**Greathough Brook's Beaver Enclosure – Field Trip Report, by Rhiannon Keen**

I have recently had the pleasure of a guided tour around the home of Greathough Brook's resident beavers! Having been hunted to extinction in the 16th century for their fur and use of their scent glands, beavers are being reintroduced to the UK. These 'ecosystem engineers' are integral in increasing biodiversity to wetland ecosystems. Due to their well-crafted dams, they turn largely dry woodland into wetland, thus creating varying complex habitats for a diversity of species. The shallow pools are perfect for supporting frogspawn and tadpoles, the deeper pools provide a safe place for large amphibians and mammals and the marshland provides varying vegetation to support wetland birds and invertebrates.

Beavers were introduced to Greathough Brook by Forestry England in July 2018 and have transformed the area. As you walk through the site now, you are taken through a story of how the habitat has changed over the years. The Beavers are only just beginning to explore upstream, near the site's entrance. Which means you have a demonstration of how the whole area has appeared for centuries: a vast and dry woodland with steep slopes to a narrow brook flowing rapidly through the forest. As you walk along the waterside, you can witness increasing evidence of the beavers. Various trees of alder and birch with chunks from their trunks, bark stripped from branches and sticks, freshly felled young oaks, slides created in the banks used for regular access. As you walk further, the frequency of half-eaten trees and branches increases along with the height of the water until you meet one of several well engineered dams. The strong mammals that can grow up to 30kg carry heavy logs downstream. They use large logs and branches to support the wall of broken wood of varying sizes and in-fill with mud to create a secure barrier and filter within the brook. As well as creating a deep channel for the animals to swim easily to explore their habitat further, many species of invertebrates and fungi utilise this dam, including the vibrant scarlet elf cup mushroom that decorates the woodland bed, taking advantage of the increasing dead wood that is being created.

Further downstream is the beaver lodge, a cosy shelter the nocturnal rodents have created using their dam-making skills, for dry and warm shelter during the day, with safe access underwater. Since the arrival of their first and second litter of kits in 2023 and 2024, the lodge has been adapted and extended for the growing family. They now must use the "attic extension" to their now well-established family home!

The site is now home to an incredible wetland, contrasting to the dry woodland just a few hundred feet upstream. This wetland habitat was once a similar dry woodland containing a fast-flowing brook, rushing to the nearby village of Lydbrook. Now it is a diverse lagoon containing varying depths of water and creating habitats to a wide range of species. The large dam that weaves through the widespread wetland is camouflaged within the plant life that feeds the new residents of the site. Whilst I enjoyed the meditative atmosphere of the still lagoon, the gushing water flowing through the dam behind me and birds singing to each other at the tops of the tall trees, I watched a mallard enjoying a spa day in this biodiverse habitat that did not exist just 6 years ago.

Not only have the beavers assisted in increasing biodiversity in this area, they have also positively impacted the neighbouring village of Lydbrook. Prior to the reintroduction of beavers, the village often had issues of flooding from this stream. With no water breaks, there was an easy route for the fast-flowing water to get from Greathough Brook to the residents of Lydbrook and cause problems in the village. Since the busy eco-engineers were introduced, Lybrook no longer has issues with flooding. It has been a win all-round for the programme.

Due to multiple successful programmes where beavers have been introduced into enclosures, the keystone species are finally taking their rightful place in the English landscape. The latest progression for the species in the UK is the approval of releasing beavers into the wild, unfenced, with the first project at National Trust's Purbeck Beaver Project in Dorset. We look forward to nature's architects re-creating the UK's landscape.