Audlem Parish Council Wildlife Enhancement plan

2019

1.0 Site Plan

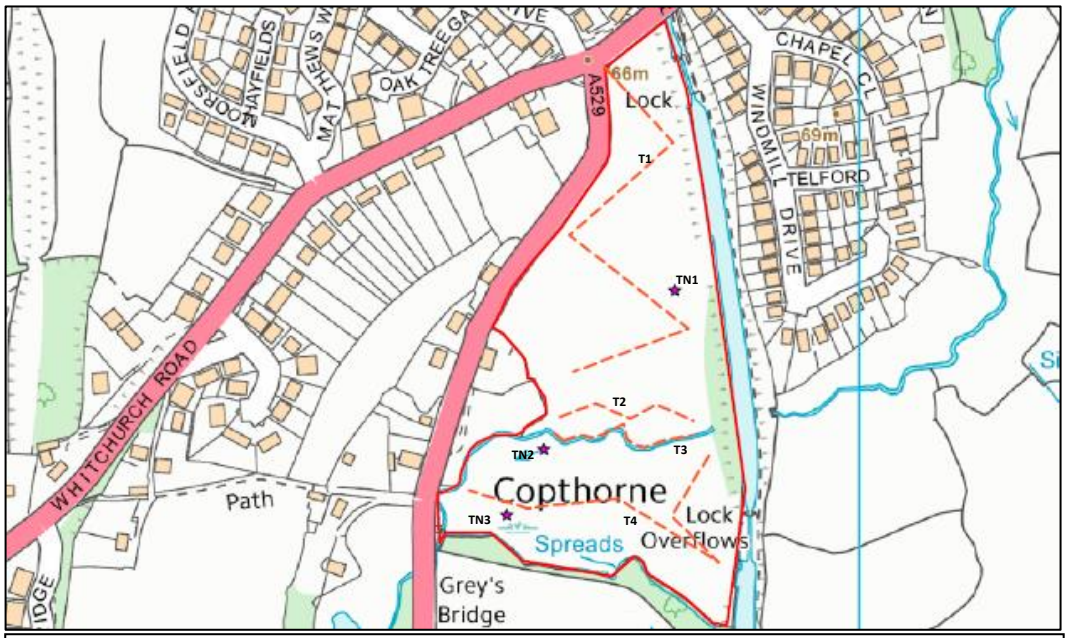

Figure 1: Site plan with transect routes marked in orange & target notes marked with a purple star.

2.0 Summary

In June 2019 a general habitat survey, including botanical appraisal, was undertaken on land South of Whitchurch Road in Audlem, outlined in red on the above map, by Cheshire Wildlife Trust. The purpose of the survey was to identify any existing wildlife interest, including the presence of water voles, and to identify opportunities for improving the land for wildlife.

In summary, with the exception of the pond (TN3) and associated vegetation, there was nothing of significant rarity found during the survey. However, it was felt there is a real opportunity to enhance the land for wildlife. The report below summarises those opportunities for the primary features of the site and, where appropriate, provides an indication of the cost of undertaking the work.

3.0 Wildlife Enhancement Measures

3.1 Hedgerows

The site contains a fantastic network of hedgerows, particularly so along the Eastern boundary adjacent to the canal. These will be of significant value for a host of invertebrate and bird species. At their base, they will support small mammals such as; field voles, bank voles and shrews which in turn are a vital food

source for raptors such as Barn Owls. Together, they form a series of corridors for wildlife to move through the site. This is particularly the case for bats which can often be found feeding on invertebrates emerging from hedgerows in the evening.

There is opportunity to improve the hedgerow network in the following ways;
Firstly, by re-panting gaps in the hedgerow with young whips. The focus for this work should be along the canal boundary. It is recommended that species which are not currently well represented in the existing hedgerow are used to add diversity, they include; Dog Rose, Blackthorn, Hazel, Crab Apple & Willow.
Planting should be undertaken in two staggered rows at a rate of 5 plants (60cm – 90cm whips) per metre.

Estimated Cost: £5/metre for the supply of whips, guards & canes at the specified planting rate

Figure 2: Looking East towards the canal at a c.20m gap in the hedgerow. This would be an idea place for 'gapping up' to maintain the hedgerow network and introduce some age diversity into what is generally an over- mature hedge.

Secondly, the hedgerows could be improved by adopting a sympathetic cutting regime on those hedges which are maintained through annual cutting.

Most hedgerow trees and shrubs flower on the previous year's growth. Therefore, cutting a hedge annually removes these twigs and vastly reduces the abundance of spring flowers and autumn fruit. Consequently, adopting a sympathetic cutting regime where hedges are cut on a three-year rotation is the most wildlife friendly means of management. However, in this case, roadside hedges may need more regular cutting but there is scope to allow some reduction in flailing pressure on the field side.

Additionally, try to avoid cutting all the hedges on site in the same year. Instead, rotational cutting where roughly one third of the hedges are cut annually will

ensure there is always a winter refuge for wildlife that favours uncut hedges. Aim for an A – shaped hedge to allow light to penetrate the bottom of the hedge. Where ground conditions permit aim to cut hedges in January or February. This will give enough time for birds and mammals to make use of the fruit during the autumn and early winter.

3.2 Grassland

There is a stark contrast between the grassland communities either side of the brook. To the North of the brook the sward is dominated by perennial rye grass, presumably recently sown, whilst on the South side, it is a more traditional sward dominated by Yorkshire fog.

Figure 3: Photographs showing the differences in grass sward on either field
Above - South of the brook, looking West, with the purple tinge of Yorkshire Fog, the dominant species, clearly visible.

Below – North of the brook looking South

Currently, neither area is particularly rich in wildflowers and, as such, it's value for pollinating insects is limited. To improve the grassland value on site two measures are recommended; Sowing native wildflower seed and/or

implementing a sympathetic cutting regime. Each of these areas are discussed in more detail below.

3.1.1 Cutting regime

Grassland that is cut less frequently is more hospitable to wildlife, particularly small mammals and invertebrates. It also allows plants and grasses time to flower and set seed enhancing the botanical interest.

It is therefore suggested that a late summer (end of July/August) cut be adopted throughout the site. Given that the site is open to the public, mown pathways throughout the site could be accommodated as a way of continuing to facilitate pedestrian access whilst also managing the grassland for wildlife.

Importantly, a proportion of the site should be left uncut each year. As a rule of thumb, this should amount to 10% of the grassland area. This is vital because many invertebrates require thick, thatched vegetation to complete their life cycles during colder months. This would specifically benefit a variety of bumble bee species and some butterflies whose larvae or eggs overwinter at the base of grass tussocks. When doing this, consider connectivity throughout the site. So, leaving linear corridors of un-cut vegetation as opposed to larger blocks.

3.1.2 Wildflower Meadow Creation

Enhancing the botanical diversity of grassland through the introduction of wildflower seed could vastly improve the site for pollinating insects. The most suitable area identified is located on the top of the field North of the Brook where there are less competitive grasses and a fairly open sward. However, it is understood that a proportion of this area has been allocated for car parking. So, the next most suitable areas are the bank down to the brook in this field or the field South of the brook. Soil samples from all these locations have been taken. All areas are low in Phosphate, a primary nutrient that tends to encourage vigorous grass growth, to the detriment of more sensitive wildflowers, when in high concentrations. On this basis, proceeding with wildflower reseeding is deemed appropriate.

It is imperative to select a mix of species that will thrive in the soil conditions present at the restoration site. Taking account of the reasonably neutral pH it is recommended that a standard lowland wildflower/grass mix is chosen.

Commercial seed mixtures usually comprise 20% wildflower seed and 80% grass seed. However, it is possible to obtain the opposite ratio of grasses to wildflowers from some suppliers. Given the small size of the proposed meadow it is recommended that an 80% wildflower mix is sourced. The additional costs are unlikely to be significant given the small quantity of seed that is required.

Where possible it is deemed preferable to source locally harvested wildflower seed to preserve local gene pools and avoid the possibility of introducing unsuitable seed. Flora Locales supplier directory (https://www.floralocale.org/Homepage) lists a large number of the UK's reputable seed supplies. Within the directory, those seed suppliers who have adopted Plantlife's Code of Practice are indicated with a flower symbol.

Alternatively, Cheshire Wildlife Trust could undertake this work on behalf of the parish, through their Pollinating Cheshire scheme. Seed for projects undertaken as part of this initiative are sourced from local Cheshire meadows and in doing so helps to expand local gene pools.

Sowing should be undertaken in August/September prior to which the seed bed should be prepared by power harrowing to create roughly 70% bare ground. The photo below shows the seed bed being prepared on a site sown by the Trust in 2017.

Estimated Cost: £1500 - £2000/ha

3.1.3 Aftercare

Prior to commencing any reseeding work, it is imperative that the future management of the area is considered as it will be integral to the establishment of the seed sown.

Ordinarily, the wildflower meadow should be cut once a year, as per the instructions set out above. However, in the first year, or after a particularly mild winter, the meadow should be cut twice - once in the following spring after sowing and again in late summer. If the winter has been particularly cold and long the spring cut may not be required, this is only necessary when there has been vigorous grass growth in early Spring.

Importantly, the field should be cut for field dried hay and not silage. The former allows for the seed to drop out of the crop and be returned to the seed bank during the tedding process.

If coarse, competitive grasses such as cocksfoot, false oat grass or yorkshire fog become particularly vigorous as the meadow develops it may be beneficial to temporarily bring the summer cut forward to mid June to reduce the vigour of these species.

Under no circumstances should fertiliser be applied to the meadow. Undesired, injurious weed species should be hand-pulled or spot treated with herbicide.

3.3 Ponds & ditch

Providing wetland habitat is often an easy way of improving a site for wildlife. Ponds, ephemeral scrapes and ditch margins can be of benefit to breeding amphibians, dragonflies and a host of other invertebrates whilst also crucial to small mammals, namely water voles. It was felt that improving the wetland habitat on the site could be one of the easiest, and most beneficial, ways of improving the biodiversity value of the site.

3.3.1 Pond creation

It was felt there is an opportunity for pond creation on the low lying, damp ground to the north of the stream. A network of 2 or 3 ponds, varying in size between 25 and 100 square metres, could be accommodated in this area. Whilst pond specifications need often to be site specific, the following general criteria for creating wildlife friendly ponds will help guide decision making.

- Pond depth between 4 and 6 feet in the centre of the pond
- Avoid the use of liners unless absolutely necessary
- Pond margins should be ‘scalloped’ where possible to achieve an irregular pond shape.
- Bank gradients should slope very gently towards the draw down zone in the centre of the pond.
- Cut a proportion of the marginal vegetation, around the edges of the pond, annually on rotation in September. Should three

ponds be dug then cutting the vegetation around a single pond each year may be appropriate.

- Do NOT stock the ponds with fish
- Allow the pond to vegetate naturally. The risk of introducing invasive species when acquiring nursery grown aquatic plants is significant. In this case, there is already a seed bank for such species to colonise pond margins from along the ditch edge.

Estimated Cost: £500 per pond

Figure 4: Proposed pond location between the brook and the steep bank

Estimated Cost: £500/pond created

3.3.2 Pond restoration

South of the brook, two ponds in their later stages of succession, were recorded. The pond on the southernmost boundary of the site (TN3) is by far the most biodiverse and thus one of the most valuable wildlife features of the site.

Ponds are successional habitats, therefore, in the absence of management, they will eventually silt up and succeed to scrub and ultimately a small woodland copse.

It is felt there is an opportunity to extend the life of these ponds through careful excavation work. Whilst the pond marked TN2 on the map could be easily excavated to its former footprint, the pond marked TN3 will require more careful consideration so as not to disturb existing botanical value. Taking account of this, it is suggested

that should pond restoration work be considered, TN2 should be the priority and, in the case of TN3, only a proportion (c.30%) of the pond should be de-silted at any one time.

Management of marginal vegetation around restored ponds should reflect that set out in the guidance in 3.3.1 with rotational cutting and removal of arising in September.

Estimated Cost: £250/pond restored

3.3.3 Management of ditch

The ditch transecting the site was surveyed for signs of water voles by means of walking up the stream bed looking for the following field signs; feeding remains, latrines, burrowing & footprints.

No signs of water vole were observed, however, their habitat requirements in terms of a slow moving water body with deeper pools and bankside vegetation was available. With that in mind, and the fact they have been recorded locally, it seems sensible to manage the ditch with voles in mind.

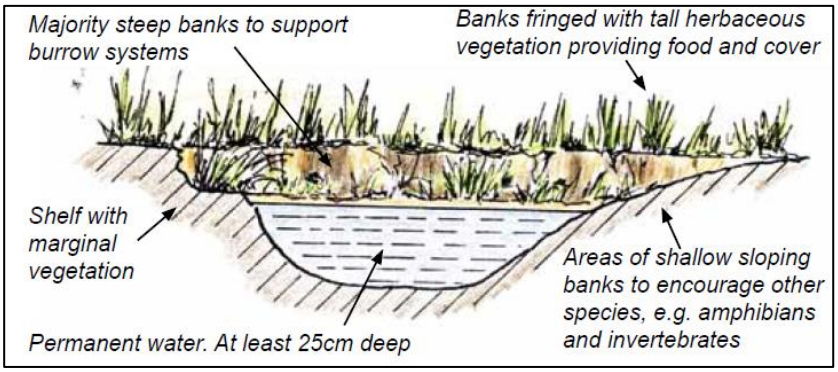

Figure 5: Image taken from Wildlife Trust Water Vole Handbook depicting optimal water vole habitat.

Management should focus on bankside vegetation. Firstly, it is recommended that a proportion of the young alder saplings (not mature established trees) be cut and removed from the bankside to reduce shading that will otherwise result in the loss of favourable bankside plant species.

Secondly, rotational cutting of bankside vegetation should be instigated with roughly 30% of vegetation cut annually. This could be achieved using a tractor and hedging flail running above the ground at the same time that the hedges on site are trimmed. Should this approach be used, tractors should remain a suitable distance from the bank to avoid crushing any vole burrows.

3.4 In-field trees

Mature veteran trees, mainly oak, exist throughout the site and are a fantastic wildlife resource. Trees of this value should be given space and left to age naturally with minimal mechanical interference. Dead limbs should be retained where safe to do so, for the plethora of invertebrates, bats and bird species that depend on standing deadwood. This should be considered when planning access routes through the site, i.e. avoid taking pathways under mature trees.

Given that most trees on site are of a similar age, supplementary planting with scattered trees, as opposed to wholescale woodland planting, would help ensure trees remain a part of the site for future generations.

Taking account of the continued threat of pests and diseases, it is recommended that a greater variety of trees/shrub species, and not just oak, should be planted. Suitable species include; Oak, Crab Apple, Rowan and Hawthorn. All trees should be planted outside of the canopy cover of existing trees.

Estimated Cost: £20/tree (4ft-6ft root-balled) with stake and tubex guard