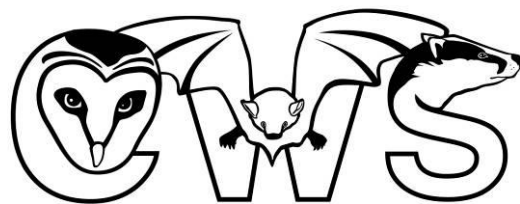


**Ecological Mitigation & Enhancement  
Scheme for Brooklands Barn,  
Church Street, Bodicote,  
Banbury**



**Cotswold Wildlife Surveys**

9<sup>th</sup> December 2019

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## **1. INTRODUCTION**

On 9<sup>th</sup> December 2019, a visit was made by Cotswold Wildlife Surveys, to Brooklands Barn on Church Street in Bodicote, near Banbury. This was undertaken to assess the ecological importance of the site and to identify ways in which a net gain in biodiversity could be achieved. This was carried out in association with the planning application for the construction of a new garage.

This report details the measures that will be undertaken to protect and enhance wildlife during the development.

## 2. ECOLOGICAL CONSTRAINTS

On 9<sup>th</sup> December 2019, a visit was made by Cotswold Wildlife Surveys, to Brooklands Barn on Church Street in Bodicote, near Banbury. This was undertaken to assess the ecological importance of the site, and to identify ways in which a net gain in biodiversity could be achieved. This was carried out in association with the planning application for the construction of a new garage.

This report details the measures that will be undertaken to protect and enhance wildlife during the development.

The Phase 1 survey took place on 9<sup>th</sup> December 2019, in cold and bright conditions, with no wind.

The application site formed a small part of the whole plot, and was dominated by poor, semi-improved grassland (Figs. 1 and 2). Grasses present included Creeping Fescue *Festuca rubra*, Cocksfoot *Dactylis glomerata*, Rough Meadow-grass *Poa trivialis*, False Oatgrass *Arrhenatherum elatius* and Creeping Softgrass *Holcus mollis*.

Wildflowers were represented by Common Mouse-ear *Cerastium fontanum*, Creeping Buttercup *Ranunculus repens*, Creeping Cinquefoil *Potentilla reptans*, Dovesfoot Cranesbill *Geranium molle*, White Clover *Trifolium repens*, Common Nettle *Urtica dioica* and Cow Parsley *Anthriscus sylvestris*.



**Figs. 1 & 2 Grassland**

Scattered trees were present throughout the site, these having been planted by the owner within the last 20 years. These were mostly Sweet Chestnut *Castanea sativa*, with Beech *Fagus sylvatica* and Pedunculate Oak *Quercus robur* also present (Figs. 3 and 4).





**Figs. 3 & 4 Scattered trees**

A spoil mound was present in the northeastern corner, this having been created during the construction of the new dwelling on the wider plot (Fig. 5). It was becoming colonised by short perennial species, but these were yet to become established and the mound will be removed before this can happen.



**Fig. 5 Spoil mound**



**Fig. 6 Hedgerow**

Along the western boundary ran a species poor, intact hedgerow of Blackthorn *Prunus spinosa* and Hawthorn *Crataegus monogyna* (Fig. 6).

The site was accessed by a driveway of hardstanding (Ref. Fig. 3).

No rare vascular plants were recorded, and all species recorded were common and widespread.

A total of five species of bird were observed during the visit, of which House Sparrow *Passer domesticus* and Starling *Sturnus vulgaris* are species of High Conservation Concern (RSPB Red list), and Dunnock *Prunella modularis* is a Species of Medium Conservation Concern (RSPB Amber list). The rest were species of Low Conservation Concern (RSPB Green list).

It was considered likely that some birds could use the hedge and trees for nesting purposes during the breeding season, although no old birds' nests were found.

None of the trees within the curtilage of the site supported features such as decay cavities, woodpecker holes, fissures and exfoliating bark, that would be considered suitable for bat roosting and/or hibernation. However, the wooded corridor along Sor Brook to the south provided high value habitat to foraging and/or commuting bats.

With an absence of any ponds or other still water wetland features on the site itself, the site had low potential for breeding amphibians. However, there were some foraging opportunities. Reptiles were also considered highly unlikely to be present.

Since much of the site was dominated by poor, semi-improved grassland with a relatively low floristic diversity, it was concluded that there was low potential for invertebrate assemblages, in particular those species listed as a priority in the UK Biodiversity Action Plan and/or Local Biodiversity Action Plan.

### 3. ECOLOGICAL PROTECTION MEASURES

The owners of the site are wildlife enthusiasts and have planted over five thousand native trees within the survey site and wider area. They also run an active conservation and management plan on the farmland that surrounds the site and to this effect they have planted an avenue of 100 oaks on the farm track leading to Lower Grove Mill (grant aided by Cherwell District Council). They have also recently planted 10 individual specimen trees in the centre of fields, and they maintain the adjacent meadowland as a species rich wildflower hay meadow and are involved in a project to re-introduce Water Voles *Arvicola amphibius* to the Sor Brook. They are also intending to plant more trees as part of the associated landscaping with the proposed garage. These are to include Scot's Pine *Pinus sylvestris* and other native species.

In addition, all the existing trees and hedgerow will be retained and suitably protected.

However, if any tree or shrub removal is to take place then this will be undertaken outside the period 1<sup>st</sup> March to 31<sup>st</sup> August inclusive, as all in-use bird's nests and their contents are protected from damage or destruction by legislation. If this time frame cannot be avoided, a close inspection of the trees and shrubs to be removed will be undertaken prior to clearance. Work will not be carried out within a minimum of 5.0 metres of any in-use nest, although this distance could be more depending on the sensitivity of the species.

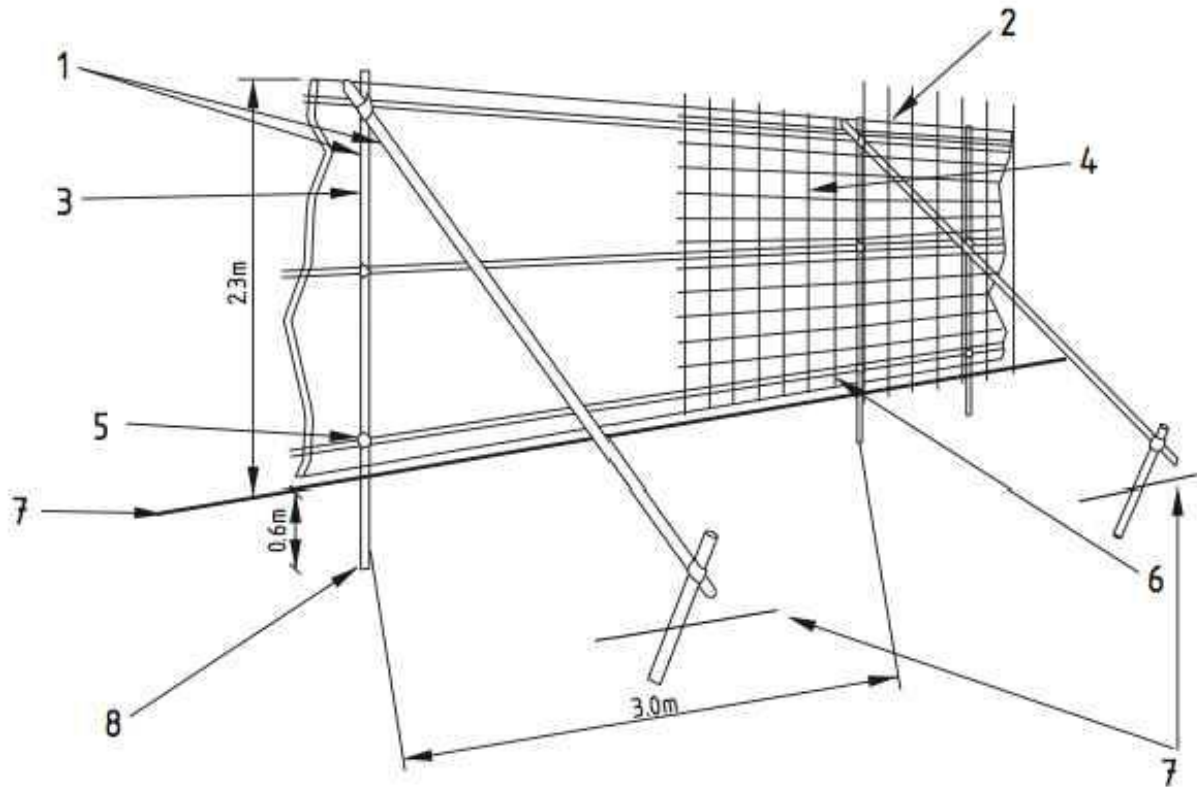
The inspection of the vegetation will be carried out by a suitably qualified and experienced ecologist.

Retained trees may require special protection measures in accordance with British Standard *BS5837:2012 Trees in relation to Design, Demolition and Construction – Recommendations*.

If protection is subsequently required, it will be installed on site prior to the commencement of any works on site, and will include appropriate protective barrier fencing (PBF) as shown in Fig. 7 overleaf.

The PBF is to consist of a vertical and horizontal (scaffold) framework, well braced to resist impacts, with the vertical tubes spaced at a maximum of 3.0 m. Onto this, weld mesh panels will be securely fixed with wire or scaffold clamps. Weldmesh panels on rubber or concrete feet are not resistant to impact and will not be used unless they can be securely fixed to the ground.

Tree protection signage denoting the words "TREE PROTECTION ZONE – KEEP OUT" is to be fixed onto every other panel of the PBF (Fig. 8 overleaf).



Standard scaffold poles

Uprights to be driven into the ground

Panels secured to uprights with wire ties and where necessary standard scaffold clamps

Weldmesh wired to the uprights and horizontals

5 Standard clamps

6 Wire twisted and secured on inside face of fencing to avoid easy dismantling

7 Ground level

8 Approx. 0.6 m driven into the ground

**Fig. 7 Protective Barrier Fencing**



**Fig. 8 Example of signage**



None of the trees were identified as having potential for bat roosting and/or hibernation.

In order to comply with paragraph 125 of the National Planning Policy Framework, the development should aim to limit the impact of light pollution on bats by maintaining dark routes for commuting and foraging where possible. As such any lighting installed will follow the guidance provided by the Bat Conservation Trust and the Institute of Lighting Engineers.

Lights will include high pressure sodium lamps for the roads, and compact fluorescent lamps with low lux for the residential areas. The lighting columns will be kept as low as possible, and the design of the luminaire will be such that light spillage will be kept to a minimum. Hoods or cowls may have to be used on the road lamps.

Care should be taken at all times during vegetation removal and topsoil stripping, with dismantling by hand of any potential refugia such as log or rubble piles. Any small mammals, amphibians or reptiles disturbed or uncovered will either be caught by hand and relocated to a safe area, or left to vacate the work site in their own time.

Any environmentally hazardous material used will be kept in dedicated stores and storage tanks will have appropriate bunding.

- ❑ PPG1: General Guide to the Prevention of Pollution;
- ❑ PPG2: Above Ground Oil Storage Tanks;
- ❑ PPG3: Use and Design of Oil Separators in Surface Water Drainage Systems;
- ❑ PPG5: Works in, Near, or Liable to Affect Watercourses;
- ❑ PPG6: Working at Construction and Demolition Sites;
- ❑ PPG21: Pollution Incident Response Planning;
- ❑ PPG23: Maintenance of Structures over Water.

Earthworks will be undertaken according to the guideline given in PPG6: Working at Construction and Demolition Sites.

The following measures will be implemented as required to prevent pollution from earthworks:

- ❑ Erosion control measures – these aim to prevent runoff from flowing across exposed ground and becoming polluted with sediments;
- ❑ Sediment control measures – these aim to slow runoff and allow for settlement of sediment as close to the source as possible; and
- ❑ Site measures – these aim to provide end of pipe treatment for polluted water, for example reed beds or settlement ponds.

As excavations are to be undertaken, it is noted that open trenches could potentially trap wildlife, especially if these fill up with water. If trenches cannot be infilled immediately then they will either be covered overnight or escape routes will be provided.

These will be in the form of cover-plating, chain link fencing, branches or boards placed on the bottom of the trench, with their upper ends above ground level and touching the sides, or sloping ends left in trenches.

Open pipework larger than 150 mm outside diameter will be blanked off at the end of each working day.

## 4. ECOLOGICAL ENHANCEMENTS

In terms of enhancements, a variety of boxes will be erected on retained trees.

For bats this will include four Schwegler 2F boxes (Fig. 9), or similar. Schwegler woodcrete boxes have the highest rates of occupation of all box types. The 75% wood sawdust, concrete and clay mixture allows natural respiration, stable temperature, and durability. They are extremely long lasting and rot- and predator-proof, and will hang from a tree branch near the trunk, or can be fixed to a trunk.

The 2F is the most popular general purpose box, particularly attractive to the smaller British bats. It has a simple design with a narrow entrance slit on the front.



**Fig. 9 Schwegler 2F bat box**

All the boxes will be at least 5.0 m above ground level and clear of any overhanging branches or wires. They will face anywhere from SE to SW to provide differing aspects to suit different weather conditions.

In addition to this, a purpose-built bat loft will be created inside the new garage. The loft will be lined with an insulated membrane, this of the non-fibrous type to prevent entanglement. No lights will be installed in the loft and access for monitoring, etc will be through a loft access hatch. Bat access will be provided through a slot to replicate the window already used by the bat. The slot will measure approximately 30 mm by 400 mm.

No external security lights will be installed near the slot, as this could prevent bats finding their way into the loft through the slot.

For birds it is proposed to erect three each of three types of Schwegler nest boxes, or similar: 1B (26 mm), 2H and 1B (32 mm). These are shown in Fig. 10 below.



**Fig. 10 Schwegler bird nest boxes 1B (26 mm), 2H and 1B (32 mm)**

Woodcrete Nest Boxes come with a 25 year guarantee against rot, weather and natural damage.

The 1B is available with a 26 mm hole for the tit *Parus spp* family and a 32 mm hole suitable for sparrows *Passer spp*.

The 2H is open-fronted for a variety of species such as Robin *Erithacus rubecula*, Wren *Troglodytes troglodytes*, Spotted Flycatcher *Muscicapa striolatum* and Pied Wagtail *Motacilla alba*.

The bird and bat boxes will last for many years, and a check will be made by an appropriately licenced ecologist two years after they have been erected to see if they have been used.

Additional features will include the provision of two insect boxes (examples in Figs. 11 and 12) in the existing vegetation around the site boundaries.

The grassland will be allowed to remain as it is, with only pathways mown through it, with additional wildflower planting if required.





**Figs. 11 & 12 Examples of insect boxes**

## **Cotswold Wildlife Surveys Limited**

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Brooklands Barn, Bodicote – Ecological Mitigation and Enhancement Scheme

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