BIODIVERSITY SURVEY AND ENHANCEMENT PLAN

SWAYFIELD LANE

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BIODIVERSITY SURVEY AND ENHANCEMENT PLAN SWAYFIELD LANE

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1 INTRODUCTION

Helen Scarborough has been commissioned by Swayfield Parish Council to undertake a biodiversity assessment and enhancement plan of a lane on the west side of the village of Swayfield, Lincolnshire. The survey is required in connection with plans to improve the biodiversity of the site through appropriate management and enhancements.

The site was assessed on the 11th May and 15th July 2021 in dry and sunny conditions by Helen Scarborough (registered to use Natural England Class Licences WML-CL08 to survey great crested newts, registration number 2016-20412-CLS-CLS, and WML-CL19 and WML-CL20 to survey bats, registration numbers 2015-12691-CLS-CLS and 2015-12692-CLS-CLS respectively).

During the biodiversity assessment of the site, the species present were identified, and the potential for protected or priority species to occur on site was also assessed.

This report details the methods used, describes the habitats and species found on the site, discusses the results and makes recommendations for future management.

2 METHODS

2.1 Biodiversity assessment

During the assessment, a walkover of the site was completed, and all flora and fauna noted were recorded. Any plant species listed on Schedule 8 or Schedule 9 of the Wildlife and Countryside Act (1981, reviewed in 2010) were recorded, and the site was assessed against the Local Wildlife Site (LWS) criteria for Lincolnshire. Invertebrates that were easily identifiable and fairly obvious were also included, although it should be made clear that no dedicated invertebrate surveys were carried out.

2.2 Survey constraints and limitations

There are no known constraints related to the survey methodology or the timing.

3 SITE ASSESSMENT

3.1 Location and grid reference

The survey site comprises a lane on the western side of Swayfield in Lincolnshire - central grid reference SK987228.

The habitats on site are described below and representative photographs are included in the text. An aerial view of the site location is provided as Figure 1.

Figure 1: Aerial view of the survey site outlined in red (Google Maps, 2020)

3.2 The lane

The site comprises a tree and scrub lined track that projects north-west from the western side of the village through an area of arable land.

At the southern end the track is bounded by gardens and grazed fields – the hedgerows and hedge banks that flank the track are well managed and include garden species. Hawthorn

Crataegus monogyna, apple *Malus domestica*, blackthorn *Prunus spinosa*, privet *Ligustrum ovalifolium*, ash trees *Fraxinus excelsior* and field maple *Acer campestre* were noted with wood false brome *Brachypodium sylvaticum*, cow parsley *Anthriscus sylvestris*, ground ivy *Glechoma hederacea*, cleavers *Galium aparine*, wood avens *Geum urbanum* and herb robert *Geranium robertianum*, with a small amount of goldilocks buttercup *Ranunculus auricomus* forming the ground flora.

As it progresses north the track is bordered by arable land; the flanking trees and scrub are outgrown and unmanaged. There are small areas where there are breaks in the trees and scrub alongside the track. The trees and scrub recorded include hawthorn *Crataegus monogyna*, elder *Sambucus nigra* , ash *Fraxinus excelsior*, rose species *Rosa spp*, blackthorn *Prunus spinosa*, bramble *Rubus fruticosus*, and apple *Malus domestica*. They are mainly semi-mature trees and scrub, with a small number of mature trees, particularly ash *Fraxinus excelsior*, towards the northern end of the track. In mid-section, an area of the track is completely overgrown with elder *Sambucus nigra*, rose *Rosa spp* and bramble scrub *Rubus fruticosus*, allowing only a small path through.

The track itself comprises rough grassland, tall herbs and ruderal areas.

The southern section of the track supports more ruderal species; barren brome *Bromus sterilis*, red dead nettle *Lamium pururem*, common poppy *Papaver rhoeas*, dandelion *Taraxacum agg,* greater plantain *Plantago major*, sow-thistle species *Sonchus spp.,* nipplewort *Lapsana communis*, and creeping thistle *Cirsium arvense* were noted. As the track progresses north the grassland and herbs include common nettle *Urtica dioica*, hogweed *Heracleum sphondylium*, garlic mustard *Alliaria petiolata*, creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, cleavers *Galium aparine*, white-dead nettle *Lamium album*, campion species *Silene spp*, hedge woundwort *Stachys sylvatica,* ground elder *Aegopodium podagraria*, ground ivy *Glechoma hederacea*, hemlock *Conium maculatum*, hedge bindweed *Calystegia sepium*, barren brome *Bromus sterilis*, couch grass *Elytrigia repens*, cock's-foot *Dactylis glomerata*, cow parsley *Anthriscus sylvestris*, mugwort *Artemisia vulgaris*, Yorkshire-fog *Holcus lanatus*, dock species *Rumex spp*, great willowherb *Epilobium hirsutum* and lesser burdock *Arctium minus*. There are stands of welted thistle *Carduus crispus* and areas where black bryony *Tamus communis* were noted.

There are small areas of finer grassland where cowslips *Primula veris,* germander speedwell *Veronica chaemdrys*, perforated St John's-wort *Hypericum perforatum*, wood false brome *Brachypodium sylvaticum*, common knapweed *Centuara nigra,* red fescue *Festuca rubra*, common sedge *Carex nigra* and common mouse-ear *Cerastium fontanum* were noted.

At the northern end of the lane are small areas of standing water. These are generally steep

sided. They support a sparse fringing and aquatic vegetation of hard rush *Juncus inflexus,* celery leaved buttercup *Ranunculus sceleratus*, curled dock *Rumex crispus,* reed canary grass *Phalaris arundinacea*, great willowherb *Epilobium hirsutum*, creeping bent *Agrostis stolonifera*, duckweed species *Lemna spp* and blanketweed. There are some finer sward areas of grassland, with many cowslips *Primula veris*, around these small waterbodies.

Photograph 1: General view of the lane

Photograph 2: Overgrown section – very narrow path in this area

Photograph 3: Southern end of the lane

Photograph 4: Northern end of the lane, looking south

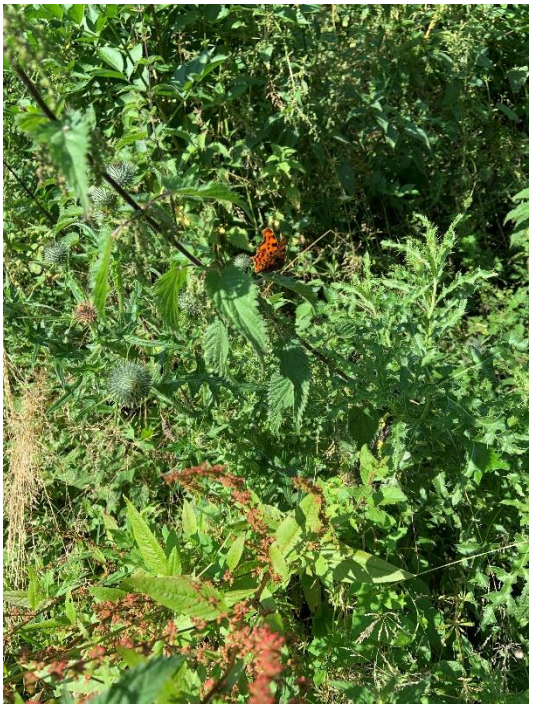
Photograph 5: View of the lane – tall grasses and ruderals, flanked with trees and scrub

Photograph 6: Southern end of the lane with gaps in the trees and scrub

Photograph 7: Mature ash trees and scrub

Photograph 8: Short sward grassland with cowslips

Photograph 9: Standing water at the northern end of the lane



Photograph 10: Comma butterfly

Photograph 11: Germander speedwell within finer sward areas

Photograph 12: Cowslips within the finer sward areas – note: encroaching scrub

Photograph 13: General view of the lane looking north

3.3 Surrounding habitat

The lane is surrounded in the main by arable land. It terminates in the north when it meets a track and hedgerow running east-west. There are some hedgerows which adjoin the track from the east and west side which provides connectivity to the wider countryside. There are also two small, wooded pits which adjoin the eastern side of the lane. These areas are large depressions which are dominated by trees and scrub with tall ruderal vegetation. They fall outside of the remit of this survey and enhancement plan; however there is potential, in the future, for these areas to be appropriately managed and further enhance the nature conservation value of the lane.

Photograph 14: Adjacent areas

Photograph 15: Track and hedgerow to the north

4 RESULTS

4.1 Faunal species

A number of species were recorded on site during the survey, including the following:

Butterflies

small white *Pieris rapae*
green veined white *Pieris napi*
peacock *Aglais io*
red admiral *Vanessa atalanta*
orange tip *Anthocharis cardamines*
common blue *Polyommatus icarus*
meadow brown *Maniola jurtina*
small skipper *Thymelicus sylvestris*
comma *Polygonia c-album*
speckled wood *Pararge aegeria*

Bees

Buff tailed bumble bee *Bombus terrestris*

Other invertebrates

St Mark's fly *Bibio marci*

Birds

A number of common birds were seen or heard during the survey. These are listed below along with their current status as species of principle importance, or SPI, (NERC Act, 2006) or Birds of Conservation Concern 4 (Eaton et al, 2015):

Table 1: Bird species recorded on or flying over the site

English name	Scientific name	SPI	BoCC
wood pigeon	*Columba palumbus*		Green
collared dove	*Streptopelia decaocto*		Green
great tit	*Parus major*		Green
blue tit	*Cyanistes caeruleus*		Green
long tailed tit	*Aegithalos caudatus*		Green
blackbird	*Turdus merula*		Green
robin	*Erithacus rubecula*		Green
house sparrow	*Passer domesticus*	Y	Red
chaffinch	*Fringilla coelebs*		Green
goldfinch	*Carduelis carduelis*		Green
pheasant	*Phasianus colchicus*		-
magpie	*Pica pica*		Green
sedge warbler	*Acrocephalus schoenobaenus*		Green
willow warbler	*Phylloscopus trochilus*		Amber
buzzard	*Buteo buteo*		Green
red kite	*Milvus milvus*		Green

Other species

The site is considered to offer potential foraging and nesting habitat for hedgehog *Erinaceus europaeus*, and foraging opportunities for bat species such as common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus*, all of which are species of principle importance (NERC Act, 2006). Some of the mature ash trees which flank the lane support features with potential for use by roosting bats.

The waterbodies at the northern end of the lane may be used by amphibians, particularly if they are enhanced to improve their suitability. The lane would provide excellent terrestrial habitat for amphibians, including common toad which is now a priority species for conservation.

4.2 Habitats and plant species

The habitats and plant species recorded on the site are common and widespread in the local area and in the country. The plant species recorded on the site are not listed on Schedule 8 or Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), and the site does not meet the required criteria to qualify as a Local Wildlife Site at the moment.

The following Local Wildlife Site scoring species were noted:

Common knapweed
Cowslip
Common sedge

4.3 Summary

At present, the biodiversity of the site is considered to be moderate. Of particular note is the amount of butterfly species recorded along the lane. The implementation of enhancements aiming to improve the abundance and diversity of invertebrates on the site would lead to an increase in overall biodiversity, as other animal species such as amphibians, birds and bats become attracted to this food source. The recommendations include management prescriptions for the existing habitats, ideas for creating additional habitat and increasing the structural diversity of the site and also recommendations for improving the site for faunal species such as bats and hedgehogs.

5 ENHANCEMENT RECOMMENDATIONS

The following recommendations would lead to biodiversity gains on the site.

Tree and shrub planting;

- It would be advantageous to plant some additional tree and scrub species in the gaps which exist towards the southern end of the lane – berry/fruit/nut bearing species such wild cherry, plum, apple and should be considered; these species provide foraging opportunities for invertebrates, birds and bats.

- The outgrown hedgerows (scrub and trees) which flank the lane should be managed

appropriately to maximise the potential to support wildlife, by trimming every 2 to 3 years and in sections so that not all parts of the hedgerow are cut at the same time (for example, trim an area of the eastern side in year 2, and an area of the western side in year 3). This ensures there are always some flowers and fruits available each year. Flailing must be avoided. *Please note that any removal or management of trees, hedgerows or shrubs should be carried out outside of the bird nesting season (so carried out between mid-September and early March) to avoid breaching the legislation that protects nesting birds.*

- Any plant material removed as a result of the trimming could be made into habitat piles and placed around the edges of the lane in order to provide additional habitats for invertebrates and amphibians.

- The overgrown area in mid-section should be left untouched, no trimming should take place beyond keeping a narrow path through the scrub. This area would be an ideal place to build up the habitat piles.

Habitats:

- The area of finer sward grassland around the waterbodies at the northern end of the lane must be cut regularly in spring and autumn in the first year (2022) and the arisings removed, to avoid dominant weed species outcompeting the wildflowers. Thereafter, these areas should be cut once in late summer/early autumn and the arisings removed. From spring onwards, dock species, thistle species and nettle species (and all other weeds which may appear) should be removed by hand throughout the season - the application of herbicides must be avoided. Initially it is recommended that this area is managed appropriately, then surveyed to monitor which species appear. If necessary, seed mixes may be used but initially it is recommended that appropriate management and allowing species present in the seed bank to flourish is attempted.

- A path 1-2 metres wide should be cut in most areas of the lane – leaving the tall herbs and grasses at the sides for invertebrates. The exception to this is the overgrown area in mid-section – this should be left, and a very narrow path (1 person wide) should be cut through this, not necessarily in a straight line but following the natural edges of the branches and scrub.

- Plug plants which favour shade and woodland conditions should be planted under the

trees and scrub which flank the lane – in particular the areas towards the northern end. The species should include primrose, native bluebells, wild garlic and bugle.

- The small waterbodies at the northern end should be reprofiled to form gently sloping banks, with small shelves in order to allow a fringing and marginal vegetation to establish. If possible, one of these waterbodies should be enlarged. The ultimate aim should be to create an end point with wildlife ponds and species rich grassland – this area could also have a couple of benches, or some natural log seating, to act as a resting place at the end of the walk up the lane.

Enhancements for faunal species:

- Bat boxes could be installed on some of the mature trees along the lane, in order to maximise opportunities for bat species in the local area. The bat boxes should be positioned at least 4 metres above ground level on the northern or southern elevations of the trees. A suitable style of bat box would be the tanglewood box, available at www.nhbs.co.uk. Alternatively, they can be hand-made using instructions found at https://www.wildlifetrusts.org/actions/how-build-bat-box.

- Nesting features could be installed on suitable trees, at a minimum height of 3 metres. Details of nest boxes suitable for use by a range of common bird species can be obtained from www.nhbs.co.uk or www.wildcareshop.co.uk.

- The addition of a hedgehog nest boxes would be a benefit to this declining species. This can be placed beneath any area of dense vegetation along the site and can be purchased from www.nhbs.co.uk or www.wildcareshop.co.uk. Note: due to recent concerns with some hedgehog nest box designs, those constructed from timber, recycled plastic or wood Crete are recommended, as there is no risk of entanglement.

- Insect houses and bee hotels would encourage invertebrates on the site - these are available to buy from www.nhbs.co.uk or www.wildcareshop.co.uk, or can be hand-made using recycled and natural materials, with more information available at https://www.wildlifetrusts.org/actions/how-build-bug-mansion.

6 REFERENCES

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Appendix 1 – Site plan and enhancement measures

Site boundary

Maintain 1-2m pathway leave ruderals and tall vegetation at sides

Leave scrub on track, narrow path, create wood piles

Reprofile small ponds, manage area around for wildflowers,