

Case Study

West Burton Stream: Restoration & Re-Naturing

Background

West Burton Stream is a small groundwater-fed chalk stream that rises from the northern scarp of the Downs, near Bignor, and flows west until it joins the Arun just north of Bury. Where the stream reaches the hamlet of West Burton in West Sussex, it flows through a small parcel of common land known as Pill Common. Owned by Bury Parish Council, this site contains both a community orchard and a small pond, known locally as the “Pill Pond”.

The Parish Council periodically dredges the pond to remove sediment that builds up behind the impounding structure. This structure currently comprises a combination of earthen dam, wooden step boarding, and a concrete fish-pass.

Following a site visit in 2020, water was found to be leaking in multiple places. Due to the leaks, water levels in the pond were not being maintained meaning the fish pass was not only obsolete, but was also acting as a wildlife trap for amphibians, mammals and birds.

In light of this – as well as the fact that de-silting the pond was becoming increasingly costly – proposals were put together to remove the dam and restore the stream. Removal of the dam would benefit the site’s ecological connectivity and biological value for a range of species, including freshwater invertebrates and brown trout.

The £11,000 project, funded by SDNPA, was designed in partnership with the Wild Trout Trust.



The project

The first stage of the project was to coppice the mature hazel on the northern bank of the pond, before bird nesting season, in order to let in more light and ensure the longevity of the hazel as a valuable habitat in its own right. This was one of the most costly and time-consuming components of the project requiring multiple formal permissions and significant amounts of staff resource, primarily from the project manager, SDNPA Ranger, Charles Winchester.

Work on the ground began in August 2022 when water levels were low. An 8 tonne excavator was used to remove the dam, breaking up the concrete and wooden structures, and re-profiling the surrounding area. This allowed the upper and lower reaches of the stream to be reconnected for the first time in over 100 years. A new channel was dug in order to ensure the stream followed a suitable course, the banks of which were stabilised using locally-sourced hazel faggots wired to chestnut stakes driven into the stream bed. Waste material from the old structures was buried to avoid expensive off-site removal and disposal. Throughout the work, the project manager was on-site to ensure all the ecological mitigation measures specified in the planning application were met.

A second phase was undertaken downstream. This involved moving the stream course away from a public footpath. Along this section of channel, wooden toe boarding was replaced with a soft earthen bank stabilised with native vegetation, including pendulous sedge replanted from other excavation work on site. In addition, some gentle meanders were introduced within the channel to replace this previously linear section of stream.

Finally, 10 tonnes of gravel was added to the stream bed for improved invertebrate and fish spawning habitat. One thousand native wetland plug plants were planted by SDNPA volunteers and native wildflower seed was spread on any areas of exposed soil to further stabilise and enhance the site.

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“The work has created a reconnected, vibrant and energetic chalk stream, a better protected right of way, and a site which is overall more species-rich and has higher quality habitat for a range of species.”

Charles Winchester, SDNPA Ranger

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The outcome

By removing the dam and online pond, and thereby reconnecting the upper and lower reaches of West Burton Stream, this project has made a significant contribution to nature recovery, enhancing ecological connectivity for a range of species, and providing potential spawning habitat for a native species – the Brown Trout – that is increasingly threatened by climate change and habitat loss. The project has also helped make the long-term management of Pill Common more financially sustainable for the Parish Council, removing the burden of regular de-silting operations that the former on-line pond entailed.

Moreover, the project has helped ensure access to the common is better protected, by buffering the edge of the West Sussex Literary Trail where it passes through Pill Common, as well as significantly enhancing in-channel and bank-side species diversity along this stretch of West Burton stream.

Despite some initial local opposition to the project, the hope is that the work will inspire residents and visitors alike to appreciate the transformative potential of re-naturing projects, as well as gaining newfound appreciation for the precious chalk stream habitat that streams like West Burton provide.

The future

This project demonstrates that management interventions which are ecologically beneficial can also be financially sustainable in the long-term. Despite an initial up-front investment, the removal of the online pond has made the future of the site financially viable, whilst at the same time significantly improving its biodiversity value.

The work also highlights the challenges involved in undertaking larger-scale projects, particularly in terms of the time and resource needed to secure the necessary permissions. Nature recovery projects aim solely to enhance the environment and often require “engineering” scale work in order to do so. Consequently, in going through the time-consuming planning system, they run the risk of encountering costs and delays that can ultimately make them unviable



For more information on this project, please contact:

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The South Downs National Park Partnership Management Plan (PMP)

2020–25 The Partnership Management Plan 2020-2025 brings together and coordinates the aspirations of many different partners who help contribute towards the purposes for which it was designated.

This project successfully achieved the following PMP outcomes:

Outcome 1 – Landscape & Natural Beauty:

The landscape character of the South Downs, its special qualities, natural beauty and local distinctiveness have been conserved and enhanced by avoiding or mitigating the negative impacts of development and cumulative change.

Outcome 2 – Increasing Resilience:

There is increased resilience within the landscape for its natural resources, habitats and species to adapt to the impacts of climate change and other pressures.

Outcome 3 – Habitats & Species:

A thriving and connected network of habitats and increased population and distribution of priority species now exist in the National Park.

<https://www.southdowns.gov.uk/partnership-management-plan/>