

Preliminary Ecological Appraisal
Land at Misselbrook Lane, North Baddesley
December 2022

A report by

Chris Ayre BSc (Hons)

Report details

Site address:	Land at Misslebrook Lane, North Baddesley, Hampshire
Grid reference:	SU 40099 19510
Survey date:	14 th September 2022
Report date:	5 th December 2022
Report author:	Chris Ayre BSc (Hons)
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Declaration of compliance

BS 42020:2013

This study has been undertaken in accordance with British Standard 42020:2013 Biodiversity, Code of practice for planning and development.

Code of Professional Conduct

The information which we have prepared is true and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Validity of survey data and report

The findings of this report are valid for 24 months from the date of survey. If work has not commenced within this period, an updated survey by a suitably qualified ecologist will be required.

Table of contents

Non-technical summary	4
1. Introduction	6
1.1. Proposed development	6
1.2. Survey aims	6
1.3. Site location	6
2. Survey methodology	7
2.1. Desktop survey	7
2.2. Field survey	7
2.3. Method for valuation of habitats	8
2.4. Survey constraints	8
2.5. Study area	8
3. Results	9
3.1. Site description	9
3.2. Phase 1 habitats	9
3.3. Desktop survey	10
Map 1. Phase 1 habitats	14
3.4. Potential for species of nature conservation importance	17
4. Evaluation of ecological features and potential impacts	18
4.1. Habitats of nature conservation importance	18
4.2. Species of nature conservation importance	19
4.3. Statutory Nature Conservation Sites	22
4.4. Non-statutory nature conservation sites	22
5. Recommendations for mitigation and further surveys	23
5.1 Habitats of nature conservation importance	23
5.2. Protected species and species of nature conservation importance	24
5.3. Summary of net gains and losses	25
6. Further survey work	27
7. Biodiversity enhancement	28
7.1. Hedgerows	28
References	29
Appendix 1:	30

Non-technical summary

Western Ecology has been commissioned to complete a Preliminary Ecological Appraisal of one area of land near Misselbrook Lane, near North Baddesley, Hampshire

To ensure compliance with nature conservation legislation and planning policy, the following recommendations are made with regards to habitats:

Broad-leaved woodland

Precautionary mitigation needs to be employed to protect the southern boundary of Wrens Copse, an Ancient Woodland, that borders the main body of the site. The replanted Ancient Woodland of Hogtrough Wood, which borders part of the cable route, also needs protection from potential damage and disturbance. Fencing to protect the treeline along the southern woodland boundary, should be erected to protect from damage and be 2m away to protect the tree root plates.

Hedgerow and Scattered Trees

Any construction works that may impinge on the hedgerows or scattered trees that line the site boundary from the main field and along the cable route, will need protection from inadvertent disturbance or damage. Creating a buffer of 2m away from hedgerows and trees to protect root plates and branch damage is advised.

To ensure compliance with nature conservation legislation and planning policy, the following recommendations are made with regards to species:

Bats

Precautionary mitigation in relation to external lighting and light-averse bat species should be adopted to retain the function of the hedgerow and tree canopies along the boundaries of the Site.

Birds

Hedgerow and scrub habitat may support occasional widespread and common nesting bird species. Any cutting of suitable nesting habitat should be completed during the period September to February inclusive, outside the accepted bird nesting season. If this is not practicable, prior to the start of works these habitats should be thoroughly inspected by a suitably qualified person prior to disturbance or removal. If nesting birds are found, all activities likely to damage the immediate area should be delayed until chicks have fledged.

Badgers

Although habitat loss would not impact local Badger populations, there is potential for Badgers to get trapped within the Site during the construction/operational phase. Simple mitigation is recommended.

Dormice

It is possible Dormice may utilise the hedgerow and scrub habitat associated with the Site internal and external boundaries. Mitigation should be employed to limit any impact or potential boundary loss.

Reptiles

There is potential for reptiles to be present within hedgerow, scrub, and tall ruderal habitats. Mitigation should be employed to mitigate potential disturbance from ground preparation and construction work.

Great Crested Newt

There is potential for Great Crested Newt to seek refuge within the site boundaries including the overgrown, ruderal covered road verges associated with the cable route and to use the site to search for breeding ponds. Further surveys are required to ascertain their presence and inform a European Protected Species licence application, if needed.

This should comprise GCN eDNA surveys of all ponds within 250 metres of the proposed development and cable route. The survey period is mid-April to the end of June. However, it is recommended that surveys are completed on or around 15 April allowing population surveys to be completed if needed.

Biodiversity Enhancements

Simple biodiversity enhancements are recommended within Section 7 of the report.

1. Introduction

Western Ecology has been commissioned to complete a Preliminary Ecological Appraisal of one area of land close to Misselbrook Lane, near North Baddesley, Hampshire.

1.1. Proposed development

A battery site, access and cable route are proposed.

1.2. Survey aims

The survey and this report identify features of conservation importance that could constitute a constraint to the proposals for this site. Where appropriate, recommendations for impact avoidance, mitigation and post-development enhancement are made to ensure compliance with wildlife legislation and relevant planning policy.

This survey has been prepared in accordance with the 'Guidelines for Preliminary Ecological Appraisal' produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).

1.3. Site location

The site surveyed is situated in close to the village of North Baddesley and runs north along Misselbrook Lane, east along Castle Lane, east along Templars Way and finishes on Bournemouth Road, Chandlers Ford, Hampshire.

2. Survey methodology

2.1. Desktop survey

A desktop survey collated existing biological records for the site and adjacent areas and identified any nature conservation sites that may be affected by the proposals. This comprises an important part of the assessment process, providing information on ecological issues that may not be apparent during the site survey.

Consultees for the data search included:

- Hampshire Biological Records Centre provided biological records for protected/notable species and non-statutory sites within 2km of the site.
- Natural England - GIS dataset of SSSI Impact Risk Zones, statutory nature conservation sites.

Species data was examined for protected and notable species records. An assessment was then made, based on known habitat preferences, as to whether these species might be present within the site and how they might be affected by the proposal.

The location of nature conservation sites was examined to determine their ecological and landscape relationships with the proposed site. An assessment was then made of how the sites may be affected by the proposal, considering these relationships, and the species and/or habitat types for which the nature conservation site was chosen.

SSSI Impact Risk Zones are areas where the change to the environment could either create significant damage to a local SSSI or might require additional planning and consultation in order to avoid impacting such sites. The assessments are made according to the sensitivities of the features for which the SSSI is notified and specifies the types of development that have the potential for adverse impacts.

In compliance with the terms and conditions relating to its commercial use, the full desk study data is not provided within this report.

2.2. Field survey

A Preliminary Ecological Appraisal of the site was completed by Chris Ayre, BSc (Hons).

The survey was completed on the September 19th, 2022, between 12:00pm and 15:00pm. The weather had 50% cloud cover and sunny spells, an air temperature of 18.3°C, and a 2mph N wind.

Habitats were classified using the Phase 1 Habitat Survey methodology developed by the Joint Nature Conservation Committee (JNCC, 2010) and modified by the Institute of Environmental Assessment (IEA, 1995). The main plant species were recorded, and broad habitat types mapped. Habitats encountered are described within the Results section, with a map included within the report. Plant species were identified according to Stace (1997).

2.3. Method for valuation of habitats

The ecological value of habitats present is provided in line with Guidelines for Ecological Impact Assessment (CIEEM, 2018), and those which are important in terms of legislation or policy are identified. Table 1 summarises this information and details the extent of each habitat recorded here.

The nature conservation value, or potential value, of the habitat is determined within the following geographic context:

- International importance (e.g. internationally designated sites such as Special Areas of Conservation, Special Protection Areas, Ramsar sites);
- National importance (e.g. nationally designated sites such as Sites of Special Scientific Interest or species populations of importance in the UK context);
- County importance (e.g. SNCI, habitats and species populations of importance in the context of Hampshire);
- Local importance (e.g. important ecological features such as old hedges, woodlands, ponds);
- Site importance (e.g. habitat mosaic of grassland and scrub which may support a diversity of common wildlife species);
- Negligible importance. Usually applied to areas such as built development or areas of intensive agricultural land.

The examples are not exclusive and are subject to further professional ecological judgment.

2.4. Survey constraints

All areas of the site were readily accessible. Although some plant species would have not been fully visible during the survey period, within such a small, simple site comprising common and widespread habitat types, the timing of this survey is not a significant constraint to a robust initial site assessment.

It should be noted that habitats, and the species they may support, change over time due to natural processes and because of human influence. In line with current guidelines, the survey on which this report is based is valid for two years, after which time it will need updating. This report is valid until 5th December 2024.

2.5. Study area

The study area for the desktop survey is within 2km for Statutory Nature Conservation Sites. The study area for the Preliminary Ecological Appraisal was the footprint of the proposed development, hereafter referred to as the 'Site', and its immediate boundaries. This is the area included within the line described as "Survey area" within the legends of Maps 1-3.

3. Results

3.1. Site description

The Site of the survey area comprises grassland, hedgerow, a river, scrub and broad-leaved woodland.

3.2. Phase 1 habitats

Habitats have been classified using the Phase 1 Habitat Survey methodology and are described below and detailed in Map 1. Habitats which are important in terms of legislation or policy are identified and the extent of all habitats associated is given in Table 1. Plant species that characterise each of these habitats are identified, although this is for descriptive purposes, and comprehensive inventory is not provided.

Table 1: Habitat description, biodiversity value and extent.

Habitat type	Description	Biodiversity value
Broad-leaved woodland	The site borders several areas of woodland, including ancient woodland and replanted ancient woodland. Further east along the proposed cable route, the woodland reduces into strips and into scattered trees bordering the road as it enters Chandlers Ford. Species include Oak, Ash, Hawthorn, Birch, Gorse, Blackthorn, Bracken, Ivy, and Hazel.	Medium to high
Hedgerow	The main field that encompasses the battery site, is surrounded with hedgerow of varying quality and composition. The hedgerow bordering the cable route is similarly varied, with hazel stands along the cycle track and more traditional hedgerow with scattered trees bordering farmland to the south. As the cable route enters Chandlers Ford, the hedgerow gradually turns more ornamental. Species include Oak, Plum, Blackthorn Ash, Bramble Nettles, Ivy, Elder, Bracken, Hazel, Rose, Turkey Oak, Leyland Conifer, Hogweed, Horse Chestnut, Common Dogwood, Beech, Field Maple, Holly, Cherry Laurel, Pussy Willow, Sweet Chestnut, Privet, Cotoneaster, Austrian Pine and Snowberry.	Low to Medium
Tall ruderal	Some tall ruderal is present at the entrance to the field in the east and surrounds the track that bisects the field. There is also some ruderal growth along the edge of the southern/western part of the main field and surrounding some spoil heaps which are found on the southern entrance to the bisecting field track. Species include Curly Dock, Field Thistle, Bristly Ox-tongue, Common Bent, Autumn Lady's Tresses, Creeping Buttercup, Nettles, False Oat and Yorkshire Fog.	Low
Semi-improved poor grassland	The main field is grassland which is cut for turf. The grass was cut quite short at time of survey and few species were recorded within. Species include Perennial Rye-grass, False Oat, Yorkshire Fog, Yarrow and Creeping Buttercup.	Low
Scrub	There is scrub close to the eastern entrance of the field and is growing into the hedgerow and is matching its height in places. There is also some scrub close to Templars Way, along the cable route. Species include Buddleia, Bramble, Dog Rose, Nettles, Dock, Hawkbit, Rowan, Field Maple, Ash and Horse Chestnut.	Low
Amenity grassland	Areas of maintained grassland and verges that border pavements, boundaries and make up roundabout planting. These include some planted areas of wildflowers. Species include Yarrow, Dandelion, Perennial Rye-grass, Ribwort Plantain, Common Poppy, Lambs Quarters, Knapweed, Birds-foot Trefoil and Fennel.	Low

Introduced shrubs	Areas of ornamental shrubs and trees used as amenity landscaping in front of residential and business properties. Species include Cotoneaster, Snowberry, Fuschia, Austrian Pine and Privet.	
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3.3. Desktop survey

The following have been recorded within 2km.

Table 2. Notable species (LBAP, Principal Importance, Amber and Red Birds (BoCC), NERC Act or protected species)

Species group	Common name	Number of records
Birds	Barn Owl	12
	Black Redstart	1
	Brambling	9
	Common Redpoll	2
	Crane	1
	Crossbill	7
	Cuckoo	2
	Dotterel	1
	Firecrest	18
	Goshawk	2
	Golden Plover	1
	Grasshopper Warbler	2
	Great Black-backed Gull	1
	Greenshank	1
	Grey Heron	6
	Grey Wagtail	4
	Hawfinch	1
	Hen Harrier	1
	Herring Gull	3
	Hobby	7
	Honey Buzzard	1
	House Sparrow	8
	Kingfisher	7
	Lapwing	5
	Lesser Black-backed Gull	2
	Lesser Redpoll	8
	Lesser Spotted Woodpecker	3
	Little Egret	2
	Little Ringed Plover	1
	Linnet	3
	Marsh Harrier	1
	Marsh Tit	4
	Mediterranean Gull	1
	Mistle Thrush	7
	Nightjar	9
	Nightingale	2
	Peregrine Falcon	7
	Ortolan Bunting	1
	Osprey	3
	Oystercatcher	2
	Purple Heron	1
	Reed Bunting	7
	Red Kite	10
	Redstart	3
	Redwing	12
	Siskin	14
	Song Thrush	9
	Spotted Crake	1
	Spotted Flycatcher	6
	Skylark	3
	Starling	9
	Tree Pipit	7
	Turtle Dove	1

	Wheatear	4
	Whinchat	1
	Whitethroat	1
	Woodcock	13
	Wryneck	1
	Yellowhammer	1
	Yellow Wagtail	2
Invertebrates	Alder Leaf Beetle	1
	Apple-blossom Weevil	2
	Barred Umber	1
	Blood-vein	2
	Bordered Gothic	1
	Brindled Beauty	2
	Broom Bent-wing	1
	Broom Moth	1
	Buff Ermine	3
	Centre-barred Sallow	1
	Cinnabar	7
	<i>Coeliodes ruber</i>	2
	Common Darter	3
	Dark Green Fritillary	1
	Deep-brown Dart	1
	<i>Demetrias imperialis</i>	2
	Downy Emerald	1
	Double-line	1
	Dusky Brocade	1
	Ear Moth	2
	<i>Elodes minutus</i>	2
	Engrailed	3
	False Cacao Moth	1
	Festoon	2
	Figure of Eight	1
	Forester	2
	Ghost Moth	1
	Gold-four Argent	1
	Grayling	1
	Green-brindled Crescent	1
	Grey Dagger	1
	<i>Gyrophana hanseni</i>	2
	Hedge Rustic	2
	Knot Grass	5
	Lackey	1
	Lead-coloured Drab	1
	Minor Shoulder-knot	2
	Mint Bent-wing	1
	Mottled Rustic	3
	Mouse Moth	1
	Narrow-bordered Bee Hawk-moth	1
	Oak Hook-tip	3
	Ochreous Pug	1
	<i>Ophonus ardosiacus</i>	2
	Poplar Lutestring	1
	Powdered Quaker	2
	Purple Emperor	3
	Red Wood Ant	2
	<i>Rhagonycha lutea</i>	2
	Rivulet	2
	Rosy Rustic	3
	Rustic	3
	Sallow	2
	Scarce Grass-veneer	2
	Scarce Umber	1
	September Thorn	2

	Silver-washed Fritillary	15
	Slender-horned Leatherbug	1
	Small Emerald	2
	Small Heath	2
	Small Phoenix	5
	Shoulder-striped Wainscot	3
	Small Square-spot	2
	Spinach	1
	Sprawler	2
	Stag Beetle	3
	<i>Telmatophilus typhae</i>	2
	Wall	1
	White Admiral	11
	White Ermine	3
	White-shouldered Sober	1
	Woundwort Pearl	1
	Yellow-barred Gold	1
Mammals	Brown Long-eared bat	5
	Common Pipistrelle	7
	European Water Vole	2
	Eurasian Otter	1
	Long-eared Bat species	2
	Roe Deer	1
	Pipistrelle Bat species	8
	Noctule Bat	4
	Serotine	3
	Soprano Pipistrelle	2
	West European Hedgehog	7
	Western Barbastelle	1
Plants	Bent-leaved Beard-moss	1
	Butchers-broom	4
	Common Cottongrass	1
	Corn Marigold	1
	Large-flowered Hemp-nettle	1
	Lesser Spearwort	9
	Lesser Striated Feather-moss	1
	Lousewort	1
	Pennyroyal	1
	Prince-of-Wales Feather-moss	1
	<i>Ranunculus flammula</i> subsp. <i>flammula</i>	1
	Stinking Chamomile	2
	Strawberry Clover	1
	Tall-clustered Thread-moss	1
Lichens	Lepraria nivalis	1
Reptiles	Adder	8
	Common Lizard	2
	Grass Snake	2
	Slow worm	3

Statutory Nature Conservation Sites (SNCS)

There are two statutory sites of nature conservation value that are located within 2 km of the site.

Table 3: Statutory sites within 2km of the site.

Site name	Site description	Site location
Baddesley Common	The site comprises an extensive valley bog together with associated damp acidic grassland, heathland and developing woodland over Bracklesham Beds in the Hampshire Basin. (SSSI)	1530m NW
Emer Bog	Emer Bog lies in a wet infilled hollow on the developed eastern hinterland of the New Forest. Apart from scattered willow <i>Salix</i> scrub, it is largely open, and dominated by bottle sedge <i>Carex rostrata</i> and marsh cinquefoil <i>Potentilla palustris</i> , with frequent common cottongrass <i>Eriophorum angustifolium</i> , and occasional pools with bogbean <i>Menyanthes trifoliata</i> . White sedge <i>Carex curta</i> and the bog-mosses <i>Sphagnum fimbriatum</i> and <i>S. squarrosum</i> become common at the edge of the bog, with the rushes <i>Juncus effusus</i> and <i>J. acutiflorus</i> . There are also patches of common reed <i>Phragmites australis</i> . The basin is surrounded by more mature willow <i>Salix</i> woodland and open heathland. (SAC)	1700m NW

SSSI Impact Risk Zones

The Site is within an area identified as a SSSI Impact Risk Zone for this type of development. Mitigation is required.

Non-statutory nature conservation sites

The site is within 1km of a non-statutory nature conservation site.

Table 4: Non-statutory sites within 1km of the site

Site name	Site description	Site location
Valley Park Woodlands (LNR)	These ancient woodlands which cover approximately 40 hectares feature a mix of restored coppice, woodland rides, open glades, ponds and rough grassland. The woods are a valuable resource of flora and fauna. Ancient Semi-Natural Woodland (ASNW) is locally and nationally important.	280m N

Consultation Zones

The site is within a Consultation Zone for Countryside Stewardship measures targeting Lapwing habitat issues.

Legend

- Target note
- x Scattered scrub
- Scattered trees
- Hedge and trees, native species rich
- Intact hedge, species poor
- Survey area (Approximate)
- Species poor semi-improved grassland
- Amenity grassland
- Tall ruderal
- Scrub
- Conifer plantation
- Bare ground
- Semi-natural broadleaved woodland
- Building
- Tarmac
- Track

Title: Map 1. Phase 1 habitats

Project: Land at Misselbrook Lane

Checked by: CDH Version: 01
Date: 25/10/2022

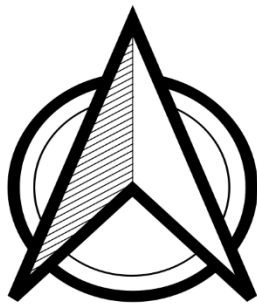


Map 1. Phase 1 habitats

Legend

- ✕ Introduced shrubs
- Scattered trees
- Intact hedge, species poor
- Survey area (Approximate)
- Amenity grassland
- Semi-natural broadleaved woodland
- Tarmac
- Track

0 100 200 m



Title: Map 2. Phase 1 habitats

Project: Land at Misselbrook Lane

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Legend

- Conifer tree
- Scattered trees
- Intact hedge, species poor
- Survey area (Approximate)
- Amenity grassland
- Tall ruderal
- Scrub
- Introduced shrubs
- Tarmac
- Track

0 50 100 m



Title: Map 3. Phase 1 habitats

Project: Land at Misselbrook Lane

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Map 3. Phase 1 habitats

3.4. Potential for species of nature conservation importance

Habitats have been assessed from the results of the field survey for their potential to support the following protected species. Where there is no potential for a species or species group to be present within the site, or where habitats with the potential to support this species or species group will not be impacted by the proposals, they may be scoped out at this stage.

Table 5: potential for protected species.

Species	Assessment	Likely value/ potential for presence
Amphibians	GCN has been recorded less than 1km to the north of the westernmost extent of the cable. No ponds lie within the site boundary but there is one within woodland just to the north of the main site area, so it is possible that GCN could use the field area to commute to breeding habitats and use the surrounding overgrown, ruderal-dominated roadside verges, woodland, and hedgerow as refugia.	Potential to be present within the woodland, overgrown, ruderal dominated roadside verges and hedgerows
Badgers	No setts or evidence of Badger activity was found. However, it likely that Badgers use the site for commuting and foraging.	Potential to be present
Bats	Tree and hedgerow habitats surrounding the main body of the site provide opportunities for foraging and commuting bats, with the local surroundings providing good foraging and commuting habitat for bats that is largely unlit. The cable route leads into suburban areas and increasing light and noise disturbance will reduce the number and frequency of bat populations using the hedgerows and trees.	Likely to be present
Birds	Hedgerows, scrub and trees offer suitable nesting habitat to common and widespread species.	Likely to be present
Common Dormouse	Dormice have been recorded within a kilometre of part of the site. While the hedgerows found bordering the site vary in quality and with some parts very close to highways, there is potential for dormice to be present in some of the hedgerows.	Potential to be present in taller hedgerows
Reptiles	The grassland habitat is cut and managed, with little potential for reptiles. Reptiles are unlikely to be present. The hedgerows and scrub have the potential to provide habitat for Reptiles, but the population size would likely be low.	Potential to be present within the tall ruderal areas and boundaries
Otter	No habitat present.	Negligible
Water Vole	No habitat present.	Negligible
Notable invertebrates	Habitats at this Site are likely to support common and widespread invertebrates.	Unlikely
Notable plants	Habitats within the Site provide little potential for notable or rare plants and they do not need to be considered further.	Unlikely
Invasive non-native plants	No plants listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as invasive non-native with respect to England and Wales were noted at the time of survey.	Not present.

4. Evaluation of ecological features and potential impacts

Ecological features that have the potential to be present have been assessed in light of current nature conservation policy, planning policy and wildlife legislation by an experienced ecologist (see Appendix 1). Where necessary, the ecological value of an ecological feature is given along with the potential effect of the proposed development.

If it is considered that the proposed development is likely to have no effect on features that have been identified as present, or potentially present, they may be scoped out at this stage.

4.1. Habitats of nature conservation importance

Protected habitats

Habitats are protected under international and national legislation including The Conservation of Habitats and Species Regulations 2017, and Wildlife and Countryside Act 1981 (as amended). These have been formulated into policy measures, with many examples protected under formal site designations such as SSSIs and SACs.

No habitats of European Community Importance as defined within The Conservation of Habitats and Species Regulations 2017 were present within this site. Protected habitats of this type are not a consideration for this project.

Notable habitats

Sixty-five habitats are listed as being of principal importance, in the Secretary of State's opinion, for the purposes of conserving biodiversity. Under section 41 (England) of the NERC Act (2006) there is a need for these habitats to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity. These habitats are the subject of National and Local Biodiversity Action Plans.

Hedgerows are given protection under the Protection of Hedgerows Act 1997.

Semi-natural broad-leaved woodland

Semi-natural broadleaved woodland is a Habitat of Principal Importance (JNCC and Defra, 2012) and Local Biodiversity Action Plan Priority Habitat (CBI, 2011). Wrens Copse, which is immediately north of the main field, is designated as an Ancient Woodland. Misselbrook Copse, which also lies to the north of the main field and Hogtrough Wood, which is north of part of the cable route, are designated Replanted Ancient Woodlands. Mitigation against inadvertent disturbance or damage is recommended.

Hedgerows

Hedgerows encompassing the main field site and some of those that border the cable route into Chandlers Fords the part of the site are a Habitat of Principal Importance and a Local Biodiversity Action Plan Priority Habitat. Mitigation for habitat loss or maintenance is recommended.

4.2. Species of nature conservation importance

Overview

Many native wild plants and animals are protected by law with the two main legal instruments being the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017. The latter consolidates amendments to the Conservation (Natural Habitats, &c) Regulations 1994 which transposed into UK Law the EU Habitats Directive.

One thousand, one hundred and fifty species of fungi, plant or animal are listed as being of principal importance, in the Secretary of State's opinion, for the purposes of conserving biodiversity. Under section 41 (England) of the NERC Act (2006) there is a need for these species to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity. These species are the subject of National and Local Biodiversity Action Plans.

Bats

Bat species and their breeding or resting places (roosts) are protected under the Wildlife and Countryside Act 1981 (as amended), and The Conservation of Habitats and Species Regulations 2017. They are identified as European Protected Species. Under these laws it is an offence to:

- capture, kill, disturb or injure bats (on purpose or by not taking enough care);
- damage or destroy a breeding or resting place (even accidentally);
- obstruct access to their resting or sheltering places (on purpose or by not taking enough care); or
- possess, sell, control or transport live or dead bats, or parts of them.

Seven species of bat are listed as species "of principal importance for the purpose of conserving biodiversity".

Research into habitat preferences of bats in Britain (Walsh and Harris, 1996) found that although bats could be found in almost all habitats, they showed clear preference for woodland edges and water bodies, along with treelines and hedgerows. Strong avoidance was seen for a number of habitats, including improved and semi-improved grassland, and this was common in all landscapes. The grassland habitat at this Site is unlikely to support insects in sufficient numbers to be of importance for foraging bats, and loss of grassland to the footprint of the Site is unlikely to impact foraging bats.

Hedgerows and woodland edges provide foraging habitat. It is likely that a variety of bats including light-averse species (such as Long-eared and Myotis) are active around the Site boundaries.

Although the proposals are low impact in relation to bats (as there will be no significant loss of habitats), the main battery site development has potential to devalue and degrade boundary habitats through light spill. Mitigation is therefore recommended. The cable route would have a negligible impact on foraging bats.

Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) from being killed, injured or captured whilst their nests and eggs are protected from being damaged, destroyed or taken. Birds which are listed under Schedule 1 of the Act are given additional protection against disturbance.

Fifty-nine species of bird are listed as species “of principal importance for the purpose of conserving biodiversity”.

It is likely that common and widespread birds nest within the trees, hedgerows and scrub. Any activities which impact these habitats have potential to adversely impact nesting birds. Any vegetation clearance, aside from the short well-maintained grassland, is likely to require mitigation for nesting birds if undertaken during bird breeding season (March -August inclusive).

Any activities that expose invertebrates, such as earth worms and grubs, will provide an additional food resource for local birds and will have a positive temporary effect, particularly when adults are feeding nested chicks.

Badgers

Badgers are protected from persecution or ill-treatment under the Protection of Badgers Act 1992. Under the Act, it is an offence to:

- wilfully kill, injure or take, or attempt to kill, injure or take, a badger;
- damage a badger sett or any part of it;
- destroy a badger sett;
- obstruct access to, or any entrance of, a badger sett;
- cause a dog to enter a badger sett; or
- disturb a badger when it is occupying a badger sett.

No setts or evidence of badger activity was found.

Although the loss of the habitat to the development footprint would not impact local Badger populations, there is potential for Badgers to get trapped within the Site during the construction and operational phases. Mitigation is recommended.

Common Dormice

Hazel (or Common) Dormice, and their breeding sites and resting places, are protected under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2010. They are identified as a European Protected Species. Under these laws it is an offence to:

- capture, kill, disturb or injure common dormice (on purpose or by not taking enough care);
- damage or destroy a breeding or resting place (even accidentally);
- obstruct access to their resting or sheltering places (on purpose or by not taking enough care); or
- possess, sell, control or transport live or dead dormice, or parts of dormice.

Common Dormice are listed as a species “of principal importance for the purpose of conserving biodiversity”.

No evidence of Common Dormice was found on site. However, there are records of Common Dormouse 1km from the site, so there is potential for them to be present within taller hedgerows.

Any trimming of hedgerows associated with construction has the potential to disturb Dormice, were they to be present here. Precautionary mitigation is therefore recommended.

Reptiles

All native reptiles are protected to some degree under the Wildlife and Countryside Act 1981 (as amended), whilst our two rarest species, the Sand Lizard and Smooth Snake, are given full protection under the Act, and identified as European Protected Species.

The four common species (Slow Worm, Adder, Grass Snake and Common (Viviparous) Lizard) are protected from deliberate killing, injury and trade.

The two rare species, Sand Lizard and Smooth Snake, are given more protection that includes protection from capture and deliberate or reckless killing, injury or disturbance. Their breeding or resting places are also protected from obstruction or damage, even if it were accidental.

All six native reptiles are listed as species “of principal importance for the purpose of conserving biodiversity”.

The open grassland habitat was cut to ground level at time of survey. It lacks a suitable sward length, providing negligible potential for common reptile species.

The hedgerow and tall ruderal areas bordering the site have potential to provide habitat for common reptile species.

The scrub that is found close to the eastern entrance of the main field and the tall ruderal areas close to the entrance and in the southeast corner of the main field, has potential to provide habitat for reptiles.

The loss of habitat to the development would be unlikely to impact foraging reptiles, although there is potential for accidental harm during site clearance. Mitigation is recommended.

Great Crested Newts

GCN are designated and protected as European protected species (EPS). EPS are protected under the Conservation of Habitats and Species Regulations 2017. It is an offence to:

- deliberately kill, injure, disturb or capture them
- deliberately take or destroy their eggs

- damage or destroy their breeding sites and resting places - even if GCN are not present
- possess, control or transport them (alive or dead)

It is also an offence under the Wildlife and Countryside Act 1981 to intentionally or recklessly:

- disturb GCN while they occupy a structure or place used for shelter or protection
- obstruct access to a place of shelter or protection

No ponds were found within the site boundary but there is a water body within Wrens Copse to the immediate North of the main field site. There is also a record of Great Crested Newt found 1km from the site boundary. There is potential for Great Crested Newt to seek refuge within the site boundaries, overgrown, ruderal-dominated roadside verges and to use the site to search for breeding ponds. The proposed development has potential to impact GCN by causing loss/damage of terrestrial habitat, while construction activities have potential to harm individual GCN. Mitigation will therefore be required.

4.3. Statutory Nature Conservation Sites

Two Statutory sites are located within 2 km of the site.

The site is within a SSSI Impact Risk Zone for this type of development. Mitigation is required.

4.4. Non-statutory nature conservation sites

The site is within 2km of one non-statutory nature conservation site, but no adverse effect is predicted. No mitigation is required.

5. Recommendations for mitigation and further surveys

Mitigation

Where there is potential that the proposed development will have a significant¹ effect on a valued ecological feature of nature conservation interest, recommendations for mitigation are made based on the mitigation hierarchy suggested in Paragraph 118 of the National Planning Policy Framework and detailed in Paragraph: 018 Reference ID: 8-018-20140306 of National Planning Practice Guidance;

- Avoidance –significant harm to wildlife species and habitats should be avoided through design.
- Mitigation – where significant harm cannot be wholly or partially avoided, it should be minimised by design, or by the use of effective mitigation measures that can be secured by, for example, conditions or planning obligations.
- Compensation – where, despite whatever mitigation would be effective, there would still be significant residual harm, as a last resort, this should be properly compensated for by measures to provide for an equivalent value of biodiversity.

Where the detail of a proposal is unknown, such as in outline planning applications, general mitigation will be suggested. This should be re-addressed once final plans are known.

Further survey work

Where further survey work is not recommended, this is because it is the professional judgement of the ecologist that adequate information is already available and further surveys would not make any material difference to the assessment provided.

Where the information within this report is insufficient to allow a full description of the nature conservation features of the site along with a robust assessment of the potential effects on these features, further survey work will be recommended.

5.1 Habitats of nature conservation importance

Three recommendations are made with regards to habitats to ensure compliance with nature conservation legislation and planning policy.

Broad-leaved woodland

The main part of the site boundary which encompasses the field to the west, is bordered by Wrens Copse, an Ancient Woodland and Misselbrook Copse, a replanted Ancient Woodland. A buffer zone between part of the new battery site and Wrens Copse of at least two metres would protect the woodland edge from root and branch disturbance. The border of Misselbrook Copse is deciduous and a remnant of the ancient woodland prior to it becoming a plantation. A similar buffer here of 2m would again help protect against root plate and branch damage or disturbance.

¹ For the purposes of this report, a practical approach has been taken to define the term 'significant'. If an effect is sufficiently important to be given weight in the planning process or to warrant the imposition of a planning condition, it is likely to be 'significant' in the context of the level under consideration (BSI, 2013).

The cable route is bordered in part by Hogtrough Wood, another replanted Ancient Woodland. The site boundary extent covers the cycle path that runs parallel to Castle Road and the woodland runs along the cycle path edge. While the extent of the cable route construction is not yet known, the woodland edge should be protected with a 2m buffer, including fencing, to prevent accidental root and branch damage from works.

Hedgerows and Scattered Trees

Within the main site, ground preparation and construction works may inadvertently damage hedgerow and scattered tree boundaries. Fencing should be erected 2m from boundaries and trees to protect root plates from damage.

The cable route passes along several hedgerows, some interspersed with scattered trees, especially along Misselbrook Lane and Castle Lane. These should be protected from inadvertent damage, using fencing where necessary and ensuring a 2m buffer from tree root plates.

Along Castle Lane, a hedgerow separates the cycle path from the road, which is dominated by Hazel stands, interspersed with scattered trees. This forms a buffer to the main road (Castle Lane). Any works that are required for the cable route, should ensure the protection of this hedgerow from inadvertent disturbance to branches and root plates.

5.2. Protected species and species of nature conservation importance

To ensure compliance with nature conservation legislation and planning policy, the following recommendations are made with regards to species:

Badgers

There is potential that Badgers may become trapped within any construction site during the development phase. To prevent this, the following is recommended:

- Any trenches left open at night should have some means of escape for Badgers, such as the placement of a scaffolding board at one end;
- Any security fences should have a gap at each corner sufficient to allow Badgers to exit the Site should they gain entry.

Bats

Precautionary mitigation in relation to external lighting and light-averse bat species should be adopted to retain the function of the hedgerow and tree canopies along the boundaries of the Site. This should include:

- Security lighting activated by movement sensor with a time limit switch;
- Lighting designed to minimise light spill beyond the required target;
- Lighting directed into the site, away from hedgerows and tree canopies;
- Use of narrow spectrum lights with no UV content;
- Use of low level bollard lighting along the margins of roads and parking/turning areas;
- Use of low pressure sodium or warm white LED lights.

Birds

Hedgerow and scrub habitat may support occasional widespread and common nesting bird species. Any cutting of suitable nesting habitat should be completed during the period September to February inclusive, outside the accepted bird nesting season. If this is not practicable, prior to the start of works these habitats should be thoroughly inspected by a suitably qualified person prior to disturbance or removal. If nesting birds are found, all activities likely to damage the immediate area should be delayed until chicks have fledged.

Common Dormice

There are Dormouse records one kilometre from parts of the site, leading to there being potential for Common Dormice to be present within taller hedgerows. Trimming of hedgerows associated with construction phase should be completed in the late autumn or winter.

Reptiles

There is potential for a low number of reptiles to be present within the hedgerows, scrub and tall ruderal areas. A destructive habitat search should be conducted under the guidance of a suitably experienced ecologist should works affect these habitats.

Great Crested Newts

There is potential for GCN to be active within the Site during terrestrial and hibernation phases and the proposed development could impact this species if they were to be present. Further surveys should therefore be undertaken to determine presence/absence of GCN at this site and inform any future mitigation.

5.3. Summary of net gains and losses

Table 3 provides a summary of net gains and losses to biodiversity resulting from the proposed development with mitigation, but without biodiversity enhancement.

Table 6. Summary of net gains and losses to biodiversity

Nature conservation feature	Potential impact	Proposed mitigation	Outcome/Comments
Badgers	Becoming trapped within construction site	Simple mitigation recommended	Impact avoided
Bats: foraging and commuting	Degraded commuting and foraging habitat due to light spill	Precautionary mitigation in relation to light-averse bats recommended.	Impact minimised.
Nesting Birds	Direct harm or injury during site clearance.	Any activities affecting nesting habitats should be completed during the period September to February inclusive, outside the accepted bird nesting season.	Direct harm and injury avoided
	Increased food items during construction.		Temporary positive gain
Dormice	Disturbance, harm or injury during site clearance	Trimming of hedgerows associated with construction phase should be completed in the late autumn or winter.	Impact (offence) avoided

Reptiles	Disturbance, harm or injury during site clearance	Destructive habitat search by an ecologist	Impact minimised
Great Crested Newt	Disturbance, harm or injury during site clearance	Mitigation to be adopted dependent on outcome of further surveys	Impact (offence) avoided

6. Further survey work

Information within this report is sufficient to allow a robust assessment of the potential effects on the majority of ecological features associated, or potentially associated, with this Site.

There is potential for great crested newt to be active here. Further surveys are required to ascertain their presence.

This should comprise GCN eDNA surveys of all ponds within 250 metres of the proposed development and cable route. The survey period is mid-April to the end of June. However, it is recommended that surveys are completed on or around 15 April allowing subsequent population surveys to be completed if presence is confirmed.

7. Biodiversity enhancement

Creating new habitats, enhancing existing habitats or providing new features, can all contribute towards biodiversity enhancement, and helping to rebuild habitat networks in the wider area improves ecological resilience and adaptation to climate change.

Enhancements are additional to any measures necessary to deal with potential impacts on site, as they are an opportunity to provide new benefits for biodiversity as a consequence of the proposals being implemented.

7.1. Hedgerows and Trees

Hedgerows

There is an opportunity to adopt sympathetic management regimes that will enhance the existing hedgerows for wildlife. Management activities that could be applied to the hedgerows could include the following;

- Planting hedgerows and trees should involve native shrub species. Hazel, Oak, Hornbeam and Ash should be considered, along with water tolerant species such as Willow and Dogwood.
- Trim the hedgerows in January or February to avoid the destruction of birds' nests (present from March to August) and to allow any berry crops that are present to be used by wintering birds (September to December).
- Trim on a two- or three-year rotation, rather than annually, to ensure that thick nesting cover is available, and to boost any berry crop that generally develops on second-year growth.
- Retain old, dying and dead trees where these are not a hazard, as they support important insect communities.

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Appendix 1:

Legislation and Policy used to assess habitats and species

Environment Act 2021

This Act sets out clear statutory targets for the recovery of the natural world in the four priority areas of air quality, biodiversity, water and waste, and includes a new target to reverse the decline in species abundance by the end of 2030. It sets in law new tools that natural England and others can use to help meet these targets.

European Habitats and Species Directive (CEC, 1992)

The main aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those habitats and species of European importance.

European Red Data lists (IUCN, 2000)

International Union for Conservation of Nature (IUCN) and the European Commission have been working together on an initiative to assess around 6,000 European species according to IUCN regional Red Listing Guidelines. Through this process they have produced a European Red List identifying those species which are threatened with extinction at the European level so that appropriate conservation action can be taken to improve their status.

European Council Birds Directive (CEC, 1979)

The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. An important part of this Directive is the identification and classification of Special Protected Areas (SPAs) to protect vulnerable bird species listed in Annex 1 of the Directive and regularly occurring migrating species.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

This Act is the primary legislation that protects animals, plants and certain habitats in the UK.

The Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 consolidate and update the Conservation of Habitats and Species Regulations 2010, and transpose Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (“the Habitats Directive”) and elements of Directive 2009/147/EC on the conservation of wild birds (“the Birds Directive”) in England, Wales, and to limited extent, Scotland and Northern Ireland.

The objectives of the Habitats Directive is to protect biodiversity through the conservation of natural habitats and species of wild fauna and flora. The Directive lays down rules for the protection, management and exploitation of such habitats and species.

The Regulations place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species. These sites form a network termed Natura 2000 and include Special Areas of Conservation and Special Protection Areas.

Protection of Badgers Act 1992

The Protection of Badgers Act 1992 consolidated and improved previous legislation. Under the Act it is an offence to kill, injure or take a Badger, or to damage or interfere with a sett used by a Badger unless a licence is obtained from a statutory authority.

The Hedgerow Regulations 1997

The Hedgerows Regulations 1997 protect certain hedgerows from being removed (uprooted or destroyed) if they meet certain criteria.

The Countryside and Rights of Way (CROW) Act 2000

This Act increases measures for the management and protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation.

Circular 06/2005 Biodiversity and geological conservation – statutory obligations and their impact within the planning system

This circular provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England. It complements the national planning policy in the National Planning Policy Framework and the Planning Practice Guidance.

Natural Environment and Rural Communities Act 2006

The Act made amendments to the both the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way (CROW) Act 2000. For example, it extended the CROW biodiversity duty to public bodies and statutory undertakers.

UK Post-2010 Biodiversity Framework, 2012

The 'UK Post-2010 Biodiversity Framework', published in July 2012, succeeds the UK BAP and 'Conserving Biodiversity – the UK Approach', and is the result of a change in strategic thinking.

National Planning Policy Framework, 2012

The National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied. It contains a number of policies relating to ecology including "minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures".

The natural choice: securing the value of nature (2011) (Natural Environment White Paper)

This White Paper outlines the Governments vision for the future of landscape and ecosystem services.

Biodiversity 2020

This is a national strategy for England's wildlife and ecosystem services based on the White Paper.