

PRELIMINARY ECOLOGICAL APPRAISAL with PRELIMINARY ROOST ASSESSMENT

**HILL COVERT, HARP HILL, CHELTENHAM,
GL52 6PR**

for

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CONTROL SHEET

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Hill Covert, Harp Hill, Cheltenham, GL52 6PR

Preliminary Ecological Appraisal with Preliminary Roost Assessment

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Contract No.	Project Contact	Revision No.	Date of Issue
2043	Emma Seaton	01	09 November 2020

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Template Version: V7 (March 2020).

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1. RECOMMENDATIONS

1. Unless a delay of more than 12 months is anticipated before development, no further specialist survey work is recommended at this juncture.
2. As a precautionary approach, the ridge tiles on the garage (B3) should be subject to an endoscopic inspection immediately prior to their hand removal, under the direct supervision of a bat licensed ecologist. **In the unlikely case that bats or evidence of bats (e.g. bat droppings) are discovered, all works to this structure must immediately cease and Natural England contacted to advise on licensing requirements.**
3. Existing mature trees and hedgerows should be retained within the development scheme. All retained trees and hedgerows should be afforded adequate protection in line with '*BS5837: 2012 Trees in relation to design, demolition and construction*'.
4. Standing deadwood should be retained within the orchard and woodland area to provide habitat for saproxylic invertebrates such as the stag beetle and noble chafer. Where standing deadwood cannot be retained (e.g. due to health and safety reasons), it should be kept on-site and used to form log piles within the orchard area. To promote improvement of the orchard condition from 'declining' to 'good', deadwood should be created via partially burrowing logs and allowing them to rot in an upright position. Further prescriptions for orchard improvement have been specified within *Section 3.2 Protected / Notable Habitats*.
5. Where required to facilitate permitted development, removal of potential bird nesting habitat, should be undertaken outside the bird nesting season (March – August inclusive) or otherwise under the direct supervision of a suitably qualified ecologist who will be able to identify nesting birds and advise of appropriate safe working distances.
6. Strict control over the use of artificial night-lighting is required to prevent unnecessary illumination of wildlife habitats (e.g. woodland area, hedgerows).

Lighting must be low level (e.g. light bollards) and of the minimum wattage, as recommended by Bat Conservation Trust & Institute of Lighting Professionals (2018).

7. The following recommendations are made to provide biodiversity enhancements within the post-developed site and ensure compliance with local and national government policies on biodiversity and biodiversity legislation (e.g. The Natural Environment & Rural Communities Act, 2006; NPPF).

- Two traditional bird boxes (such as the Schwegler Bird House) should be installed at the site to provide new nesting opportunities for birds. The boxes should face north / east to avoid direct sunlight.
- Two bat boxes (e.g. Schwegler 2F-DFP or Schwegler 2F) should be placed upon mature trees within the woodland area at the south of the site. The boxes should be installed at least 4m above ground level and afforded a clear flight path for bat access.
- Any new planting and landscaping designs should provide foraging and nesting opportunities for a range of wildlife, including mammals, herpetofauna, birds and invertebrates. Native species of local origin and ornamental species with a known benefit to wildlife should be incorporated into planting schemes.
- The orchard area should be enhanced for the benefit of wildlife as part of a future landscape strategy. See *Section 3.2 Protected / Notable Habitats*.

2. SUMMARY OF RESULTS

2.1 Overview

1. Focus Environmental Consultants was commissioned by S. Clay to undertake a Preliminary Ecological Appraisal and Preliminary Roost Assessment (bats) of Hill Covert, Cheltenham (centred on Ordnance Survey grid reference SO 970 222).
2. The site was surveyed by an ecological consultant from Focus Environmental Consultants on 24 August 2020. It is understood that the development proposals are for demolition of the existing buildings (B1-B3) and construction of a replacement dwelling. The replacement dwelling is to be located at the north of the site (location of existing buildings). The grounds will also be subject to landscaping; it is understood that the orchard and woodland area at the south of the site will remain unimpacted, however.
3. The site is c.0.28ha in area and comprises the following structures / habitats:
 - Built-structures: main property (B1), wooden clad-shed (B2) and garage (B3).
 - Bare ground (recently cleared). Occasional brash / log piles and wood chippings located in area. Scattered retained trees include walnut, Atlas cedar, apple, ash, hazel, damson, pear and beech.
 - Traditional orchard (declining) comprising 12 apple trees. Orchard floor formed from a combination of bare ground (eastern section) and semi-improved grassland (western section).
 - Broadleaved woodland supporting hazel, holly, cherry laurel, ash and bramble. Standing deadwood (TN1) also recorded.
 - Species-rich (H2) and species-poor (H1, H3, H4) hedgerows.

Full species lists / areas of habitats have been provided within *Section 4.3 Survey Data* below.

2.2 Designated Sites

1. The government's multi-agency website 'MAGIC' (www.magic.gov.uk) has identified the following designated sites within 5km of the survey boundary:
 - Cleeve Common (SSSI) located c.3.25km north-east
 - Puckham Woods (SSSI) located c.3.5km west
 - Lineover Wood (SSSI) located c.3.7km south-west
 - Leckhampton Hill & Charlton Kings Common (SSSI) located c.3.7km south.

2.3 Protected / Notable Habitats

1. **Traditional orchard:** The collection of apple trees on the site meet the definition of a 'traditional orchard' and consequently, are considered a UK priority habitat. A 'traditional orchard' is defined as a minimum of five fruit trees with crown edges less than 20m apart (BRIG (ed. Ant Maddock) 2008). Traditional Orchards are listed as a '*habitat of principal importance*' in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006).
2. **Hedgerows:** Two hedgerows on site (H1, H2) are considered to meet the environmental criteria (BRIG (ed. Ant Maddock), 2008) to qualify as '*habitats of principal importance*' under Section 41 (S. 41) of the Natural Environment and Rural Communities (NERC) Act, 2006¹. H3 and H4 do not meet the criteria due to length and species composition, respectively.

2.4 Protected / Notable Species

1. **Bats:** The main property (B1) and wooden-clad shed (B2) have been classified as holding negligible suitability for roosting bats, with reference to Collins (2016). The tiles, lead flashing and eaves of the main property (B1) are in good condition and are not considered to offer suitable roosting features for bat species. The wooden-clad shed (B2) has partially collapsed and is not considered to provide roosting opportunity. No evidence of any bat related

¹ All hedgerows (at least 20m long) consisting predominantly (*i.e.* 80% or more cover) of at least one woody UK native species qualify as '*habitats of principal importance*' under Section 41 (S. 41) of the Natural Environment and Rural Communities (NERC) Act, 2006.

activity (e.g. bat droppings, feeding remains, oil staining) were recorded in association with either structure.

The garage (B3) is considered to hold negligible – very low suitability for roosting bats, with reference to Collins (2016). A linear gap is present under the ridge line of this structure on the eastern elevation (see Plate 3). As a result of the sloping topography on-site and low height of garage, this feature was able to be assessed from ground-level via endoscopic inspection / torchlight. No bats *in-situ* or related evidence was recorded. A full description of the Preliminary Roost Assessment undertaken has been provided within *Section 4.3 Survey Data*.

No suitable roosting features for bats were identified within any of the trees on-site. However, standing deadwood located within the woodland area has been classified as holding ‘moderate’ suitability for roosting bats species (with reference to Collins, 2016) due to the presence of loose bark (see Plate 6 / TN1 for location).

- 2. Birds:** Eight species of birds were seen and / or heard incidentally during the survey. No birds of conservation concern (Eaton *et al.*, 2015) were recorded. However, this should only be considered to provide a ‘snapshot’ of avian diversity likely to occur at the site. A full list of bird species recorded has been provided within Table 1, below:

Table 1: Bird Species recorded at Hill Covert on 24 August 2020.

Bird Species	Conservation Concern (Eaton <i>et al.</i> , 2015)
Great tit (<i>Parus major</i>)	Green
Carrion crow (<i>Corvus corone</i>)	Green
Magpie (<i>Pica pica</i>)	Green
Woodpigeon (<i>Columba palumbus</i>)	Green
Blue tit (<i>Cyanistes caeruleus</i>)	Green
Chaffinch (<i>Fringilla coelebs</i>)	Green
Robin (<i>Erithacus rubecula</i>)	Green
Green woodpecker (<i>Picus viridus</i>)	Green

The hedgerows / trees provide suitable nesting habitat for species such as robin and chaffinch. The standing deadwood recorded on-site provides breeding opportunities for bird species such as the green woodpecker.

- 3. Reptiles:** The site largely comprises bare ground and lacks adequate cover or structural heterogeneity to provide suitable habitat for common reptile species such as slow-worm and common lizard. The small (c.0.01ha) grassland area at the west of the orchard (see Plate 5) provides increased suitability alongside discarded log / brash piles but these habitats are considered unlikely to support a significant population of reptiles due to being of insufficient area. The woodland habitat at the south of the site (not to be impacted) may offer some limited habitat for transient grass snakes.
- 4. Great crested newts:** There is no suitable breeding habitat (lentic waterbodies) for great crested newts within the application site. A pond has been identified c.160m from proposed demolition works at the north of the site (c.90m south-west of the retained woodland area). No further ponds have been identified within 250m of the site (information attained from OS mapping and aerial photography). The majority of the site (bare ground, built-structures) would not be considered a '*place of shelter*' for great crested newts in the meaning of The Conservation of Habitats and Species Regulations 2017.
- 5. Badgers:** A couple of excavations (reaching backwards c.0.5m) were recorded within the woodland located at the south of the site. However, these were considered likely to be attributed to rabbit due to small size and the presence of rabbit droppings within proximity. No setts or evidence of badger activity (latrines, snuffle holes, tracks *etc.*) was observed within the site boundaries.
- 6. Hazel dormice:** The woodland area provides limited suitability for hazel dormice. Species that are known to be of particular importance to hazel dormice include hazel and ivy which are present at this site in addition to other, less important food sources. However, due to the woodland area being only c.0.08ha in area and lacking connectivity to further large areas of woodland,

this habitat is considered highly unlikely to support a viable dormouse population. The home range of an individual hazel dormouse is approximately 1 - 1.5ha of woodland or 300m of hedgerow (see Bright *et al.* 2006). No hazel dormice field signs (nests, feeding remains *etc.*) were seen on the day of survey.

- 7. Invertebrates:** Standing deadwood (TN1) holding value for saproxylic invertebrates was recorded at the south of the site. The apple trees are not yet of an age to support decay features that could be of value to noble chafer. However, it would be expected that their value will increase over time, particularly in the long term when they become senescent. No triggers were identified to suggest that the site supports an interesting or notable assemblage of invertebrates (with reference to English Nature, 2005).

- 8. Invasive Species:** No invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) have been recorded (*e.g.* Japanese knotweed) within the survey boundary.

3. DISCUSSION & CONCLUSIONS

The client is currently seeking planning permission for the construction of a replacement dwelling. This will involve the demolition of all existing structures (B1-B3) at the site. No plans have been viewed by Focus Environmental Consultants; however, the replacement dwelling is understood to be proposed at the north of the site (location of existing property). The following have been identified which may represent constraints or opportunities (e.g. for biodiversity enhancement and green infrastructure) within a future development at this site.

3.1 Designated Sites

The Natural England SSSI Impact Risk Zones used to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites was consulted via the government's multi-agency website MAGIC (www.magic.gov.uk). As the proposals will not result in a total net gain in residential units, it is not anticipated that Natural England will need to be consulted regarding this application.

3.2 Protected / Notable Habitats

It is understood that the orchard area will form a key feature of the future landscaping strategy. The orchard comprises 12 apples trees and is considered to be of local value. Based on the Traditional Orchard Inventory condition assessment, the orchard has been classified as 'declining' due to the lack of new fruit tree planting and absence of significant deadwood.

Opportunity exists to enhance the orchard to 'good' condition through the following prescriptions:

- Planting of new fruit trees promoting longevity of the orchard via increasing the age variance of trees.
- Implementation of a management regime focusing on retention of deadwood habitat / senescent trees. Deadwood can be created in the short-medium term via partially burrowing logs and allowing them to rot in an upright position.
- Management of grassland (orchard floor) to prevent bramble encroachment.

It is understood that the broadleaved woodland at the south of the site is to be retained along with the standing deadwood (TN1) and hedgerows.

On this basis, no impacts are anticipated upon protected / notable habitats at the site post-development. The enhancement of the orchard area to 'good' condition would represent a benefit at Local level.

3.3 Protected / Notable Species

Bats: No impact upon bat species is anticipated as a result of the proposals. However, a precautionary approach has been recommended in association with the garage (B3) to ensure full compliance with the strict legislation afforded to bat species (*i.e.* The Conservation of Habitats and Species Regulations 2017, The Wildlife and Countryside Act 1981). The proposals are small-scale (single replacement dwelling) and no reduction in foraging or commuting habitat for bat species is anticipated subject to a sensitive lighting strategy being implemented. The incorporation of bat boxes and night-scented planting (*e.g.* evening primrose, honesty, honeysuckle, soapwort, white jasmine) within the post-developed scheme holds the opportunity to achieve a minor benefit for bat species at Site level.

Birds: It is anticipated that the majority of nesting habitat (mature trees / hedgerows) is to be retained as part of the proposals unless dictated otherwise by health and safety reasons. The incorporation of new nesting opportunities alongside precautionary working methods (if required) will ensure full compliance with The Wildlife and Countryside Act 1981 (as amended). Improved management of the orchard area (*e.g.* retention of deadwood providing nesting habitat for species such as woodpeckers) will allow for a benefit for bird species at Site level. The incorporation of native species with a known value for bird species such as holly, ivy, hawthorn, rowan, honeysuckle, teasel *etc.* and new tree planting within a future landscaping scheme holds the opportunity to further enhance the site for foraging bird species.

Great crested newts: It is unknown whether newts are present within the pond located c.160m south-west of the existing main property. It is anticipated that works (including future landscaping) will be completed within the area at the north of the site and within the area of bare ground (total area c.0.14ha; distance from pond: c.130m).

A Natural England rapid risk assessment has been undertaken on this basis and has returned the following result: 'GREEN: OFFENCE HIGHLY UNLIKELY'.

Table 2: 'Rapid Risk Assessment' taken from Natural England GCN licence application form

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.1
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

In addition to the above, research has shown that the majority of great crested newts stay within 50m of a pond (Cresswell & Whitworth, 2004). Therefore, it is not considered that the proposals will impact upon great crested newts or result in a breach of the legislation afforded to this species.

Invertebrates: No impacts are anticipated upon invertebrates as no loss of suitable habitat (e.g. deadwood) is anticipated. However, improved management of the orchard area focusing on creation and retention of deadwood habitat / senescent trees would result in a benefit for saproxylic invertebrates at Site level in the long-term. As discussed above, the creation of deadwood via partial burrowing of logs would facilitate this benefit within the short-medium term.

Other species: No impacts are anticipated upon reptiles, badgers or hazel dormice as a result of the proposals.

4. ANNEXES

4.1 Photographs

4.2 Plans

4.3 Survey & Third-Party Data

4.4 Survey Objectives

4.5 Limitations

4.6 Methods

4.7 References & Bibliography

4.8 Legislation & Best Practice

4.1 Photographs

All photographs taken on 24 August 2020



Plate 1: Front (northern) elevation of the main property (B1).



Plate 2: Photo showing the condition of the tiles on the main property (B1).



Plate 3: Photo showing gaps under the ridge line of the garage (B3).



Plate 3: View across the site. Photo facing south-west.



Plate 5: View across the western section of the orchard with woodland at the rear.

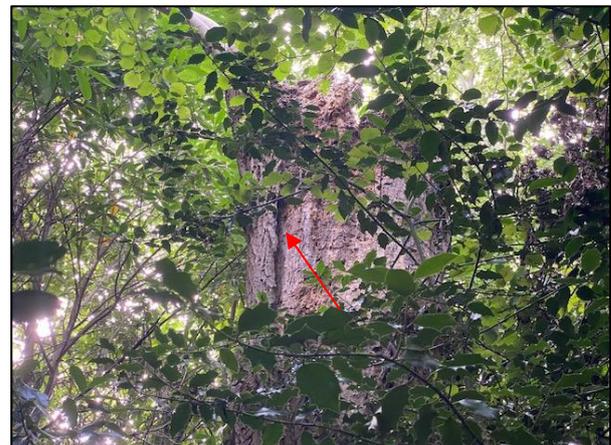


Plate 6: Photo showing loose bark on the standing deadwood (TN1) located within the woodland area.

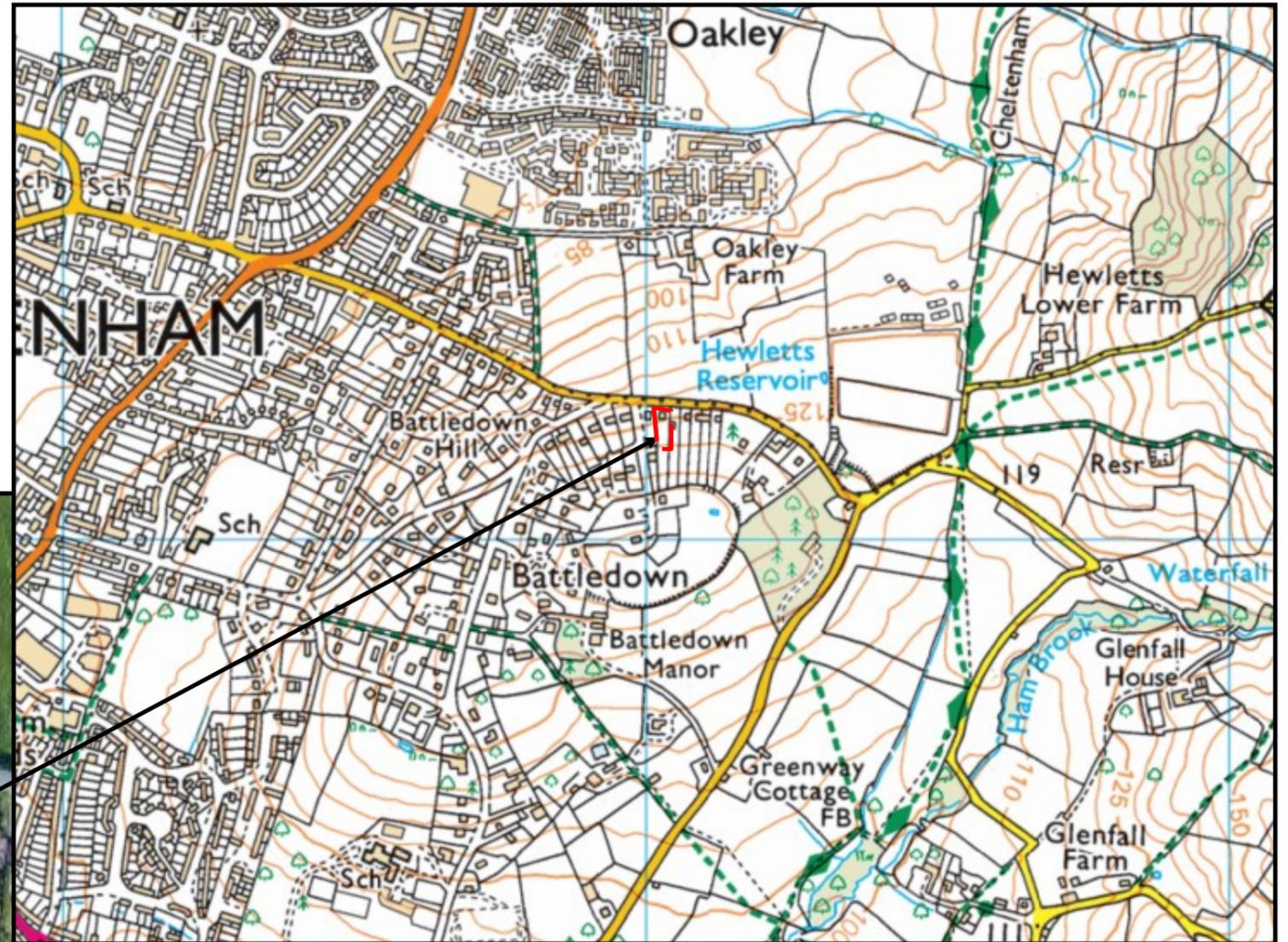
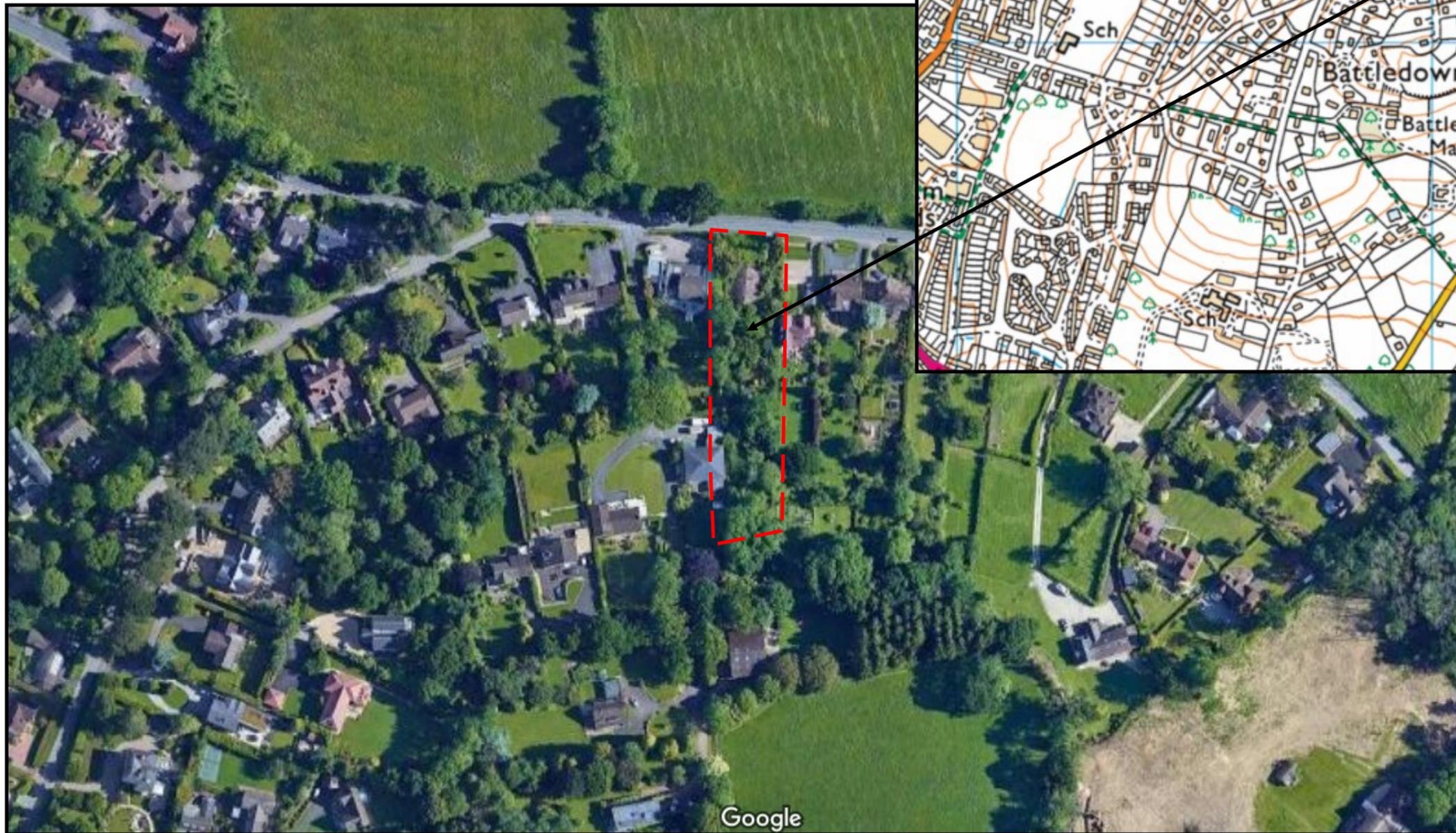
4.2 Plans

Plans:

4.2.1 Location Plan

4.2.2 Habitat Survey Plan

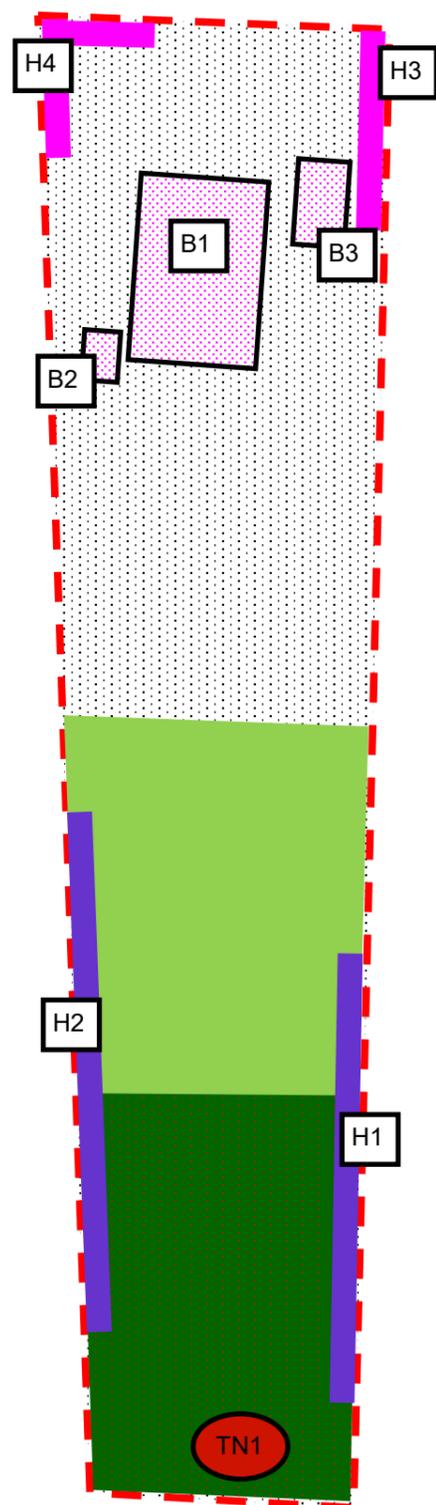
4.2.1. Location Plan



Client: S. Clay c/o Glazzard Architects
Site: Hill Covert, Harp Hill, Cheltenham, GL52 6PR
Title: Location Plan
Contract: 2043
Date: November 2020

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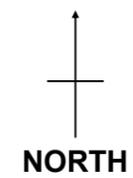
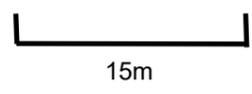
4.2.2 Phase 1 Habitat Survey Plan



Key:

- Survey boundary
- Built-structures (u1b5)
- Bare Ground (73)
- Intensive Orchard (c1e)
- Other woodland; mixed; mainly broadleaf (w1h5)
- Hedgerow (h2a priority habitat)
- Hedgerows (h2b other hedgerows)
- TN# Target note

Target Notes
TN1: Standing deadwood



Client: Glazzard Architects
Site: Hill Covert, Harp Hill, Cheltenham, GL52 6PR
Title: Phase 1 Habitat Survey Plan
Contract: 2043
Date: November 2020

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4.3 Survey & Third-party Data

All surveys have been completed by appropriately qualified and experienced ecologists from Focus Environmental Consultants. Copies of raw data are available on request. Please contact the Project Contact at Focus Environmental Consultants for more details.

Table 3: Summary of Habitat Features

UK Habitat Classification Habitat Type & Code	Size / Extent	Condition	Qualifies as S.41 Habitat	Qualifies as EC Habitats of Community Interest (Annex I)
Built structures (u1b5 built structures)	c.0.02ha	Main property (B1), wooden clad-shed (B2) and garage (B3)	No	No
Bare ground (73 bare ground)	c.0.14ha	Recently cleared bare ground. Discarded log / brash piles and wood chippings within the area.	No	No
Traditional orchard (c1e intensive orchard)	c.0.04ha https://ptes.org/get-involved/surveys/countryside-2/traditional-orchard-survey/traditional-orchard-survey-faqs/	Orchard comprising 12 apples trees and considered to be of local value. Based on the Traditional Orchard Inventory condition assessment (PTES, 2017), the orchard has been classified as 'declining' due to the lack of new fruit tree planting and absence of significant deadwood. A combination of bare ground (eastern section) and grassland (western section) forming orchard floor. Grassland reaching up to 400mm in height with the following species recorded: Yorkshire-fog, smooth-meadow grass, cock's-foot, common	Yes	No

		buttercup, wild arum, common ragwort. Pendulous sedge and butterfly-bush are also present within the area.		
Broadleaved woodland (w1h5: other woodland; mixed; mainly broadleaf)	c.0.08ha	Woodland area at the rear (south) of site. Species recorded include hazel, holly, cherry laurel, ash, ivy and bramble. Limited ground flora with area dominated by bare ground / leaf litter. Very occasional species recorded including common nettle, hedge woundwort, wood avens and herb-Robert. Standing deadwood (TN1) also present.	No	No
Hedgerows (h2a priority habitat)	<u>H1</u> : c.45m	<u>H1</u> : Unmanaged species-poor hedgerow reaching up to 3m in height. Species recorded include hawthorn, bramble, sycamore, ash and ivy.	Yes	No
	<u>H2</u> : c.25m	<u>H2</u> : Species-rich hedgerow reaching up to 1m in height. Species recorded include holly, sycamore, hawthorn, ash, beech, hawthorn, yew and butterfly-bush.	Yes	No
Hedgerows (h2b other hedgerows)	<u>H3</u> : c.15m	<u>H3</u> : Species-poor hedgerow reaching up to 3m and comprising cherry laurel only.	No	No
	<u>H4</u> : c.30m	<u>H4</u> : Species-poor hedgerow varying between 2m – 5m in height. Formed by cherry laurel only.	No	No

Table 4: Summary of Preliminary Roost Assessment

Structure	Potential Roost Features	Evidence of Bats	Category (Collins 2016)
Main property (B1)	Two-storey property (built into loft space) with pitched roof. Ridge and slope tiles tight with no opportunity for roosting bats. Lead flashing surrounding chimney also observed to be tight. Eaves overhanging but no access points recorded. Virginia creeper growing up property but not considered of a suitable density to provide habitat for roosting bats.	No loft space present due to the area being converted. However, partial loft area present at eaves. Accessible through hatch. No evidence of any bat related activity (e.g. droppings) in these areas.	Negligible
Wooden-clad shed (B2)	Small wooden-clad shed with pent, mixed fibre roof. Partially collapsed. No opportunities for roosting bats noted within cladding or roof.	Internal area open and light. No evidence of bats recorded.	Negligible
Garage (B3)	Wooden-clad garage with pitched tiled roof. Western elevation of roof tight with no opportunities for bats noted. Gaps recorded under ridge on eastern elevation. Able to be partially inspected via endoscope / torchlight due to sloping topography of site and low height of garage.	No evidence of bats recorded during inspection of ridge.	Negligible – very low (precautionary approach recommended)
Tree	Potential Roost Features	Evidence of Bats	Category (Collins 2016)
Standing deadwood (oak) TN1	Loose bark (see Plate 6).	No evidence of bats recorded.	Moderate

4.4 Survey Objectives

The objectives of the survey were:

1. to carry out a Preliminary Ecological Appraisal of the site to identify any habitats, species or features of nature conservation significance;
2. to undertake a daytime preliminary roost assessment for bats, following best practice survey guidelines (Mitchell-Jones, 2004; Collins, 2016);
3. to produce a concise report identifying known and likely ecological constraints associated with a project. The report will identify any additional surveys that may be required to inform an Ecological Impact Assessment (EclA). It will also indicate mitigation measures that may be required, applying the 'mitigation hierarchy', to ensure compliance with wildlife law and recognised best practice. Intrinsic opportunities offered by a project to deliver ecological enhancement will be identified within the report.

4.5 Limitations

The Preliminary Ecological Appraisal was carried out by a suitably experienced ecologist from Focus Environmental Consultants. The month of survey (August) is within the optimal survey period for most habitats and species in England.

Many fauna species become inactive and their field signs less apparent in the winter months. Similarly some plant species may also become less evident in the winter as a consequence of their annual growth pattern or natural process of die-back to roots, corms, bulbs and tubers.

The reader is reminded that an ecological survey that is based on a single site visit will typically under-represent the biological diversity of a site, owing to seasonal variations in animal activity and plant growth form in particular. However, a Preliminary Ecological Appraisal such as this can be completed by an experienced ecologist at any time of year subject to suitable weather conditions.

A third-party data search was not commissioned as part of this project. However, to the type and scale of development this is not seen as a significant limitation in the context of this project.

4.6 Methods

4.6.1 Third-Party Data Trawl

A third-party data trawl was not commissioned as part of this project.

4.6.2 Preliminary Ecological Appraisal

An experienced ecological consultant undertook a field survey in accordance with the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017 2nd Edition), the UK Habitat Classification system (UK Habitat Classification Working Group (2018a, 2018b & 2018c), and the Handbook for Phase 1 Habitat Survey (JNCC, 2010). The extent of each habitat type was mapped and details of relative plant species abundance within homogenous areas were recorded. Species abundance was measured on the DAFOR scale (Dominant, Abundant, Frequent, Occasional and Rare), with the addition of the term 'Local' to describe variation on a small-scale.

Higher plant nomenclature follows Stace (4th Edition), 2019 with common (English) names being used for ease of reading and accessibility. Bryophyte nomenclature follows Atherton *et al.* (Eds), 2010, with English names being used in line with this publication. Scientific names are used for fungal identification, with authorities referenced in the text, for reasons of clarity.

The survey method was extended to include a search for fauna of ecological importance, including those that are afforded legal protection.

Target Note descriptions were recorded for features of ecological importance, these may include areas of species-rich vegetation and field signs of protected and/or notable species.

4.6.3 Preliminary Roost Assessment

A daytime preliminary roost assessment (PRA) was undertaken at the site by an experienced and appropriately licensed ecologist (E. Seaton: Natural England licence number: 2015-15098-CLS-CLS). An internal and external inspection of the built structures on site was carried out from ground-level using binoculars as required. The focus of the survey being to identify any possible exit and entry points of bats, suitable roosting locations and to search for bat field signs.

Within the built structures, particular attention was paid to areas suitable for roosting bats. Field signs that would indicate the presence of bats include:

- bat droppings;
- bat carcasses;
- feeding remains (particularly butterfly & moth wings);
- evidence of urine staining around possible roost entrances;
- presence of areas cleared of cobwebs;
- oily stains around possible roost entrances.

Built structures were assessed as having either ‘high’, ‘moderate’, ‘low’ or ‘negligible’ potential to support roosting bats, and categorised using definitions in Collins (2016) (see Table 5, below).

Table 5: Guidelines for Assessing the Potential Suitability for Roosting Bats of Structures within a Development Site²

Suitability	Description: Structure
Negligible	Negligible features on the structure that are likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide appropriate conditions (<i>i.e.</i> space, protection, shelter) and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (<i>i.e.</i> unlikely to be used as a maternity roost).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their appropriate condition (<i>i.e.</i> size, shelter, protection) and surrounding habitat. However, it is unlikely to support a roost of high conservation value (with respect to roost type only).
High	A structure 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 conditions (<i>i.e.</i> size, protection, shelter) and surrounding habitat.
Confirmed Roost	Structure with confirmed bat roost.

In addition, a ground-based tree assessment was undertaken of mature and semi-mature trees within the site boundary. Survey methods followed the guidelines and

² Taken and adapted from: **Collins, J. (ed.) (2016)**. *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition*. The Bat Conservation Trust, London, UK.

techniques recommended in Mitchell-Jones (2004), Collins (2016), BTHK (2018), Cowan, (2003). Binoculars were used as required to obtain better views of potential roost features in trees. Features that can provide roosting sites for bats in trees include:

- woodpecker holes;
- cracks, splits and fissures in trunk and limbs;
- rot holes;
- trunk cavities;
- loose bark;
- dense ivy growth.

Trees were assessed as having either ‘high’, ‘moderate’, ‘low’ or ‘negligible’ potential to support roosting bats, and categorised using definitions in Collins (2016) (see Table 6, below).

Table 6: Guidelines for Assessing the Potential Suitability for Roosting Bats of Trees within a Development Site³

Suitability	Description: Structure
Negligible	Negligible features on the tree that are likely to be used by roosting bats.
Low	A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features with only very limited roosting potential.
Moderate	A tree with one or more potential roost features that could be used by bats due to their appropriate condition (<i>i.e.</i> size, shelter, protection) and surrounding habitat. However, it is unlikely to support a roost of high conservation value (with respect to roost type only).
High	A tree with one or more potential roost features 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 condition (<i>i.e.</i> size, protection, shelter) and surrounding habitat.
Confirmed Roost	Tree with confirmed bat roost.

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³ Taken and adapted from: **Collins, J. (ed.) (2016)**. *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition*. The Bat Conservation Trust, London, UK.

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4.8 Legislation & Best Practice

4.8.1 The Conservation of Habitats and Species Regulations 2017 (as amended)

<http://www.legislation.gov.uk/ukxi/2010/490/contents/made>

These regulations, referred hereafter as “the Habitats Regulations”, represent the primary method by which Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the “Habitats Directive”) is transposed for England and Wales and their territorial seas. The Habitats Directive, in conjunction with the Birds Directive (Council Directive 2009/147/EEC) forms the basis for implementation of Europe’s nature conservation policy through both habitat and species level protection. The Habitats Directive requires the designation of strictly protected European sites known as Special Areas of Conservation (SACs). Together with the Special Protection Areas (SPAs) established by the Birds Directive, these collectively form the Natura 2000 Network of protected sites. The Habitats Directive also requires the strict protection of animals and plants of Community Interest listed under Annex IV. Habitat types requiring strict protection as SACs are listed under Annex I. The conservation of animals and plants listed under Annex II requires the designation of SACs.

The Habitats Regulations require that public bodies must exercise their nature conservation responsibilities to ensure compliance with the Habitats Directive. These regulations also require the conservation of natural habitats and habitats of species through the selection, designation and notification of marine and terrestrial ‘European Sites’ to be afforded protection under the Habitats Directive. The habitats and species of European Importance are listed under Annexes I and II of the Habitats Directive. The regulations also contain provision for the appropriate management of these European Sites including the control of damaging operations, special nature conservation orders and restoration orders, for example. The Habitats Regulations afford strict protection to European Protected Species of animals under Schedule 2 and plants under Schedule 5. Offences (subject to certain exceptions) include the deliberate capture, killing, disturbance or trade in these animals. Similarly plants listed under Schedule 5 are protected (subject to exceptions) from picking, collection, cutting, destruction or trade.

4.8.2 The Wildlife and Countryside Act 1981 (as amended)

While the Habitats Regulations provide the basis for nature conservation policy in Europe, the Wildlife and Countryside Act 1981 (as amended) (WCA) is still a major mechanism for the legislative protection of wildlife and countryside/national parks in the UK. The WCA, and its various amendments, draw on from pre-existing legislation and support the Habitats Regulations in implementing the Bern Convention (1979) and Directive 2009/147/EC on the conservation of wild birds. Schedules within the WCA provide a list of protected species and habitats, in addition to prohibited actions. Further details are provided below for specific species relevant to the report. The WCA also contains measures for controlling invasive non-native species and amendments to a number of laws, including in relation to public rights of way.

4.8.3 The Countryside and Rights of Way (CROW) Act 2000

The CROW Act amends existing WCA legislation in accordance with the 1992 Convention on Biological Diversity (Rio Earth Summit). The Act applies to England and Wales only and encompasses public access, rights of way, nature conservation and Areas of Outstanding Natural Beauty (AONBs). Schedule 9 of the Act provides increased powers for the protection and management of SSSIs while Schedule 12 strengthens the legal protection for protected species via arrestable offences and heavier penalties.

4.8.4 The Natural Environment and Rural Communities (NERC) Act 2006

The Natural Environment and Rural Communities Act imposes a *Biodiversity Duty* (S.40) on all public bodies to conserve biodiversity at both species and habitat levels (S40). “*Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.*”

S.41 of the Act requires the publication of a list of “*living organisms and types of habitat which in the Secretary of State’s opinion are of principal importance for the purpose of conserving biodiversity.*” The list generated under S.41 of the Act contains a number of types of habitats and species of animal and plant that have the potential to be affected by development projects of a range of sizes and impacts.

S.47 of the Act establishes special protection for the nest sites of certain birds that are known to re-use their nests and creates an additional Schedule containing these birds, namely golden eagle, white-tailed eagle and osprey. It is an offence to take, damage or destroy the nest of these three birds at any time.

The Act also establishes Natural England as the independent body “to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development”. 943 species and 56 habitats of principal importance are included on the S41 list as guidance for public bodies on decisions that affect biodiversity.

4.8.5 The Hedgerow Regulations 1997

On 1 June 1997, the Hedgerow Regulations came into force under section 97 of the Environment Act 1995 to address the dramatic decline in UK hedgerows. The regulations protect important hedgerows by limiting removal through a system of notification via local planning authorities.

The regulations are aimed at countryside hedgerows in England and Wales “on or adjoining, common land, village greens, Site of Special Scientific Interest (which include National Nature Reserves, Special Protection Areas under the Birds Directive and Special Areas of Conservation under the Habitats Directive), Local Nature Reserves, or land used for agriculture, forestry or the breeding or keeping of horses, ponies or donkeys” (Section 3.6).

Written permission is required from the local planning authority before the removal of any hedgerow over 20 metres and more than 30 years old. Hedgerows less than 20 metres long may also be considered if they form part of a continuous network of hedges. Garden hedges, however, are not protected. Once the LPA has received a written request they will issue either a Hedgerow Retention or Hedgerow Removal Notice within 42 days depending on whether they define the hedgerow as *important* or not. This is determined by the following;

- “They have been in existence 30 years or more; and”
- “They satisfy at least one of the criteria set out in Part II of Schedule 1 of the Regulations.”

Exemptions to the Regulations fall into three categories:

- “small scale works;”
- “works approved under other procedures which ensure careful assessment and consideration of the impact on the local environment; and”
- “works authorised under other legislation which justify the removal of a hedgerow without first establishing its importance.”

It is an offence to remove a hedgerow subject to a retention notice, or to remove a hedgerow protected under the Hedgerow Regulations without first obtaining the required removal notice.

4.8.6 The UK Post-2010 Biodiversity Framework

As of 17 July 2012, the UK Post-2012 Biodiversity Framework replaced the UK level Biodiversity Action Plan to deliver the outcomes of the Government’s Biodiversity 2020 Strategy. This was in response to the 2011 EU Biodiversity Strategy (EUBS) and the 2010 United Nations Convention on Biological Diversity (CBD) whereby five “*Aichi*’ *strategic goals and supporting targets*” have been internationally agreed.

The UK Framework is a collaborative effort between Defra and JNCC on behalf of the Four Countries’ Biodiversity Group to achieve the ‘*Aichi*’ strategic goals through focused supporting targets and follows on from policies contained within the Natural Environment White Paper (2011).

4.8.7 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was first published on 27 March 2012, and has since been replaced by the revised National Planning Policy Framework, published on 24 July 2018. This framework acts as guidance for planning authorities (LPAs) in England to form Local Plan policies in favour of sustainable development as part of the government’s reforms to increase the accessibility of the planning system and promote long term sustainable growth. Along with the Circular 06/205, the NPPF consolidates the Planning Policy Statements and Guidance Notes, many of which are now obsolete, including *Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9)*.

The framework states that “*planning policies and decisions should contribute to and enhance the local environment*” (paragraph 170).

Chapter 15 of the framework focusses on habitats and biodiversity. Specifically, paragraph 175 states: “*...when determining planning applications, local planning authorities should apply 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 Scientific Interest;*
- *development proposals whose primary objective is to conserve or enhance biodiversity should be supported;*
- *opportunities to incorporate biodiversity improvements in and around developments should be encouraged;*
- *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.*

4.8.8 Circular 06/2005: Biodiversity and Geological Conservation

The Circular 06/2005 complements the NPPF by advising on how the law relates to planning and nature conservation in England, with particular reference to designated sites and protected species;

“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision” (Paragraph 99).

However, “*developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development.*”

Part IV also reminds LPAs and developers that licences and mitigation measures may be required in addition to planning permissions if protected species are to be affected by the development. “*The breach of protected species legislation can often give rise to a criminal offence*” (Paragraph 101).

4.8.9 BS42020:2013 Biodiversity. Code of Practice for Planning and Development

BS 42020 was developed by BSI with input from a variety of organisations (in all sectors) and experts in the field of biodiversity. It is fundamentally engaged with the incorporation of biodiversity into all stages of the planning process. The standard identifies a suite of recommendations and advice to ensure that decision-making and activities undertaken from inception to fruition of planning applications are adequately informed by appropriate and robust ecological knowledge. BS42020 aims to:

- give decision-makers (and specifically planning authorities and other regulatory bodies) more confidence that the ecological audits and assessment of impact on biodiversity provided in support of development proposals is fit for purpose;
- encourage greater consistency and transparency in the quality, scientific robustness and transparency of ecological reports that are submitted with planning applications and other forms of regulatory approval; and
- foster an approach that is proportionate and retains and positive environmental legacy following development.

4.8.10 Bats

All British bats are “European Protected Species” (EPS) and listed on Annex II and Annex IV of the EC Habitats Directive. The Directive is transposed into UK law through the Conservation of Habitats and Species Regulations 2017. The following actions affecting bats are prohibited under the legislation:

- deliberate capture, injury or killing of a bat;
- deliberate disturbance of a bat and in particular disturbance which is likely to impair their ability:
 - to survive, to breed or reproduce, or to rear or nurture their young, or
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate;
 - or to affect significantly the local distribution or abundance of the species to which they belong.
- damage or destruction of a breeding site or resting place;
- possessing, controlling transporting, selling or exchanging, or offering for sale or exchange, any bat or any part of a bat or anything derived from one.

Bats are also afforded protection from intentional or reckless ‘disturbance’ by the Wildlife and Countryside Act 1981 (as amended). The deliberate or reckless obstruction of access to a structure or place used by bats for shelter and protection is also an offence under the Act.

4.8.11 Badgers

Badgers and their setts are protected by the Protection of Badgers Act 1992 (as amended). This makes it an offence to wilfully kill, injure or take a badger or interfere with a badger sett through damaging the sett, destroying the sett, obstructing access to a sett, causing a dog to enter the sett or disturbing a badger occupying a sett.

4.8.12 Birds

All wild birds in the UK are afforded protection under the Wildlife and Countryside Act 1981 (as amended). This protection includes killing, injuring or taking wild birds as well as taking, damaging or destroying bird nests in use or being built, and taking or destroying eggs. Birds listed under Schedule 1 of the Act are afforded additional protection from disturbance during nesting and offences relating to these birds are subject to special penalties. The nest sites of birds listed under Schedule ZA1 of the act (golden eagle, white-tailed eagle and osprey) are afforded strict, year-round protection even when the nests are not in active use.

A small number of derogated bird species, principally members of the genus *Corvus* (crows), *Larus* (gulls) and *Columba* (pigeons), may be killed by authorised persons (landowner/occupier or otherwise authorised by the landowner or relevant conservation body or fisheries board) under a 'general licence'. The general licence is issued by Natural England (in the case of English usage). The general licence can only be exercised for reasons of preserving public health or public safety and cannot be lawfully used in the case of damage to property or nuisance.

4.8.13 Great Crested Newts

The great crested newt (*Triturus cristatus*) (Laurenti, 1758), is a "European Protected Species" (EPS) and listed on Annex II and Annex IV of the EC Habitats Directive. The Directive is transposed into UK law through the Conservation of Habitats and Species Regulations 2017. The following actions affecting great crested newts are prohibited under the legislation:

- deliberate capture, injury or killing of a great crested newt;
- deliberate disturbance of a great crested newt and in particular disturbance which is likely to impair their ability:
 - to survive, to breed or reproduce, or to rear or nurture their young, or
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate;
 - or to affect significantly the local distribution or abundance of the species to which they belong.
- damage or destruction of a breeding site or resting place;
- possessing, controlling transporting, selling or exchanging, or offering for sale or exchange, any great crested newt, any part of a great crested newt or anything derived from one.

Great crested newts are also afforded protection from intentional or reckless 'disturbance' by the Wildlife and Countryside Act 1981 (as amended). The deliberate or reckless obstruction of access to a structure

or place used by great crested newts for shelter and protection is also an offence under the Act. This applies to both aquatic and terrestrial habitat.

4.8.14 Reptiles

All common reptile species (grass snake, adder, common lizard and slow-worm) native to Britain are protected by Schedule 5 the Wildlife & Countryside Act, 1981 (as amended). It is illegal to:

- deliberately kill, injure a reptile or
- sale, barter, exchange, transport for sale and advertising to sell or to buy a reptile.
- In Northern Ireland they are fully protected against killing, injuring, capturing, disturbance, possession or trade.

In addition, sand lizard and smooth snake are protected under Conservation of Habitats and Species Regulations 2017. The following actions affecting these reptiles are prohibited under the legislation:

- deliberate capture, injury or killing;
- deliberate disturbance and in particular disturbance which is likely to impair their ability:
 - to survive, to breed or reproduce, or to rear or nurture their young, or
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate;
 - or to affect significantly the local distribution or abundance of the species to which they belong.
- damage or destruction of a breeding site or resting place;
- possessing, controlling transporting, selling or exchanging, or offering for sale or exchange, these reptiles or anything derived from them.

Sand lizards and smooth snakes are also afforded protection from intentional or reckless 'disturbance' by the Wildlife and Countryside Act 1981 (as amended). The deliberate or reckless obstruction of access to a structure or place used by these reptiles for shelter and protection is also an offence under the Act.

5. QUALIFICATIONS & EXPERIENCE

Focus Environmental Consultants® has the expertise to provide sure-fire environmental solutions to a wide range of projects. The company ethos forges the highest standards of professional scientific practice with a best value approach for our clients. Our core area of expertise is in the production of specialist ecological and arboricultural reports and advice to support planning applications. We are also building an enviable reputation for innovative habitat creation and management solutions. Our flexible approach, range of skills and broad project experience from major infrastructure contracts to smaller projects allows us to adapt to your individual requirements. Focus Environmental Consultants is situated in Worcestershire, providing a convenient and central UK location.

Emma Seaton BSc (Hons) GradCIEEM

Emma is an Ecologist who joined Focus Environmental Consultants in 2014 and has over six years' professional experience in the field of ecology. Emma holds a BSc (Hons) degree in Biology from the University of Sheffield and has since gained a postgraduate certificate in Ecological Consultancy. Her ecological experience includes Preliminary Ecological Appraisals, Ecological Impact Assessments (EclA), and surveying for notable and European Protected Species. She holds Natural England survey licences for bats (Class 2), great crested newts and white-clawed crayfish, as well as a Natural Resources Wales survey licence for bats. Emma has been the 'Named Ecologist' on Natural England (development) licences for bats and has experience of developing suitable mitigation strategies and overseeing licensable works. She has also prepared great crested newt EPSL applications and mitigation strategies for reptiles.

This report has been checked for quality and content by:

Fern Fellowes-Day BSc (Hons) MSc MCIEEM MRSB

Fern has over sixteen years of professional experience in the ecological consultancy field. She holds BSc (Hons) in Zoology from the University of Wales, Aberystwyth and MSc in Habitat Creation and Management from Staffordshire University. Fern has considerable experience in conducting Preliminary Ecological Appraisals and Ecological Impact Assessments (EclA). Fern's particular expertise is with protected species surveys, she has extensive knowledge in dealing with the badgers, with practical experience in artificial sett design and creation and has held numerous Natural England licences to close or disturb badger setts. In addition Fern holds survey licences for great crested newts, bats and white-clawed crayfish. Fern has held Natural England Mitigation (development) licences for great crested newts (including being a Registered Consultant for the new Great Crested Newt Low Impact Class Licence) and Conservation licences for white-clawed crayfish. She is particularly experienced in dealing with newt issues affecting the quarrying, mineral extraction and landfill industry.