

Case Study

Natural flood management at Ashurst Organics, Sussex

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Sussex Flow Initiative case study: Washland restoration at Ashurst Organics

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Project summary

In 2017 the Sussex Flow Initiative (SFI) worked with a local organic farmer and a contractor to create new flood water storage, via a network of 7 wildlife scrapes created along the course of a relict stream channel.

At the west of the site, a chalk headstream had been historically culverted under a large field into a mill leat. When this culvert reaches capacity, flood water sheets across the land along the old stream course. SFI created a series of scrapes and swales to encourage stream and surface water flooding to flow preferentially into the new scrapes, rather than backing up into neighbouring land. Much of the spoil from the dig was placed along hillslopes, creating extra floodwater storage in the floodplain.

Despite the good soil quality on the site, the scrapes were immediately filled by overland flow running off the adjacent unimproved grassland slopes, and by spring water, demonstrating their ability to temporarily store water during less significant rainfall events as well as during larger fluvial flood events.

SFI has also worked with the landowner and Catchment Sensitive Farming to help them into Countryside Stewardship, and will be contributing to planting and fencing around 1 km of new hedgerow. There are multiple environmental and societal benefits of the project including between 350,000 to 1,350,000 litres of floodwater storage during each rainfall / flood event, as well as habitat creation and water purification.

Site & catchment characteristics

Approximate Grid Ref	TQ 364 165
Catchment	River Ouse, 510 km ²
Land use	Species rich sheep pasture
Soil type	Rich loam underlain with chalk, greensand and clay

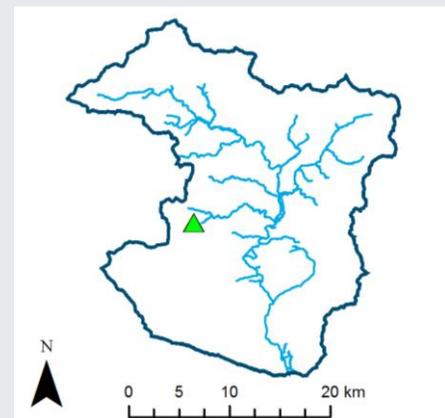


Figure 1. Location of Ashurst project in the Ouse catchment

Background information

The site comprises of around 33 hectares of land in the Bevern Stream subcatchment of the River Ouse, East Sussex. The land lies on a minor tributary of the Bevern stream, with stream flow influenced by rare chalk and greensand geology and springs.

The site is within the South Downs National Park, and is a Local Wildlife Site for its species rich pasture grassland.

Much of the site is devoted to organic vegetable growing and sheep grazing, with a small part of the farm area in a natural surface water flood zone.

This project will contribute to the reduction of local flooding as part of a wider Natural Flood Management approach on the Ouse catchment.

Project outputs

- Digging a series of connective swales and seven wader scrapes
- Catchment Sensitive Farming provided advice on farm yard and building run-off
- 1 km of hedgerow and stock fencing to exclude sheep (pending)
- Whole farm wildlife and conservation plan
- Creation of a new vehicle track (chalk based)
- Facilitation into Countryside Stewardship grant scheme

Consent

The project was not on a main river or an ordinary watercourse, so it was not necessary to obtain Flood Risk Consent from either the Environment Agency or the Local Authority.



Figure 2. Scrapes before (left) and after (right) rainfall

Multiple benefits

Natural Flood Management can provide a huge range of ‘natural capital’ benefits to people and wildlife. The natural flood storage areas created in this project (up to 1.35 million litres) will not only contribute to reducing flood risk in the downstream communities, they will also provide additional benefits including CO² sequestration, water purification, wildlife habitat, and enhanced shelter and watering for livestock. Curlew have already been seen visiting the site. The landowners and visitors to the farm love the new wildlife area. Future hedgerow work will create additional benefits.

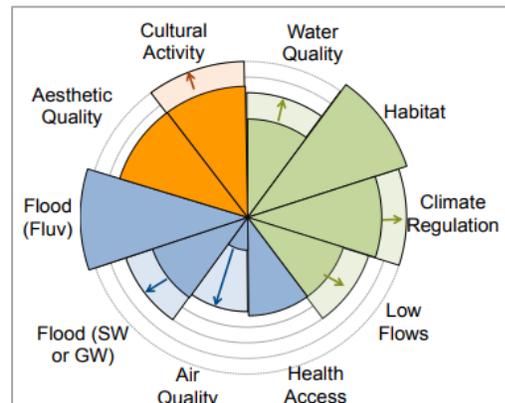


Figure 3. Types of benefits provided by floodplain restoration¹

Collaboration & funding

The project relied on a good relationship with the landowner, and was the result of the SFI working closely with a range of partners including Sussex Wildlife Trust, the Woodland Trust, the Environment Agency and Catchment Sensitive Farming.



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Project funding	Funding for the work was provided through Lewes District Council and the Environment Agency, as well as in-kind contributions from the Sussex Flow Initiative in the form of Project Officer time for project management.
Overall cost and cost breakdown	The total cost of the project was £5,308 (£4,158 excluding in kind) Contractor: £2,760 Project Officer & Project Manager: £1,381 Equipment and tools: £17 In kind contributions: Landowner hours (£300), CSF hours (£150), agri-environment consultant (£300), 2 tonnes of lump chalk (approx. value £400)

Future work

The landowner has been accepted into Countryside Stewardship, which will allow for the planting of around 1 km hedgerow. SFI will continue to work with the landowner and where needed will help to source alternative funding to enable further work. We hope to monitor some of the wildlife utilising the new wetland features.



¹ Environment Agency (2017) Working with Natural Processes: One page summaries [accessed here: <http://bit.ly/2nTyDg8>]

For more information please contact sussexflowinitiative@gmail.com or visit our website [here](#)