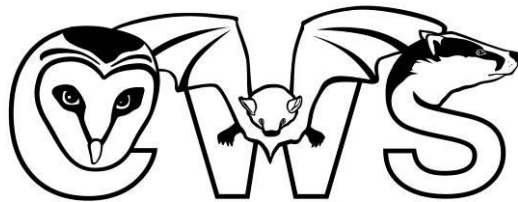


2023 Preliminary Ecological Appraisal Of Land off Southampton Road, Alderbury, Salisbury, Wiltshire



Cotswold Wildlife Surveys

November 2023

QUALITY CONTROL

Date	Version	Name
04.08.22	Site survey	Andy Warren – BSc (Hons), MA (LM), Tech Cert (Arbor A), MCIEEM, TechArborA Director
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26.11.23	2023 report prepared	Mollie Paxford – BSc (Hons), MSc Associate
27.11.23	Checked	Caroline Warren – BSc (Hons) Director
27.11.23 28.11.23	01 reviewed and issued 02 issued	Andy Warren – BSc (Hons), MA (LM), Tech Cert (Arbor A), MCIEEM, TechArborA Director

The information in this report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. The conclusions and recommendations expressed are reasoned judgements based on the evidence.

Every reasonable attempt has been made to comply with BS42020:2013 *Biodiversity – Code of practice for planning and development*, CIEEM *Guidelines for Ecological Report Writing* (CIEEM, 2017) and Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edition, Collins, 2023). If there has been deviation from recognised practice, justification/explanation has been given.

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SUMMARY

On land off Southampton Road in Alderbury, Wiltshire, planning permission is being sought for development of part of the site.

In August 2022, Cotswold Wildlife Surveys was instructed to carry out a Preliminary Ecological Appraisal of the site. This was undertaken to determine the presence of any important habitats or species which might be impacted on by the potential development of the site.

A search of ecological data revealed a number of records of Protected, UK Biodiversity Action Plan (UKBAP) and Local Biodiversity Action Plan (LBAP) species and designated sites within a 1.0 km radius of the land.

There were no statutory sites within the search area, although there were four non-statutory Local Wildlife Sites (LWS). The closest of these was Ivychurch Copse LWS, 170 metres to the northwest. This is a site of lowland mixed deciduous woodland. Hightrees Wood LWS was 190 metres southwest, and is also a lowland mixed deciduous woodland. Alderbury Canal LWS was situated 290 metres southeast, and comprised lowland meadow with wet woodland and open water. Whaddon Meadow LWS was 660 metres south and is lowland meadow with Purple Moor Grass *Molinia caerulea* and rush pasture.

It is considered that none of the designated sites listed above will be impacted on by the proposed development, as they were separated from the application site by residential areas and main and local roads which created significant barriers to wildlife dispersal. There was some connectivity to Alderbury Canal, but this was beyond a lane and grazed field. Furthermore, the majority of the habitat within the designation was on the far side of the canal itself.

Species records within the area included Badgers *Meles meles* within Hightrees Wood LWS and several roadkills. There were no records of Otter *Lutra lutra* or Water Vole *Arvicola amphibius*. A total of 19 Hedgehog *Erinaceus europaeus* records were returned for the area, these between 2006 and 2021. Hazel Dormice *Muscardinus avellanarius* were recorded in several of the large woodland blocks around the area, with the closest records concerning a juvenile in a garage on 1st September 2021, 112 m to the west of the application site, and an adult in a garden along Clarendon Road 190 m to the northwest on 18th May 2018. The records from the wider area lay beyond significant barriers to dormouse dispersal.

Amphibian records included one of a Great Crested Newt *Triturus cristatus* from 510 metres southeast in a garden in 2020. There were several records of Common Toad *Bufo bufo* which dated up to 2010 where 530 animals were found 760 metres to the southeast.

Bat species on record included Serotine *Eptesicus serotinus*, Natterer's *Myotis nattereri*, Noctule *Nyctalus noctula*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *P. pygmaeus*, Barbastelle *Barbastella barbastellus*, Brown Long-eared *Plecotus auritus*, Greater Horseshoe *Rhinolophus ferrumequinum* and Lesser Horseshoe *R. hipposideros*. There were three Greater Horseshoe Bat records, all of which were from 2008. Two of the records were for individual animals, whilst the third was for 21 droppings. The locations of these records is withheld.

There were only four reptile records in total, these of Slow-worm *Anguis fragilis* and Grass Snake *Natrix natrix* between 2006 and 2010. These appeared to be from within Ivychurch Copse.

The Phase 1 Habitat survey took place on 4th August 2022, in warm and cloudy conditions with a light wind.

The site comprised several fields of semi-improved grassland, these topped and/or grazed. These were enclosed by species rich, intact hedgerows. Through the centre of the site ran a small watercourse which was lined by a species rich hedgerow with mature trees, the latter including two veteran Pedunculate Oaks *Quercus robur*. Off this ran a small section of wet woodland with a fairly diverse ground flora. An area of allotments was also included at the southern end of the site, whilst there was a block of scrubby woodland at the western side.

The grassland was botanically quite rich, but no rare or notable vascular plants were recorded, and all species are common and widespread. There were no invasive or notifiable species.

A total of 15 species of bird were observed during the visit, of which one is a Species of High Conservation Concern (RSPB Red list); Song Thrush *Turdus philomelos*, and one is a Species of Medium Conservation Concern (RSPB Amber list); Bullfinch *Pyrrhula pyrrhula*. The rest are all Species of Low Conservation Concern (RSPB Green list).

No old or in use birds' nests were found, although the hedgerows and trees did provide some suitable habitat for nesting.

The proposed development is unlikely to lead to the loss of bird nesting sites, as the trees, hedgerows and woodland are to be retained and there is an abundance of suitable habitat in the surrounding area.

Nevertheless, since all in-use bird's nests and their contents are protected from damage or destruction, any tree and shrub removal that is subsequently required, should be undertaken outside the period 1st March to 31st August inclusive. 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. Any in-use nest will be allowed to fledge before it is disturbed.

None of the trees within 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.

As the site was thought to be of moderate value to foraging or commuting bats, three bat activity surveys were originally carried out on the evenings of 21st August, 22nd September and 7th October 2022, with a further three visits undertaken on 28th May, 22nd June and 15th August 2023.

The surveys revealed the majority of bat activity to be along the central hedgerow and watercourse, and around the wet woodland area. Species recorded included Daubenton's Bat *Myotis daubentonii*, Natterer's, Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's *Nyctalus leisleri*, Serotine and Barbastelle. No bats emerged from the veteran oaks.

There were no signs of Badger activity within the site, although there were Rabbit *Oryctolagus cuniculus* burrows, a Fox *Vulpes vulpes* scat and deer slots.

In 2023 a survey for Hazel Dormice was undertaken. A total of 75 dormouse tubes were set out around the site boundaries in May, and then checked once a month between June and October. No evidence of dormouse presence was recorded, and the species is assumed to be absent on the site.

The site was considered sub-optimal for Great Crested Newts, as there were no permanent still water features, and no obvious refugia or hibernacula. The small watercourse through the centre of the site was unsuitable for newts as it was relatively fast flowing. Furthermore, there was only one record of the species within the area. They are therefore thought to be absent on the land.

The site was potentially suitable for reptiles as there were basking areas and foraging opportunities. However, there were no obvious refugia or hibernacula and no reptiles were observed during the site visits.

Despite this, care will be taken at all times during any vegetation removal and topsoil stripping, as small mammals could be present. Any small mammals 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.

It was also possible to assess the potential importance of the habitats within the application site to invertebrates. Since the majority of the site was topped and/or grazed semi-improved grassland, 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.

If excavations are to be undertaken, it should be 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 can be in the form of 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.

1. INTRODUCTION

1.1 Background and survey objectives

On land off Southampton Road in Alderbury, Wiltshire, planning permission is being sought for development of part of the site.

In August 2022, Cotswold Wildlife Surveys was instructed to carry out a Preliminary Ecological Appraisal of the site. This was undertaken to determine the presence of any important habitats or species which might be impacted on by the potential development of the site.

A search of ecological data revealed a number of records of Protected, UK Biodiversity Action Plan (UKBAP) and Local Biodiversity Action Plan (LBAP) species and designated sites within a 1.0 km radius of the land.

1.2 Site description

The site comprised several fields of semi-improved grassland. At the time of the initial visit a hay cut had been taken from the larger field, with the others topped. Grasses present included Creeping Fescue *Festuca rubra*, Cocksfoot *Dactylis glomerata*, Rough Meadow-grass *Poa trivialis*, False Oatgrass *Arrhenatherum elatius*, Creeping Softgrass *Holcus mollis*, and Creeping Bent *Agrostis stolonifera*.

Wildflowers were represented by Silverweed *Potentilla anserina*, Meadow Cranesbill *Geranium pratense*, Creeping Buttercup *Ranunculus repens*, Ribwort Plantain *Plantago lanceolata*, Common Fleabane *Pulicaria dysenterica*, Birdsfoot Trefoil *Lotus corniculatus*, Yarrow *Achillea millefolium*, Ragwort *Senecio jacobaea* and Field Bindweed *Convolvulus arvensis*.

The fields were enclosed by species rich, intact hedgerows. These contained Crab Apple *Malus sylvestris*, Hawthorn *Crataegus monogyna*, Holly *Ilex aquifolium*, Dogwood *Cornus sanguinea*, Butterfly Bush *Buddleia davidii*, Elder *Sambucus nigra* and Wild Privet *Ligustrum vulgare*.

Through the centre of the site running east-west, there was a small watercourse lined by a hedgerow with mature trees. Tree species included Grey Willow *Salix cinerea*, Ash *Fraxinus excelsior*, Sycamore *Acer pseudoplatanus*, Silver Birch *Betula pendula* and Pedunculate Oak. Two of the latter were veterans.

Mature trees, including a Black Pine *Pinus nigra*, were growing along the western boundary.

Off the central watercourse ran a small section of wet woodland. This consisted largely of Grey Willow, with a diverse ground flora of Hemp Agrimony *Eupatorium cannabinum*, Marsh Thistle *Cirsium palustre*, Pendulous Sedge *Carex pendula*, St John's Wort *Hypericum perforatum*, Water Figwort *Scrophularia auriculata*, Wood Dock *Rumex sanguineus*, Common Nettle *Urtica dioica*, Lords and Ladies *Arum maculatum*, Male Fern *Dryopteris filix-mas*, Common Fleabane, Broad-leaved Willowherb *Epilobium montanum* and Common Cleavers *Galium aparine*.

An area of allotments was also included at the southern end of the site. This was largely vegetable plots with mown semi-improved grassland between.

At the western side of the site there was a block of dense, scrubby woodland dominated by Grey Willow, with Silver Birch, Wild Cherry *Prunus avium*, Hazel *Corylus avellana*, Holly and Hawthorn. The understorey included Common Nettles, Brambles *Rubus fruticosus*, Field Rose *Rosa arvensis*, Lords and Ladies, Male Fern, Wood Dock, Wood Avens *Geum urbanum*, Ivy *Hedera helix*, Pendulous Sedge, and Enchanter's Nightshade *Circaea lutetiana*.

The Ordnance Survey Grid Reference is SU 19047 27327, centred on the middle of the site.

1.3 Proposed works

Planning permission is being sought for the development of the southern part of the site.

2. METHODOLOGY

2.1 Desk study

A detailed desk study was undertaken to determine the nature conservation designations and protected species that had been recorded within a 1.0 km radius of the site. This involved contacting statutory and non-statutory organisations, and then assimilating and reviewing the data provided.

The consultees for the desk study were:

- ❑ Multi Agency Geographic Information (MAGIC) website www.magic.gov.uk;
- ❑ Wiltshire and Swindon Biological Records Centre.

2.2 Habitat survey

A Preliminary Ecological Appraisal was carried out across the whole of the survey site. It was conducted using standard JNCC (2003) techniques and methodologies.

The Phase 1 visit took place on 4th August 2022, in warm and cloudy conditions with a light wind.

2.3 Protected species survey

During the surveys the potential for other protected and important species was assessed. This included European Protected Species, legally protected species and Local Biodiversity Action Plan Species (and habitats).

2.3.1 Badgers

Badgers are generally nocturnal and evidence of their presence in an area often comes from field signs rather than sightings of the animals. Useful field signs include:

- ❑ Setts (main, outlying, annex or subsidiary)
- ❑ Tufts of hair caught on barbed wire fences;
- ❑ Conspicuous Badger paths;
- ❑ Footprints;
- ❑ Latrines – small excavated pits in which droppings are deposited;
- ❑ 'Snuffle holes' – small scrapes where Badgers have searched for insects and plant tubers;

- ❑ Day nests – bundles of grass and other vegetation where Badgers may sleep above ground;
- ❑ Scratch marks on trees (usually near the sett).

Daytime surveys looking for field signs can be carried out at any time of the year, and should be non-intrusive, but nocturnal surveys of setts (if required), are only likely to be effective from April to November, when Badgers are most active, and any cubs present will have emerged.

Main setts

These usually have a large number of holes with large spoil heaps, and the sett generally looks well used. They usually have well used paths to and from the sett and between sett entrances. Although normally the breeding sett is in continual use, it is possible to find a main sett that has become disused because of excessive digging or for some other reason, in which case it is recorded as a disused main sett.

Annex setts

These are always close to a main sett, usually less than 150 m away, and are usually connected to the main sett by one or more obvious, well worn paths. They consist of several holes, but are not necessarily in use all the time, even if the main sett is very active.

Subsidiary setts

These often these have only a few holes, are usually at least 50 m from a main sett, and do not have an obvious path connecting them with another sett. They are not continuously active.

Outlying setts

These usually only have one or two holes, often have little spoil outside the hole, have no obvious path connecting them with another sett, and are only used sporadically. When not in use by badgers, they are often taken over by foxes or even rabbits. However, they can still be recognised as badger setts by the shape of the tunnel (not the entrance hole), which is at least 250 mm in diameter and rounded or flattened oval in shape.

A search for evidence of Badger presence on site was undertaken as part of the Preliminary Ecological Appraisal.

2.3.2 Bats

In order to fully assess bat occupation of a particular site, the Bat Conservation Trust (2016) recommends that information gathered from a desk study of known bat records, and a daytime site walkover, is used to inform the type and extent of future bat survey work, potentially including nocturnal surveys.

The diurnal walkover provides an opportunity to check for signs of occupancy, such as droppings, scratch marks, feeding remains, carcasses, or even animals in residence, whilst nocturnal surveys (if required) allow numbers and species of bats to be confirmed. The latter are also used to determine the presence or absence of bats, where signs of bat activity are indeterminate or absent but the suitability for bat roosting is considered to be low, medium or high.

Roosting places vary depending on the species. Pipistrelles usually inhabit narrow cracks or cavities around the outside of buildings, but they will roost in similar niches inside larger barns. Typical sites include soffit spaces, gaps behind fascia boards and end rafters, crevices around the ends of projecting purlins, under warped or lifted roof and ridge tiles, or in gaps in stone and brickwork where mortar has dropped out.

Larger species such as Brown Long-eared Bats *Plecotus auritus*, Myotis bats (Natterer's *Myotis nattereri* and Whiskered/Brandt's *M. mystacinus*/*M. brandtii*), and Lesser Horseshoes *Rhinolophus hipposideros*, like to roost in the roof voids of buildings, and can often be found hanging singly or in small groups from ridge boards or roof timbers, especially where these butt up against gable walls or chimney breasts. They especially favour older structures with timber frames. Here they squeeze into tight crevices making them difficult to observe.

Diurnal walkovers can be carried out at any time of the year, but nocturnal surveys should only be undertaken when bats are out of hibernation and in their summer roosts. The recommended period is from May to September inclusive, with May to August optimum and September sub-optimum. The season can be extended into October, although particularly cold weather will render this inadvisable. Indeed, the air temperature at the start of each survey must be at least 10°C or above.

Visits will be a minimum of two weeks apart, and the number of surveys is dependent on the evidence found or the suitability of the site to bats.

Where bats are found, or there is evidence of bat occupation or activity, i.e. that bat use is confirmed, the number and timing of visits will be decided by the ecologist, and will be appropriate for the type of roost.

In general at least two nocturnal surveys will be carried out, both of which can be emergence surveys, or one emergence and one dawn re-entry.

Where there is no evidence of bat presence, and no suitability for roosting, no nocturnal surveys will be needed.

For a site with no evidence but low suitability, just one nocturnal emergence survey is required, this to be in the optimum period.

For medium suitability a minimum of two visits are needed, of which one must be in the optimum period, and one must be a dawn re-entry survey. With high suitability, three visits will be necessary, of which two must be in the optimum period. At least one of these must be a dawn re-entry survey, with the third visit either an emergence or a dawn re-entry.

For sites < 5 ha in size, and/or regularly shaped structures, at least two surveyors must be present, with more surveyors at larger sites and more complex buildings, e.g. those with multiple elevations and/or roof structures.

With no buildings or structures on the site, on 4th August 2022 a thorough inspection of the trees from the ground was made by Andy Warren (Natural England bat licence No. 2015-16489-CLS-CLS), including checks for decay cavities, old woodpecker holes, splits, fissures, and/or exfoliating bark.

10x42 binoculars and a Fenix TK75 torch were used for the inaccessible/unreachable areas. On this occasion an endoscope was not used, as there were no crevices or cavities that could not be inspected with a torch or by use of binoculars from a ladder.

On the evenings of 21st August, 22nd September and 7th October 2022, and 28th May, 22nd June and 15th August 2023, bat activity surveys of the site were carried out. These were undertaken by Andy Warren and assistant, and included walkover transects of the southern half of the site, commencing 15 minutes before sunset, and continuing for two hours after sunset. One of the transects commenced at the veteran oaks.

The results of the inspection and nocturnal surveys are detailed in Section 3.

2.3.3 Birds

Most resident and migrant birds breed in the spring and summer, although Woodpigeons *Columba palumbus* and Collared Doves *Streptopelia decaocto* nest throughout the year, and as a result could be on eggs in almost any month.

In season, signs of breeding include singing males, display and copulation, birds gathering nesting materials, adults carrying food, calling chicks, etc.

In winter none of these activities may be occurring, so a survey for old nests and/or nest holes is the most reliable method of determining the presence or absence of breeding birds.

This was carried out during the Preliminary Ecological Appraisal, along with a general site walkover to identify the presence of foraging birds.

2.3.4 Great Crested Newts

A survey for Great Crested Newts (GCN) may be indicated when background information on distribution suggests that they may be present.

More detailed indicators are:

- ❑ *Any historical records of Great Crested Newts on the site or in the general area;*
- ❑ *A pond on or near the site (within around 500 m), even if it holds water only seasonally;*
- ❑ *Sites with refuges (such as piles of logs or rubble), grassland, scrub, woodland or hedgerows within 500 m of a pond.*

There are several field survey methods which can be employed depending on the time of year:

- ❑ *Bottle or funnel trapping – adults ideally February to May, with June and July sub-optimal, and August to September for detection of larvae (i.e. young);*
- ❑ *Egg search – April to June ideally, with March and July sub-optimal;*
- ❑ *Torch survey – March to May for adults, with February and June to July sub-optimal, and August to September for larvae;*
- ❑ *Netting – March to May for adults, with February and June to July sub-optimal, and August to September for larvae;*
- ❑ *Pitfall trapping – March to May and September for adults, with February, June to August and October sub-optimal;*
- ❑ *Refuge search – April to September ideally, with March and October sub-optimal.*

The latter two methods involve terrestrial habitats, the others aquatic habitats, for which a minimum of 4 visits per year are recommended, with at least 2 visits between mid-April and mid-May to record peak numbers (English Nature, 2001).

Outside the optimum survey period, a Habitat Suitability Index (HSI) for a particular water body can be calculated.

This is a scoring system developed as a means of evaluating habitat quality and quantity. The HSI for Great Crested Newts incorporates ten indices, all of which are thought to affect the species. A figure of '0' indicates unsuitable habitat and '1' represents optimal habitat.

None of these techniques were carried out, as there was nothing to suggest that Great Crested Newts would be present.

2.3.5 Hazel Dormouse

This species is known to inhabit deciduous woodlands and hedgerows with a high composition of Hazel and an understorey of Bramble, Honeysuckle and other fruiting shrubs.

This species is widely distributed in England and can be locally abundant and is typically found in areas of complex mature Hazel or old oak stools with a mixture of other shrub and berry bearing species. Where these features are to be extracted completely, a prior check should be undertaken to ensure that no field signs of dormice – nests or distinctively gnawed nuts – are present.

The removal of animals should be supervised and checked by an experienced ecologist who holds a current licence to handle dormice. This species is principally arboreal, foraging through the higher areas of the hedge canopy for insects, nuts, flowers, berries and leaves for bedding. Although they establish winter nests for hibernating on the ground they will create summer breeding nests from leaves in the fissures of suitable mature shrubs or trees.

A total of 75 dormouse nest tubes were installed at 10-20 m intervals along the boundary hedgerows and woodland edge on 28th May 2023.

The tubes were checked for Hazel Dormice or evidence of use by Hazel Dormice (characteristic nests) during monthly visits between June and October 2023 inclusive, by Andy Warren under the supervision of Derek Gow Consultancy (licensed to handle dormice).

This level of survey effort accords with current best practice guidance (Bright *et al.*, 2006; Natural England, 2011).

2.3.6 Otters

Otters are nocturnal and are active all year round.

They are large with an adult male reaching up to 1.2 m from nose to tail, and weighing about 10 kg.

Feeding mainly on fish and amphibians, Otters live by undisturbed waters where there is plenty of cover, mostly by freshwater lakes, rivers and quiet small streams as well as some coasts.

An Otter may use over 40 km of river and needs many resting places throughout this range. A female otter will give birth to 1 to 3 cubs in a natal holt, which is often away from the main river and must be completely undisturbed.

Field signs include:

- ❑ Prints in soft mud;
- ❑ Spraints (faeces);
- ❑ Holts.

A search for evidence of Otter presence on site was undertaken as part of the Preliminary Ecological Appraisal.

2.3.7 Reptiles

Commoner reptiles which may be encountered in rural areas include Grass Snake, Slow-worm, and Common Lizard *Zootoca vivipara*.

During the winter months, from mid-October to late February or early March, they are in hibernation, usually deep in underground hibernacula, such as holes and cracks in the ground, among rocks or the roots of large trees, down animal burrows, or in piles of rubble or stone.

In the spring and summer they live above ground in well-vegetated places, with Grass Snakes often near or in water. Being cold-blooded all reptiles like to bask, and can often be found in open places.

There are very few signs of reptile presence, but these include:

- ❑ Shedded skin (snakes);
- ❑ Eggs (but not Common Lizard which gives birth to live young).

The site was searched for potential refugia as part of the Preliminary Ecological Appraisal.

2.3.8 Water Voles

The Water Vole is the largest of the British voles. It lives in a series of holes or burrows at the water's edge and can be found along the banks of ditches, streams, rivers, lakes and canals.

Although Water Voles live in colonies, the breeding females are territorial, each defining their contiguous territory with latrines during the breeding season. This lasts from March to October.

The Water Vole is herbivorous, feeding primarily on the lush aerial stems and leaves of waterside plants. Its activity is normally confined to the area within two metres of the watercourse, the bankside vegetation in this area not only essential for food, but also for cover from predators.

Water Vole activity can be assessed by looking for the following signs:

- ❑ Burrows;
- ❑ Faeces and latrines;
- ❑ Feeding stations;
- ❑ Runs;
- ❑ Paw prints in areas of soft mud;
- ❑ Feeding 'lawns';
- ❑ Predator field signs.

A search for evidence of Water Vole presence on site was undertaken as part of the Preliminary Ecological Appraisal.

2.4 Constraints

There were no constraints, as the surveys were carried out during the optimum period (considered to be April to August/September inclusive) in suitable weather conditions, and all areas were fully accessible.

3. RESULTS

3.1 Desk study

3.1.1 Designated sites

There were no statutory sites within the search area, although there were four non-statutory Local Wildlife Sites (LWS). The closest of these was Ivychruch Copse LWS, 170 metres to the northwest. This is a site of lowland mixed deciduous woodland. Hightrees Wood LWS was 190 metres southwest, and is also a lowland mixed deciduous woodland. Alderbury Canal LWS was situated 290 metres southeast, and comprised lowland meadow with wet woodland and open water. Whaddon Meadow LWS was 660 metres south and is lowland meadow with Purple Moor Grass *Molinia caerulea* and rush pasture.

It is considered that none of the designated sites listed above will be impacted on by the proposed development, as they were separated from the application site by residential areas and main and local roads which created significant barriers to wildlife dispersal. There was some connectivity to Alderbury Canal, but this was beyond a lane and grazed field. Furthermore, the majority of the habitat within the designation was the far side of the canal itself.

3.1.2 Protected species

Analysis of the ecological data revealed a number of records of Protected, UK Biodiversity Action Plan (UKBAP) and Local Biodiversity Action Plan (LBAP) species within a 1.0 km radius of the land.

Species records within the area included Badgers within Hightrees Wood LWS and several roadkill. There were no records of Otter or Water Vole. A total of 19 Hedgehog records were returned for the area, these between 2006 and 2021.

Amphibian records included one Great Crested Newts from 510 metres southeast in a garden in 2020. There were several records of Common Toad which dated up to 2010 where 530 animals were found 760 metres to the southeast.

Bat species on record included Serotine, Natterer's, Noctule, Common Pipistrelle, Soprano Pipistrelle, Barbastelle, Brown Long-eared, Greater Horseshoe and Lesser Horseshoe. There were three Greater Horseshoe Bat records, all of which were from 2008. Two of the records were for individual animals, whilst the third was for 21 droppings. The locations of these records is withheld.

Hazel Dormice were recorded in several of the large woodland blocks around the area, with the closest records concerning a juvenile in a garage on 1st September 2021, 112 m to the west of the application site, and an adult in a garden along Clarendon Road 190 m to the northwest on 18th May 2018. The records from the wider area lay beyond significant barriers to dormouse dispersal.

There were only four reptile records in total, these of Slow-worm and Grass Snake between 2006 and 2010. These appeared to be from within Ivychurch Copse.

3.2 Habitat survey

3.2.1 *Habitat descriptions*

The following habitats were recorded across the site:

- ❑ Semi-improved grassland;
- ❑ Species rich, intact hedgerow;
- ❑ Scattered trees;
- ❑ Wet woodland;
- ❑ Scrub woodland;
- ❑ Running water;
- ❑ Allotments.

These habitats are described below and are shown on the Phase 1 Habitat Survey map in Appendix 1, with the target notes (where applicable) in Appendix 2.

Semi-improved grassland

The site comprised several fields of semi-improved grassland (Figs. 1, 2, 3 and 4). At the time of the initial visit a hay cut had been taken from the larger field, with the others topped.

Grasses present included Creeping Fescue, Cocksfoot, Rough Meadow-grass, False Oatgrass, Creeping Softgrass, and Creeping Bent.

Wildflowers were represented by Silverweed, Meadow Cranesbill, Creeping Buttercup, Ribwort Plantain, Common Fleabane, Birdsfoot Trefoil, Yarrow, Ragwort and Field Bindweed.



Figs. 1 & 2 Semi-improved grassland



Figs. 3 & 4 Semi-improved grassland

Species rich, intact hedgerow

The fields were enclosed by species rich, intact hedgerows (Figs. 5, 6, 7 and 8). These contained Crab Apple, Hawthorn, Holly, Dogwood, Butterfly Bush, Elder and Wild Privet.



Figs. 5 & 6 Species rich, intact hedgerow



Figs. 7 & 8 Species rich, intact hedgerow

Scattered trees

Mature trees included Pedunculate Oak, Grey Willow, Ash, Sycamore and Silver Birch (Fig. 9). Two of the oaks were veterans (Fig. 10 – Target Note 1), and others included a Black Pine growing along the western boundary.



Figs. 9 & 10 Scattered trees – veteran oaks (R)

Wet woodland

A small section of wet woodland consisted largely of Grey Willow (Figs. 11 and 12). This had a diverse ground flora of Hemp Agrimony, Marsh Thistle, Pendulous Sedge, St John's Wort, Water Figwort, Wood Dock, Common Nettle, Lords and Ladies, Male Fern, Common Fleabane, Broad-leaved Willowherb and Common Cleavers.



Figs. 11 & 12 Wet woodland

Scrub woodland

At the western side of the site there was a block of dense, scrubby woodland dominated by Grey Willow, with Silver Birch, Wild Cherry, Hazel, Holly and Hawthorn (Figs. 13 and 14).

The understorey included Common Nettles, Brambles, Field Rose, Lords and Ladies, Male Fern, Wood Dock, Wood Avenas, Ivy, Pendulous Sedge, and Enchanter's Nightshade.



Figs. 13 & 14 Scrub woodland

Running water

Through the centre of the site ran a small watercourse which was lined by a hedgerow with trees (Figs. 15 and 16).



Figs. 15 & 16 Running water

Allotments

An area of allotments was also included at the southern end of the site. This was largely vegetable plots with mown semi-improved grassland between.

3.2.2 Flora

The botanical composition of each habitat was typical, and all species recorded were common and widespread. No rare vascular plants were found, and there were no invasive or notifiable species.

3.3 Protected species survey

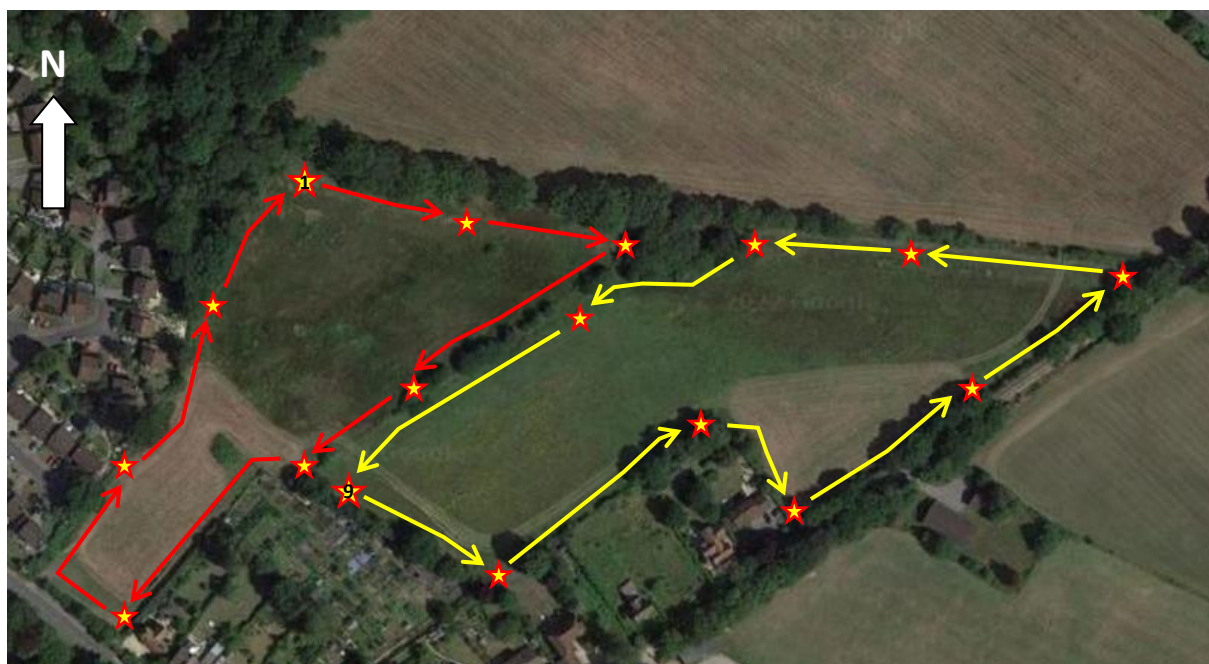
3.3.1 Badgers

The site held very little habitat suitable for sett building, although the habitats were considered to be suitable for foraging purposes. Despite this, no evidence of Badger presence was recorded, such as setts, tufts of hair, pathways, footprints or latrines.

3.3.2 Bats

None of the trees within 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.

A total of six activity surveys were carried out by two observers across the southern part of the site. The transect routes and listening stops are shown below. Transect 1 commenced at the veteran oaks (listening stop 1), with transect 2 commencing at listening stop 9.



Transect 1 → Transect 2 → Listening stops ★

1st Activity Survey

The first activity survey was carried out on 21st August 2022, commencing at 20:00 and finishing at 22:30.

The weather conditions during the time of the survey were recorded and are presented in Table 1.

Parameter	Value
Temperature (°C)	17.0 start, 15.0 finish
Cloud cover (%)	100
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	20:16

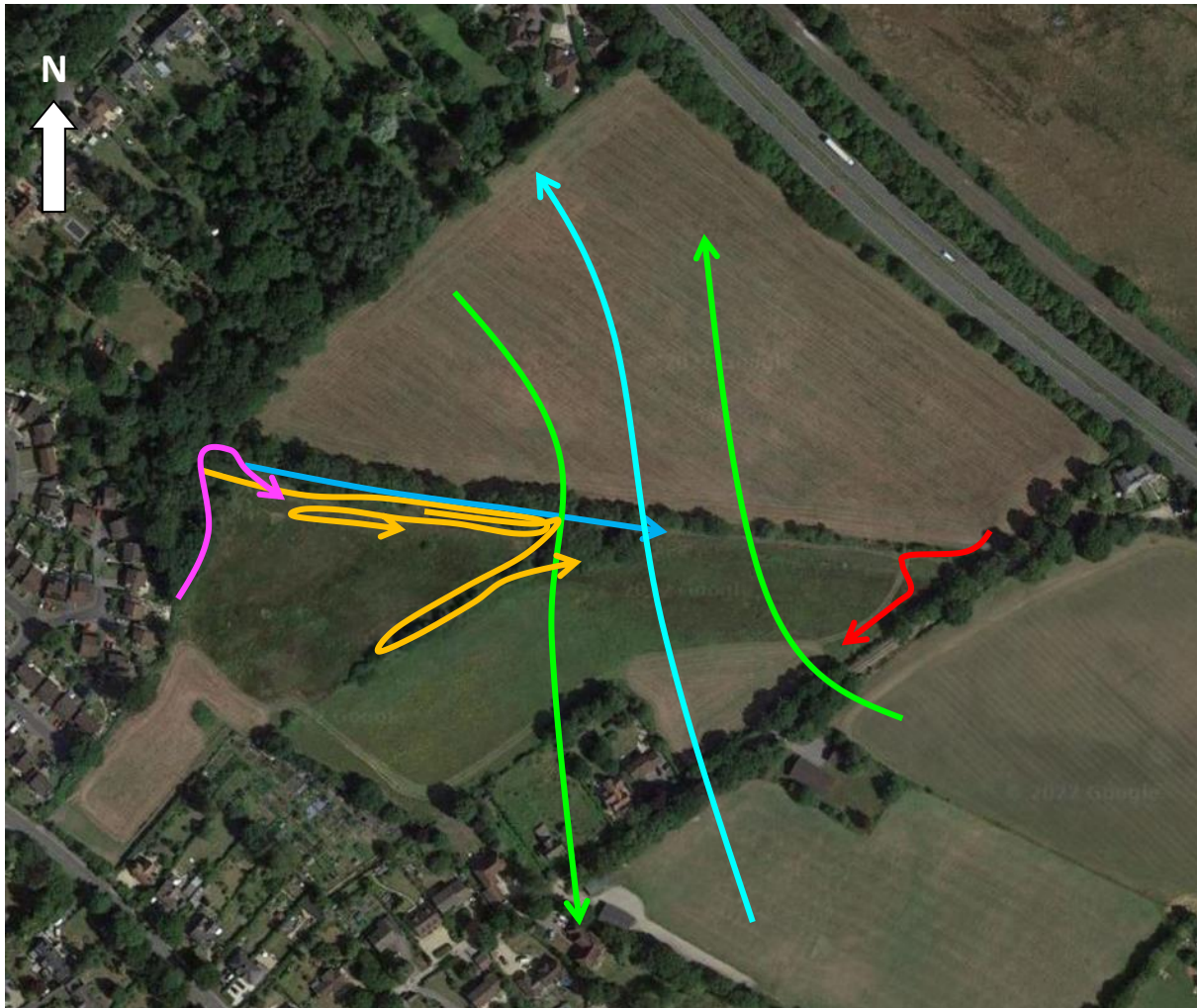
Table 1 Weather conditions during the 1st activity survey

The survey revealed the majority of bat activity to be along the central hedgerow and watercourse, and around the wet woodland area. Species recorded included Daubenton's, Natterer's, Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's, and Barbastelle. No bats emerged from the veteran trees.

The times of bat observations and detections are shown below.

Time	Observation
20:40	Soprano Pipistrelle foraging along the central hedgerow
20:54	Soprano Pipistrelle still present
20:55	Daubenton's Bat flew along central hedgerow
21:10	Soprano Pipistrelle flying up and down middle hedgerow
21:16	Noctule overhead
21:20	Common Pipistrelle in eastern corner
21:27	Now 2 x Soprano Pipistrelles along central hedgerow and around wet woodland
21:32	Barbastelle detected in western corner
21:35	Soprano Pipistrelles still present along central hedgerow
21:46	Noctule overhead
21:55	Common Pipistrelle along eastern boundary
22:09	Leisler's over
22:13	Distant Common Pipistrelle
22:30	Survey ended

The bat flight paths during the 1st activity survey are shown on Plan 1 overleaf.

Plan 1 Bat flight paths on 21st August 2022

Common Pipistrelle Bat →

Soprano Pipistrelle Bats →

Barbastelle Bat →

Daubenton's Bat →

Noctule Bat →

Leisler's Bat →

2nd Activity Survey

The second activity survey was carried out on 22nd September 2022, commencing at 18:50 and finishing at 21:00. The weather conditions during the time of the survey were recorded and are presented in Table 2.

Parameter	Value
Temperature (°C)	16.0 start, 15.5 finish
Cloud cover (%)	100
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	19:03

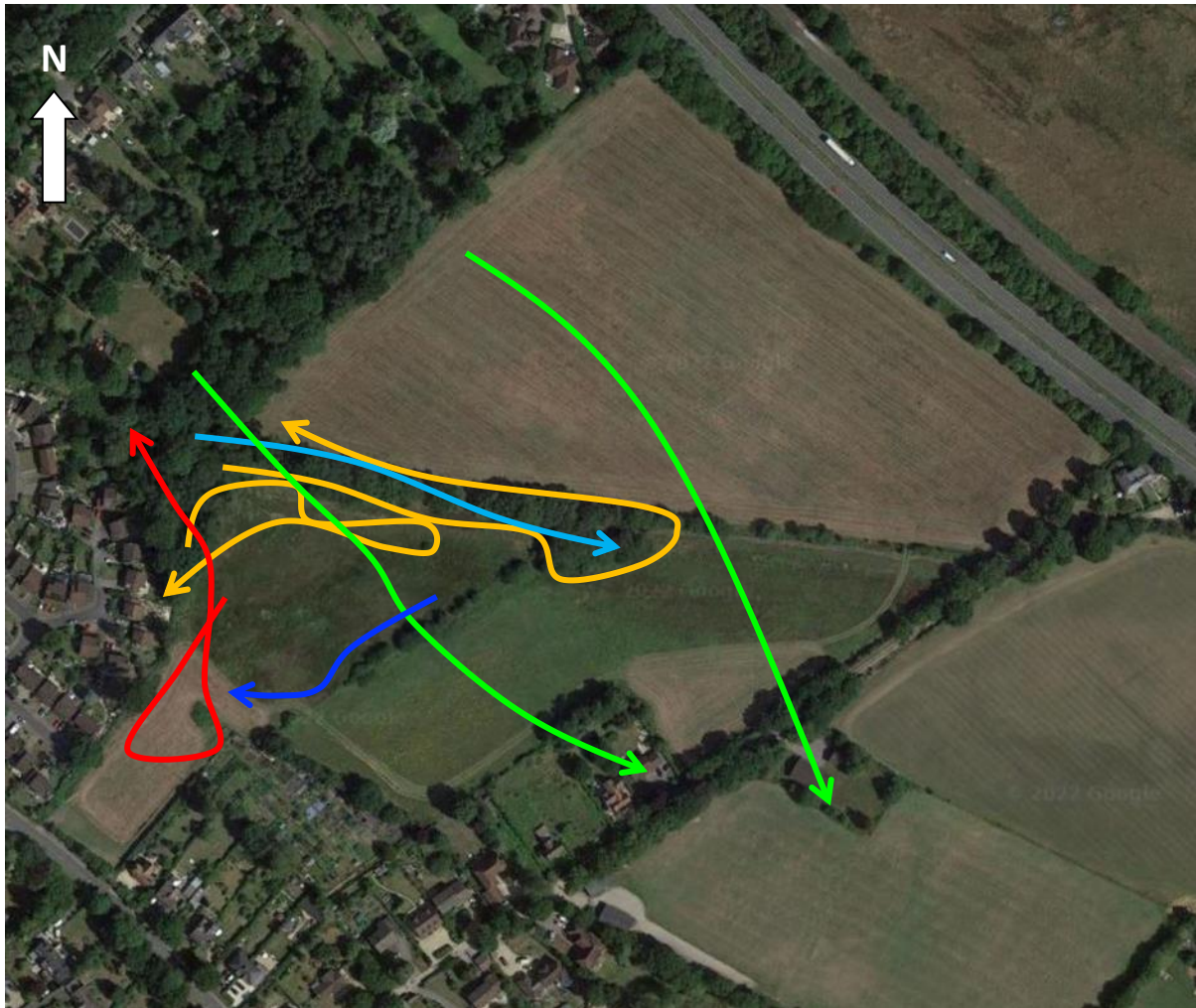
Table 2 Weather conditions during the 2nd activity survey

The survey again revealed the majority of bat activity to be along the central hedgerow and middle hedgerows and around the wet woodland. Species recorded included Daubenton's, Common Pipistrelle, Soprano Pipistrelle, Noctule and Natterer's. No bats emerged from the veteran trees.

The times of bat observations and detections are shown below.

Time	Observation
19:32	Soprano Pipistrelle along the central hedgerow
19:40	2 x Soprano Pipistrelle foraging along the central hedgerow
19:42	Noctule flew over the site
19:46	Common Pipistrelle foraging in the southern end of the site
19:53	Daubenton's Bat flew along the central hedgerow
19:57	Soprano Pipistrelle foraging along the central hedgerow
20:04	Natterer's Bat detected along middle hedgerow
20:13	Noctule passed over the site
20:20	Soprano Pipistrelle foraging along the central hedgerow
20:32	Noctule passed over the site
21:00	Intermittent foraging from Common Pipistrelle and Soprano Pipistrelle until survey ended

The bat flight paths during the 2nd activity survey are shown on Plan 2 overleaf.

Plan 2 Bat flight paths on 22nd September 2022

Common Pipistrelle Bat →

Soprano Pipistrelle Bats →

Daubenton's Bat →

Noctule Bat →

Natterer's Bat →

3rd Activity Survey

The third activity survey was carried out on 7th October 2022, commencing at 18:15 and finishing at 20:30. The weather conditions during the time of the survey were recorded and are presented in Table 3 overleaf.

Parameter	Value
Temperature (°C)	13.0 start, 11.5 finish
Cloud cover (%)	60
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	18:31

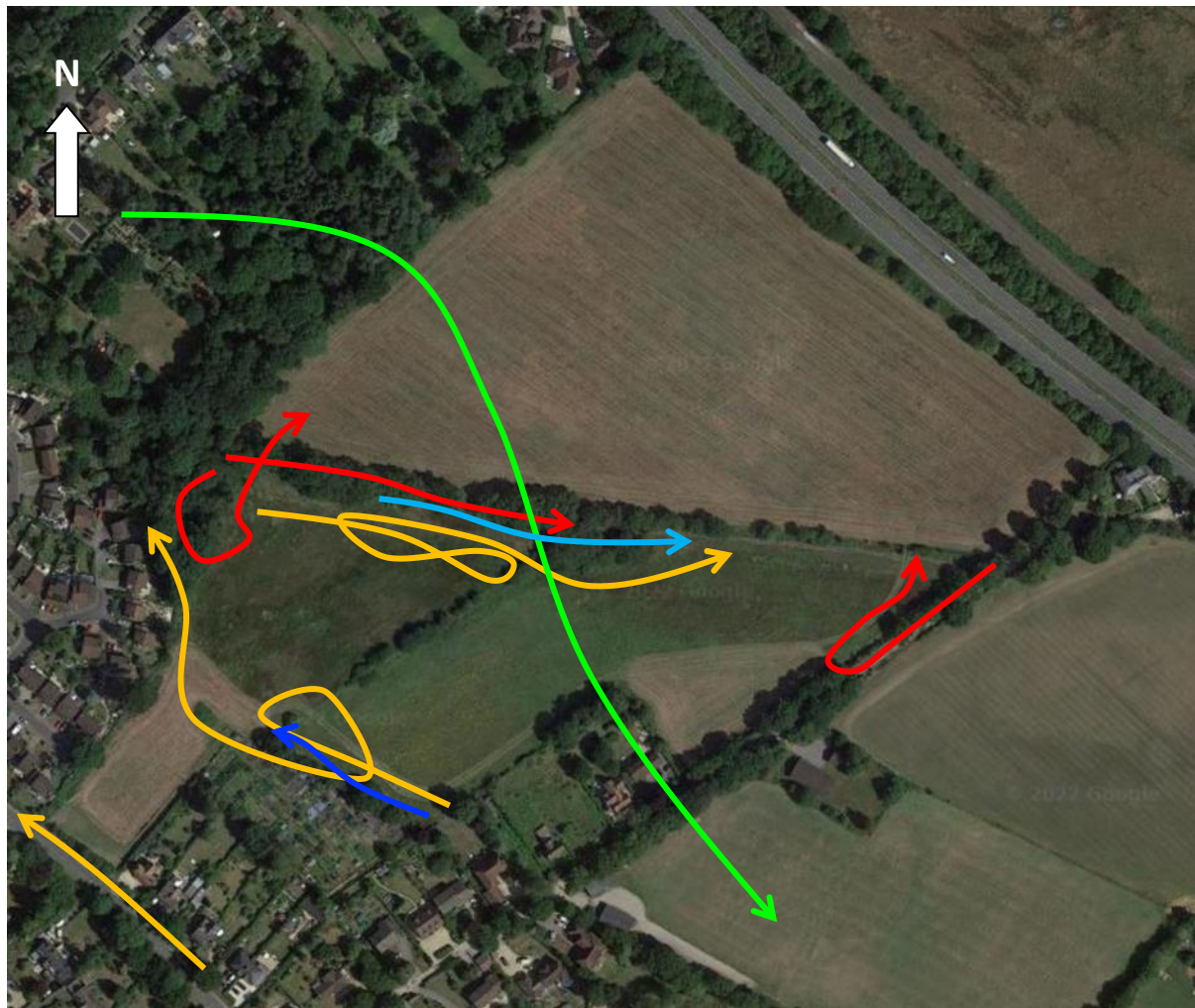
Table 3 Weather conditions during the 3rd activity survey

Similar results were recorded to the two previous surveys, with Soprano Pipistrelle, Common Pipistrelle, Natterer's, Daubenton's and Noctule Bats all recorded. No bats emerged from the veteran trees.

The times of bat observations and detections are shown below.

Time	Observation
18:50	Soprano Pipistrelle flying along Southampton Road
19:12	Natterer's Bat recorded by the allotments
19:18	Common Pipistrelle foraging in the western corner
19:23	Soprano Pipistrelle foraging along central hedgerow
19:34	Noctule flew over the site
19:47	Soprano Pipistrelle foraging by allotments with Common Pipistrelle in eastern corner
20:02	Common Pipistrelle foraging along middle hedgerow
20:14	Noctule passed over the site with Daubenton's Bat flying along the central hedgerow
20:30	Survey ended

The bat flight paths during the 3rd activity survey are shown on Plan 3 overleaf.

Plan 3 Bat flight paths on 7th October 2022

Common Pipistrelle Bat →

Soprano Pipistrelle Bat →

Noctule Bat →

Natterer's Bat →

Daubenton's Bat →

4th Activity Survey

The fourth activity survey was carried out on 28th May 2023, commencing at 20:55 and finishing at 23:00. The weather conditions during the time of the survey were recorded and are presented in Table 4 overleaf.

Parameter	Value
Temperature (°C)	14.0 start, 12.5 finish
Cloud cover (%)	40
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	21:07

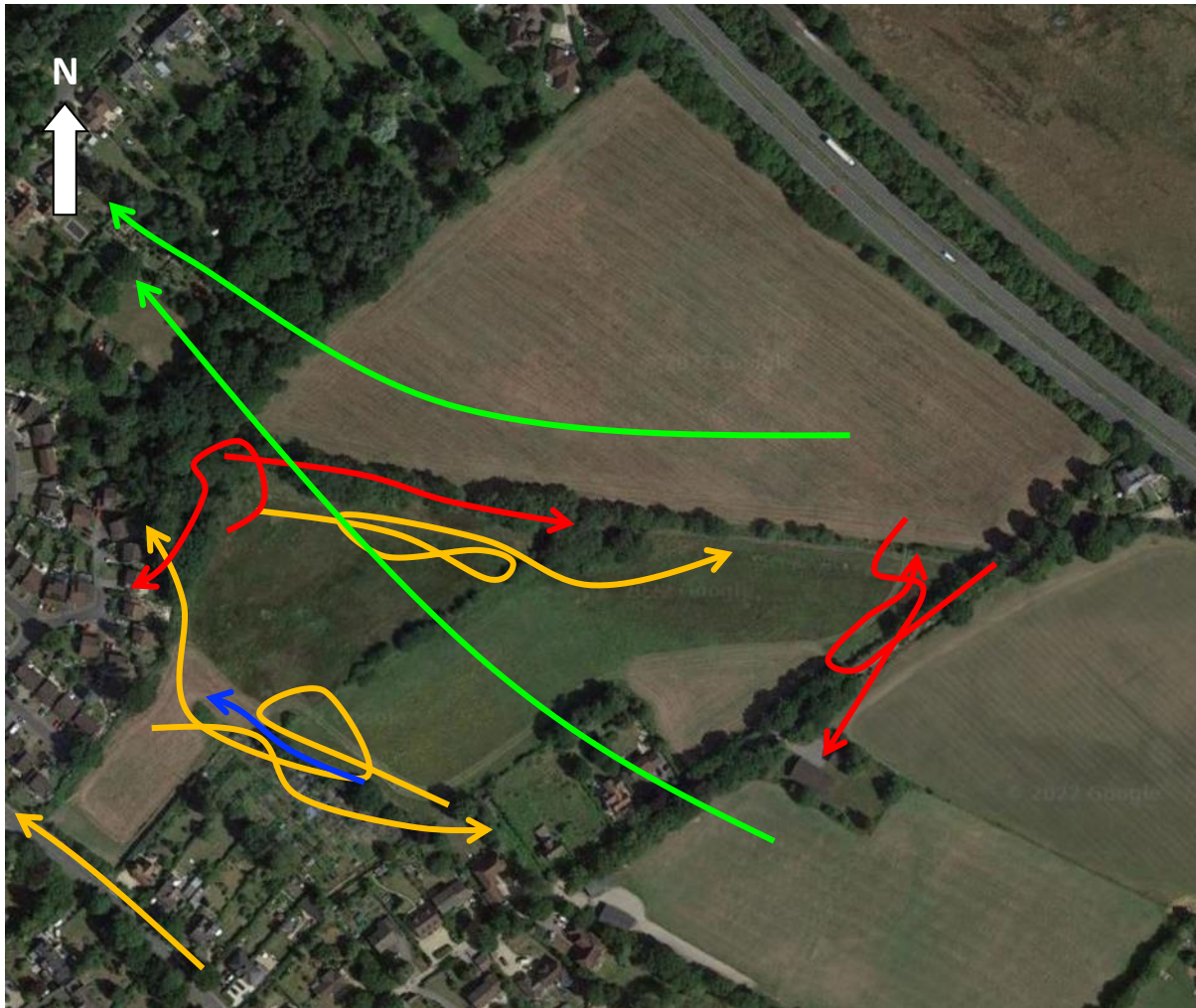
Table 4 Weather conditions during the 4th activity survey

Similar results were recorded to the previous surveys in 2022, with Soprano Pipistrelle, Common Pipistrelle, Natterer's and Noctule Bats all recorded. No bats emerged from the veteran trees.

The times of bat observations and detections are shown below.

Time	Observation
21:30	Soprano Pipistrelle flying along Southampton Road
21:35	Soprano Pipistrelle recorded by the allotments
21:42	Common Pipistrelle foraging in the western corner
21:45	Noctule flew over the site
21:54	Soprano Pipistrelle foraging along central hedgerow
	Noctule flew over the site
22:08	Soprano Pipistrelle foraging by allotments with 2 x Common Pipistrelles in eastern corner
22:16	Common Pipistrelle foraging along middle hedgerow
22:21	Noctule passed over the site
22:35	Natterer's Bat recorded by the allotments
23:00	Survey ended

The bat flight paths during the 4th activity survey are shown on Plan 4 overleaf.

Plan 4 Bat flight paths on 28th May 2023

Common Pipistrelle Bat →

Soprano Pipistrelle Bat →

Noctule Bat →

Natterer's Bat →

5th Activity Survey

The fifth activity survey was carried out on 22nd June 2023, commencing at 21:10 and finishing at 23:30. The weather conditions during the time of the survey were recorded and are presented in Table 5 overleaf.

Parameter	Value
Temperature (°C)	17.0 start, 17.0 finish
Cloud cover (%)	20
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	21:25

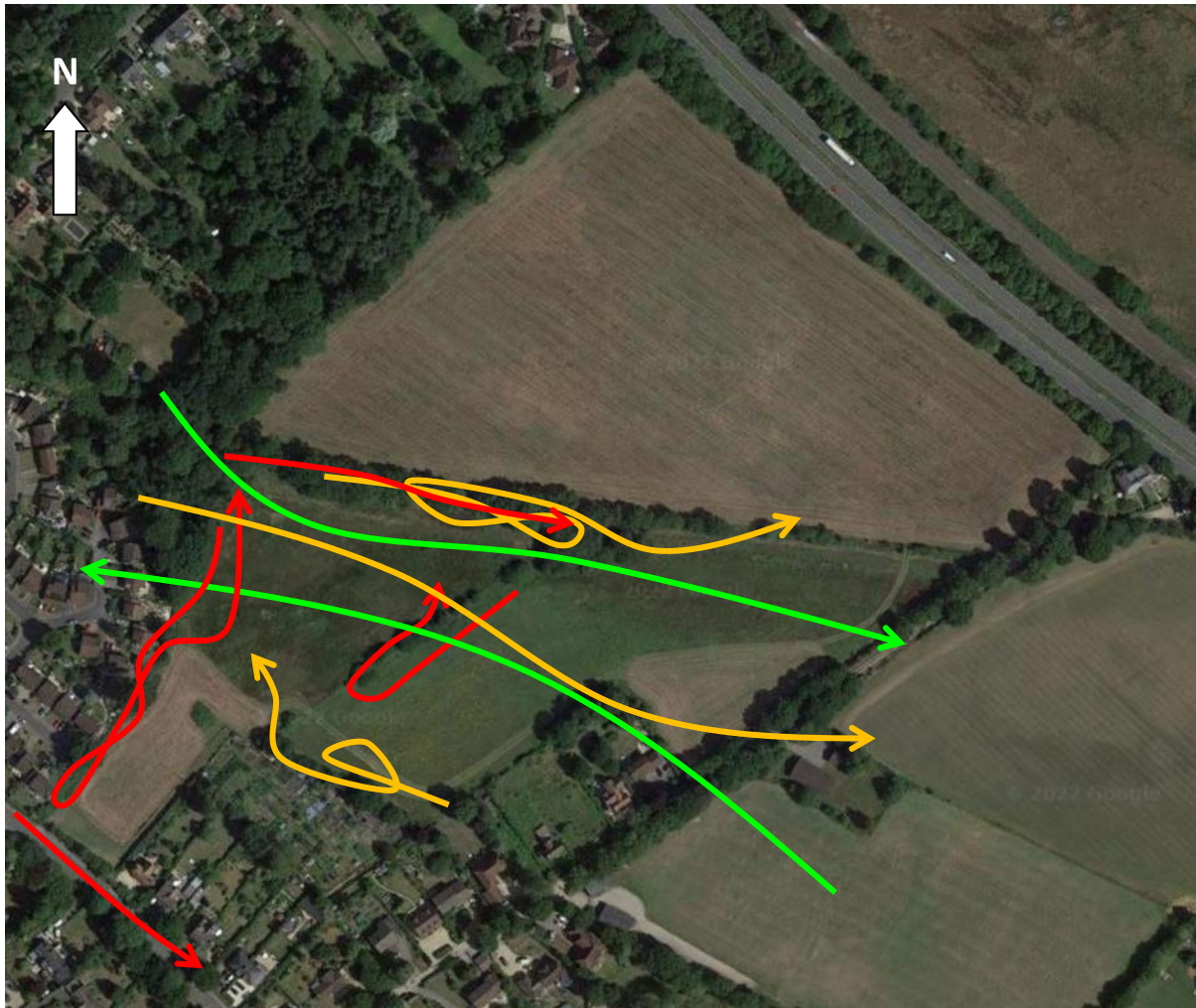
Table 5 Weather conditions during the 5th activity survey

Activity levels were low with just three species of bats recorded: Soprano Pipistrelle, Common Pipistrelle and Noctule Bat. No bats emerged from the veteran trees.

The times of bat observations and detections are shown below.

Time	Observation
21:55	Noctule flew over the site
22:10	Soprano Pipistrelle flying around the allotments
22:28	Common Pipistrelle foraging along the western boundary
22:28	Soprano Pipistrelle foraging along central hedgerow
22:39	Noctule flew over the site
22:46	Soprano Pipistrelle foraging by allotments with Common Pipistrelle along Southampton Road
23:15	Common Pipistrelle foraging along middle hedgerow
23:17	Noctule passed over the site with Soprano Pipistrelle over at height
23:30	Survey ended

The bat flight paths during the 5th activity survey are shown on Plan 5 overleaf.

Plan 5 Bat flight paths on 22nd June 2023

Common Pipistrelle Bat →

Soprano Pipistrelle Bat →

Noctule Bat →

6th Activity Survey

The sixth activity survey was carried out on 15th August 2023, commencing at 20:15 and finishing at 22:30.

The weather conditions during the time of the survey were recorded and are presented in Table 6 overleaf.

Parameter	Value
Temperature (°C)	21.0 start, 20.0 finish
Cloud cover (%)	80
Precipitation	None
Wind speed (Beaufort scale)	0
Sunset	20:28

Table 6 Weather conditions during the 6th activity survey

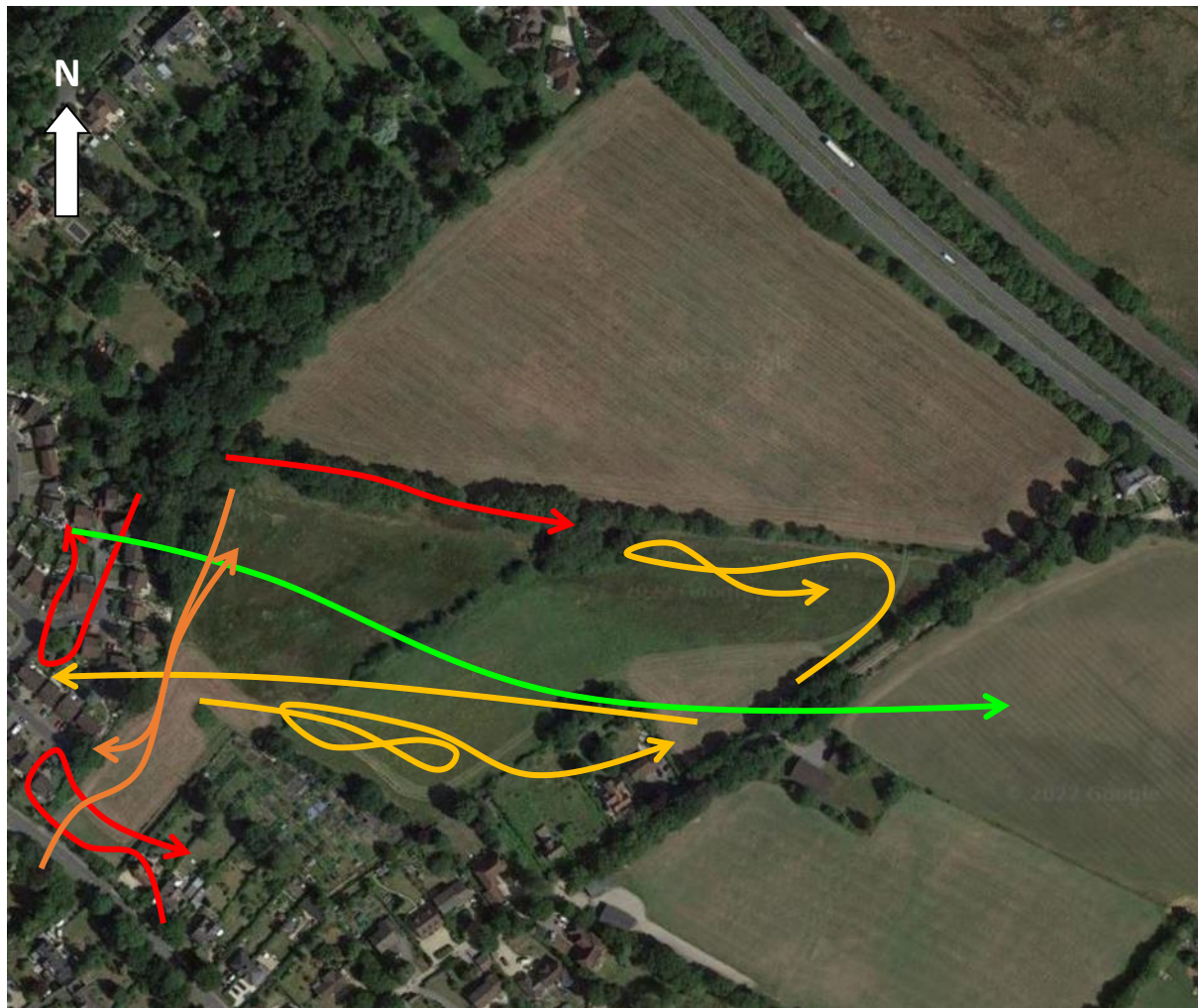
Bat activity during the nocturnal survey was again low, with one or two Serotines, a Common Pipistrelle and a Soprano Pipistrelle foraging around the site, and a Noctule Bat and another Soprano Pipistrelle passing by.

Again no bats emerged from the trees on site.

The times of bat observations and detections are shown below.

Time	Observation
21:07	Soprano Pipistrelle flew by
21:14	Common Pipistrelle foraged along the north boundary
21:20	Serotine foraged along western side of the site
21:32	Serotine again foraging along western side of the site
21:50	Noctule flew over the site
21:51	Soprano Pipistrelle foraged around the site
21:58	Common Pipistrelle detected in distance to the west
22:04	Soprano Pipistrelle still foraging around site
22:30	Survey ended

The bat flight paths during the 6th activity survey are shown on Plan 6 overleaf.

Plan 6 Bat flight paths on 15th August 2023

Common Pipistrelle Bat →

Soprano Pipistrelle Bat →

Noctule Bat →

Serotine Bat →

3.3.3 Birds

A total of 15 species of bird were observed during the visit, of which one is a Species of High Conservation Concern (RSPB Red list); Song Thrush, and one is a Species of Medium Conservation Concern (RSPB Amber list); Bullfinch. The rest are all Species of Low Conservation Concern (RSPB Green list).

No old or in use birds' nests were found, although the hedgerows and trees did provide some suitable habitat for nesting.

A full list of species noted is given in Appendix 3.

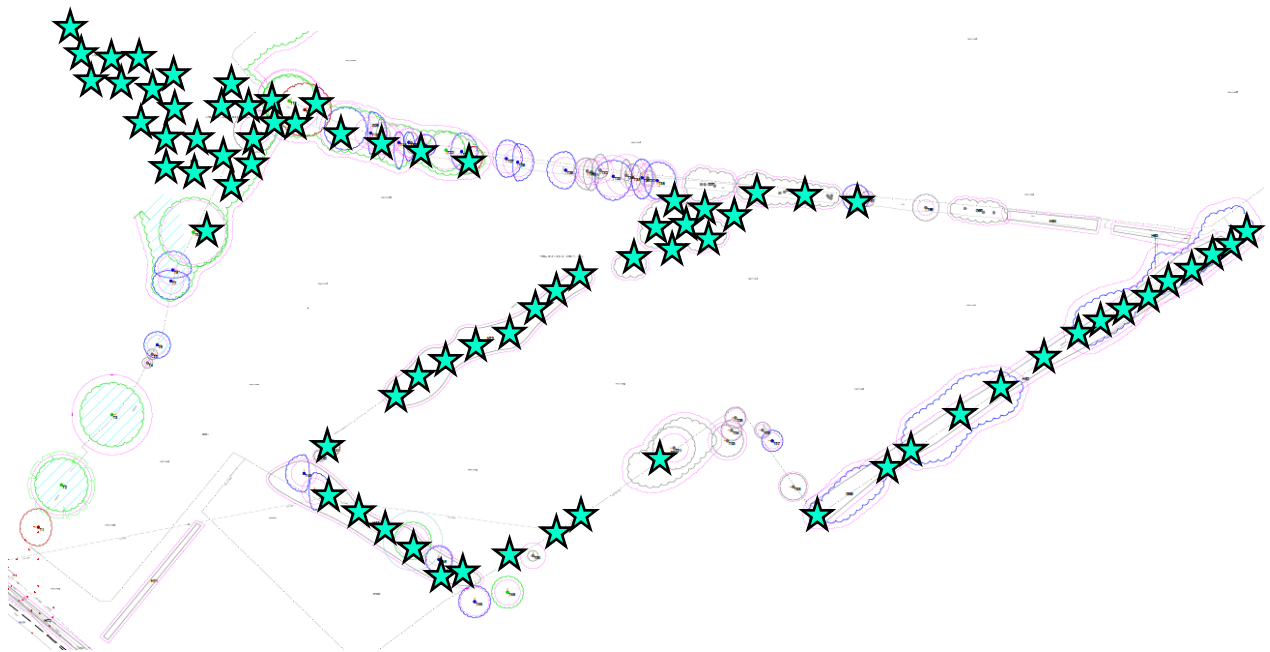
3.3.4 *Great Crested Newts*

The site was considered sub-optimal for Great Crested Newts, as there were no permanent still water features, and no obvious refugia or hibernacula. The small watercourse through the centre of the site was unsuitable for newts as it was relatively fast flowing. Furthermore, there was only one record of the species within the area. They are therefore thought to be absent on the land.

3.3.5 *Hazel Dormouse*

On 28th May 2023, the hedgerows and woodland edge were inspected for signs of dormouse activity, including the presence or absence of summer or winter nests, and feeding signs on discarded Hazel nuts.

At the same time the best positions for the setting of the dormouse tubes were assessed, and these were placed in the locations shown on Plan 7 below.



Plan 7 Locations of dormouse tubes ★

Visits to check the tubes were subsequently undertaken on the following dates, all in ideal weather conditions, i.e. warm, dry with little or no wind:

- ❑ 22.06.23;
- ❑ 20.07.23;
- ❑ 15.08.23;
- ❑ 10.09.23;
- ❑ 14.10.23.

No evidence of Hazel Dormice activity was discovered in the tubes, and no winter or summer nests for dormice were found.

3.3.6 Otters

No evidence of Otter was found during the survey.

3.3.7 Reptiles

The site was potentially suitable for reptiles as there were basking areas and foraging opportunities. However, there were no obvious refugia or hibernacula and no reptiles were observed during the site visits.

3.3.8 Water Voles

No evidence of Water Voles was found on or immediately around the site, and they are considered to be absent.

3.3.9 Invertebrates

Since the majority of the site was semi-improved grassland cut for hay, 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.

3.3.10 Other species

No other important or notable species were recorded during the site visit, although there were signs of Fox, Rabbit and deer activity.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Site evaluation

Excluding the small area of wet woodland and the central hedgerow and watercourse, the site was concluded to be of generally low wildlife interest.

The wet woodland was quite botanically diverse, whilst the watercourse was lined with a species rich hedgerow and mature trees, including two veteran oaks.

Although none of the trees within 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, the site was thought to be of moderate value to foraging or commuting bats.

The six bat activity surveys revealed the majority of bat activity to be along the central hedgerow and watercourse, and around the wet woodland area. Species recorded included Daubenton's Bat, Natterer's, Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's, Serotine and Barbastelle. No bats emerged from the veteran oaks.

There were no signs of Badger activity within the site, although there were Rabbit burrows, a Fox scat and deer slots.

No evidence of Hazel Dormouse was recorded and the species is assumed to be absent on the site.

A total of 15 species of bird were observed during the visit, including one Species of High Conservation Concern; Song Thrush and one Species of Medium Conservation Concern; Bullfinch. The rest are all Species of Low Conservation Concern.

No old or in use birds' nests were found, although the hedgerows and trees did provide some suitable habitat for nesting.

The proposed development is unlikely to lead to the loss of bird nesting sites, as the trees, hedgerows and woodland are to be retained and there is an abundance of suitable habitat in the surrounding area.

The site was considered sub-optimal for Great Crested Newts, as there were no permanent still water features, and no obvious refugia or hibernacula. The small watercourse through the centre of the site was unsuitable for newts as it was relatively fast flowing.

Furthermore, there was only one record of the species within the area. They are therefore thought to be absent on the land.

The site was potentially suitable for reptiles as there were basking areas and foraging opportunities. However, there were no obvious refugia or hibernacula and no reptiles were observed during the site visits.

The grassland was botanically fairly rich, but no rare or notable vascular plants were recorded, and all species are common and widespread. There were no invasive or notifiable species.

Given the above, 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.

It is considered that none of the designated sites listed in the data search will be impacted on by the proposed development.

4.2 Possible impacts of proposed work and recommendations

The proposed development is unlikely to lead to the loss of bird nesting sites, as the hedgerows and trees will be retained and there is an abundance of suitable habitat in the surrounding area.

Nevertheless, since all in-use bird's nests and their contents are protected from damage or destruction, any tree and shrub removal that is subsequently required, should be undertaken outside the period 1st March to 31st August inclusive. 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. Any in-use nest will be allowed to fledge before it is disturbed.

In terms of bats, the activity surveys confirmed that bats were mainly foraging along the boundaries, in particular the east-west central hedgerow and around the wet woodland. The hedgerows will be retained, the wet woodland will be enhanced and given a wide buffer of open space, and rear gardens backing onto the site boundaries will ensure that darkened corridors for bats are retained.

Although no evidence of reptiles or amphibians was found, the potential for small mammals to be present on site exists, and thus care will be taken at all times during any vegetation removal and topsoil stripping. Any small mammals disturbed or uncovered should either be caught by hand and relocated to a safe area, or left to vacate the work site in their own time.

If excavations are to be undertaken, it should be 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 can be in the form of 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.

4.3 Further surveys

If any tree or scrub removal cannot be timed appropriately to avoid the bird nesting period (considered to be March to August inclusive), then further surveys of the trees and/or shrubs to be removed will be required.

No other surveys are considered necessary.

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APPENDICES

Appendix 1: Phase 1 Habitat Survey Map

Appendix 2: Target Notes

Appendix 3: Bird species list

Appendix 4: Relevant legislation

Appendix 1: Phase 1 Habitat Survey Map



Legend

Survey boundary

Intact hedgerow

Allotments

Semi-improved grassland

Scattered broadleaved trees

Wet woodland

Scrub woodland

Running water

Target Note

Not to scale

Appendix 2: Target Notes

Target Number	Notes
1	Veteran oak trees

Cotswold Wildlife Surveys

45

Appendix 3: Bird species list

Common name	Latin name
Red Kite	<i>Milvus milvus</i>
Woodpigeon	<i>Columba palumbus</i>
Greater Spotted Woodpecker	<i>Dendrocopos major</i>
Wren	<i>Troglodytes troglodytes</i>
Robin	<i>Erithacus rubecula</i>
Song Thrush	<i>Turdus philomelos</i>
Blackcap	<i>Sylvia atricapilla</i>
Long-tailed Tit	<i>Aegithalos caudatus</i>
Great Tit	<i>Parus major</i>
Coal Tit	<i>Periparus ater</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Nuthatch	<i>Sitta europaea</i>
Treecreeper	<i>Certhia familiaris</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>
Jay	<i>Garrulus glandarius</i>

Appendix 4: Relevant legislation

4.1 *Badgers*

Badgers are protected in Britain by the Protection of Badgers Act 1992. The purpose of this Act is to protect the animals from deliberate cruelty and from the incidental effects of lawful activities which could cause them harm. Under this legislation it is an offence to:

- ❑ Wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or attempt to do so;
- ❑ Interfere with a sett by damaging or destroying it;
- ❑ Obstruct access to, or any entrance of, a Badger sett;
- ❑ Disturb a Badger when it is occupying a sett.

Note that if any of the above resulted from a person being reckless, even if they had no intention of committing the offence, their action would still be considered an offence.

A person is not guilty of an offence if it can be shown that the act was 'the incidental result of a lawful operation and could not have been reasonably avoided'; only a court can decide what is 'reasonable' in any set of circumstances. Penalties for offences under this legislation can be up to six months in prison and a fine of up to £5,000 for each offence.

A Badger sett is defined in the Act as 'any structure or place which displays signs indicating current use by a Badger'. This can include culverts, pipes and holes under sheds, piles of boulders, old mines and quarries, etc.

'Current use' does not simply mean 'current occupation' and for licensing purposes it is defined as 'any sett within an occupied Badger territory regardless of when it may have last been used'.

A sett therefore, in an occupied territory, is classified as in current use even if it is only used seasonally or occasionally by Badgers, and is afforded the same protection in law.

4.2 *Bats*

In England, Scotland and Wales, all bat species are fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended), through inclusion in Schedule 5. In England and Wales this Act has been amended by the Countryside and Rights of Way Act 2000 (CROW) and the Natural Environment and Rural Communities Act 2006 (NERC), which add an extra offence, makes species offences arrestable, increases the time limits for some prosecutions, and increases penalties.

All bats are also included in Schedule 2 of the Conservation (Natural Habitats, & c.) Regulations (the Habitats Regulations), which defines 'European protected species of animals'. In England this is the Conservation of Habitats and Species Regulations 2010, in Scotland the Habitat Regulations 1994 (as amended), and in Northern Ireland the Conservation Regulations 1995.

All bats are also protected under the Bern Convention Appendix II, the Bonn Convention Appendix II, and the Wild Mammals (Protection) Act 1996.

The above legislation can be summarised thus (Mitchell-Jones and McLeish, 2004):

- ❑ *Intentionally or deliberately kill, injure or capture (or take) bats;*
- ❑ *Deliberately disturb bats (whether in a roost or not);*
- ❑ *Recklessly disturb roosting bats or obstruct access to their roosts;*
- ❑ *Damage or destroy roosts;*
- ❑ *Possess or transport a bat or any part of a part of a bat, unless acquired legally;*
- ❑ *Sell (or offer for sale) or exchange bats, or parts of bats.*

The word 'roost' is not used in the legislation, but is used here for simplicity. The actual wording is 'any structure or place which any wild animal...uses for shelter or protection' (WCA), or 'breeding site or resting place' (Habitats Regulations).

As bats generally have both a winter and a summer roost, the legislation is clear that all roosts are protected whether bats are in residence at the time or not.

4.3 Birds

In Britain, all wild birds, their nests and eggs are protected under the Wildlife & Countryside Act 1981. There are penalties for:

- ❑ *Killing, injuring or capturing them, or attempting any of these;*
- ❑ *Taking or damaging the nest whilst in use;*
- ❑ *Taking or destroying the eggs.*

4.4 Great Crested Newts

Great Crested Newts are protected under Schedule 5 of the Wildlife & Countryside Act (1981) as amended, and Schedule 2 of the Conservation of Habitats and Species Regulations 2010. As a result of their rarity across Europe, they are also protected under Annexes IIa and IVa of the Habitats and Species Directive, and under the Berne Convention (the Convention on the Conservation of European Wildlife and Natural Habitats).

The above legislation can be summarised thus (Langton *et al*, 2001):

- ❑ *Intentionally or deliberately capture or kill, or intentionally injure Great Crested Newts;*
- ❑ *Deliberately disturb Great Crested Newts or intentionally or recklessly disturb them in a place used for shelter or protection;*
- ❑ *Damage or destroy a breeding or resting place;*
- ❑ *Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection;*
- ❑ *Possess a Great Crested Newt, or any part of it, unless acquired lawfully;*
- ❑ *Sell, barter, exchange or offer for sale Great Crested Newts or parts of them.*

4.5 Hazel Dormouse

The Hazel Dormouse was given partial protection under the Wildlife and Countryside Act 1981. Schedule 5 of this Act was amended in 1988 making it a fully protected species. Protection is also afforded by Schedule 2 of the Conservation (Natural Habitats &c.) Regulations 1994, making the Hazel Dormouse a European protected species. These two pieces of legislation operate in parallel, although there are some small differences in scope and wording.

The Wildlife and Countryside Act 1981 (WCA) transposes into UK law the Convention on the Conservation of European Wildlife and Natural Habitats (commonly referred to as the 'Bern Convention'). The 1981 Act has been amended several times, most recently by the Countryside and Rights of Way [CRoW] Act 2000, which added 'or recklessly' to S9(4)(a) and (b).

Dormice are listed on Schedule 5 of the 1981 Act, and are therefore subject to the provisions of Section 9, which makes it an offence to:

- ❑ *Intentionally kill, injure or take a dormouse [Section 9(1)];*
- ❑ *Possess or control any live or dead specimen or anything derived from a dormouse [S 9(2)] (unless it can be shown to have been legally acquired);*
- ❑ *Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a dormouse [S 9(4)(a)];*
- ❑ *Intentionally or recklessly disturb a dormouse while it is occupying a structure or place which it uses for that purpose [S 9(4)(b)].*

The Conservation (Natural Habitats &c.) Regulations (known as the Habitats Regulations) transpose into UK law Council Directive 92/43/EEC of 21st May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (often referred to as the 'Habitats [and Species] Directive.').

Dormice are listed on Annex IV ('European protected species') of the Directive meaning that member states are required to put in place a system of strict protection as outlined in Article 12; this is done through inclusion on Schedule 2 of the Regulations.

Regulation 39 makes it an offence to:

- ❑ *Deliberately capture or kill a dormouse [Regulation 39(1)(a)];*
- ❑ *Deliberately disturb a dormouse [R. 39(1)(b)];*
- ❑ *Damage or destroy a breeding site or resting place of a dormouse [R. 39(1)(d)];*
- ❑ *Keep, transport, sell or exchange, or offer for sale or exchange a live or dead dormouse or any part of a dormouse [R. 39(2)].*

4.6 Otters

Otters are protected under Sections 9.1 and 9.4, Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), Annex 2 and 4 of the Conservation (Natural Habitats &c.) Regulations 1994 as amended, and are a priority species under the UK BAP. Actions that are prohibited include intentional killing, injuring or taking; and intentional or reckless damage, destruction or obstruction of any structure or place used for shelter or protection.

4.7 Reptiles

All common reptiles (Common Lizard, Grass Snake, Slow-worm and Adder *Vipera berus*) are afforded legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) largely as a consequence of a national decline in numbers associated with persecution and habitat loss.

Under the terms of the Act it is illegal to intentionally kill or injure a reptile.

4.8 Water Voles

As of 12 August 2008, Water Voles have been given full protection under Section 9 of the Wildlife and Countryside Act 1981.

Offences under Section 9 carry a maximum penalty of a fine up to £5000, imprisonment for up to six months, or both, for each animal in respect of which an offence is committed. It is now an offence to:

- ❑ Intentionally kill, injure or take (capture) a Water Vole;
- ❑ Possess or control a live or dead Water Vole, or any part of a Water Vole or anything derived from a Water Vole;

- ❑ Intentionally or recklessly damage, destroy or obstruct access to any structure or place which a Water Vole uses for shelter or protection;
- ❑ Intentionally or recklessly disturb a Water Vole while it is occupying a structure or place which it uses for shelter or protection.

Cotswold Wildlife Surveys Limited

Company Reg. No. 6864285 (England & Wales)

**Andy Warren BSc (Hons), MA (LM), Tech Cert (Arbor A),
MCIEEM, TechArborA**

**Withy Way, Charingworth, Chipping Campden,
Gloucestershire, GL55 6NU**

Tel: 01386 593056/07879 848449

andy@cotswoldwildlifesurveys.co.uk

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