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NATURAL PROGRESSION

Land at Hanlye Lane, Cuckfield, West Sussex

Preliminary Ecological Appraisal Report

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Preliminary Ecological Appraisal Report

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Author: Hayley Fuller BSc (Hons) MSc	Proofed: Tim Lees BA (Hons) MSc MCIEEM	Approved: Nick Pincombe BA(Hons) MSc CEnv MIEMA MCIEEM
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Abbreviations

CHS	Conservation of Habitats and Species Regulations 2017 (as amended)
DRV	Designated Road Verge
EPS	European Protected Species
GCN	Great crested newt
HPI	Habitat of Principal Importance
LNR	Local Nature Reserve
NERC	Natural Environment and Rural Communities Act 2006
NPPF	National Planning Policy Framework
PRF	Potential (bat) Roost Feature
SAC	Special Area for Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SxBRC	Sussex Biological Records Centre
TN	Target Note
WCA	Wildlife & Countryside Act 1981 (as amended)

0 Executive Summary

0.1 Introduction

- 0.1.1 A Preliminary Ecological Appraisal was undertaken for the site of a proposed residential development on Land at Hanlye Lane, Cuckfield, West Sussex (Grid Reference: 531093, 125522). The report was prepared to inform the design process for the proposal, record the ecological baseline and identify key ecological features within and around the proposal site.

0.2 Results

- 0.2.1 There are no internationally important wildlife sites within the 5km desk study search area. There are two nationally important wildlife sites within the 2km desk study search area, one Area of Outstanding Natural Beauty and a Local Nature Reserve (LNR). Additionally, there are four non-statutory sites of local nature conservation importance within the 1km desk study area, which includes two Local Wildlife Sites (LWS) and two Designated Road Verges. There are records of a range of protected or notable species in the locality, including amphibians, birds, invertebrates, terrestrial mammals, flowering plants and terrestrial reptiles, together with the following Priority Habitats: Lowland Fen, Traditional Orchard, Wood-pasture and Parkland, Deciduous Woodland, Ancient Woodland and Ghyll Woodland.
- 0.2.2 The survey area lies c.2.5km north-west of Haywards Heath on the outskirts of Cuckfield in the Mid Sussex District of West Sussex. The survey area comprises c.5.62ha of undeveloped land, currently dominated by neutral semi-improved grassland (horse grazed pasture) with scattered trees and scrub. The wider landscape is characterised by a patchwork of arable land and pasture with a network of drainage ditches and scattered ponds, hedgerows with trees and woodland blocks. The nearby settlement of Cuckfield lies to the west and Haywards Heath lies to the south-east. Ten ponds lie within 500m of the survey area.

0.3 Evaluation

- 0.3.1 Table 0.1 presents a summary of ecological constraints and opportunities identified within the survey area.

Table 0.1: Summary of ecological constraints and opportunities

Feature	Detail
<u>Constraints:</u>	
Designated sites	The survey area falls within a Site of Special Scientific Interest impact risk zone, however, the proposed residential development is not one of the listed categories of planning application which Natural England considers likely to pose a risk.

Feature	Detail
	The local network of public rights of way leads into Blunts and Paiges Woods LNR/LWS. Increased usage of existing rights of way following the completion of the development has the potential to negatively affect these nature conservation areas. However, the proposed development is for c.55 dwellings and incorporates an undeveloped zone in the south of the survey area which will provide an open space of c.2.6ha which will help alleviate recreational pressure on designated areas in the proximity of the development. Given the size and scale of the proposals, the provision of integrated open space, and the distance of the development from designated sites, it is considered that none of the statutory or non-statutory wildlife sites within the desk-study search zone are likely to be affected by the proposed development.
Priority Habitats	There are no Priority Habitats within the application site, but Ancient Woodland and Deciduous Woodland Priority Habitats are present adjacent to the south-eastern corner of the survey area. There are two areas of Ancient Woodland, Horsgate West, which is adjacent to the southern boundary, and Horsgate East which lies 25m to the east. Ancient Woodland is vulnerable to negative effects from the proposed development, such as noise, light and dust pollution, hydrological changes, impacts to tree root systems, fly-tipping, invasive species and increased public access. The adjacent Ancient Woodland areas will be protected by an undeveloped zone which will provide a buffer of c.125m between the construction footprint and the woodland.
Other habitats	The proposed development would result in permanent losses of up to c.1.62ha of semi-improved neutral grassland, c.0.31ha of dense scrub, c.0.15ha of scrub with young trees, c.0.21ha scattered scrub and approximately five scattered trees, depending on the final extent and layout of Proposed Development. The semi-improved neutral grassland, scrub and scattered trees areas are of Local importance, and they provide habitats suitable for a number of protected species (e.g. amphibians, breeding birds, invertebrates, badger, bats, hazel dormouse and reptiles).
Great crested newt (GCN)	Permanent loss of suitable terrestrial habitats (grassland, scrub, brash/rubble piles). No impact on aquatic habitats.
Birds (nesting)	Permanent loss of nesting habitats (scattered trees and scrub).
Badger	Permanent loss of suitable habitats for foraging and sett excavation (grassland, dense scrub).
Bats (roosting)	The tree at TN1 in the centre of the northern field was of <u>high</u> suitability due to the presence of several woodpecker holes. It is currently anticipated that TN1 will be removed as part of the proposed development.
Bats (foraging/commuting)	Direct and indirect effects on habitats suitable for foraging and commuting bats (grassland, scrub, and scattered trees) via habitat loss and increases in artificial light.
Hazel dormouse	Permanent loss of dense scrub suitable for hazel dormouse.
Reptiles	Permanent loss of suitable habitats (grassland, scrub, brash/rubble piles).
Opportunities:	
Habitat creation / enhancement	Habitat creation and enhancement opportunities include hedgerow creation/enhancement, wildflower meadow creation, pond/wetland creation associated with a drainage strategy, use of native plant species, habitat piles and bird/bat boxes.

0.4 Recommendations

- 0.4.1 Recommendations are made for further botanical and protected species surveys, together with preliminary recommendations for the protection of important ecological features to avoid or mitigate ecological impacts, and to enhance the ecology of the site post-construction; these are summarised in Table 0.2. It is intended that these recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. The recommendations should be reviewed following the completion of further ecological surveys.

Table 0.2: Summary of recommendations

Summary of recommendations	
<i>Botanical / protected species surveys</i>	
R1	Presence / absence surveys for GCN in ponds within 250m of the survey area, undertaken using eDNA sampling techniques from mid-April to end June, or using conventional techniques from mid-March to mid-June.
R2	Breeding bird surveys, undertaken between mid-March and mid-July.
R3	A scoping survey and site assessment for invertebrates, to define the scope and methods for subsequent surveys carried out between May and early September.
R4	A badger survey to determine if any setts are located within the survey area plus a 30m buffer to ensure that disturbance to badgers occupying a sett does not occur during the works. Badger surveys can be undertaken anytime, but preferably during winter/spring.
R5	Presence / absence surveys for roosting bats within tree TN1 if it will be affected by proposals for the survey area, undertaken between May and August.
R6	Bat activity surveys, undertaken between April and October.
R7	Presence / absence surveys for dormouse, undertaken between April and November, if scrub will be affected by proposals for the survey area.
R8	Grassland condition assessment survey undertaken during the summer months.
R9	Presence / absence surveys for reptiles, undertaken between April and September within suitable habitats present in the survey area.
R10	If any of the above species are present and affected by the proposals, an Ecological Impact Assessment (EclA) of the effects of the proposed development should be carried out. The EclA will include detailed advice on ecological avoidance, mitigation, enhancement and/or compensation measures.
<i>Precautionary measures</i>	
R11	Ancient Woodlands at Horsgate West, adjacent to the southern boundary of the survey area, and nearby Horsgate East, will be buffered from increased public access by the creation of an area of open space within the southern part of the survey area.
R12	Removal of nesting bird habitats will be undertaken outside of the bird nesting season, which runs from 1 March to 31 August. It will therefore be carried out between September and February, but should be planned and implemented in accordance with the findings of the further ecological surveys recommended above.

Summary of recommendations	
<i>Ecological protection measures</i>	
R13	Standard site procedures to prevent impacts on trees will be adhered to during construction.
R14	Construction works (including demolition, ground works and vegetation clearance) will be carried out in accordance with a Construction Environmental Management Plan.
R15	Standard site procedures to prevent impacts on nearby aquatic environments will be adhered to during construction.
R16	The use of external lighting will be avoided or minimised to prevent impacts to nocturnal species. Lighting should not be directed towards retained wetland, woodland or hedgerows.
R17	Small access gaps will be provisioned at the base of new fence boundaries to enable continued dispersal of small mammals across the survey area.
R18	At the end of each working day excavations will be covered over and open pipework capped to prevent entrapment of mammals, amphibians and other fauna.
<i>Ecological enhancement</i>	
R19	Green spaces will be sown with a native wildflower and grass seed mix.
R20	Hedgerow creation will use a range of native fruit, seed, nut and nectar-bearing shrub species.
R21	New wetland habitat will be created within the proposed development as part of the drainage strategy and to increase aquatic habitat availability.
R22	The survey area's landscaping plans will utilise plant species which encourage bats by providing additional food sources or roosting opportunities.
R23	Habitat piles for amphibians, invertebrates and reptiles will be created within or close to areas of retained rough grassland, scrub, woodland, hedgerows and ponds.
R24	The value of the survey area for birds will be enhanced by installing a range of artificial nest boxes onto new buildings and retained trees.
R25	The value of the survey area for bats will be enhanced by installing a range of artificial roost boxes onto new buildings and retained trees.

0.5 Conclusions

- 0.5.1 The land proposed for development is preliminarily evaluated as of Local ecological importance. Significant constraints to development were identified including adjacent Ancient/Deciduous Woodland Priority Habitats, and the potential presence of great crested newt, breeding birds, invertebrates, badger, bats, hazel dormouse and reptiles. Further ecological surveys and impact assessment are required prior to submitting a planning application, to determine the value of the survey area for these species and to formulate a suitable mitigation strategy.

1 Introduction

1.1 Purpose of this Report

- 1.1.1 This report presents a Preliminary Ecological Appraisal for the site of a proposed residential development on Land at Hanlye Lane, Cuckfield, West Sussex (Grid Reference: 531093, 125522). The report has been prepared to inform the design process for the proposal, record the ecological baseline and identify key ecological features within and around the Application Site.

1.2 Objectives and Approach of the Study

- 1.2.1 The objectives of the Preliminary Ecological Appraisal were to:
- ▶ Identify features present on or adjacent to the Application Site which are ecologically significant and which may act as constraints or opportunities to the Proposed Development;
 - ▶ Consider the need for further ecological surveys which may be necessary; and
 - ▶ Make preliminary recommendations for the protection of important ecological features, to avoid or mitigate ecological impacts, and to enhance the Application Site for wildlife following construction.
- 1.2.2 The approach to establishing the ecological baseline found within this report has been achieved through:
- ▶ A desk study involving a review of statutory and non-statutory nature conservation sites, and records of habitats and species from the local area;
 - ▶ An extended Phase 1 habitat survey identifying the main habitats within the survey area and adjacent to the Application Site, and the presence of, or potential for, protected and/or notable species; and
 - ▶ A Preliminary Ecological Appraisal of the effects of development proposals with respect to the nature conservation value of the survey area.

1.3 Survey Area

- 1.3.1 The Application Site boundary (5.60ha) is marginally smaller than the overall survey area, with two small sections excluded on the eastern and western boundaries.
- 1.3.2 The survey area lies c.2.5km north-west of Haywards Heath on the outskirts of Cuckfield in the Mid Sussex District of West Sussex. The survey area comprises c.5.62ha of undeveloped land, currently dominated by neutral semi-improved grassland (horse grazed pasture) with scattered trees and scrub.

- 1.3.3 The survey area is bounded to the north by Hanlye Lane, to the east by residential housing and lines of mature trees and scrub, to the south by mature trees and scrub and to the west by residential housing, trees, scrub and a pond. The extent of the survey area is outlined in red on Figure 1.1.
- 1.3.4 The wider landscape is characterised by a patchwork of arable land and pasture with a network of drainage ditches and scattered ponds, hedgerows with trees and woodland blocks. The nearby settlement of Cuckfield lies to the west and Haywards Heath lies to the south-east. Ten ponds are present within 500m of the survey area.

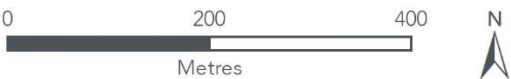
1.4 Proposed Construction Activities

- 1.4.1 Planning consent is being sought for a residential development of 55 dwellings with vehicular and pedestrian; car parking; open space, play space; landscaping and all other associated works. The proposed site layout is shown in Figure 1.2.

Hanlye Lane, Cuckfield, West Sussex

- Survey area
- Application site boundary

Figure 1.1: Survey area



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Ordnance Survey 0100031673

Scale (at A4): 1:7,500

Created by: MT

Date: Sep 2023

Reviewed by: NP

Drawing number:

UE0566ECO-HanlyeLane_LocationMap_230911





Figure 1.2: Proposed site layout

2 Survey Methodology

2.1 Desk Study

- 2.1.1 A desk-based study was undertaken to examine published information and biological records from within the search area (survey area centroid plus 2km for all data). This was extended to 5km for internationally designated sites. The desk study established the presence of designated sites of nature conservation interest, or records of protected/notable habitats/species within the survey area and its surroundings. This information was collected from the following sources:
- ▶ The 'MAGIC' (Multi-agency Geographic Information for the Countryside) website: www.magic.gov.uk; and
 - ▶ Sussex Biological Records Centre (SxBRC).

2.2 Preliminary Ecological Appraisal

- 2.2.1 The Preliminary Ecological Appraisal (compliant to British Standard BS42020:2013) is based on a survey of the survey area undertaken on 27 January 2023 by an experienced ecologist. Weather conditions were cold (c.7°C), with a gentle north-easterly breeze (Beaufort Scale 3), 60% cloud cover and no precipitation.
- 2.2.2 Within the survey area every parcel of land was classified, recorded and mapped using standard colour codes, in accordance with a list of ninety habitat types specified within the methodology for Phase 1 habitat survey (Joint Nature Conservation Council, 2010). This allows rapid visual assessment of the extent and distribution of different habitat types. Target notes (TN) were used to provide supplementary information on features which were particularly interesting or significant to specific construction proposals, or too small to map, or to provide additional details, for example relating to species composition and structure.
- 2.2.3 This basic methodology was extended to provide more detail in relation to habitats with potential to support rare or protected fauna, as described by the Chartered Institute of Ecology and Environmental Management's *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017b). The assessment of habitat suitability for protected, rare or priority species is based on current good practice guidance such as that presented in the *Herpetofauna Workers' Manual* (Gent and Gibson, 2003) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collin (ed.), 2016). Where a species/group is not specifically evaluated, this indicates that no habitat of potential value for the species was identified during the survey.

Scope of the survey

- 2.2.4 The buffer zone for the desk study was set at 2km from the centre of the survey area (5km for international sites) – a distance within which any notable ecological features likely to be affected by the Proposed Development would be identified.

- 2.2.5 All habitats within the survey area as indicated on Figure 1.1 were included to identify any ecological constraints that would be likely to apply to the scheme from within this zone. Adjacent habitats were also surveyed where appropriate to identify constraints falling outside of the Application Site and to place the survey area in its ecological context.

Evaluation criteria

- 2.2.6 Important ecological features were evaluated to the extent possible under the survey methods used, and in relation to a geographical frame of reference, i.e. international/European value being most important, then national, regional, metropolitan/county/district/borough, and lastly local (based on CIEEM, 2018).
- 2.2.7 Value judgements are based on various characteristics that contribute to the importance of ecological features. These include site designations (such as Sites of Special Scientific Interest, or for undesignated features, the extent, naturalness, conservation status (local or national importance and so on), and quality of the ecological resource. Quality can refer to habitats (for instance if they are particularly diverse, are a good example of a specific habitat type, or provide for the requirements of important species or assemblages), other features (such as connectivity provided by wildlife corridors or mosaics of habitats) or the richness and abundance of species populations or assemblages.

2.3 Habitat Suitability Index

- 2.3.1 The Habitat Suitability Index (HSI; Oldham et al, 2000) is a tool used to assess ponds on the basis of their suitability to support breeding great crested newt (GCN) *Triturus cristatus*. The HSI incorporates ten suitability indices which are considered to affect GCN distribution. These are:
- ▶ Location (in Britain);
 - ▶ Pond area;
 - ▶ Desiccation rate (years out of ten that pond dries);
 - ▶ Water quality (subjective assessment);
 - ▶ Percentage of pond shaded (% of pond margin shaded 1m from the bank);
 - ▶ Number of waterfowl;
 - ▶ Fish population (subjective assessment);
 - ▶ Number of ponds within 1km;
 - ▶ Terrestrial habitat quality; and
 - ▶ Percentage macrophyte cover.
- 2.3.2 The results of the HSI calculation can then be compared to categorised HSI scores used by the National Amphibian and Reptile Recording Scheme (Oldham et al, 2000) to identify the probability of a pond supporting GCN, as detailed in Table 2.1.

Table 2.1: Habitat quality of a pond for great crested newt in relation to HSI score

Habitat Quality	HSI Score
<u>Poor</u>	Below 0.5
<u>Below Average</u>	0.5 – 0.59
<u>Average</u>	0.6 – 0.69
<u>Good</u>	0.7 – 0.79
<u>Exceptional</u>	Above 0.8

- 2.3.3 The HSI gives an indication of whether a pond is suitable for breeding GCN, however, it should be noted that a low score does not preclude the possibility that GCN are using the pond. A survey of ponds carried out to test the HSI (ARG UK, 2010) found that 20% of ponds which were scored as 'below average' still contained GCN, although this increased to an occupation rate of 93% for those ponds scored as 'excellent'. Another important consideration when using the HSI is that pond scores can vary at different times of year, for example, if emergent vegetation is not present (and therefore under recorded) at the time of the HSI assessment.

2.4 Preliminary Roost Assessment

- 2.4.1 Trees within the areas to be impacted by the Proposed Development were subject to a ground level inspection for potential bat roost features. All observable features potentially suitable for bats were noted and the overall suitability of the tree for roosting bats was classified with reference to Table 2.2. The objective was to establish whether each feature was of negligible, low, moderate or high roosting bat suitability, or a confirmed roost based on the presence of bats or their droppings.
- 2.4.2 Trees were assessed from ground level for PRFs such as woodpecker holes, cavities, cracks or splits in major limbs (e.g. hazard beams, rot holes, frost cracks, knot holes, occlusions, flush cuts, tear-outs, cankers or butt-rots), loose platey bark, aerial deadwood and dense ivy *Hedera helix* or epicormic growth.
- 2.4.3 One experienced surveyor undertook the inspections over a period of approximately 3hrs with the aid of the following equipment: telescopic ladders to gain safe access; Wildlife Acoustics Echo Meter Touch full spectrum bat detector to record and identify the calls of any bats present; high-powered searchlight to search dark areas for signs of bats; close-focusing binoculars to view areas inaccessible on foot; and digital camera with flash to record any evidence of bats or features suitable for use by bats.

Table 2.2: Potential suitability of structures/trees for roosting bats (after Collins, 2016)

Suitability	Roosting habitats
<u>Negligible</u>	Negligible habitat features on site likely to be used by roosting bats
<u>Low</u>	A structure with one or more PRFs that could be used by individual bats opportunistically, but do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats

Suitability	Roosting habitats
	A tree of sufficient size and age to contain PRFs but with none seen from the ground / using ladders or features seen with only very limited roosting potential
<u>Moderate</u>	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (for roost type only)
<u>High</u>	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat
<u>Confirmed roost</u>	Bats or unequivocal evidence of bats found, i.e. bat droppings

2.5 Limitations

- 2.5.1 Biological records gathered during the desk study can provide an indication of the likely presence of a species on or adjacent to the survey area, however, the absence of records for protected species does not equate to evidence of their absence from the locality. Data search accuracy is variable and records are often georeferenced to the nearest 1km grid square.
- 2.5.2 Time of year when the survey was carried out and other variations will influence the results of the survey. Botanical species vary considerably in their flowering, seeding and fruiting periods, and surveys outside of these periods can confound accurate species identification. Where this is the case plants have been identified to lowest possible taxonomic group, normally genus. The possibility nonetheless exists for other species to be present within the survey area which were not recorded or otherwise indicated by the survey. Ornamental species are not included in botanical listings.
- 2.5.3 The survey reported herein was carried out in winter, after flowering for many botanical species. However, diagnostic vegetative characteristics are often still discernible, and the timing of the survey is not considered to be a significant limitation to meeting the report objectives.
- 2.5.4 There were no difficulties in gaining access to survey the habitats within the survey area and general protected species suitability. However large areas of dense scrub made it difficult to effectively search for badger setts. Adjacent habitats were surveyed by examining the land over the fence or hedge from the survey area. The adjacent private residential gardens to the west and east were not surveyed for signs of species such as badger *Meles meles*. In addition, six off-site ponds within 500m of the survey area could not be assessed for amphibian suitability as they lie on private land and one other pond was dry.
- 2.5.5 This report aims to provide general advice on the ecological constraints associated with development proposals for the survey area and includes recommendations for further survey where appropriate. Where impacts are likely or further ecological surveys are recommended, a more detailed EclA of the effects of the proposed development should be carried out based on the results of recommended surveys. The EclA will include detailed advice on ecological avoidance, mitigation, enhancement and/or compensation measures. This is in line with the latest

guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017a, 2017b, 2018).

- 2.5.6 The details of this report will remain valid for a period of 18 months from the date of the survey (January 2023), after which the validity of this assessment should be reviewed to determine whether further updates are necessary (CIEEM, 2019). Note that the recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the survey area boundary or development proposals upon which this report was based.
- 2.5.7 See Appendix VII for general Legal and Technical Limitations which apply to this document.

2.6 Personnel

- 2.6.1 The site survey was carried out by Hayley Fuller BSc (Hons) MSc, a Consultant Ecologist with six years' professional consultancy experience in ecological field survey for a wide range of sites and development projects. The report was extensively reviewed by Nick Pincombe BA(Hons) MSc CEnv MIEMA MCIEEM, Director of Urban Edge Environmental Consulting, who has over fifteen years' experience in leading survey and impact assessment teams for a wide range of ecology and environmental planning projects. Nick holds Natural England Class Licences to survey for bats (WML-CL18) and GCN (WML-CL08).

3 Results

3.1 Desk Study

Statutory and non-statutory site designations

- 3.1.1 There are no internationally important wildlife sites within the 5km desk study search area, the closest is Ashdown Forest Special Area of Conservation (SAC) and Special Protection Area (SPA) which lies 11.9km to the north-east of the survey area. Within 2km of the survey area there are two statutorily designated sites of nature conservation interest, an Area of Outstanding Natural Beauty (AONB) and a Local Nature Reserve (LNR). In addition there are four non-statutory designated sites which include two Local Wildlife Sites (LWS) and two Designated Road Verges (DRV). The information provided by SxBRC regarding these sites is presented in Table 3.1, while Figure 3.1 and Figure 3.2 show their locations in relation to the survey area.
- 3.1.2 The survey area falls within the outer impact risk zones for a Site of Special Scientific Interest (SSSI). It was not possible to determine which SSSI the impact zone related to on MAGIC, but the listed categories of planning application which Natural England consider likely to pose a risk to this SSSI did not include a housing development of the size and scale proposed.

Priority Habitats

- 3.1.3 Priority Habitats include those listed on local Biodiversity Action Plans and Habitats of Principal Importance (HPI) listed under section 41 of the Natural Environment and Rural Communities Act 2006 (NERC). SxBRC and a search of the MAGIC database returned the following data on priority and other habitats within the desk study search area: Lowland Fen, Traditional Orchard, Wood-pasture and Parkland, Deciduous Woodland, Ancient Woodland and Ghyll Woodland. None of these habitats are present within the survey area; see Figure 3.3.
- 3.1.4 An area of Ancient Woodland, Horsgate West, is present adjacent to the southern boundary of the survey area and the associated Horsgate East area of Ancient Woodland lies c.25m east of the survey area. These two areas of Ancient Woodland are linked by Deciduous Woodland Priority Habitat. Deciduous Woodland Priority Habitat is also present within the part of High Weald AONB lying immediately north of Hanlye Lane c.15m to the north of the survey area.

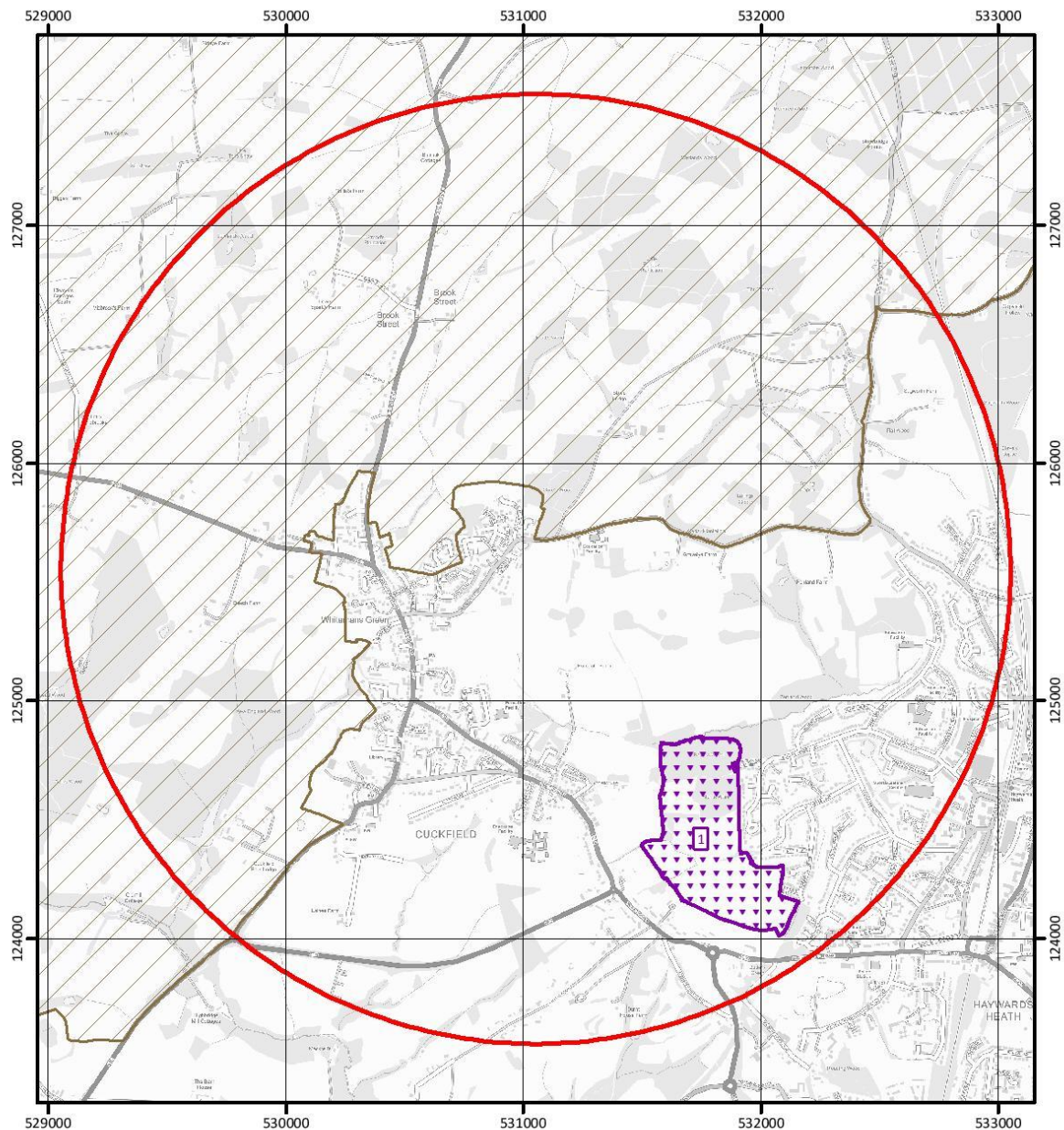
Table 3.1: Nature conservation sites within the desk study search area

Site name	Location*	Description
High Weald AONB	c.0.015km north	This designation covers 1461m ² across Sussex, Kent and Surrey containing a mosaic of small farms and woodlands. Close to the survey area there are areas of Deciduous Woodland and Ancient Woodland Priority Habitats which lie within this AONB.
Blunts and Paiges Wood LNR	c.0.8km south-east	A 28.9ha area containing diverse habitats including a pond, wetland, hedgerows, grasslands, birch woodland, hazel coppice, mixed coppice and bluebell woodland.
Blunts and Paiges Wood LWS	c.0.6km south-east	Comprised of blocks of ancient and semi-natural woodland, including wet woodland along the route of a stream, and two species rich meadows. The site supports a diverse lepidoptera fauna.
Wickham Woods LWS	c.1.9km north-east	Deciduous woodland adjacent to Haywards Heath Golf Course on the northern outskirts of Haywards Heath. It consists of coppice with standards with a rich ground flora. There are some wet flushes and a pond.
Cuckfield Bypass DRV	c.1.4km south	No information provided by SxBRC
The Droveaway, Haywards Heath DRV	c.1.4km south-east	No information provided by SxBRC

* Approximate distance and bearing from the survey area

Map 1: Statutory site designations

Land south of Hanlye Lane, Cuckfield + 2km radius
 SxBRC/22/831 - 06/02/2023



Key to Map:

- Search area
- Area of Outstanding Natural Beauty
- Local Nature Reserve

Statutory designated site boundaries supplied by Natural England. Contains public sector information licensed under the Open Government Licence v3.0.

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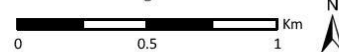


Figure 3.1: Statutory nature conservation sites within the desk study search area

Map 2: Non-statutory site designations

Land south of Hanlye Lane, Cuckfield + 2km radius
 SxBRC/22/831 - 06/02/2023

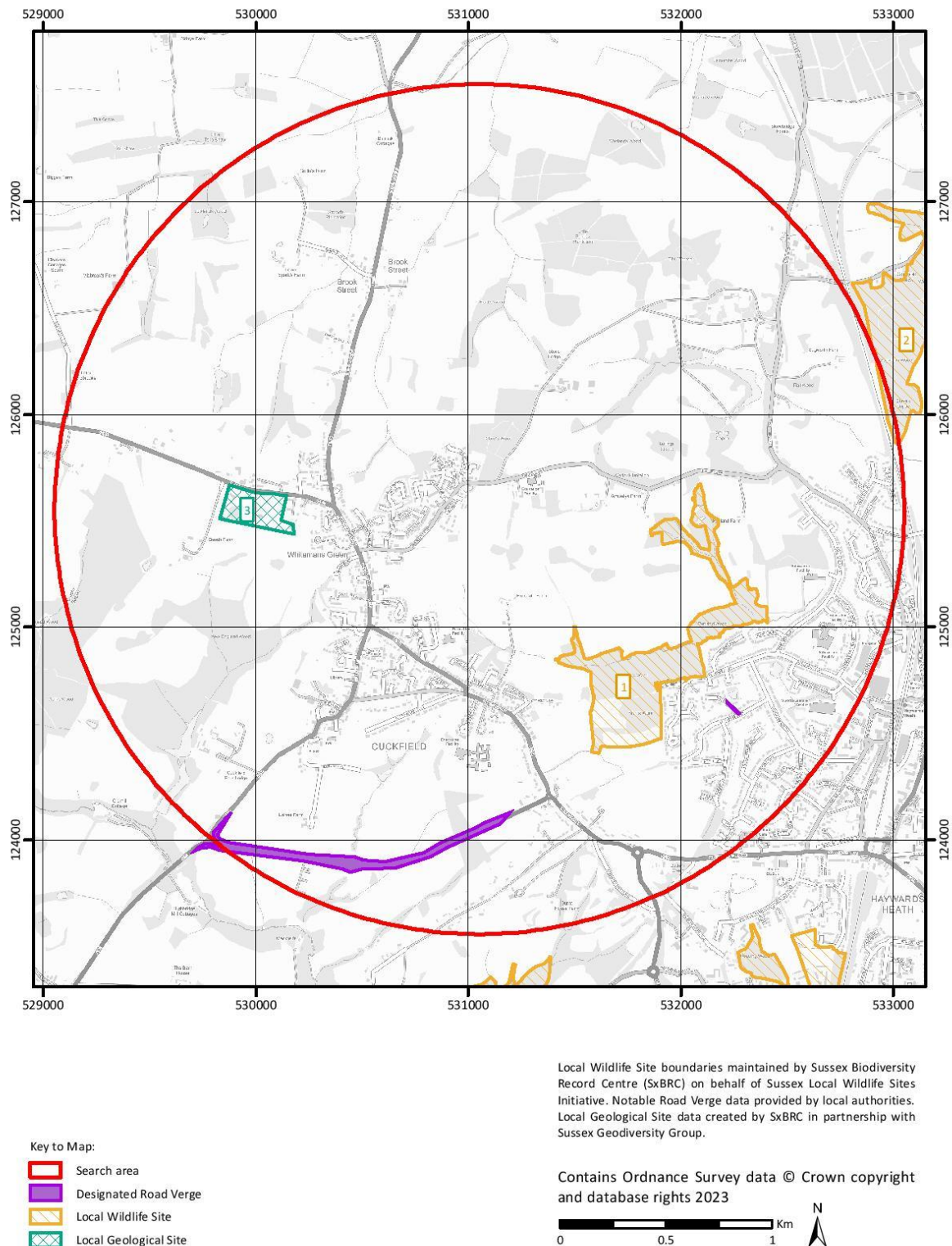


Figure 3.2: Non-statutory nature conservation sites within the desk study search area

Map 4: Section 41 habitats and other

Land south of Hanlye Lane, Cuckfield + 2km radius

SxBRC/22/831 - 06/02/2023

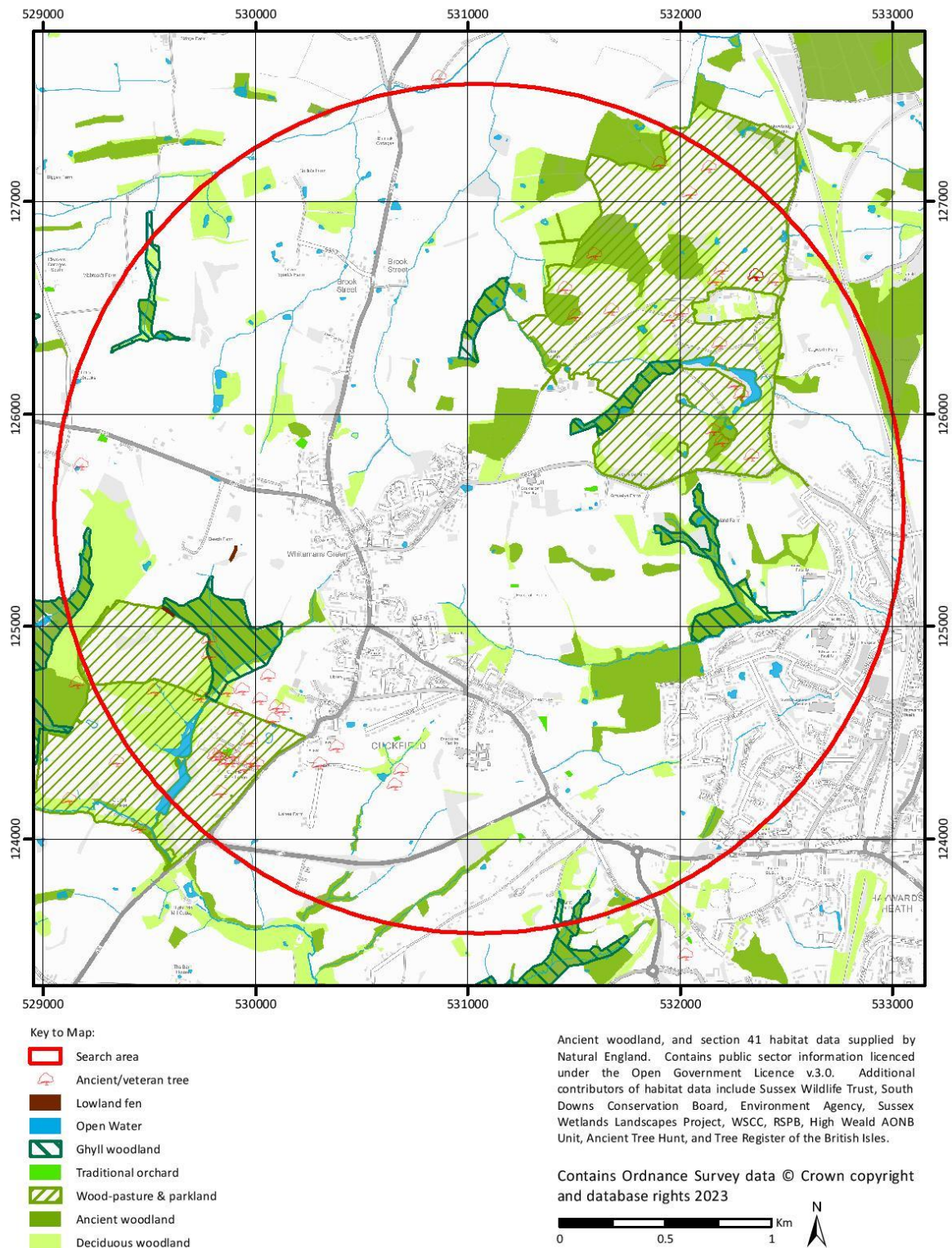


Figure 3.3: Priority Habitats within the desk study search area

Records of protected, rare and notable species

3.1.5 Biological records were obtained from SxBRC for the desk study search area and are summarised in Table 3.2.

Table 3.2: Records of protected, rare & notable species within the desk study search area

Group	Species	Designation
Amphibians	Great Crested Newt	Habs.Dir.2&4, CHS Sch.2, WCA Sch.5 full, NERC s41
	Common Toad <i>Bufo bufo</i>	WCA Sch.5 part, NERC s41
	Smooth Newt <i>Lissotriton vulgaris</i> , Common Frog <i>Rana temporaria</i>	WCA Sch.5 part
Birds (note: species may appear more than once)	Kingfisher <i>Alcedo atthis</i> , Bewick's swan <i>Cygnus bewickii</i> , Little Egret <i>Egretta garzetta</i> , Merlin <i>Falco columbarius</i> , Woodlark <i>Lullula arborea</i> , Red Kite <i>Milvus milvus</i> , Osprey <i>Pandion haliaetus</i> , Golden Plover <i>Pluvialis apricario</i>	Birds Dir.1
	Kingfisher, Little Ringed Plover <i>Charadrius dubius</i> , Bewick's swan, Merlin, Hobby <i>Falco vespertinus</i> , Brambling <i>Fringilla montifringilla</i> , Woodlark, Red Kite, Osprey, Black Redstart <i>Phoenicurus ochruros</i> , Firecrest <i>Regulus ignicapillus</i> , Serin <i>Serinus serinus</i> , Green Sandpiper <i>Tringa ochropus</i> , Redwing <i>Turdus iliacus</i> , Fieldfare <i>Turdus pilaris</i> , Barn Owl <i>Tyto alba</i>	WCA Sch.1
	Lesser Redpoll <i>Acanthis cabaret</i> , Skylark <i>Alauda arvensis</i> , White-fronted goose <i>Anser albifrons</i> , Tree Pipit <i>Anthus trivialis</i> , Cuckoo <i>Cuculus canorus</i> , Hawfinch <i>Coccothraustes coccothraustes</i> , Bewick's Swan, Yellowhammer <i>Emberiza citrinella</i> , Bunting <i>Emberiza calandra</i> , Lesser Spotted Woodpecker <i>Dryobates minor</i> , Herring Gull <i>Larus argentatus</i> , Woodlark, Grasshopper Warbler <i>Locustella naevia</i> , Spotted Flycatcher <i>Muscicapa striata</i> , Curlew <i>Numenius arquata</i> , House Sparrow <i>Passer domesticus</i> , Willow Tit <i>Poecile montanus</i> , Marsh Tit <i>Poecile palustris</i> , Dunnock <i>Prunella modularis</i> , Bullfinch <i>Pyrrhula pyrrhula</i> , European Turtle Dove <i>Streptopelia turtur</i> , Starling <i>Sturnus vulgaris</i> , Song Thrush <i>Turdus philomelos</i> , Lapwing <i>Vanellus vanellus</i>	NERC s41
	Skylark, White-fronted goose, Tree Pipit, Swift <i>Apus apus</i> , Dunlin <i>Calidris alpina</i> , Cuckoo, Greenfinch <i>Chloris chloris</i> , Hawfinch, Bewick's Swan, Lesser Spotted Woodpecker, House Martin <i>Delichon urbicum</i> , Corn Bunting, Yellowhammer, Merlin, Herring Gull, Grasshopper Warbler, Nightingale <i>Luscinia megarhynchos</i> , Spotted Flycatcher, Curlew, House Sparrow, Willow Tit, Marsh Tit, Woodcock <i>Scolopax rusticola</i> , European Turtle Dove, Starling, Fieldfare, Mistle Thrush <i>Turdus viscivorus</i> , Lapwing	RL
	Sparrowhawk <i>Accipiter nisus</i> , Sedge Warbler <i>Acrocephalus schoenobaenus</i> , Greylag Goose <i>Anser anser</i> , Mallard <i>Anas platyrhynchos</i> , Black-headed Gull <i>Chroicocephalus ridibundus</i> , Stock Dove <i>Columba oenas</i> , Woodpigeon <i>Columba palumbus</i> ,	AL

Group	Species	Designation
	Rook <i>Corvus frugilegus</i> , Whitethroat <i>Curruca communis</i> , Kestrel <i>Falco tinnunculus</i> , Snipe <i>Gallinago gallinago</i> , Moorhen <i>Gallinula chloropus</i> , Common Gull <i>Larus canus</i> , Lesser Black-backed Gull <i>Larus fuscus</i> , Great Black-backed Gull <i>Larus marinus</i> , Wigeon <i>Mareca penelope</i> , Grey Wagtail <i>Motacilla cinerea</i> , Osprey, Wheatear <i>Oenanthe Oenanthe</i> , Black Redstart, Dunnock, Willow Warbler <i>Phylloscopus trochilus</i> , Bullfinch, Tawny Owl <i>Strix aluco</i> , Green Sandpiper, Wren <i>Troglodytes troglodytes</i> , Redwing and Song Thrush	
Invertebrates	Stag Beetle <i>Lucanus cervus</i>	Habs.Dir.2
	Purple Emperor <i>Apatura iris</i>	WCA Sch.5 part
	Scarce Four-dot Pin-palp <i>Bembidon quadripustulatum</i>	NERC s41
	Brown Hairstreak <i>Thecla betulae</i> , Stag Beetle	WCA Sch.5 part, NERC s41
	Grey Dagger <i>Acronicta psi</i> , Knot Grass <i>Acronitica rumicis</i> , Forester <i>Adscita statice</i> , Beaded Chestnut <i>Agrochola lychnidis</i> , Green-brindled Crescent <i>Allophyas oxyacanthae</i> , Ear Moth <i>Amphipoea oculatea</i> , Deep-brown dart <i>Aporophyla lutulenta</i> , Sprawler <i>Asteroscopus sphinx</i> , Centre-barred Sallow <i>Atethmia centrargo</i> , Minor Shoulder Knot <i>Brachylomia viminalis</i> , Mottled Rustic <i>Caradrina morpheus</i> , Sallow <i>Cirrhia icteritia</i> , False Mocha <i>Cyclophora porata</i> , Oak Lutestring <i>Cymatophorina diluta hartwegi</i> , Small Square-spot <i>Diarsia rubi</i> , Figure of Eight <i>Diloba caeruleocephala</i> , Small Phoenix <i>Ecliptopera silaceata</i> , Dusky Thorn <i>Ennomos fuscantaria</i> , Dingy Skipper <i>Erynnis tages</i> , Dingy Skipper <i>Erynnis tages tages</i> , Autumnal Rustic <i>Eugnorisma glareosa</i> , Small Emerald <i>Hemistola chrysoprasaria</i> , Ghost Moth <i>Hepialus humuli</i> , Rustic <i>Hoplodrina blanda</i> , Rosy Rustic <i>Hydraecia micacea</i> , Wall <i>Lasiommata megera</i> , White Admiral <i>Limenitis camilla</i> , Northern Yellow Splinter <i>Lipsothrix errans</i> , Shoulder-striped Wainscot <i>Leucania comma</i> , Rosy Minor <i>Litoligia literosa</i> , Brindled Beauty <i>Lycia hirtaria</i> , Dot Moth <i>Melanchra persicariae</i> , Powdered Quaker <i>Orthosia gracilis</i> , , Grass Rivulet <i>Perizoma albulata albulata</i> , Grizzled Skipper <i>Pyrgus malvae</i> , River-shore Crane-fly <i>Rhabdomastix japonica</i> , Large Wainscot <i>Rhizedra lutosa</i> , Mullein Wave <i>Scopula marginipunctata</i> , Shaded Broad-bar <i>Scotopteryx chenopodiata</i> , White Ermine <i>Spilosoma lubricipeda</i> , Buff Ermine <i>Spilosoma lutea</i> , Feathered Gothic <i>Tholera decimalis</i> , Blood-Vein <i>Timandra comae</i> , Cinnabar <i>Tyria jacobaeae</i> , Oak Hook-tip <i>Watsonalla binaria</i> , Red Carpet <i>Xanthorhoe ferrugata</i> , Dark-barred Twin-spot Carpet <i>Xanthorhoe ferrugata</i> , Heath Rustic <i>Xestia agathina</i>	NERC s41
Mammals (terrestrial)	Noctule <i>Nyctalus noctula</i> , Soprano Pipistrelle <i>Pipistrellus pygmaeus</i> , Brown Long-eared Bat <i>Plecotus auratus</i> , Hazel Dormouse <i>Muscardinus avellanarius</i>	Habs.Dir.4, CHS Sch.2, WCA Sch.5 full, NERC s41

Group	Species	Designation
	Serotine <i>Eptesicus serotinus</i> , Brandt's/Whiskered Bat <i>Myotis brandtii</i> / <i>mystacinus</i> , Natterer's Bat <i>Myotis nattereri</i> , Nathusius' <i>Pipistrellus nathusii</i> Common Pipistrelle <i>Pipistrellus pipistrellus</i>	Habs.Dir.4, CHS Sch.2, WCA Sch.5 full
	West European Hedgehog <i>Erinaceus europaeus</i> , Brown Hare <i>Lepus europaeus</i>	NERC s41
Plants	Bluebell <i>Hyacinthoides non-scripta</i>	WCA Sch.8
	Cornflower <i>Centaurea cyanus</i>	NERC s41
Lower Plants	Slender Thread-moss <i>Orthodontium gracile</i>	NERC s41
Reptiles (terrestrial)	Slow Worm <i>Anguis fragilis</i> , Grass Snake <i>Natrix helvetica</i> , Adder <i>Vipera berus</i> , Common Lizard <i>Zootoca vivipara</i>	WCA Sch.5 part, NERC s41

Birds.Dir.1	Wild Birds Directive 2009/147/EC Annex 1
Habs.Dir.2/4	Habitats Directive 92/43/EEC Annex 2 or 4
CHS Sch.X	Conservation of Habitats & Species Regulations 2017 Schedules 2 (EPS animals) or 5 (EPS plants)
WCA s1/Sch.X	Wildlife and Countryside Act 1981 Section 1 / Schedules 1, 5 (fully or partially protected), 6 or 8
NERC s41	Natural Environment & Rural Communities Act 2006 Section 41 Species of Principal Importance
RL/AL	Red/Amber Listed (IUCN or Birds of Conservation Concern 5 (Stanbury <i>et al.</i> , 2021))

3.2 Phase 1 Habitats

3.2.1 The following Phase 1 habitats were identified within or adjacent to the survey area and are shown on the Phase 1 habitat plan at Appendix I. The habitats are described below broadly in the order of their extent.

- ▶ Semi-improved neutral grassland
- ▶ Dense scrub
- ▶ Scrub with young trees
- ▶ Scattered trees
- ▶ Scattered scrub
- ▶ Bare ground
- ▶ Amenity grassland

Semi-improved neutral grassland

3.2.2 The semi-improved neutral grassland was horse grazed, frequently poached, and c.10-15cm high at the time of survey. Rubbish has been dumped at TN2. Species found within the grassland included frequent Yorkshire fog *Holcus lanatus*, ribwort plantain *Plantago lanceolata*, creeping buttercup *Ranunculus repens* and occasional creeping bent *Agrostis stolonifera*, bulbous buttercup *Ranunculus bulbosus*, self-heal *Prunella vulgaris*, common knapweed *Centaurea nigra* and common sorrel *Rumex acetosa*.



Grassland in the northern field – view looking north toward Hanlye Lane.



Grassland in the southern field – view looking east.

Dense scrub

- 3.2.3 Dense scrub between c.1.5–2m high is abundant across the survey area at the boundaries and as a mosaic habitat with semi-improved neutral grassland in the southern field. It is dominated by blackthorn *Prunus spinosa* with abundant bramble *Rubus fruticosus* and occasional hawthorn *Crataegus monogyna* and dog rose *Rosa canina*.



Dense scrub in the northern field adjacent to the survey area boundary north of the Scout hut.



Dense scrub in the southern field looking towards the south-western corner of the survey area.

Scrub with young trees

- 3.2.4 Dense bramble with blackthorn and hawthorn also containing saplings and young trees was present at the borders of the survey area and beneath more mature scattered trees. These saplings and young trees commonly included pedunculate oak *Quercus robur*, sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior*, silver birch *Betula pendula*, holly *Ilex aquifolium*, hazel *Corylus avellana* and closer to pond P1 sweet chestnut *Castanea sativa* and goat willow *Salix caprea* were also present. Occasional piles of rubble and brash were present in this habitat (see TN4 and TN5 in Appendix II).



Scrub with young trees in the northern field adjacent to Hanlye Lane.



Scrub with young trees in the southern field along the southern boundary of the survey area.

Scattered trees

- 3.2.5 Medium to mature scattered trees are present around the survey area boundaries, in a line running west to east between the northern and southern fields, and towards the centre of the northern field. These trees are predominantly pedunculate oak together with occasional black pine *Pinus nigra*, horse chestnut *Aesculus hippocastanum* and ash.



Scattered trees between the northern and southern fields.



Scattered trees along the southern boundary of the survey area.

Scattered scrub

- 3.2.6 Scattered scrub is present as small and low bramble dominated patches in the northern field.



Shorter and less dense scattered scrub in the northern field – view looking north towards Hanlye Lane.

Bare ground

- 3.2.7 Bare ground within the survey area is restricted to a small area near a gated entrance on the western boundary. This bare ground has been created by vehicle and foot traffic in this area as it is the main entrance to the survey area.



Bare ground at the entrance to the survey area on the western boundary.

Amenity Grassland

- 3.2.8 A very small area of amenity grassland lies adjacent to housing at the east of the survey area. This area was dominated by perennial rye-grass *Lolium perenne* and contained forbs typical of this habitat including daisy *Bellis perennis* and ribwort plantain.

Preliminary Roost Assessment

- 3.2.9 A Preliminary Roost Assessment (PRA) was undertaken for trees known at this stage as likely to be impacted by the Proposed Development, including its access routes. There was one tree of a suitable size, age and condition which presented potential roosting features for bats. The results are shown in Table 3.3 below and a photograph of the tree (TN1) is shown in Appendix II.

Table 3.3: Preliminary Roost Assessment of trees within the proposed development area

Preliminary Roost Assessment of trees *	
TN1: Black Pine	
<i>Description</i>	
This dead standing pine tree measures c.0.6m dbh and is c.12m tall	
<i>Evidence of bats</i>	
None.	
<i>Potential roost features (PRF)</i>	
A series of woodpecker holes are present in the stem at c.6m high on its eastern aspect.	
<i>Overall suitability for roosting bats</i>	
High	

* Any other trees within the proposed development area were not of sufficient size/age to present PRFs

4 Evaluation

4.1 Introduction

- 4.1.1 This section evaluates the survey area in terms of the habitats and species present or potentially present on site or in its immediate vicinity, in the context of relevant legislation and planning policy. See Appendix VI for a review of the legislation and planning context.

4.2 Designated Sites

- 4.2.1 The local network of public rights of way leads into Blunts and Paiges Woods LNR/LWS. Increased usage of existing rights of way following the completion of the development has the potential to negatively affect these nature conservation areas. However, the proposed development is for c.55 dwellings and incorporates an undeveloped zone in the south of the survey area which will provide an open space of c.2.6ha which will help alleviate recreational pressure on designated areas in the proximity of the development.
- 4.2.2 Given the size and scale of the proposals, the provision of integrated open space, and the distance of the development from designated sites, it is considered that none of the statutory or non-statutory wildlife sites within the desk-study search zone are likely to be affected by the proposed development.

4.3 Habitats

Evaluation

- 4.3.1 Table 4.1 presents a preliminary evaluation of the habitats recorded within or adjacent to the survey area, with reference to the criteria defined at section 2.2.6.

Table 4.1: Preliminary evaluation of habitats within the survey area

Habitat	Evaluation	Rationale
Semi-improved neutral grassland	Local	The value of this habitat is enhanced where it forms a mosaic with scrub as it offers valuable edge habitat and varied microclimate conditions, which in turn supports greater species diversity.
Scattered/dense and treed scrub	Local	This variably structured habitat is valuable for invertebrates, reptiles, and mammals as it provides food, cover and shelter. As above, where this forms a mosaic with semi-improved neutral grassland it supports a greater species diversity.
Scattered trees	Local	The scattered trees are predominantly mature oaks with occasional black pine along survey area boundaries and old field margins. These boundary trees are being retained. Mature trees provide a valuable habitat for invertebrates, mammals and birds. One dead pine which

Habitat	Evaluation	Rationale
		will be lost to the proposed development (TN1) has high potential to support roosting bats.
All other habitats	Negligible	These habitats (amenity grassland and bare ground) cover small areas, are common and widespread and poor quality examples, none of which are HPI.

Priority Habitats

- 4.3.2 There are no Priority Habitats within the application site, but Ancient Woodland and Deciduous Woodland Priority Habitats are present adjacent to the south-eastern corner of the survey area. There are two areas of Ancient Woodland, Horsgate West, which is adjacent to the southern boundary, and Horsgate East which lies 25m to the east. Ancient Woodland is vulnerable to negative effects from the proposed development, such as noise, light and dust pollution, hydrological changes, impacts to tree root systems, fly-tipping, invasive species and increased public access. The adjacent Ancient Woodland areas will be protected by an undeveloped zone which will provide a buffer of c.125m between the construction footprint and the woodland. This is in excess of the minimum recommended 15m buffer which is shown on the plan at Appendix I.
- 4.3.3 There are public rights of way along the western boundaries of Horsgate West and Horsgate East Ancient Woodlands, but these footpaths do not lead into the woodland areas. As mentioned above, the provision of c.2.6ha of open space will help alleviate recreational pressure on sensitive habitats in proximity to the development.
- 4.3.4 Given the size and scale of the proposals, current absence of direct access into the Ancient Woodland, and the provision of adjacent open space as a buffer and for recreation, it is considered unlikely that the Ancient Woodland would be affected by the proposed development.

Other habitats

- 4.3.5 The proposed development would result in permanent losses of up to c.1.62ha of semi-improved neutral grassland, c.0.31ha of dense scrub, c.0.15ha of scrub with young trees, c.0.21ha scattered scrub and approximately five scattered trees, depending on the final extent and layout of Proposed Development. The semi-improved neutral grassland, scrub and scattered trees areas are of Local importance, and they provide habitats suitable for a number of protected species (e.g. amphibians, breeding birds, invertebrates, badger, bats, hazel dormouse and reptiles).
- 4.3.6 The nearby pond (P1) to the north-west of the survey area, although not a Priority Habitat, is an aquatic habitat which will need to be protected from any potentially adverse impacts arising from the development of the survey area. Standard site procedures to prevent impacts on nearby aquatic environments will be adhered to during construction.

4.4 Species

Amphibians (excluding GCN)

- 4.4.1 Dominant habitats within the survey area, such as scrub and grassland, provide potentially suitable terrestrial habitats for common and widespread amphibian species, such as common frog, common toad, palmate newt and smooth newt, all of which have been recorded in the desk-study search zone. However, the southern half of the survey area contains similar habitats, and this area is being retained. Common amphibians are not considered to present a constraint to the Proposed Development.

Great crested newt

- 4.4.2 SxBRC returned 64 records of GCN from within the desk-study search zone between 1989 and 2020. The closest and most recent record was located c.1.25km south-west of the survey area.
- 4.4.3 The survey area contains good terrestrial habitat for GCN, mainly comprised of scrub (scattered/dense and treed) and semi-improved neutral grassland together with scattered trees. These habitats provide a relatively large area suitable for foraging, shelter and hibernation. The piles of brash, rubble and rubbish at TN2, TN4 and TN5 provide additional shelter and hibernation habitats, while boundary lines of trees and scrub provide opportunities for dispersal.
- 4.4.4 There are no ponds within the survey area, however an analysis of Ordnance Survey (OS) maps and aerial photography in combination with a site visit, found that five ponds (P1, P2, P3, P4 and P10) are present within 250m of the survey area; see Appendix III for a pond plan. Ponds P1, P2, P3 and P10 were all accessible, but P4 was on private land and not accessed during this preliminary survey. In addition, P4 was separated from the survey area by the relatively busy Ardingly Road and a panelled wooden fence with a bricked wall c.45cm high at the base of the fence. These features were considered to pose a barrier to GCN dispersal into the survey area and P4 was not considered for further assessment. Pond 2 was dry at the time of survey and now appears to be permanently dry, therefore it was not included in this assessment. P1, P3 and P10 were assessed for their suitability to support breeding GCN using field observations supported by a Habitat Suitability Index (HSI, Oldham et al, 2000); the full results are listed in Appendix IV.
- 4.4.5 Pond P1 lies c.10m west of the western survey area boundary and is surrounded by trees and shrubs including beech *Fagus sylvatica*, pedunculate oak and holly. Large sections of dead wood were present on the ground at the pond margins which could provide shelter and refuge for GCN. Small numbers of ducks were present on the pond. P1 achieved an HSI value of 0.74, making it of good suitability for breeding GCN.
- 4.4.6 Pond P3 lies c.140m west of the south-western corner of the survey area in a village green setting adjacent to Ardingly Road. This pond has a few adjacent trees and shrubs. P3 achieved an HSI value of 0.80, making it of excellent suitability for breeding GCN.
- 4.4.7 Pond P10 lies c.155m east of the survey area beside a public footpath and it is surrounded by scattered trees. This pond was noted during the survey, but it was not marked on OS maps or apparent from aerial photography. P10 achieved an HSI of 0.45, making it of poor suitability for breeding GCN.

- 4.4.8 A further five ponds (P5-P9) lies 250-500m from the survey area. Research undertaken by Natural England (Cresswell & Whitworth, 2004) suggests GCN will rarely move further than 200-250m from a breeding pond, with much reduced distances recorded where adjacent habitats are of good quality. Jehle (2000) also determined a terrestrial zone of 63m, within which 95% of summer GCN refuges were located. In addition, following the breeding season, Jehle and Arntzen (2000) recorded 64% of newts within 20m of the pond edge. P5-P9 were not considered further during this preliminary assessment.
- 4.4.9 In conclusion, GCN may be present within suitable terrestrial habitat on site and use nearby ponds for breeding. Construction works would likely involve site clearance, creation of access tracks and materials storage compounds, vehicle movements and groundworks, which together could result in destruction of GCN habitats or present a risk of killing, injury or disturbance for GCN if present during the works. Further surveys for GCN in the nearby suitable ponds are recommended at section 5.2.

Birds (breeding)

- 4.4.10 SxBRC returned records of 75 notable bird species from within the desk-study search zone during a date range of 1980 to 2022.
- 4.4.11 The survey area's scattered trees and dense and scattered scrub are suitable for nesting birds such as wren, dunnock (an Amber-listed bird of conservation concern (BoCC5); Stanbury *et al.*, 2021), robin *Erithacus rubecula* and chaffinch *Fringilla coelebs*. Red kite (a bird listed on Annex 1 of the Wild Birds Directive and BoCC Red-listed) and redwing (BoCC Amber-listed); were both noted to be present within the survey area during the survey. The mosaic of grassland and scrub in the southern part of the survey area provides ideal habitat for species such as nightingale (BoCC Red-listed).
- 4.4.12 Removal of suitable habitats within the north of the survey area could result in a detrimental effect on bird populations and, depending on the timing of vegetation clearance works, could result in the killing/injury of birds/eggs or destruction of active nests. Further breeding bird surveys are recommended at section 5.2.

Invertebrates

- 4.4.13 SxBRC returned records of 54 species of protected invertebrate from within the desk-study search zone, during a date range of 1982 to 2021, principally of Lepidoptera (moths and butterflies) but also including stag beetle and a beetle, known as scarce four-dot pin-palp.
- 4.4.14 The grassland and scrub habitat mosaic which dominates the survey area is highly suitable for invertebrates and is likely to support a diverse and abundant invertebrate fauna. The site's location in Sussex and abundance of blackthorn may make it suitable for brown hairstreak, a rarer species with restricted distribution. The smaller patches of bare ground and scattered trees provide further opportunities for a range of common and widespread invertebrates. Although the southern field is being retained within the development proposal, the northern field will be impacted by the Proposed Development. Further surveys for invertebrates are recommended at section 5.2.

Mammals (terrestrial)

Badger

- 4.4.15 SxBRC does not supply badger records for animal welfare reasons.
- 4.4.16 A search for badger setts and signs of their presence was undertaken within a 30m radius of the survey area boundary but did not include the adjacent private property to the west. An active badger sett comprising c.5 active entrances was noted c.95m to the south-west of the survey area (photographs are shown in Appendix II).
- 4.4.17 No signs of potential badger foraging were observed within or adjacent to the survey area. Sett building habitats were restricted to scrubby areas, which are widespread on site. No setts were found but the dense scrub made it difficult to complete a thorough search for badger setts within the survey area. There was no other observable evidence of badger activity within or around the survey area, such as badger paths, footprints, latrines, dung pits, or badger hairs caught at fence lines. This was however based on a Phase 1 walkover survey rather than a comprehensive search for badger field signs. Further surveys for badgers are recommended at section 5.2 and ecological protection measures for badgers and other mammals are advised in section 5.3.

Bats

- 4.4.18 SxBRC returned 79 records of eight species of bat from within 2km of the survey area, during a date range of 1982 to 2019, including serotine, whiskered/Brandt's bat, Natterer's bat, noctule, Nathusius' pipistrelle, common pipistrelle, soprano pipistrelle and brown long-eared bats. Most of these records were of bats in flight, but 36 roost sites were also included, the closest to the survey area being located c.220m east in 2007.
- 4.4.19 The PRA concluded that the standing dead black pine at TN1 (shown in Appendix I and Appendix II) was of high suitability due to the presence of woodpecker holes and its proximity to good foraging and commuting habitat. Felling or arboricultural works to TN1, if required to facilitate the proposals, could result in destruction of a bat roost or present a risk of killing, injury or disturbance if bats are present during the works. Further surveys for bats roosting in trees are recommended at section 5.2.
- 4.4.20 The scattered tree, scrub and grassland habitats within the survey area, in combination with adjacent woodland and ponds, are likely to provide abundant opportunities for foraging and commuting bats. The scattered trees, scattered scrub and semi-improved neutral grassland in the northern field (at least c.2.29ha) will be lost to the proposed development. In addition, it is possible that retained boundary trees and scrub will experience an increase in artificial lighting following development, which may render them less suitable for foraging/commuting bats in the future. Further bat activity surveys are recommended at section 5.2.

Hazel dormouse

- 4.4.21 SxBRC returned 40 records for hazel dormouse within the desk study search area, during a date range from 2000 to 2022, the nearest being located c.500 south in 2019.

- 4.4.22 The boundary trees and scrub provide potential habitat for dormouse. Food plants are present including hazel, hawthorn, oak and bramble providing a good year-round source of food. These habitats are well connected via mature hedgerows to larger woodland blocks within the wider landscape. Some of the boundary trees and scrub are due to be retained and protected during construction, however, areas of dense scrub within the survey area would be removed and thus there is a risk of habitat loss, killing, injury or disturbance to dormice during the works. Further surveys for hazel dormouse are recommended in section 5.2.

Water vole and otter

- 4.4.23 SxBRC returned no records for European water vole *Arvicola amphibius* from within the desk study search area and they do not supply records of otter *Lutra lutra*.
- 4.4.24 There are no riparian habitats running through or adjacent to the survey area. The nearest aquatic habitat is Scarse Stream c.230m south of the survey area which does not connect with any river system. Water vole and otter are not considered to present a constraint to development proposals and further surveys are not required.

Plants, native

- 4.4.25 SxBRC returned records for two protected botanical species from within the desk study search area during a date range between 1982 to 2019; bluebell *Hyacinthoides non-scripta* and cornflower *Centaurea cyanus*. Cornflower had one record for a non-specific site north of Haywards Heath in 2011. For bluebell there were 31 records, the closest of which were 400m to the north in 1982 and 400m to the south-east in 2010.
- 4.4.26 No rare or protected species of flora were recorded within the survey area, but the time of year and lack of vegetative growth or inflorescences may have resulted in botanical species being under recorded. The semi-improved neutral grassland, particularly in the northern field which will be impacted the proposed development, should be subjected to a follow-up condition assessment survey in summer to derive a more accurate assessment of the species composition and biodiversity value of this habitat. Further botanical surveys are recommended at section 5.2.

Plants – invasive non-native species and injurious weeds

- 4.4.27 No invasive plant species (i.e. species listed on Schedule 9 of the Wildlife and Countryside Act) were located during this survey. No significant stands of injurious weed species were noted (ragwort *Senecio jacobea*, spear thistle *Cirsium vulgare*, creeping thistle, curled dock *Rumex crispus*, and broad-leaved dock *Rumex obtusifolius*). Invasive plant species and injurious weeds are not considered to present a constraint to the development proposals and no further action for this group is required.

Reptiles (terrestrial)

- 4.4.28 SxBRC returned 61 records of terrestrial reptile species from within the desk-study search area, during a date range of 1982 to 2019. All four widespread species have been recorded in the vicinity; slow worm, grass snake, adder and common lizard. The closest record to the survey area was a grass snake located on the survey area's eastern boundary in 2018.

- 4.4.29 The survey area contains good quality habitat for reptiles, dominated by a mosaic of semi-improved neutral grassland and scattered to dense scrub surrounded by scattered trees which provide shelter, foraging and dispersal opportunities. Rubbish, rubble and brash piles at TN2, TN4 and TN5 (see locations and photographs in Appendices I and II) may provide additional shelter and hibernation habitat. Construction works in the northern field would involve site clearance, creation of access tracks and materials storage compounds, vehicle movements and groundworks, which together could present a risk of killing or injury for reptiles if present. Further surveys for reptiles are recommended at section 5.2.

Other protected, rare or notable species

- 4.4.30 SxBRC returned 24 records of hedgehog *Erinaceous europaeus* from within the desk-study search zone during a date range of 2005 to 2021. The closest to the survey area was located c.370m west of the survey area in 2014. The survey area contains habitats suitable for this species, including scrub, grassland and scattered trees. Hedgehog is listed as a species of principal importance (NERC) and is undergoing a significant population decline. Measures should be taken to continue accommodating this species within the survey area post-development (see section 5.4).
- 4.4.31 SxBRC returned one record of brown hare c.95m east of the survey area in 2005. Although this species could be displaced from the survey area during construction, it is not considered that construction activities pose a significant risk of harm to hares. General ecological protection measures for mammals are recommended in section 5.4.

5 Recommendations

5.1 Introduction

- 5.1.1 With regard to the objectives of this Preliminary Ecological Appraisal, recommendations are made below for further botanical and protected species survey where necessary. Preliminary recommendations are also made for the protection of important ecological features, and/or to avoid or mitigate ecological impacts, and to enhance the survey area for wildlife following construction. It is intended that these recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. The recommendations should be reviewed following the completion of further ecological surveys.

5.2 Botanical and Protected Species Surveys

- 5.2.1 The following species/groups (Table 5.1) will require additional surveys prior to refining development designs and formulating a suitable avoidance and mitigation strategy (if required).

Table 5.1: Recommendations for further ecological surveys

Recommendations for further ecological survey	
R1	Presence / absence surveys for GCN in ponds within 250m of the survey area, undertaken using eDNA sampling techniques from mid-April to end June, or using conventional techniques from mid-March to mid-June.
R2	Breeding bird surveys, undertaken between mid-March and mid-July.
R3	A scoping survey and site assessment for invertebrates, to define the scope and methods for subsequent surveys carried out between May and early September.
R4	A badger survey to determine if any setts are located within the survey area plus a 30m buffer to ensure that disturbance to badgers occupying a sett does not occur during the works. Badger surveys can be undertaken anytime, but preferably during winter/spring.
R5	Presence / absence surveys for roosting bats within tree TN1 if it will be affected by proposals for the survey area, undertaken between May and August.
R6	Bat activity surveys, undertaken between April and October.
R7	Presence / absence surveys for dormouse, undertaken between April and November, if scrub will be affected by proposals for the survey area.
R8	Grassland condition assessment survey undertaken during the summer months.
R9	Presence / absence surveys for reptiles, undertaken between April and September within suitable habitats present in the survey area.
R10	If any of the above species are present and affected by the proposals, an EcIA of the effects of the proposed development should be carried out. The EcIA will include detailed advice on ecological avoidance, mitigation, enhancement and/or compensation measures.

Great crested newt

- 5.2.2 A GCN survey is recommended to establish whether the species is present in ponds within 250m of the proposed construction site, and if so in what numbers and whether they are breeding. If GCN are absent from these ponds then it is likely they are also absent from the application site. The surveys could take one of two formats:
- ▶ Environmental DNA (eDNA) sampling for each of the ponds; or
 - ▶ Pond surveys using conventional techniques (torchlight, traps, nets and egg searches).
- 5.2.3 eDNA sampling has the advantage of being more time and cost-efficient where there is a high number of waterbodies or the likelihood of recording GCN is low. A single visit to each pond should be made between 15 April and 30 June. However, this method carries the risk that conventional survey techniques (which are more resource-intensive) will still be required if GCN is recorded, and for this reason **it is recommended that eDNA surveys are completed by the end of April**. Twenty water samples are collected from each waterbody during the visit using purpose-designed sterile sampling kits, preserved in ethanol and subsequently dispatched for laboratory analysis. The sampling and analysis should follow the latest protocols set out in Natural England's '*Technical advice note for field and laboratory sampling of great crested newt environmental DNA*' (Biggs et al., 2014).
- 5.2.4 Surveys using conventional techniques should be carried out by a licenced herpetologist following recommended guidelines (English Nature, 2001). Each pond should be surveyed on at least four occasions during the breeding season (between mid-March and mid-June), with at least two visits between mid-April and mid-May, to determine presence/absence. Methods include torch survey, bottle trapping and egg searches. A further two surveys are necessary to provide a population estimate should GCN be recorded.

Breeding birds

- 5.2.5 Scattered trees, scrub and open grassland habitats within the survey area all provide potential breeding habitats for a range of bird species, including Birds of Conservation Concern. Loss of these habitats could result in a detrimental effect on bird populations and, depending on the timing of clearance and demolition works, could result in an offence under the relevant legislation.
- 5.2.6 A breeding bird survey is recommended and should be undertaken with reference to the Common Bird Census (CBC) methodology (Gilbert et al., 1998) comprising at least three visits to the survey area between mid-March and mid-July, with all species mapped using standard British Trust for Ornithology species codes and annotations. The objective of the surveys will be to make an assessment of the breeding bird assemblage using the survey area, the number of territories of each species present in the survey area, and the overall importance of the survey area as a breeding habitat in the context of surrounding habitats which will continue to exist once the development is operational.
- 5.2.7 On each survey, early morning transects should be slowly walked around all field boundaries and across fields such that no part of the survey area is further than 50m from the transect route.

Route directions should be varied between visits to avoid systematically surveying the same areas at similar times of day on each visit.

Invertebrates

- 5.2.8 It is recommended that a scoping survey is carried out by an invertebrate specialist in the first instance, to define the need, scope, frequency and methods for subsequent visits with reference to Drake et al. (2007). The scoping survey can be carried out at any time of year and should have particular regard to the potential presence of niche specialists such as the saproxylic stag beetle, and focus on features such as decaying timber, management, nectar sources, wetland, habitat structure, wind exposure, connectivity, ecoclines and bare earth (Dobson, 2011). Subsequent targeted surveys should be conducted between May and early September.

Badger

- 5.2.9 A badger survey is required to check for active badger setts and signs of current badger occupancy, focused on suitable sett building habitats (dense scrub in this survey area) and surrounding habitats within 30 metres of the survey area boundary. The survey will follow standard methodologies (Harris et al., 1989), searching for the following evidence of badger activity: badger setts and other mammal holes, latrines, dung pits, footprints, hairs, pathways, scratching posts or evidence of foraging. The surveys can be carried out at any time of year but are often more productive during spring and autumn when vegetation growth is low but badgers are still active. Any suspected badger setts recorded will be monitored with movement-triggered infrared camera traps over an extended period to establish whether they are actively used by badgers.

Roosting bats

- 5.2.10 The tree at TN1 was assessed as being of high suitability for roosting bats. The proposed development is likely to require the felling of this tree. These works could result in destruction of a bat roost or killing, injury or disturbance to roosting bats, and further surveys are recommended to determine their presence or likely absence within these features. The surveys should follow current guidelines (Collins, 2016), comprising dusk emergence and/or dawn re-entry surveys, and can be carried out between May and September (May to August is the optimal period). Surveys should begin at least quarter of an hour before dusk and continue for up to 2 hours after sunset, or begin 1.5 to 2 hours before dawn and continue until at least 15mins after sunrise. The level of survey effort required is dependent on each feature's suitability for roosting bats, as follows:
- ▶ Confirmed roost / High suitability: At least three surveys visits in total, including at least one dusk emergence and at least one separate dawn re-entry survey;
 - ▶ Moderate suitability: At least one dusk emergence and a separate dawn re-entry survey;
 - ▶ Low suitability: At least one dusk emergence or dawn re-entry survey.
- 5.2.11 An alternative approach for trees is to carry out a potential roosting feature inspection by a suitably licenced tree-climber in the first instance, to determine whether there is a need for presence/absence survey.

Foraging and commuting bats

5.2.12 Bat activity surveys are recommended due to the relatively large area of good quality foraging and commuting habitats (open grassland, scrub and mature boundary trees) which may be directly or indirectly affected by development proposals. Bat activity surveys should follow current guidelines (Collins (ed.), 2016), combining transect surveys with static automated monitoring and supplementary methods as appropriate, and can be carried out between April and October. Transect surveys should begin at sunset and continue for 2–3hrs, or begin 2 hours before dawn and continue at least until sunrise, or continue through the night. The level of survey effort required is dependent on overall habitat suitability, as follows:

- ▶ High suitability: Up to two survey visits per month (April to October), including at least one dusk and pre-dawn survey, combined with three static detector locations per transect, each monitored for five consecutive nights per month;
- ▶ Moderate suitability: One survey visit per month (April to October), including at least one dusk and pre-dawn survey, combined with two static detector locations per transect, each monitored for five consecutive nights per month; or
- ▶ Low suitability: One survey visit per season (spring/summer/autumn), combined with one static detector location per transect, monitored for five consecutive nights per season.

Hazel dormouse

5.2.13 Dense scrub and scattered trees within the survey area provide potential habitat for hazel dormouse. At the boundaries these habitats are to be retained, however where these areas encroach towards the centre of the proposed development area they will be removed. There is a risk of habitat loss, killing, injury or disturbance to dormice during the site works and therefore surveys are recommended to establish the presence or likely absence of this species.

5.2.14 These surveys should be undertaken by a suitably experienced and licensed ecologist following current guidelines (Bright et al., 2006), comprising hazel nut searches and nest tube surveys, and can be carried out between April and November.

Plants

5.2.15 A grassland condition assessment survey is required during the summer months in order to provide an accurate condition assessment of the habitats present for the biodiversity net gain assessment. A specialist botanist will conduct the survey to provide a more detailed analysis of species composition, the value of plant communities present, and to design appropriate mitigation accordingly.

Reptiles

5.2.16 The survey area contains habitats suitable for reptiles including bare ground, grassland, dense and scattered scrub, scattered trees and brash/rubble piles (TN2, TN4 and TN5). There is hence a risk of killing or injury to reptiles and further surveys by an experienced herpetologist are required to establish their presence or likely absence within the proposed construction footprint. The survey should involve a minimum of seven visits to the survey area in suitable weather

conditions during the active season (broadly April to September), following current guidelines (Froglife, 1999; Gent & Gibson, 2003). Methods include visual encounter surveys (i.e. targeted transects) and searches of artificial and natural refuges.

5.3 Precautionary Measures

- 5.3.1 The following species/groups (Table 5.2: Recommended precautionary measures require specific precautionary measures to be adhered to prior to and during construction to ensure that an offence under the relevant legislation is avoided. These measures may need to be added to or amended following completion of the protected species surveys described above.

Table 5.2: Recommended precautionary measures

Recommended precautionary measures	
R11	Ancient Woodlands at Horsgate West, adjacent to the southern boundary of the survey area, and nearby Horsgate East, will be buffered from increased public access by the creation of an area of open space within the southern part of the survey area.
R12	Removal of nesting bird habitats will be undertaken outside of the bird nesting season, which runs from 1 March to 31 August. It will therefore be carried out between September and February, but should be planned and implemented in accordance with the findings of the further ecological surveys recommended above. Any construction works undertaken within the bird breeding season where suitable bird breeding habitat exists will require a site check for nesting birds by a suitably qualified ecologist. This will take place no more than two days prior to works commencing. This is to ensure that no disturbance to active bird nests occurs. If a nest is found it must be cordoned off and works adjacent to the nest must be delayed until such time that the chicks have fledged from the nest. This will be supervised by a suitably qualified ecologist.

5.4 Ecological Protection Measures

- 5.4.1 The following protection measures (Table 5.3) will be carried out as part of the proposed scheme. These measures may need to be added to or amended following completion of the protected species surveys described above.

Table 5.3: Recommended ecological protection measures

Recommended ecological protection measures	
R13	British Standard BS 5837:2012 and/or National Joint Utilities Group Guidelines (NJUG, 1995) will be followed at all times during construction when working in close proximity to trees or shrubs which are to be retained. According to NJUG Guidelines the root protection zone or precautionary area is 4 x the circumference of the trunk (circumference is measured around the trunk at a height of 1.5m above ground level). The distance is measured from the centre of the trunk to the nearest part of any excavation or other work. If a separate tree survey is carried out for the proposed development, works will be undertaken in accordance with the recommendations therein.

Recommended ecological protection measures	
R14	Construction works (including demolition, ground works and vegetation clearance) will be carried out in accordance with a Construction Environmental Management Plan (CEMP: Biodiversity). The CEMP will specify: potentially damaging construction activities; "biodiversity protection zones"; measures to avoid or reduce impacts during construction (including protective fences, exclusion barriers, pollution control and methodological or seasonal restrictions); location and timing of sensitive works; periods during which ecological supervision is required; and the role & responsibilities of an Ecological Clerk of Works (ECoW).
R15	Standard site procedures, as recommended by NetRegs GPP5 (<i>Works and Maintenance in or Near Water</i> ; 2017), will be required to ensure that no contaminants or effluent are released into nearby aquatic environments.
R16	The use of external lighting will be avoided or reduced to the minimum required for its intended purpose, during both construction and operation. This will be of benefit to nocturnal species e.g. bats. Where external lighting is to be provided, it will be low-level, directional lighting with minimal spill and glare, and consideration will be given to reduced hours of operation and/or a movement responsive system of control. Use narrow-spectrum bulbs and light sources that emit minimal UV light, avoiding white and blue wavelengths of the spectrum. Use glass lantern covers instead of plastic to filter UV light. Lighting will not be directed towards the retained boundary scrub and trees.
R17	To enable continued dispersal of hedgehogs (which require large territory sizes) and other small mammals across the survey area and within the local area following development, post and rail fencing will be provisioned at the rear boundary of all gardens. These will allow easy passage for small mammals to continue foraging in the area.
R18	All excavations left overnight will either be covered over, or provided with a ramp to enable easy escape of badgers, hedgehogs, small mammals, amphibians and other fauna, and inspected each morning prior to recommencement. Open pipework greater than 150mm outside diameter will be blanked off at the end of each working day.

5.5 Recommendations for Ecological Enhancement

- 5.5.1 The following ecological enhancements (Table 5.4) should be considered to improve the value of the survey area for biodiversity after construction but should be reviewed and specified further following the completion of recommended protected species surveys.

Table 5.4: Recommendations for ecological enhancement

#	Preliminary recommendations for ecological enhancement
R19	New green spaces will be sown with a native wildflower and grass seed mix (i.e. wildflower meadow) to create neutral grassland. This will maintain/enhance ecological connectivity through the survey area, but will also be extended to public realm areas such as open spaces and road verges. The wildflower meadow treatment will include tussock-forming grass species (such as cock's foot <i>Dactylis glomerata</i> , Yorkshire fog <i>Holcus lanatus</i> , tufted hair-grass <i>Deschampsia cespitosa</i> and false oat-grass <i>Arrhenatherum elatius</i>) to provide shelter and ecological connectivity for reptiles, amphibians and small mammals, and provide forage for invertebrates.

#	Preliminary recommendations for ecological enhancement
R20	Hedgerow creation as part of the landscaping plan for the survey area will use a range of native shrub species. Fruit, seed, nut and nectar-bearing species will be used preferentially when selecting species for landscape planting, so that food sources are available throughout the year (e.g. hazel, hawthorn, blackthorn, rowan <i>Sorbus aucuparia</i> and honeysuckle <i>Lonicera periclymenum</i>). If an evergreen hedge is required for landscape screening, suitable native species include holly, yew <i>Taxus baccata</i> , although both can be rather slow growing, ivy and wild privet <i>Ligustrum vulgare</i> .
R21	A new pond(s) will be created within the proposed development as part of the drainage strategy. Details are not known at this stage, but collaboration between drainage engineers, landscape architects and ecologists can result in the creation of good quality wetland/pond habitat which can increase habitat availability for species such as grass snake, amphibians and invertebrates such as dragonflies.
R22	The survey area's landscaping plans will utilise plant species which encourage bats. The table at Appendix V lists species of plants that can provide benefit for bats either by providing a food source for insects on which bats feed, or providing additional roosting opportunities (Gunnell et al., 2012). The plant species are predominantly native to Britain, but not all species will be suitable in all situations. The aim is to encourage a diverse range of invertebrate food sources and increased bat roost potential.
R23	Habitat piles will be created within marginal vegetation at the boundaries of the survey area. These will provide additional hibernation and shelter resources for amphibians, invertebrates, reptiles, and a range of other wildlife, and egg-laying substrate for grass snakes. Hibernacula can be created by partially burying logs and stones in sheltered areas away from flood risk, and covering over with earth or turf. Breeding habitats can be created by collecting grass clippings and other prunings arising from landscape management of the survey area, and composting them in a secluded corner. Deadwood piles can be created using arisings from site clearance to provide shelter and breeding opportunities for invertebrates, particularly saproxylic species which are dependent on deadwood.
R24	The value of the survey area for birds will be enhanced by installing a range of artificial nest boxes. These will be placed on retained mature trees within the development or at the boundaries of the survey area or incorporated within building facades. For instance: ▪ New buildings: nest boxes can be installed under the eaves for birds that utilise buildings for nesting, e.g. house martin, house sparrow, swallow and swift. These species are of principal importance, of conservation concern and/or are notable in Sussex. ▪ Trees: nest boxes with entrance holes suitable for tit species, woodpeckers and nuthatches, and open-fronted boxes suitable for spotted flycatcher or song thrush, and treecreeper <i>Certhia familiaris</i> boxes. ▪ Artificial nest boxes for kestrel, barn owl and tawny owl, can be erected in areas of public open space/ undeveloped areas.
R25	The value of the survey for bats will be enhanced by installing a range of artificial roost boxes. These will be placed on retained mature trees within the development or at the boundaries of the survey area, or incorporated within building facades. Boxes suitable for a range of species should be used, for instance: ▪ New buildings: integral bat tubes can be installed within buildings which face vegetated areas, particularly towards the west of the development. Bat tubes can be

#	Preliminary recommendations for ecological enhancement
	incorporated into the design of the building so that only the access holes are visible from the exterior of the building. The Schwegler 1FR or 2FR Bat Tube is designed to meet the characteristic requirements of the types of bats that inhabit buildings such as pipistrelles <i>Pipistrellus spp.</i> or serotines <i>Eptesicus serotinus</i>. It is designed to be installed on the external walls of buildings, either flush or beneath a rendered surface. ▪ Pipistrelles: bat boxes suitable to install on mature trees either within or at the edges of the development include the Schwegler 1FF Flat Bat Box, or other manufacturer's equivalent. ▪ Noctules and brown long eared bats bat boxes suitable to install on mature trees either within or at the edges of the development include the Schwegler 2F General Purpose Bat Box or the 2FN Woodland Bat Box, or other manufacturer's equivalent. Bat boxes on buildings should ideally be located south-facing (between south-east and south-west) and above 4m from ground level. On trees, bat boxes should ideally be located on three aspects of each tree (facing north, south-east and south-west) and at ≥5m from ground level. In both cases they should be installed facing vegetation features such as mature hedgerows or trees, but with a clear line of flight for bats exiting the roost, and away from sources of artificial light.

6 Summary and Conclusions

6.1 Introduction

- 6.1.1 A Preliminary Ecological Appraisal was undertaken for the site of a proposed residential development on Land at Hanlye Lane, Cuckfield, West Sussex (Grid Reference: 531093, 125522). The report was prepared to inform the design process for the proposal, record the ecological baseline and identify key ecological features within and around the proposal site.

6.2 Results

- 6.2.1 There are no internationally important wildlife sites within the 5km desk study search area. There are two nationally important wildlife sites within the 2km desk study search area, one AONB and an LNR. Additionally, there are four non-statutory sites of local nature conservation importance within the 1km desk study area, which includes two LWS and two DRV. There are records of a range of protected or notable species in the locality, including amphibians, birds, invertebrates, terrestrial mammals, flowering plants and terrestrial reptiles, together with the following Priority Habitats: Lowland Fen, Traditional Orchard, Wood-pasture and Parkland, Deciduous Woodland, Ancient Woodland and Ghyll Woodland.
- 6.2.2 The survey area lies c.2.5km north-west of Haywards Heath on the outskirts of Cuckfield in the Mid Sussex District of West Sussex. The survey area comprises c.5.62ha of undeveloped land, currently dominated by neutral semi-improved grassland (horse grazed pasture) with scattered trees and scrub. The wider landscape is characterised by a patchwork of arable land and pasture with a network of drainage ditches and scattered ponds, hedgerows with trees and woodland blocks. The nearby settlement of Cuckfield lies to the west and Haywards Heath lies to the south-east. Ten ponds lie within 500m of the survey area.

6.3 Evaluation

- 6.3.1 Table 6.1 presents a summary of ecological constraints and opportunities identified within the survey area.

Table 6.1: Summary of ecological constraints and opportunities

Feature	Detail
Constraints:	
Designated sites	The survey area falls within a Site of Special Scientific Interest impact risk zone, however, the proposed residential development is not one of the listed categories of planning application which Natural England considers likely to pose a risk. The local network of public rights of way leads into Blunts and Paiges Woods LNR/LWS. Increased usage of existing rights of way following the completion of the

Feature	Detail
	development has the potential to negatively affect these nature conservation areas. However, the proposed development is for c.55 dwellings and incorporates an undeveloped zone in the south of the survey area which will provide an open space of c.2.6ha which will help alleviate recreational pressure on designated areas in the proximity of the development. Given the size and scale of the proposals, the provision of integrated open space, and the distance of the development from designated sites, it is considered that none of the statutory or non-statutory wildlife sites within the desk-study search zone are likely to be affected by the proposed development.
Priority Habitats	There are no Priority Habitats within the application site, but Ancient Woodland and Deciduous Woodland Priority Habitats are present adjacent to the south-eastern corner of the survey area. There are two areas of Ancient Woodland, Horsgate West, which is adjacent to the southern boundary, and Horsgate East which lies 25m to the east. Ancient Woodland is vulnerable to negative effects from the proposed development, such as noise, light and dust pollution, hydrological changes, impacts to tree root systems, fly-tipping, invasive species and increased public access. The adjacent Ancient Woodland areas will be protected by an undeveloped zone which will provide a buffer of c.125m between the construction footprint and the woodland.
Other habitats	The proposed development would result in permanent losses of up to c.1.62ha of semi-improved neutral grassland, c.0.31ha of dense scrub, c.0.15ha of scrub with young trees, c.0.21ha scattered scrub and approximately five scattered trees, depending on the final extent and layout of Proposed Development. The semi-improved neutral grassland, scrub and scattered trees areas are of Local importance, and they provide habitats suitable for a number of protected species (e.g. amphibians, breeding birds, invertebrates, badger, bats, hazel dormouse and reptiles).
Great crested newt	Permanent loss of suitable terrestrial habitats (grassland, scrub, brash/rubble piles). No impact on aquatic habitats.
Birds (nesting)	Permanent loss of nesting habitats (scattered trees and scrub).
Badger	Permanent loss of suitable habitats for foraging and sett excavation (grassland, dense scrub).
Bats (roosting)	The tree at TN1 in the centre of the northern field was of <u>high</u> suitability due to the presence of several woodpecker holes. It is currently anticipated that TN1 will be removed as part of the proposed development.
Bats (foraging/commuting)	Direct and indirect effects on habitats suitable for foraging and commuting bats (grassland, scrub, and scattered trees) via habitat loss and increases in artificial light.
Hazel dormouse	Permanent loss of dense scrub suitable for hazel dormouse.
Reptiles	Permanent loss of suitable habitats (grassland, scrub, brash/rubble piles).
Opportunities:	
Habitat creation / enhancement	Habitat creation and enhancement opportunities include hedgerow creation/enhancement, wildflower meadow creation, pond/wetland creation associated with a drainage strategy, use of native plant species, habitat piles and bird/bat boxes.

6.4 Recommendations

- 6.4.1 Recommendations are made for further botanical and protected species surveys, together with preliminary recommendations for the protection of important ecological features to avoid or mitigate ecological impacts, and to enhance the ecology of the site post-construction; these are summarised in Table 6.2. It is intended that these recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. The recommendations should be reviewed following the completion of further ecological surveys.

Table 6.2: Summary of recommendations

Summary of recommendations	
<i>Botanical / protected species surveys</i>	
R1	Presence / absence surveys for GCN in ponds within 250m of the survey area, undertaken using eDNA sampling techniques from mid-April to end June, or using conventional techniques from mid-March to mid-June.
R2	Breeding bird surveys, undertaken between mid-March and mid-July.
R3	A scoping survey and site assessment for invertebrates, to define the scope and methods for subsequent surveys carried out between May and early September.
R4	A badger survey to determine if any setts are located within the survey area plus a 30m buffer to ensure that disturbance to badgers occupying a sett does not occur during the works. Badger surveys can be undertaken anytime, but preferably during winter/spring.
R5	Presence / absence surveys for roosting bats within tree TN1 if it will be affected by proposals for the survey area, undertaken between May and August.
R6	Bat activity surveys, undertaken between April and October.
R7	Presence / absence surveys for dormouse, undertaken between April and November, if scrub will be affected by proposals for the survey area.
R8	Grassland condition assessment survey undertaken during the summer months.
R9	Presence / absence surveys for reptiles, undertaken between April and September within suitable habitats present in the survey area.
R10	If any of the above species are present and affected by the proposals, an EclA of the effects of the proposed development should be carried out. The EclA will include detailed advice on ecological avoidance, mitigation, enhancement and/or compensation measures.
<i>Precautionary measures</i>	
R11	Ancient Woodlands at Horsgate West, adjacent to the southern boundary of the survey area, and nearby Horsgate East, will be buffered from increased public access by the creation of an area of open space within the southern part of the survey area.
R12	Removal of nesting bird habitats will be undertaken outside of the bird nesting season, which runs from 1 March to 31 August. It will therefore be carried out between September and February, but should be planned and implemented in accordance with the findings of the further ecological surveys recommended above.
<i>Ecological protection measures</i>	
R13	Standard site procedures to prevent impacts on trees will be adhered to during construction.

Summary of recommendations	
R14	Construction works (including demolition, ground works and vegetation clearance) will be carried out in accordance with a Construction Environmental Management Plan.
R15	Standard site procedures to prevent impacts on nearby aquatic environments will be adhered to during construction.
R16	The use of external lighting will be avoided or minimised to prevent impacts to nocturnal species. Lighting should not be directed towards retained wetland, woodland or hedgerows.
R17	Small access gaps will be provisioned at the base of new fence boundaries to enable continued dispersal of small mammals across the survey area.
R18	At the end of each working day excavations will be covered over and open pipework capped to prevent entrapment of mammals, amphibians and other fauna.
Ecological enhancement	
R19	Green spaces will be sown with a native wildflower and grass seed mix.
R20	Hedgerow creation will use a range of native fruit, seed, nut and nectar-bearing shrub species.
R21	New wetland habitat will be created within the proposed development as part of the drainage strategy and to increase aquatic habitat availability.
R22	The survey area's landscaping plans will utilise plant species which encourage bats by providing additional food sources or roosting opportunities.
R23	Habitat piles for amphibians, invertebrates and reptiles will be created within or close to areas of retained rough grassland, scrub, woodland, hedgerows and ponds.
R24	The value of the survey area for birds will be enhanced by installing a range of artificial nest boxes onto new buildings and retained trees.
R25	The value of the survey area for bats will be enhanced by installing a range of artificial roost boxes onto new buildings and retained trees.

6.5 Conclusions

- 6.5.1 The land proposed for development is preliminarily evaluated as of Local ecological importance. Significant constraints to development were identified including adjacent Ancient/Deciduous Woodland Priority Habitats, and the potential presence of GCN, breeding birds, invertebrates, badger, bats, hazel dormouse and reptiles. Further ecological surveys and impact assessment are required prior to submitting a planning application, to determine the value of the survey area for these species and to formulate a suitable mitigation strategy.

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Appendix I: Phase 1 Habitat Plan

Please see insert.

Hanlye Lane, Cuckfield, West Sussex

- Survey area
- Scrub - dense/continuous
- Scrub - scattered
- SI Neutral grassland - semi-improved
- Standing water
- A Amenity grassland
- Bare ground
- Scrub with young trees
- Ancient woodland
- Ancient woodland 15m buffer
- Target note
- ✱ Scattered tree
- ✱ High suitability tree



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Ordnance Survey 0100031673

Scale (at A4): 1:2,250 Created by: MT

Date: Mar 2023 Reviewed by: NP

Drawing number:

UE0566ECO-HanlyeLane_HabitatMap_230310



Appendix II: Target Notes

Target Note	Photo
TN1- A standing dead black pine with woodpecker holes offering high potential features for roosting bats.	
TN2 - Pile of rubbish in the semi-improved neutral grassland area.	
TN3 - Dried up pond at P2.	

Target Note	Photo
TN4 - Brash pile in scrub with young trees.	
TN5 - Rubble and rubbish piles in scrub with young trees.	
	

Target Note	Photo
Two entrances to active badger sett c.95m to south-west of the survey area.	

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Appendix III: Pond Plan

Please see insert.

Hanlye Lane, Cuckfield, West Sussex

-  Survey area
-  250m buffer
-  500m buffer
-  Pond

0 200 400
Metres



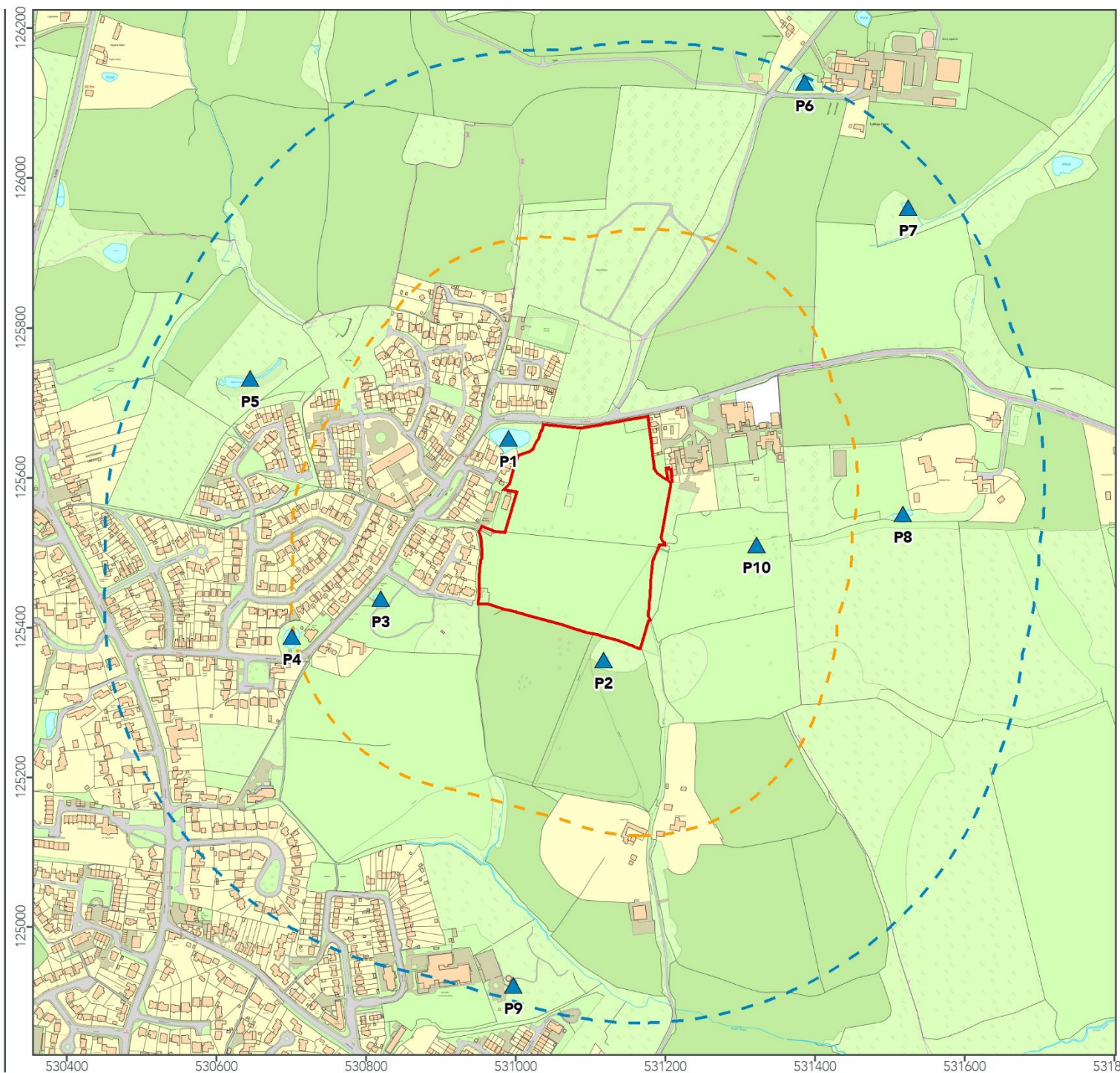
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Ordnance Survey 0100031673

Scale (at A4): 1:7,500 Created by: MT

Date: Mar 2023 Reviewed by: NP

Drawing number:

UE0566ECO-HanlyeLane_LocationMap_230307



Appendix IV: Habitat Suitability Indices

HSI results for all accessible waterbodies potentially suitable for GCN within 500m of the survey area are shown below.

Variable	Field score	SI value	Field score	SI value	Field score	SI value
	<i>Pond 1</i>		<i>Pond 3</i>		<i>Pond 10</i>	
Location	A	1	A	1	A	1
Pond area (m2)	1200	0.92	300	0.6	600	1
Pond permanence	Never Dries	0.9	Rarely Dries	1	Sometimes dries	0.5
Water quality	Poor	0.33	Moderate	0.67	Bad	0.01
% shaded 1m from bank	40%	1	25%	1	100%	0.2
Fowl	Minor	0.67	Absent	1	Absent	1
Fish	Possible	0.67	Possible	0.67	None	1
Pond density (per km ²)	8.6	1	8.6	1	8.6	1
Terrestrial habitat	Good	1	Moderate	0.67	Good	1
Macrophyte cover %	10%	0.4	30%	0.6	0%	0.3
HSI value	0.74		0.80		0.45	
Suitability	GOOD		EXCELLENT		POOR	

P1 to north-west of survey area	
P3 to west of survey area	No photograph available.

P10 to east of survey area.



Appendix V: Plant Species which encourage Bats

Please see following pages which are drawn from Gunnell *et al.* (2012).

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Plant Species	Common name	Native	Type	Benefit	Soil	Light	Extensive green roofs	Living walls	Rain Gardens	Hedges/trees	Beds/borders
<i>Acer campestre</i>	Field maple	N	T/S	C	Any	Sun / shade				Y	
<i>Acer platanoides</i>	Norway maple		T	S	Well drained / alkaline	Sun / shade				Y	
<i>Acer saccharum</i>	Sugar maple		T	S	Any	Sun / shade				Y	
<i>Achillea millefolium</i>	Yarrow	N	HP	C,F	Well drained	Sun	Y				
<i>Ajuga reptans</i>	Bugle	N	HP	C,F	Any	Sun / shade	Y				
<i>Anthyllis vulneraria</i>	Kidney vetch	N	HP	F	Well drained	Sun	Y				
<i>Aubrieta deltoidea</i>	Aubrieta		H	F	Well drained	Sun / shade		Y			
<i>Betula pendula</i>	Silver birch	N	T	C	Sandy / Acid	Sun				Y	
<i>Cardamine pratensis</i>	Cuckoo-flower	N	HP	F	Moist	Sun / shade					Y
<i>Carpinus betulus</i>	Hornbeam	N	T	C	Clay	Sun				Y	
<i>Centaurea nigra</i>	Common knapweed	N	HP	C,F	Dry, not acid	Sun	Y				Y
<i>Centranthus ruber</i>	Red valerian		HP	F	Well drained / alkaline	Sun	Y				Y
<i>Clematis vitalba</i>	Old man's beard	N	C	F	Well drained / alkaline	Sun				Y	
<i>Corylus avellana</i>	Hazel	N	S	C	Any dry	Sun / shade		Y		Y	
<i>Crataegus monogyna</i>	Hawthorn	N	S	S,C	Any	Sun / shade				Y	
<i>Daucus carota</i>	Wild carrot	N	Bi	S,C,F	Any	Sun	Y				Y
<i>Dianthus spp.</i>	Pinks	N	A-Bi	F	Well drained	Sun	Y	Y			Y
<i>Digitalis purpurea</i>	Foxglove	N	Bi	C	Well drained	Shade / partial shade				Y	Y
<i>Erica cineria</i>	Bell heather	N	S	F	Sandy	Full sun					Y
<i>Erysimum cheiri</i>	Wallflower		Bi-P	F	Well drained	Sun		Y			
<i>Eupatorium cannabinum</i>	Hemp agrinomy	N	H	F	Moist	Sun / shade					Y
<i>Fagus sylvatica</i>	Beech	N	T	C,R	Well drained / alkaline	Sun / shade				Y	
<i>Foeniculum vulgare</i>	Fennel		H	F	Well drained	Sun					Y
<i>Fraxinus excelsior</i>	Common ash	N	T	C,R	Any	Sun / shade				Y	
<i>Hebe spp.</i>	Hebe species		S	F	Well drained	Sun / shade				Y	Y
<i>Hedera helix</i>	Ivy	N	C	F,C	Any	Sun / shade		Y		Y	Y
<i>Hesperis matronalis</i>	Sweet rocket		H	F	Well drained / dry	Sun / shade					Y
<i>Hyacinoides non-scripta</i>	Bluebell	N	B	F	Loam	Shade / partial shade		Y		Y	Y
<i>Ilex aquifolium</i>	Holly	N	T	C	Any	Sun / shade				Y	
<i>Jasminum officinale</i>	Common jasmine		C	F	Well drained	Sun		Y			Y
<i>Lavandula spp.</i>	Lavander species		S	F	Well drained / sandy	Sun		Y			Y
<i>Linaria vulgaris</i>	Toadflax	N	HP	C	Well drained / alkaline	Sun	Y				Y
<i>Lonicera periclymenum</i>	Honeysuckle	N	C	F	Well drained	Sun		Y		Y	
<i>Lotus corniculatus</i>	Bird's foot trefoil	N	HP	F	Well drained / dry	Sun	Y				Y
<i>Lunaria annua</i>	Honesty		Bi	F	Any	Sun / partial shade	Y				
<i>Malus spp.</i>	Apple		T	C	Any	Sun				Y	
<i>Matthiola longipetala</i>	Night-scented stock		A	F	Well drained/ moist	Sun			Y		
<i>Myosotis spp.</i>	forget-me-not	N	A	F	Any	Sun	Y	Y			
<i>Nicotiana glauca</i>	Ornamental tobacco		A	F	Well drained/ moist	Sun / partial shade			Y		
<i>Oenothera spp.</i>	Evening primrose species		Bi	F	Well drained/ dry	Sun	Y				
<i>Origanum vulgare</i>	Marjoram	N	HP	F	Well drained/ dry	Sun	Y	Y			
<i>Populus alba</i>	White poplar	N	T	C	Clay loam	Sun				Y	
<i>Primula veris</i>	Cowslip	N	HP	F	Well drained/moist	Sun / partial shade	Y				
<i>Primula vulgaris</i>	Primrose	N	HP	F	Moist	Partil shade	Y	Y		Y	
<i>Prunus avium</i>	Wild cherry	N	T	C	Any	Sun				Y	

Plant Species	Common name	Native	Type	Benefit	Soil	Light	Extensive green roofs	Living walls	Rain Gardens	Hedges/trees	Beds/borders
<i>Prunus domestica</i>	Plum		T	C	Well drained/ moist	Sun				Y	
<i>Prunus spinosa</i>	Blackthorn	N	S	C	Any	Sun / partial shade				Y	
<i>Quercus petraea</i>	Sessile oak	N	T	C,R	Sandy loam	Sun / shade				Y	
<i>Quercus robur</i>	Common oak	N	T	C,R	Clay loam	Sun / shade				Y	
<i>Rosa canina</i>	Dog rose	N	S	C	Any	Sun			Y	Y	
<i>Salix spp.</i>	Willow species	N	S	S,C	Moist	Sun / shade			Y	Y	
<i>Sambucus nigra</i>	Elder	N	T	C	Clay loam	Sun				Y	
<i>Saponaria officinalis</i>	Soapwort	N	HP	F	Any	Sun					
<i>Saxifraga oppositifolia</i>	Saxifrage	N	HP	C	Well drained	Sun	Y	Y			
<i>Scabiosa columbaria</i>	Small scabious	N	HP	F	Well drained/ alkaline	Sun	Y				
<i>Sedum spectabile</i>	Ice plant		HP	F	Well drained/ dry	Sun	Y				
<i>Silene dioecia</i>	Red campion	N	HP	F	Any	Shade / partial shade		Y	Y	Y	
<i>Sorbus aucuparia</i>	Rowan	N	T	C	Well drained	Sun				Y	
<i>Stachys lanata</i>	Lamb's ears		HP	F	Well drained/dry	Sun	Y				
<i>Symphotrichum spp.</i>	Michaelmas daisies		HP	F	Any	Sun					
<i>Tegetes patula</i>	French marigold		A	F	Well drained/moist	Sun					
<i>Thymus serpyllum</i>	Creeping thyme	N	HP/S	F	Well drained/dry	Sun	Y	Y			
<i>Tilia x europaea</i>	Common lime		Type	C	Any	Sun / shade				Y	
<i>Trifolium spp.</i>	Clover species	N	HP	F	Any	Sun	Y				
<i>Valeriana spp.</i>	Valerian species	N	HP	F	Moist	Sun / partial shade			Y		
<i>Verbascum spp.</i>	Mulleins	N	Bi,HP	C	Well drained	Sun	Y				
<i>Verbena bonariensis</i>	Verbena		HP	F	Well drained/moist	Sun					
<i>Viburnum lantana</i>	Wayfaring tree	N	S	C	Any	Sun / shade				Y	
<i>Viburnum opulus</i>	Guelder rose	N	S	C	Moist	Sun / shade			Y	Y	
<i>Viola tricolor</i>	Pansy	N	A	F	Well drained/moist		Y	Y			

The table above is derived from the BCT publication Landscape and Urban Design for Bats and Biodiversity (Gunnell et al., 2012) and lists suggested plant species that can provide benefit for bats either by providing a food source for insects or roost potential. The plants listed are predominately native to Britain. The small group of non-native plants is included for their documented value for wildlife. This list has been checked against Natural England's list of invasive non-native plants.

HP: Herbaceous perennial	T: Tree	A: Annual	Benefit:				
Bi: Biennial	S: Shrub	B: Bulb	C: Moth caterpillar food plant	F: Flowers attract adult moths			
BiP: Biennial perennial	H: Herb	C: Creeper/climber	S: Sap sucking insects (e.g. whiteflies)	R: Good roost potential			

Appendix VI: Legislation and Planning Context

Legislation

General

The main legislative instruments for ecological protection in England and Wales are: the Wildlife and Countryside Act 1981 (WCA; as amended); Countryside and Rights of Way Act 2000 (CRoW; as amended); Natural Environment and Rural Communities Act 2006 (NERC; as amended); the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations; as amended); and the Environment Act 2021.

WCA 1981 consolidated and amended pre-existing national wildlife legislation in order to implement the Bern Convention and the European Union Wild Birds Directive (Council Directive 2009/147/EC). It complements the Habitats Regulations, offering protection to a wider range of species than the latter. The Act also provided for the designation and protection of nationally important conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSI). Schedules of the act list protected species of flora and fauna, as well as invasive species, and detail the possible offences that apply to these species.

The CROW Act 2000 amended and strengthened existing wildlife legislation detailed in the WCA. It placed a duty on government departments & the National Assembly for Wales to have regard for biodiversity, provided increased powers for the protection and maintenance of SSSI, and created a right of access to parts of the countryside. The Act contained lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The NERC Act 2006 consolidated and replaced aspects of earlier legislation. Section 40 of the Act places a duty upon all local authorities and public bodies in England and Wales to have regard to the purpose of conserving biodiversity in exercising all of their functions, including by restoring or enhancing habitats and species populations. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity (otherwise known as Priority Habitats/species as listed in the now superseded UK Biodiversity Action Plan). These lists supersede Section 74 of the CRoW Act 2000. These species and habitats are a material consideration in the planning process.

The Habitats Regulations 2017 are the principal means by the European Union Habitats Directive (Council Directive 92/43/EEC) was transposed into English and Welsh law, and place a duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria in Europe are designated as Sites of Community Importance by the European Commission, and subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. Since the UK's departure from the European Union the European Commission no longer has a role in designating SACs in the UK. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 establish a single stage designation process, where the appropriate authority is the decision maker. The selection and designation of SACs is based on the criteria set out in Annex III of the Habitats Directive insofar as it applies to the UK, and having regard to the advice of the appropriate nature conservation body.

The 2019 Amendment Regulations have created a new national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes existing SACs, existing Special

Protection Areas (SPA) originally designated as a result of Council Directive 2009/147/EC on the Conservation of Wild Birds, and any new SACs and SPAs designated under the 2019 Regulations. SACs and SPAs in the UK therefore no longer form part of the EU's Natura 2000 ecological network.

The Habitats Regulations also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively (European Protected Species (EPS)). Schedule 2 includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade in these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations. Under the Habitats Regulations disturbance includes any activity which is likely to: impair the ability of a EPS to survive, breed, reproduce, or rear/nurture its young; impair the ability of a EPS to migrate or hibernate; or significantly affect the local distribution or abundance of the species.

The Environment Act 2021, among other things: established an Office for Environmental Protection; introduced a mandatory requirement for all new development requiring planning permission to achieve a net gain for biodiversity of at least 10% (although implementation of this is transitional); amended the NERC Act duty to conserve biodiversity by explicitly adding a duty to enhance; and requires local authorities to produce local nature recovery strategies.

Badgers (Meles meles)

Badgers are listed under Schedule 6 of the Wildlife and Countryside Act which grants them partial protection. This protection is extended by the Protection of Badgers Act 1992 (Badger Act) which makes it an offence to take, injure or kill a badger, interfere with a sett, sell or possess a live badger, or mark or ring a badger without a licence. Under the Act disturbance is illegal without a licence. Natural England has published guidelines to be adopted when determining whether an activity is 'disturbing' i.e. a licence is required when, for example, using heavy machinery (generally tracked vehicles) within 30m of any entrance to an active sett. Licences are not normally issued during the badger breeding season (December – June inclusive).

Bats (Chiroptera)

Bats and their roosts are fully protected by protected by the WCA and the Habitats Regulations, and seven species of bats are species of principal importance. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a bat.
- ▶ Possess or control a live or dead bat, any part of a bat, or anything derived from a bat.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a bat uses for shelter or protection. This is taken to mean all bat roosts whether bats are present or not.
- ▶ Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.
- ▶ Make a false statement in order to obtain a licence for bat work.

Under the Habitats Regulations disturbance includes any activity which is likely to:

- ▶ Impair the ability of a bat to survive, breed, reproduce, or rear/nurture its young.
- ▶ Impair the ability of a bat to migrate or hibernate.
- ▶ Significantly affect the local distribution or abundance of the species.

Eurasian beaver (Castor fiber)

From October 2022 Eurasian beavers are protected under the Conservation of Habitats and Species Regulations 2017 (as amended). Under this legislation it is an offence to:

- ▶ Deliberately disturb a beaver – this includes any action likely to impair their ability to survive, breed or rear their young.
- ▶ Deliberately injure, capture or kill a beaver.
- ▶ Damage or destroy the breeding site or resting place of a beaver.

It is also an offence to:

- ▶ Possess, control or transport a beaver.
- ▶ Sell or exchange a beaver.
- ▶ Offer a beaver for sale or exchange.

This applies whether the beaver is alive or dead and includes beaver parts and derivatives.

The Wildlife and Countryside Act 1981 (as amended) prohibits the release of beavers into the wild except with a licence. It also makes it an offence to use any trap or snare for the purpose of killing, taking or restraining beavers. It is also an offence to set a trap or snare in place to cause injury to a beaver.

Some management activities near or in a site of special scientific interest may need permission from Natural England under this legislation.

Beavers are protected from unnecessary suffering and cruel treatment under the Animal Welfare Act 2006 and the Wild Mammals (Protection) Act 1996.

Wild birds

Wild birds are protected by the Wildlife and Countryside Act, 1981 (as amended). This legislation makes it an offence to intentionally kill, injure or take away any wild bird. It is also an offence to take, damage or destroy the nest of any wild bird while it is in use or being built or to take or destroy the egg of any wild bird. In addition, certain species are listed on Schedule 1 of the WCA (such as kingfisher *Alcedo atthis*). This makes it an additional offence to intentionally or recklessly disturb the adults while they are in and around their nest or intentionally or recklessly disturb their dependent young. Such species are considered to be in greater need of legal protection or of high nature conservation priority.

Birds of Conservation Concern (BoCC5) are included on Red and Amber lists (Stanbury *et al.*, 2021). Birds on the Red list are those of highest conservation priority due significant and sustained population decreases and/or range contractions (e.g. house sparrow *Passer domesticus* and starling *Sturnus vulgaris*). Birds on the Amber list are the next most critical group and include species whose population/range have shown moderate declines, or which have recovered to some extent from historical decline, such as dunnoek *Prunella modularis*.

Dormouse (Muscardinus avellanarius)

Dormouse is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*:

- ▶ Intentionally kill, injure or take a dormouse.

- ▶ Possess or control a live or dead dormouse, any part of, or anything derived from a dormouse.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a dormouse uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a dormouse while it is occupying a structure or place that it uses for shelter or protection.

Great crested newt (*Triturus cristatus*; GCN) (and natterjack toad *Bufo calamita*)

GCN is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a GCN (including its eggs).
- ▶ Possess or control a live or dead GCN, any part of, or anything derived from a GCN.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a GCN uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a GCN while it is occupying a structure or place that it uses for shelter or protection.

Otter (*Lutra lutra*)

Otter is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take an otter.
- ▶ Possess or control a live or dead otter, any part of, or anything derived from an otter.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that an otter uses for shelter or protection.
- ▶ Intentionally or recklessly disturb an otter while it is occupying a structure or place that it uses for shelter or protection.

Reptiles

The four common species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, adder *Vipera berus* and grass snake *Natrix helvetica*) are partially protected under the WCA. They are protected, *inter alia*, against intentional killing and injuring. The handling and translocation of these reptiles does not require a licence.

Smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* are fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a smooth snake or sand lizard.
- ▶ Possess or control a live or dead smooth snake or sand lizard, any part of, or anything derived from a smooth snake or sand lizard.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a smooth snake or sand lizard uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a smooth snake or sand lizard while it is occupying a structure or place that it uses for shelter or protection.

Water vole (*Arvicola amphibious*)

Water vole is fully protected by the WCA. The legislation makes it an offence, *inter alia*, to:

- ▶ Intentionally kill, injure or take a water vole.
- ▶ Possess or control a live or dead water vole, any part of, or anything derived from a water vole.
- ▶ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a water vole uses for shelter or protection.
- ▶ Intentionally or recklessly disturb a water vole while it is occupying a structure or place that it uses for shelter or protection.

Weeds Act 1959 / Ragwort Control Act 2003

This legislation provides for orders to be made for control where notifiable weed species such as ragwort are said to be a problem. The act does not make it illegal to have ragwort (or other weed species) on your land, make it illegal to allow ragwort to spread, or force landowners automatically to control it. However, if DEFRA is satisfied that there are injurious weeds to which this Act applies growing upon any land it may serve upon the occupier of the land a notice in writing requiring them, within the time specified in the notice, to take such action as may be necessary to prevent the weeds from spreading.

Planning context

National Planning Policy Framework (Section 15: Conserving and enhancing the natural environment)

The National Planning Policy Framework (NPPF), published in 2023, outlines the Government's commitment to the conservation of wildlife and natural features. It is concerned with:

- ▶ Protecting and enhancing valued landscapes, sites of biodiversity or geological conservation value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- ▶ Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- ▶ Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- ▶ Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current & future pressures;
- ▶ Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- ▶ Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

The NPPF requires that local plans should “distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value...; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries”.

To protect and enhance biodiversity and geodiversity, the NPPF states that planning policies should:

- ▶ Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- ▶ Promote the conservation, restoration and enhancement of Priority Habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should aim to protect and enhance biodiversity by applying the following principles:

- ▶ if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- ▶ development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- ▶ development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- ▶ development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

The following wildlife sites should be given the same protection as habitats sites:

- ▶ potential Special Protection Areas and possible Special Areas of Conservation;
- ▶ listed or proposed Ramsar sites; and
- ▶ sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site. The policies within the NPPF (and additional guidance contained within Circular 06/2005) are a material planning consideration.

UK/Local Biodiversity Action Plan Designations and Birds of Conservation Concern and Red Data Book Listings

Note that BAP designations and status as RSPB Birds of Conservation Concern or Red Data Book species does not offer any further legal protection, but planning authorities are required to prevent these species from being adversely affected by development in accordance with National Planning Policy and the CROW and NERC Acts. The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, was a government initiative

designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contained a list of Priority Habitats and species of conservation concern in the UK, and outlined biodiversity initiatives designed to enhance their conservation status.

However, as a result of devolution, and new country-level and international drivers and requirements, much of the work previously carried out by the UK BAP is now focussed at a country-level rather than a UK-level, and the UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK lists of Priority Habitats and species nonetheless remain an important reference source and were used to draw up statutory lists of Priority Habitats and species in England, Northern Ireland, Scotland and Wales. The Priority Habitats and species correlate with those listed on Section 41 and 42 of the NERC Act.

The UKBAP required that conservation of biodiversity be addressed at a County level through the production of Local BAPs. These are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs. Where they exist, Local BAP targets with regard to species and habitats are a material consideration in the planning process.

Local Planning Policy

The Mid Sussex District Plan 2014-2031 (Mid Sussex District Council, March 2018) contains the following policy relating to wildlife and biodiversity:

DP38 – Biodiversity

“Biodiversity will be protected and enhanced by ensuring development:

- Contributes and takes opportunities to improve, enhance, manage and restore biodiversity and green infrastructure, so that there is a net gain in biodiversity, including through creating new designated sites and locally relevant habitats, and incorporating biodiversity features within developments; and
- Protects existing biodiversity, so that there is no net loss of biodiversity. Appropriate measures should be taken to avoid and reduce disturbance to sensitive habitats and species. Unavoidable damage to biodiversity must be offset through ecological enhancements and mitigation measures (or compensation measures in exceptional circumstances); and
- Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to connect natural habitats and increase coherence and resilience; and
- Promotes the restoration, management and expansion of priority habitats in the District; and
- Avoids damage to, protects and enhances the special characteristics of internationally designated Special Protection Areas, Special Areas of Conservation; nationally designated Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty; and locally designated Sites of Nature Conservation Importance, Local Nature Reserves and Ancient Woodland or to other areas identified as being of nature conservation or geological interest, including wildlife corridors, aged or veteran trees, Biodiversity Opportunity Areas, and Nature Improvement Areas”.

Appendix VII: Legal and Technical Limitations

- This report has been prepared by Urban Edge Environmental Consulting Ltd (UEEC Ltd) with all reasonable skill, care and diligence within the terms of the contract made with the Client to undertake this work, and taking into account the information made available by the Client. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us.
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- The advice provided in this report does not constitute legal advice. As such, the services of lawyers may also be considered to be warranted.
- Unless otherwise stated in this report, the assessments made assume that the sites and facilities that have been considered in this report will continue to be used for their current planned purpose without significant change.
- All work carried out in preparing this report has utilised and is based upon UEEC Ltd's current professional knowledge and understanding of current relevant UK standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and may cause any conclusions to become inappropriate or incorrect. UEEC Ltd does not accept responsibility for advising the Client or other interested parties of the facts or implications of any such changes;
- Where this report presents or relies upon the findings of ecological field surveys (including habitat, botanical or protected/notable species surveys), its conclusions should not be relied upon for longer than a maximum period of two years from the date of the original field surveys. Ecological change (e.g. colonisation of a site by a protected species) can occur rapidly and this limitation is not intended to imply that a likely absence of, for instance, a protected species will persist for any period of time;
- This report has been prepared using factual information contained in maps and documents prepared by others. No responsibility can be accepted by UEEC Ltd for the accuracy of such information;
- Every effort has been made to accurately represent the location of mapped features, however, the precise locations of features should not be relied upon;
- Populations of animals and plants are often transient in nature and a single survey visit can only provide a general indication of species present on site. Time of year when the survey was carried out, weather conditions and other variables will influence the results of an ecological survey (e.g. it is possible that some flowering plant species which flower at other times of the year were not observed). Every effort has been made to accurately note indicators of presence of protected, rare and notable species within and adjacent to the site but the possibility nonetheless exists for other species to be present which were not recorded or otherwise indicated by the survey;
- Any works undertaken as a consequence of the recommendations provided within this report should be subjected to the necessary health & safety checks and full risk assessments.

Urban Edge Environmental Consulting Ltd

Unit 5 | Westergate Business Centre | Brighton | BN2 4QN

T: 01273 68 67 66 | E: enquiries@ueec.co.uk

www.ueec.co.uk |  [@UrbanEdgeEnviro](https://twitter.com/UrbanEdgeEnviro) | **ITEMA**

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Urban Edge Environmental Consulting Ltd

Unit 5 | Westergate Business Centre | Brighton | BN2 4QN

T: 01273 68 67 66 | E: enquiries@ueec.co.uk

www.ueec.co.uk |  @UrbanEdgeEnviro

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