



Figure 1. Leaky dam installed (left) and the same leaky dam a month later collecting debris and encouraging out of bank flow into the adjacent woodland (right).

End of Year Summary 2019-2020

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 2,826 native shrubs/trees as cross-slope hedgerows (415m) and floodplain woodland (0.2 ha).
- When mature we estimate that our new cross-slope hedgerows will help to store and slow down at least 1,200 m³ of water (1,200,000 L).¹

Floodplain washland storage

- We have lowered unnecessary embankments, reconnecting the floodplain and opening up approximately 0.35 ha of additional washland storage (storing ~696,750 L of water every flood event, at flood depths of 0.2 m).

Scrapes, pond and temporary flood storage

- We have created a series of seasonal scrapes which hold approximately 725,000 L of floodwater, whilst providing important temporary habitat for waders, amphibians and aquatic invertebrates.



Figure 2. Floodplain reconnection and scrape (left) and scrape intercepting surface water (right).

¹ Hedgelink, <https://bit.ly/2ilPKRJ> [accessed 2020] - A 50m hedgerow at the bottom of a 1ha field can store between 150 and 375 cubic metres of water during rainy period.



Figure 3. Four of the 142 leaky dams constructed in 2019/20.

Leaky Dams

- We have constructed 142 leaky natural woody dams, which hold back an estimated 142,000 L² of water per flood event.

Catchment wide influence of SFI

- We have influenced approximately 437 hectares of land for NFM (1,908 hectares if we include all advice given to landowners), of which approximately 20.64 hectares is floodplain (Flood Zone 2).
- We have influenced at least 7 km of the river network with our in-stream work, and at least 5 km through land based activities³ (70.5 km including all land where advice was given).
- We have created/restored 1.61 hectares (1.49 ha of woodland⁴ and 0.12 ha of open/standing water) of priority habitat contributing to Environment Agency targets.
- We have given advice on land adjacent to >3.6 km of watercourse failing to meet Water Framework Directive (WFD) 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.



Figure 4. Floodplain scrape created in October 2019 (left).

Based on modelling this scrape would have filled five times during the period from 01/11/2019-20/01/2020, storing a total of 1,208,250 L (right).

² Based on 50 m per woody structure

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)



*Figure 5. Volunteers installing brush bundles on flow paths (left)
Site walk with OART staff and Lewes District Councillors (middle)
and Chailey School pupils recording leaky dams they built on Chailey Common (right).*

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 (>675 native flowering trees/shrubs planted within Buglife B-line pollinator corridors), carbon storage (up to 20.4 tonnes of CO² p.a. stored by planting), 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.

Volunteer & in kind support

- More than 32 volunteers have contributed over 343 volunteer hours to the SFI project this year, with a value in excess of £6,700⁵
- Main partner organisations have contributed at least £42,000 of their time in kind, and other landowners and organisations have contributed at least £15,000 of their time in kind.

Advocacy

Sussex Flow Initiative is an advocate of Natural Flood Management. Each year we train and communicate with others about how NFM can help them. Our advocacy this year includes:-

Engaging with landowners

- Visiting 35 landowners of 41 sites, covering approximately 5.1% of the land upstream of Lewes, on a total of at least 2,345 hectares of land.
- Of these 41 sites, 9 included floodplain areas on 'main river' or 'ordinary watercourses'

Working in partnership and local communities

- Working with over 29 local and national groups and stakeholders
- Working with volunteers from local communities, including Chailey School and Vert Community Woodland.

Events, conferences, websites and social media

- Presenting at national and local events reaching audiences of over 700 people
- Our articles and social media have reached at least 150,000 people

⁵ Based on £100 per day for volunteers