River Mimram Improvement Project

The Environment Agency (***EA***) has offered, at no cost to the Society and subject to its approval, to undertake improvement works to the stretch of the River Mimram which flows through the Society's grounds. This is part of a campaign to restore and preserve the near unique qualities of the Mimram, as one of Hertfordshire's best chalk streams.

What is a Chalk Stream?

Chalk streams are an internationally rare habitat with only around 200 worldwide, 85% of which are found in England. They are fragile habitats, due to their dependence on water from aquifers beneath the surface. Many of the world's chalk streams are severely degraded due to the demands from an increasing population for water for agriculture and drinking water.

Hertfordshire and Buckinghamshire are privileged to have a number of these chalk streams including the Rivers Beane, Mimram, Lea, Misbourne, Gade, Ver and Bulbourne. These rivers are predominantly fed by groundwater, which emerges from the ground as springs. In a healthy chalk stream the water has a stable temperature, is mineral rich and pH neutral. This provides rare conditions that create vital and unique habitats for wildlife, supporting a huge range of plants and animals including some of our most threatened wildlife such as kingfishers, brown trout and water voles.

The bigger picture

This improvement project is part of a wider programme of works in which Affinity Water and the EA are working alongside partners to deliver improvements to the Mimram and five other local chalk streams.

In order to retain water in the environment and improve river flow, Affinity Water has agreed to cease or reduce the amount of water that it abstracts from groundwater sources at 11 pumping stations on six chalk rivers. Affinity Water will continue meeting the demand for water in the area by introducing a number of planned water saving initiatives. As part of this programme a pumping station on the Mimram near Welwyn stopped abstraction in April of this year, though it can be brought back into operation to reduce flood risk in wet periods. This reduction in abstraction should help to increase the flow in the Mimram.

As well as abstraction reductions, a number of river restoration projects are currently being planned by the EA (in collaboration with Affinity Water, local Councils and landowners) all of which are aimed at restoring the chalk streams to their former glory. Examples on the Mimram include the "notching" of a weir at Tewin Water and the installation of a bypass channel just downstream from Digswell Lake, both designed to allow fish to pass up and downstream.

The problems with the Mimram at Digswell Lake

The Mimram at Digswell Lake suffers from over widening, siltation and over shading. The width of the river reduces its speed and allows sediment to accumulate. This smothers the gravels which form the bed of the river, reducing the insect life in the river. The shade provided by the extensive canopy limits the amount of vegetation which can grow in the

river. In short, this section of the river is currently too deep, too wide and too dark to support a functional habitat for fish, water voles and other aquatic wildlife.

The EA's proposals

To address these problems the EA proposes to improve this stretch of the Mimram by reducing its width and increasing the amount of light reaching the river. This will be done by creating 'brash berms' and 'woody habitat features' at alternate edges of the channel as well as removing some of the canopy. Together, these steps will provide new and improved habitats at the edges of the river and will encourage variation in speed and direction of the flow. In turn this should improve the quality of the in-stream habitat for fish, plants and aquatic invertebrates. With a bit of luck, water voles may also return to this stretch of the Mimram. An initial concept is shown on the attached plan. This is subject to change as the design of the works proceeds.

Who will be doing the work?

The EA is responsible for the proposed works, working in partnership with the Society. The EA has already put the works out to tender and Five Rivers Environmental Contracting Ltd (***Five Rivers***) was awarded a contract for the design of the works and their implementation. Information on Five Rivers can be found at https://five-rivers.com.

What are brash berms?

Brash berms are typically made out of natural vegetation, such as offcuts from canopy reduction or other tree maintenance. The branches and leafy vegetation are arranged either along the river banks or into a semi-circular shapes to replicate the inside of a meander bend and are usually held in place using wooden stakes. Over time they will fill with organic material and fine sediment to become a stable extension of the riverbanks. Where additional fill material is required, this will come from the creation of a number of new ponds on the north side of the river, creating valuable habitat for amphibians and, hopefully, water voles.

What are woody habitat features?

Woody habitat features are usually tree trunks or large branches that are wedged into the bank and protrude out into the channel. This forces the water to flow around it or over it in different directions. In some cases it may lead to a build-up of material behind it, causing a natural channel narrowing. The principle behind this is that woody material is found naturally in rivers that are not managed by humans, so it is replicating a natural process.

Where does the material for the brash berms and the woody habitat come from?

Material from existing trees on site will be used to build the brash berms and woody habitat features. As part of the design process, Five Rivers will identify the trees from which material will be taken and obtain the Society's approval to do so. The objective will be to retain and improve natural diversity and focus on non-native and diseased trees. Where appropriate, suitable trees will be 'pollarded'. Pollarding is done by cutting a tree at around head height and allowing it to re-grow from where it is cut. In addition, each tree will be assessed for risk to protected species such as bats and for maintaining the integrity and amenity of the site. The EA and Five Rivers are committed to the preservation of existing habitats.

When will the work be done?

The current plan is for Five Rivers to start design of the works immediately and to carry out all agreed works between mid-January to the end of February 2018 to avoid disruption to the bird nesting season. There will be contractors and EA staff on site from time to time before this so if you see someone in a hi-viz jacket please feel free to chat to them about the project.

Will there be an impact on me as a member?

The project works are expected to take a couple of weeks in total. Any disruption will be kept to a minimum although for health and safety reasons it may be necessary to close paths during this time. Footpath closures will be notified in advance where possible and signage will be erected where appropriate. The EA and Five Rivers will take care to ensure the site is left as it was found after the project is finished.

What if there is any damage to the integrity of the nature reserve?

Should any damage occur as a result of the project, there is third party cover in place of £5 million.

An example of another project being undertaken

Bringing Back the Bulbourne is another example of how the EA is working with partners to restore chalk streams. This project is a collaboration between the Box Moor Trust, the EA, the Chiltern Chalk Streams Project and the Wild Trout Trust with support from local volunteers.

The works have restored the natural shape and habitats of the River Bulbourne, through Boxmoor near Hemel Hempstead, from an over-wide, straight and silty river into a meandering chalk stream with clean gravels and a wide range of habitats to provide home to a rich diversity of wildlife. Tree thinning has let more light reach the channel, which has resulted in increased vegetation, including the return of Water Crowsfoot – an iconic and rare chalk stream plant.

Although the river works were only completed in January 2017 it is clear that the restoration work has already had a positive impact, both on the river itself and on the wildlife that calls the river home. For more details on this project see http://www.boxmoortrust.org.uk/river-bulbourne.

Keeping you informed

As additional information becomes available details will be added to this section of the website. If any Member has any questions, please feel free to contact your Board by e-mail at info@digswell-lake.org.uk.

Board of Directors
Digswell Lake Society
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