

Congleton Hydro---Havannah Weir

Site ecology, Trees, Sustainability and Kingfishers

The plot of land purchased by Dane Valley Community Energy for the construction of the Hydro Scheme is designated as a non-statutory Grade C Site of Biological Importance (SBI), for its riparian deciduous woodland, and ground flora species indicative of Ancient Woodland.

One statutory site, Madams Wood SSS1, is located 0.5km east of the site, it is designated for its mature broadleaf woodland and unimproved grassland. The SSS1 is not impacted by the Hydro Scheme, however the site falls within the SSSI Impact Risk Zone.

The site largely comprises areas of broadleaved wet-woodland and scrub mosaic (Havannah Wood SBI) and ground flora species that are typical of damp flush habitats, extending down into riparian areas adjacent to the River Dane SBI. Several shallow streams run down the slope of the woodland into the active work area. This makes the ground incredibly soft with many pools of standing water present for much of the time.

The trees and scrub on the site have the potential to support breeding birds, and roosting, foraging, and commuting bats. The site also has potential for otter and water vole and white clawed crayfish, although no evidence of these species was found.

Like you and I in winter, most animals and plants, are hunkering down to survive whatever challenges nature sends us.

The inhabitants of the Havannah site behave no differently. In winter, animals are conserving their energy and the once green leaves are insulating the soil and being broken down ready to support next spring's growth.

All year round, the streams draining the surrounding land carry sediment and organic matter down to the Dane. The tumbling river, always powerful, and more so after winter rainfall, challenges early spawning fish. Overwintering birds watch hungrily.

The Fishing rights for Congleton Hydro's "patch" of the River Dane are entrusted to Havannah Fishers. They fish mainly for Rainbow Trout and if you have the time and patience to watch the water from Havannah Bridge you will invariably see these Trout "frolicking" in the dappled sunlight. Whilst observing the Trout you

will also have a particularly good chance of seeing Kingfishers dart under the bridge.

Trout



Images: Google

Kingfisher



<u>Wildlife of the River Dane, bank and tributary streams</u>	Plant life	Animal life
(observed in 2020)	<i>alder</i>	<i>trout</i>
	<i>willow</i>	
	<i>rushes</i>	<i>Signal crayfish</i>
	<i>ferns</i>	<i>insects</i>
	<i>grasses</i>	<i>kingfisher</i>
	<i>iris</i>	<i>heron</i>
	<i>mosses</i>	<i>dippers</i>
		<i>amphibia</i>
	<i>liverworts</i>	<i>otter</i>



Images: Wordstock : Google : RSPB

Liverwort



Crayfish

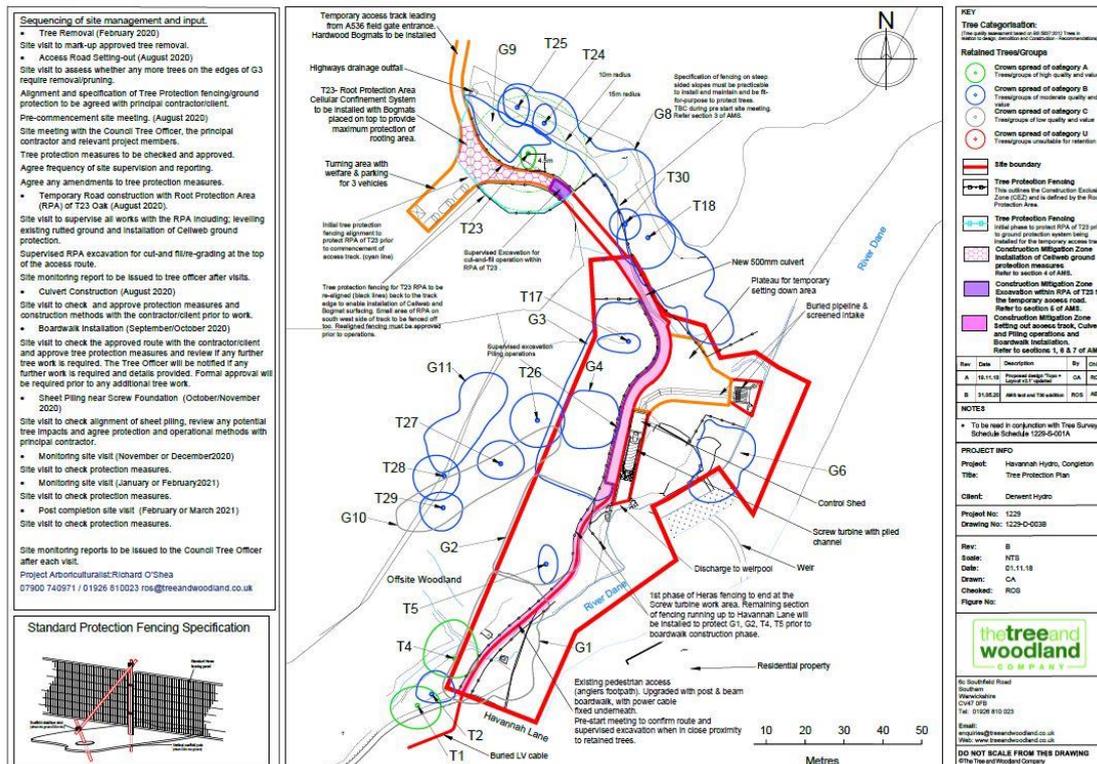


Dipper

These ecosystems have adapted to changes in water flow (since the last Ice Age) and in response to human activity (since 1762).

The Congleton Hydro project has a responsibility to manage and protect these resources, whilst benefitting from the river flow to realise saleable power. Considerable resource (manpower and monetary) has already been spent to mitigate the impact on habitat and to sustain wildlife. A contract was placed with an Ecology Service Company to carry out appropriate surveys and to produce a Landscape and Ecological Management Plan. This plan, as well as including recommendations for the protection of notable species and bird nesting, also harmonised with the Woodland Management Plan. This woodland management plan detailed the degree and type of tree protection fencing that was required for all the trees on the site (and indeed for the root protection for those in close proximity on adjacent land).

A “snapshot” to illustrate the detail of the construction phase tree management plan is shown below.



“Snapshot” Overview of Construction Phase Tree Management

View: <http://www.congletonhydro.co.uk/wp-content/uploads/2021/01/tree-management.jpg>

Close to the top of the temporary access road is an “Ancient /Veteran Oak”, and it was required by the Tree Protection Officer that a minimum 19m root zone protection would be required to minimise any impact from the passing of the site’s construction machinery. This took the form of a “CellWeb” system. The CellWeb installation required a permeable membrane, then the cellular mat, then stone and then another membrane.



Ancient Oak (in the background) Root protection

Wildlife experience changes with the season. Now, in winter, the deciduous trees are distinguishable only by their bark and buds.



image FSC

Tree Stems and Buds

We all look forward to the appearance of spring flowers and fresh undergrowth, before the tree canopy returns to monopolise the sunlight. The first warm days bring out the insects and minibeasts, so vital for every part of the food chain.

Spring also heralds vertebrate activity. Fish spawn, migratory birds return and small mammals come out to find fresh food. Plants flourish and trees blossom and come into leaf. Toward summer the different species of plant support varieties of caterpillar and beetle leading to an impressive moth and butterfly count and healthy pollination.



Images: FSC: P.Lane : FSC

Beetle



Moth



Butterfly

<u>Wildlife in Havannah wood</u>	<u>Plant life</u>	<u>Animal life</u>
	<i>oak</i>	<i>moths</i>
(observed in 2020)	<i>sycamore</i>	<i>butterflies</i>
	<i>alder</i>	<i>bees</i>
	<i>Wych elm</i>	<i>beetles</i>
	<i>hazel</i>	<i>worms</i>
	<i>hawthorn</i>	<i>woodlice</i>
	<i>holly</i>	<i>insects</i>
	<i>Lords and Ladies</i>	<i>robin</i>
	<i>sedge</i>	<i>wren</i>
	<i>Wood horsetail</i>	<i>Canada geese</i>
		<i>ducks</i>
	<i>Yellow archangel</i>	<i>magpie</i>
	<i>Wood anemones</i>	
	<i>liverworts</i>	
	<i>fungi</i>	
	<i>Himalayan balsam</i>	<i>black mink</i>
	<i>Rosebay willowherb</i>	



Magpie

Images P.Lane: FSC



Mink

Part of our management responsibility is to ensure a sustainable ecology based around the sites indigenous species. We will need to manage and control pests and diseases appropriately, with a wary eye on the effects of Climate Change.



image P.Lane

Himalayan balsam

Himalayan Balsam is a problem. Introduced in the UK by accident, it out-competes our native plants, displacing them on the shaded riverbanks. A very invasive plant, a planning condition stipulates that no part of the plant must be taken off site. As ground was prepared by pulling them up, you could almost hear new balsam growing behind!!! Long term plans to manage this invasive plant are to be established. (Maybe Gin !!!—see info via attached links) [Himalayan Balsam Gin Recipe * Marvellous Mrs P - Lifestyle, Vintage & Family Blog](#)
[How to Make a Magical Himalayan Balsam Gin • Craft Invaders](#)

The autumn brings a show of fungal fruit – the fungi recycle dead wood and symbiotically support established trees of the ancient woodland.

In the past few decades, nature has reclaimed the river bank and rebalanced the food web, overcoming the effects of nearly 300 years of human activity at Havannah. With careful and targeted ecological and woodland management plans the site will recover from the necessary impacts of the Hydro's construction