Park consultation with the PDNPA was also required along with consulting other statutory organisations such as Natural England for derogations.

#### Why was the work needed:

The river running through High Ash Farm had very few naturally occurring LWD jams within the stream and it was incised and straightened. There was little habitat and refugia within the river for fish and invertebrates, including white claw crayfish. The river had a fast flow regime due to the straighten section and afforded aquatic wildlife little protection from both fast flows and also predation from other species. The river margins also suffered from poaching in places from cattle as there was no fence to control the grazing on this section of the farm. The grazed fields also offered few opportunities for species such as breeding wading birds. This work improved the habitat across the farm for a range of species both in and out of the river.

#### Benefits:

The range of work across the farm has brought about many benefits for both the aquatic and the terrestrial habitats.

The river restoration work not only has Natural Flood Management benefits, but it also improves the habitat for aquatic invertebrates, fish, riparian birds and mammals, as well as providing ideal habitat for the translocated white-clawed crayfish. Reinstating natural river processes allows the river to function as it should; engaging with the flood plain, slowing down peak flows, providing clean spawning gravels for fish and creating more niches for other freshwater-dependant wildlife. Fencing off the area has allowed the river banks to stabilise and also the wild flowers to flourish; a sympathetic grazing regime has seen the orchids, harebells and mountain pansies flower and set seed (species which would have been grazed off by livestock before the fence was in place). Breaking into the field drainage and creating standing water in a series of scrapes across the landscape has provided an abundance of foraging habitat for breeding wading birds such as lapwing, curlew and snipe. Overall, project is a flagship site for landscape scale conservation work.

#### Construction data:

- 300 m of watercourse re-meandered into former paleochannels
- 5 LWD log jams restoring 200m of watercourse with LWD
- 6 Natural Flood Management storage ponds
- 320m of riparian buffer fencing creating 1.3 Ha of new floodplain habitat

#### Costs:

- Re-meandered channel and 6 storage scrapes: 3 days FTE labour, contractor labour at a total costs of £4700 (ex VAT)
- 5 LWD log jams: 1 days FTE labour, 2 days of arboricultural contractor labour at a total costs of £960 (ex VAT) = £192 (ex VAT) per structure
- 320m of riparian buffer fencing creating 1.3 Ha of habitat: fencing contractor labour and materials at a total cost of £2338 (ex VAT)