



Figure 1: Breaking historic land drains and creating scrapes to store surface water [left], with (right) showing two of the thirty two completed scrapes three months later storing winter rainfall].

Sussex Flow Initiative - End of Year Summary 2021-2022

[Sussex Flow Initiative](#) (SFI) is a Natural Flood Management (NFM) project on the River Ouse catchment in Sussex. The project is a collaboration between Sussex Wildlife Trust, the Woodland Trust, the Environment Agency and Lewes District Council. This report summarises SFI's achievements this financial year. For further details see our full end of year report.

Practical Delivery

Woodland and hedgerows

- We planted >19,650 native shrubs/trees as cross-slope hedgerows (3,745m) and floodplain woodland (0.14 ha).
- When mature we estimate that our new cross-slope hedgerows will help to store and slow down at least 11,235 m³ of water (11,235,000 L).¹

Scrapes, pond and temporary flood storage

- We have created a network of seasonal scrapes and ponds across the catchment which hold approximately 1,023,650 L of floodwater, whilst providing important habitat for waders, amphibians and aquatic invertebrates.

Leaky Dams

- We have constructed 286 leaky natural woody dams, which hold back an estimated 286,000 L² of water per flood event.



Figure 2: Leaky dams constructed this year vary from full length trees, such as this leaky dam, where the crown is restricting flow and trapping debris washing downstream (left). To smaller leaky dams constructed by local schools from brash, which are causing streams to come out of the channel and spread out (middle & right).

¹ Ptes: <https://bit.ly/3JCeHUp> [accessed 2022] - A 50m hedgerow at the bottom of a 1ha field can store between 150 and 375 cubic metres of water during rainy period.

² Based on 1 m³ being attenuated per woody structure.

Catchment wide influence of SFI

- We have delivered NFM on approximately 1,187 hectares of land (3,328.4 hectares if we include all advice given to landowners), of which approximately 163.6 hectares is floodplain (Flood Zone 2).
- We have influenced at least 14.3 km of the river network with our in-stream work, and at least 5.8 km through land based activities³ (73 km including all land where advice was given).
- We have created/restored 13.28 hectares of priority habitat (12.28 ha of woodland⁴ and 1 ha of open/standing water) contributing to Environment Agency targets.
- We have given advice on land adjacent to >3.9 km of watercourse failing to meet Water Framework Directive environmental quality standards for phosphorous.
- Our NFM delivery has taken place upstream of 17 properties considered to be at “very significant risk” of flooding, according to the Environment Agency.

Ecosystem services

- Our work has contributed to providing natural capital and provisioning services, including biodiversity, food, shelter, and timber
- SFI has contributed to regulating services, including pollination (>13,300 native flowering trees/shrubs planted within Buglife B-line pollinator corridors), carbon storage (up to 11.14 tonnes of CO² p.a. stored by planting⁵), water purification and flood water storage
- SFI has contributed to cultural services benefitting human health and welfare, connecting people with their environment and restoring historic landscape features.

In kind support

- More than 120 volunteers have contributed over 1,125 volunteer hours to the SFI project this year, with a value in excess of £22,500⁶
- Main partner organisations have contributed at least £75,951 of their time in kind, and other landowners and organisations have contributed at least £34,500 of their time in kind.



Figure 3: Volunteers gave over 1,125 hours, undertaking tasks from building leaky dams (left) and planting hedgerows (right).

³ Only including waterbodies downslope and adjacent to tree planting (i.e. not including downstream effects)

⁴ Including hedgerow (320 m of hedgerow is equivalent to 1 ha of woodland in terms of number of trees/shrubs planted)

⁵ Carbon Storage and Sequestration by Habitat 2021 (NERR094) <https://bit.ly/3wBc2H2> [accessed 2022]

⁶ Based on £100 per day for volunteers



Figure 4: We have undertaken a number of walks, talks and workshop for local MPs ©Nusrat Ghani (left) project partners ©Tim Bartlett (middle) and other NGOs (right) looking at and talking about natural flood management undertaken within the Ouse catchment.

Advocacy

SFI is an advocate of NFM, each year we train and communicate with others about how NFM can help them. Our advocacy this year includes:-

Engaging with landowners

- Visiting 55 landowners of 102 sites, covering approximately 7.04 % of the land upstream of Lewes, on a total of at least 3,067.72 hectares of land.
- Of these 102 sites, 32 included floodplain areas on 'main river' or 'ordinary watercourses'.
- We ran three practical days for local schools, where they built their own leaky dams. During the day the young people learnt how their work was building a climate resilient landscape, the use of hand tools, as well as learning about the ecology of the ecosystem engineer the Eurasian Beaver that they were emulating - Click to watch the [video](#).

Working in partnership and local communities

- Working with over 23 local and national groups and stakeholders

Events, conferences, websites and social media

- Presenting at national and local events reaching audiences of over 360 people
- Our articles and social media have reached at least 218,000 people



Figure 5: Increasing water storage within the landscape through the creation or restoration of freshwater habitat, such as desilting this pond. Before desilting there was minimum capacity for water (left) & afterward desilting the capacity to store water was greatly increased, as well as restoring open water habitat (right).